

EPHEMERIDES

4 11.9

4 12.0

2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
319868	2006 <i>WT</i> ₇₃		4 11.9 304°08	1.2/12.9	17		194215	2001 <i>TE</i> ₁₂₄		4 12.0 299°88	6°1/17.6	18	
3 12	13 44.60	-13 10.9	1.451	2.320	15.1	20.7	3 12	13 44.72	-27 6.7	2.077	2.870	14.1	19.5
3 22	13 39.75	-12 57.4	1.364	2.299	11.1	20.4	3 22	13 39.35	-27 34.3	1.986	2.859	11.6	19.3
4 1	13 32.36	-12 27.5	1.298	2.279	6.4	20.0	4 1	13 31.97	-27 41.7	1.916	2.848	8.9	19.1
4 11	13 23.31	-11 44.3	1.257	2.258	1.6	19.7	4 11	13 23.31	-27 28.0	1.871	2.837	6.7	18.9
4 21	13 13.79	-10 53.6	1.242	2.238	4.6	19.8	4 21	13 14.33	-26 54.6	1.853	2.826	6.3	18.9
5 1	13 5.16	-10 3.1	1.253	2.219	9.9	20.1	5 1	13 6.08	-26 5.9	1.861	2.815	8.1	19.0
5 11	12 58.61	-9 20.7	1.285	2.199	14.7	20.3	5 11	12 59.48	-25 8.8	1.894	2.804	10.9	19.1
5 21	12 54.85	-8 52.3	1.337	2.180	18.9	20.5	5 21	12 55.11	-24 10.6	1.949	2.794	13.7	19.3
95800	2003 <i>FS</i> ₃₀		4 11.9 341°33	7°5/3.5	17		312018	2007 <i>RJ</i> ₄₅		4 12.0 195°93	3°7/14.9	16	
3 12	13 35.15	+4 14.6	1.422	2.328	12.9	17.8	3 12	13 48.87	-19 47.7	1.788	2.617	14.5	21.9
3 22	13 32.84	+6 31.6	1.354	2.305	9.7	17.5	3 22	13 42.35	-19 52.4	1.708	2.616	11.1	21.6
4 1	13 28.50	+8 51.9	1.311	2.283	7.6	17.3	4 1	13 33.58	-19 38.5	1.650	2.613	7.4	21.4
4 11	13 22.94	+11 2.0	1.293	2.263	8.4	17.3	4 11	13 23.46	-19 7.0	1.619	2.610	4.2	21.2
4 21	13 17.15	+12 49.5	1.299	2.244	11.5	17.4	4 21	13 13.11	-18 21.7	1.616	2.607	4.7	21.2
5 1	13 12.22	+14 5.2	1.327	2.226	15.2	17.6	5 1	13 3.71	-17 28.7	1.639	2.603	8.2	21.4
5 11	13 9.06	+14 45.2	1.374	2.211	18.7	17.8	5 11	12 56.24	-16 35.7	1.688	2.598	12.0	21.6
5 21	13 8.22	+14 50.6	1.437	2.197	21.7	17.9	5 21	12 51.30	-15 49.1	1.759	2.593	15.4	21.8
417489	2006 <i>RW</i> ₈₅		4 11.9 180°18	0°3/12.3	16		161741	2006 <i>SU</i> ₂₀₇		4 12.0 250°99	0°6/12.6	18	
3 12	13 46.85	-11 26.4	2.102	2.955	11.8	22.1	3 12	13 44.89	-11 21.4	2.323	3.174	10.8	20.3
3 22	13 40.49	-10 59.1	2.027	2.956	8.4	21.9	3 22	13 39.07	-11 18.7	2.239	3.167	7.8	20.1
4 1	13 32.38	-10 21.1	1.977	2.958	4.6	21.6	4 1	13 31.64	-11 7.5	2.181	3.160	4.4	19.9
4 11	13 23.30	-9 36.2	1.956	2.958	0.6	21.3	4 11	13 23.28	-10 50.0	2.151	3.152	0.9	19.6
4 21	13 14.12	-8 48.9	1.964	2.957	3.6	21.6	4 21	13 14.74	-10 29.4	2.151	3.145	3.2	19.8
5 1	13 5.75	-8 4.5	2.001	2.956	7.5	21.8	5 1	13 6.86	-10 9.4	2.179	3.137	6.8	20.0
5 11	12 58.96	-7 27.9	2.063	2.955	11.0	22.0	5 11	13 0.33	-9 53.9	2.233	3.129	10.1	20.2
5 21	12 54.19	-7 2.4	2.148	2.952	14.0	22.2	5 21	12 55.63	-9 45.7	2.310	3.122	12.9	20.3
174040	2002 <i>AY</i> ₁₃₂		4 12.0 64°33	4°5/7.3	18		498308	2007 <i>VG</i> ₁₂₈		4 12.0 108°01	0°8/11.3	17	
3 12	13 42.81	+4 17.6	2.221	3.099	10.2	19.9	3 12	13 46.30	-6 35.8	2.219	3.082	10.8	21.8
3 22	13 37.47	+5 5.3	2.165	3.104	7.4	19.8	3 22	13 39.95	-6 27.2	2.156	3.091	7.6	21.6
4 1	13 30.69	+5 50.5	2.135	3.108	5.1	19.6	4 1	13 32.05	-6 13.5	2.118	3.101	4.0	21.4
4 11	13 23.15	+6 27.7	2.133	3.113	4.7	19.6	4 11	13 23.31	-5 57.9	2.109	3.110	0.8	21.1
4 21	13 15.62	+6 52.6	2.159	3.117	6.7	19.7	4 21	13 14.55	-5 43.6	2.129	3.119	3.8	21.4
5 1	13 8.84	+7 2.2	2.212	3.122	9.4	19.9	5 1	13 6.61	-5 34.1	2.178	3.128	7.3	21.6
5 11	13 3.44	+6 55.4	2.288	3.127	12.1	20.1	5 11	13 0.13	-5 32.2	2.253	3.137	10.5	21.8
5 21	12 59.80	+6 32.8	2.384	3.132	14.3	20.3	5 21	12 55.54	-5 39.6	2.349	3.146	13.2	22.0
378755	2008 <i>RJ</i> ₁₀₅		4 12.0 41°50	0°2/11.9	17		358046	2006 <i>GR</i> ₃₅		4 12.0 326°74	0°6/12.1	17	
3 12	13 45.95	-8 54.1	1.716	2.585	13.1	20.4	3 12	13 59.46	-3 38.0	1.036	1.918	18.7	19.5
3 22	13 40.08	-8 47.0	1.654	2.592	9.3	20.2	3 22	13 51.94	-5 22.6	0.941	1.885	13.9	19.1
4 1	13 32.23	-8 31.3	1.616	2.599	5.0	19.9	4 1	13 39.87	-7 19.2	0.868	1.852	7.8	18.7
4 11	13 23.30	-8 10.5	1.605	2.607	0.4	19.6	4 11	13 24.13	-9 27.0	0.819	1.821	1.0	18.1
4 21	13 14.32	-7 49.2	1.621	2.615	4.2	19.9	4 21	13 6.57	-11 41.1	0.796	1.792	6.7	18.4
5 1	13 6.35	-7 32.1	1.665	2.623	8.5	20.2	5 1	12 49.74	-13 55.3	0.799	1.764	14.0	18.6
5 11	13 0.22	-7 23.3	1.732	2.632	12.3	20.4	5 11	12 36.04	-16 6.2	0.823	1.737	20.6	18.9
5 21	12 56.40	-7 25.4	1.820	2.640	15.5	20.7	5 21	12 26.97	-18 13.2	0.863	1.713	26.1	19.1
152021	2004 <i>LH</i> ₂		4 12.0 258°25	0°6/12.5	18		329380	2001 <i>WN</i> ₈₈		4 12.0 147°26	5°9/6.6	17	
3 12	13 45.21	-12 19.4	1.898	2.755	12.6	20.5	3 12	13 49.21	+9 17.4	2.185	3.051	10.8	21.4
3 22	13 39.63	-11 55.3	1.809	2.740	9.1	20.3	3 22	13 41.93	+9 58.9	2.134	3.060	8.3	21.2
4 1	13 32.08	-11 18.3	1.745	2.725	5.1	20.0	4 1	13 33.06	+10 33.3	2.110	3.070	6.3	21.1
4 11	13 23.29	-10 32.0	1.708	2.710	0.9	19.7	4 11	13 23.40	+10 55.0	2.115	3.078	6.2	21.1
4 21	13 14.24	-9 41.3	1.700	2.694	3.9	19.9	4 21	13 13.82	+11 0.3	2.147	3.087	7.9	21.3
5 1	13 5.94	-8 52.2	1.719	2.678	8.2	20.1	5 1	13 5.17	+10 47.5	2.206	3.094	10.5	21.4
5 11	12 59.28	-8 10.8	1.762	2.662	12.2	20.3	5 11	12 58.12	+10 16.9	2.289	3.101	12.9	21.6
5 21	12 54.83	-7 41.3	1.827	2.645	15.6	20.5	5 21	12 53.06	+9 30.5	2.392	3.107	15.1	21.8
38093	1999 <i>JX</i> ₆		4 12.0 257°17	5°3/7.8	17		493590	2015 <i>MV</i> ₂₁		4 12.0 257°07	2°8/15.1	17	
3 12	13 47.08	+2 9.5	1.590	2.474	13.1	18.8	3 12	13 41.99	-20 1.5	2.284	3.111	11.9	21.1
3 22	13 41.15	+3 11.0	1.518	2.461	9.5	18.6	3 22	13 37.09	-19 40.7	2.197	3.104	9.1	20.9
4 1	13 32.95	+4 13.4	1.469	2.447	6.2	18.4	4 1	13 30.60	-19 3.9	2.135	3.098	5.9	20.7
4 11	13 23.38	+5 8.5	1.447	2.433	5.5	18.3	4 11	13 23.18	-18 12.9	2.100	3.092	3.2	20.5
4 21	13 13.57	+5 48.7	1.452	2.418	8.4	18.4	4 21	13 15.63	-17 11.9	2.093	3.086	3.6	20.5
5 1	13 4.72	+6 8.5	1.481	2.404	12.3	18.6	5 1	13 8.76	-16 6.1	2.115	3.079	6.6	20.7
5 11	12 57.83	+6 5.3	1.532	2.389	16.1	18.8	5 11	13 3.27	-15 1.9	2.163	3.073	9.7	20.8
5 21	12 53.47	+5 40.0	1.601	2.373	19.3	19.0	5 21	12 59.60	-14 4.5	2.234	3.066	12.6	21.0
434799	2006 <i>RR</i> ₄₃		4 12.0 217°16	1°8/9.6	17		239882	2000 <i>QU</i> ₆₆		4 12.0 253°37	4°8/5.3	18	
3 12	13 40.49	-6 16.2	2.504	3.373	9.5	21.6	3 12	13 41.26	+5 43.8	2.658	3.533	8.8	20.7
3 22	13 35.80	-4 57.1	2.427	3.367	6.6	21.4	3 22	13 36.36	+7 6.0	2.579	3.513	6.6	20.5
4 1	13 29.81	-3 30.7	2.377	3.361	3.5	21.2	4 1	13 30.14	+8 27.3	2.528	3.493	5.0	20.3
4 11	13 23.08	-2 2.4	2.358	3.355	1.9	21.0	4 11	13 23.14	+9 41.6	2.506	3.473	5.1	20.3
4 21	13 16.29	-0 38.2	2.368	3.349	4.4	21.2	4 21	13 16.00	+10 43.9	2.513	3.452	7.0	20.4
5 1	13 10.09	+0 36.5	2.407	3.343	7.6	21.4	5 1	13 9.38	+11 29.9	2.547	3.430	9.4	20.5
5 11	13 5.06	+1 37.3	2.472	3.336	10.5	21.5	5 11	13 3.85	+11 57.5	2.604	3.408	11.8	20.7
5 21	13 1.58	+2 22.0	2.559	3.329	12.9	21.7	5 21	12 59.82	+12 6.6	2.681	3.386	13.9	20.8
324540	2006 <i>WT</i> ₂₇		4 12.0 273°73	1°1/11.2	17		318480	2005 <i>EB</i> ₈₇		4 12.0 61°42	0°3/12.2	18	
3 12	13 46.22												

EPHEMERIDES

4 12.0

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2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
431233	2006 <i>SG</i> ₃₇₅		4 12.0	20°12	3°3/ 8.0	17	287641	2003 <i>JA</i> ₄		4 12.0	295°61	4°5/ 8.0	17
3 12	13 39.96	- 2 44.7	2.119	2.999	10.5	21.1	3 12	13 44.01	- 0 0.8	1.692	2.577	12.4	20.4
3 22	13 35.58	- 1 11.6	2.055	3.000	7.3	20.9	3 22	13 39.02	+ 1 4.0	1.604	2.549	8.9	20.2
4 1	13 29.74	+ 0 26.7	2.018	3.001	4.3	20.7	4 1	13 31.88	+ 2 13.5	1.540	2.521	5.6	19.9
4 11	13 23.10	+ 2 2.9	2.010	3.001	3.5	20.6	4 11	13 23.35	+ 3 20.0	1.503	2.492	4.7	19.8
4 21	13 16.43	+ 3 29.8	2.031	3.002	6.0	20.8	4 21	13 14.44	+ 4 15.7	1.492	2.464	7.7	19.9
5 1	13 10.47	+ 4 41.4	2.079	3.003	9.2	21.0	5 1	13 6.25	+ 4 53.8	1.506	2.435	11.7	20.0
5 11	13 5.87	+ 5 34.0	2.151	3.004	12.2	21.2	5 11	12 59.78	+ 5 10.0	1.543	2.406	15.6	20.2
5 21	13 3.01	+ 6 6.3	2.243	3.004	14.8	21.4	5 21	12 55.68	+ 5 3.4	1.598	2.378	19.1	20.4
252967	2002 <i>PR</i> ₁₄₁		4 12.0	208°70	15°5/21.9	18	190683	2001 <i>CR</i> ₄₇		4 12.0	54°77	2°9/14.3	17
3 12	13 56.40	-40 12.7	1.331	2.067	23.2	20.5	3 12	13 46.97	-16 50.7	1.752	2.597	14.1	19.6
3 22	13 49.40	-42 3.5	1.257	2.065	20.9	20.3	3 22	13 40.89	-17 5.8	1.687	2.605	10.6	19.4
4 1	13 38.18	-43 18.4	1.198	2.061	18.4	20.1	4 1	13 32.74	-17 5.6	1.644	2.614	6.7	19.2
4 11	13 23.94	-43 47.2	1.158	2.058	16.4	20.0	4 11	13 23.42	-16 51.6	1.628	2.623	3.3	19.0
4 21	13 8.73	-43 24.7	1.137	2.053	15.5	19.9	4 21	13 14.02	-16 27.3	1.639	2.632	4.2	19.1
5 1	12 55.02	-42 14.8	1.137	2.048	16.2	19.9	5 1	13 5.62	-15 58.0	1.677	2.642	7.9	19.3
5 11	12 44.84	-40 31.3	1.156	2.043	18.1	20.0	5 11	12 59.12	-15 29.8	1.740	2.651	11.6	19.5
5 21	12 39.22	-38 31.4	1.193	2.037	20.6	20.1	5 21	12 55.00	-15 7.5	1.824	2.661	14.8	19.8
39651	1995 <i>SU</i> ₇₃		4 12.0	197°57	1°3/10.5	18	57374	2001 <i>RZ</i> ₅₂		4 12.0	84°04	0°4/11.7	18
3 12	13 41.08	- 7 13.2	2.432	3.299	9.8	19.6	3 12	13 44.61	- 8 50.3	2.162	3.024	11.1	19.1
3 22	13 36.25	- 6 18.0	2.358	3.297	6.9	19.4	3 22	13 38.77	- 8 29.6	2.105	3.040	7.8	18.9
4 1	13 30.06	- 5 15.8	2.312	3.296	3.6	19.2	4 1	13 31.42	- 8 1.5	2.074	3.057	4.1	18.7
4 11	13 23.14	- 4 11.2	2.294	3.294	1.3	19.0	4 11	13 23.30	- 7 29.8	2.071	3.073	0.5	18.4
4 21	13 16.15	- 3 9.1	2.305	3.292	4.0	19.2	4 21	13 15.21	- 6 58.5	2.097	3.089	3.6	18.7
5 1	13 9.79	- 2 14.6	2.345	3.289	7.2	19.4	5 1	13 7.96	- 6 31.8	2.150	3.105	7.2	18.9
5 11	13 4.65	- 1 31.4	2.410	3.287	10.2	19.6	5 11	13 2.19	- 6 13.2	2.230	3.120	10.4	19.2
5 21	13 1.12	- 1 1.9	2.498	3.284	12.8	19.7	5 21	12 58.27	- 6 4.8	2.331	3.136	13.0	19.4
455173	1999 <i>TF</i> ₁₃₇		4 12.0	229°01	1°0/12.8	17	67999	2000 <i>XC</i> ₃₂		4 12.0	16°98	8°0/18.9	17
3 12	13 49.59	-13 3.9	1.631	2.487	14.4	22.6	3 12	13 45.94	-30 5.3	1.725	2.513	16.7	19.2
3 22	13 43.05	-12 44.5	1.546	2.475	10.5	22.3	3 22	13 40.51	-30 44.7	1.650	2.515	14.0	19.0
4 1	13 34.06	-12 10.0	1.484	2.463	6.0	22.0	4 1	13 32.70	-30 58.2	1.596	2.517	11.1	18.8
4 11	13 23.53	-11 23.5	1.449	2.450	1.4	21.6	4 11	13 23.44	-30 44.0	1.564	2.520	8.7	18.7
4 21	13 12.65	-10 30.7	1.441	2.436	4.4	21.8	4 21	13 13.93	-30 3.7	1.557	2.523	8.1	18.6
5 1	13 2.71	- 9 38.6	1.461	2.421	9.3	22.1	5 1	13 5.45	-29 3.1	1.575	2.526	9.6	18.7
5 11	12 54.80	- 8 54.6	1.505	2.406	13.8	22.3	5 11	12 59.05	-27 51.3	1.617	2.530	12.3	18.9
5 21	12 49.57	- 8 23.8	1.569	2.390	17.6	22.5	5 21	12 55.33	-26 37.6	1.680	2.534	15.1	19.1
337003	2012 <i>OG</i>		4 12.0	227°25	0°3/12.3	17	181642	2006 <i>XU</i> ₆₅		4 12.0	143°18	0°1/12.2	18
3 12	13 43.22	-12 21.5	1.976	2.835	12.1	21.7	3 12	13 41.37	-11 24.5	2.843	3.693	9.1	21.4
3 22	13 38.07	-11 41.4	1.899	2.831	8.7	21.4	3 22	13 36.27	-10 46.7	2.774	3.702	6.5	21.3
4 1	13 31.16	-10 48.5	1.846	2.827	4.8	21.2	4 1	13 30.03	-10 1.0	2.731	3.711	3.5	21.1
4 11	13 23.25	- 9 47.2	1.821	2.823	0.7	20.9	4 11	13 23.18	- 9 10.6	2.718	3.720	0.4	20.8
4 21	13 15.22	- 8 43.0	1.824	2.819	3.7	21.1	4 21	13 16.32	- 8 19.2	2.735	3.728	2.8	21.0
5 1	13 7.98	- 7 42.4	1.855	2.814	7.8	21.3	5 1	13 10.04	- 7 30.8	2.781	3.735	5.8	21.2
5 11	13 2.29	- 6 51.1	1.912	2.809	11.4	21.6	5 11	13 4.84	- 6 49.0	2.854	3.743	8.4	21.4
5 21	12 58.62	- 6 12.9	1.989	2.805	14.6	21.8	5 21	13 1.07	- 6 16.3	2.951	3.749	10.7	21.6
468936	2015 <i>AW</i> ₇		4 12.0	307°28	1°0/11.4	17	156979	2003 <i>JB</i> ₁₃		4 12.0	271°33	5°2/ 6.3	17
3 12	13 49.72	- 5 55.1	1.666	2.536	13.4	20.6	3 12	13 41.84	+ 1 43.8	1.822	2.709	11.6	19.6
3 22	13 42.93	- 6 2.0	1.594	2.533	9.5	20.4	3 22	13 37.20	+ 3 24.7	1.754	2.698	8.4	19.4
4 1	13 33.89	- 6 3.7	1.546	2.530	5.1	20.1	4 1	13 30.75	+ 5 8.3	1.712	2.688	5.7	19.2
4 11	13 23.51	- 6 3.3	1.526	2.527	1.0	19.8	4 11	13 23.26	+ 6 45.6	1.697	2.677	5.6	19.1
4 21	13 12.95	- 6 4.6	1.533	2.524	4.8	20.0	4 21	13 15.63	+ 8 8.2	1.709	2.666	8.2	19.3
5 1	13 3.39	- 6 11.2	1.567	2.521	9.3	20.3	5 1	13 8.80	+ 9 9.3	1.747	2.656	11.6	19.4
5 11	12 55.81	- 6 26.4	1.625	2.519	13.4	20.5	5 11	13 3.56	+ 9 45.9	1.807	2.645	14.8	19.6
5 21	12 50.77	- 6 51.9	1.704	2.516	16.8	20.8	5 21	13 0.39	+ 9 57.7	1.885	2.634	17.6	19.8
126516	2002 <i>CB</i> ₇₇		4 12.0	86°69	1°6/10.6	18	10924	Mariagriffin		4 12.0	53°91	4°8/ 6.8	18
3 12	13 44.60	- 6 24.8	1.785	2.660	12.4	20.0	3 12	13 41.60	+ 3 21.0	2.070	2.953	10.6	17.9
3 22	13 39.09	- 5 46.9	1.721	2.663	8.7	19.8	3 22	13 36.75	+ 4 32.3	2.015	2.956	7.7	17.7
4 1	13 31.71	- 5 1.6	1.682	2.667	4.6	19.6	4 1	13 30.39	+ 5 42.3	1.986	2.960	5.3	17.6
4 11	13 23.31	- 4 14.3	1.670	2.670	1.6	19.4	4 11	13 23.22	+ 6 44.3	1.985	2.964	5.0	17.6
4 21	13 14.85	- 3 30.7	1.685	2.674	4.9	19.6	4 21	13 16.05	+ 7 32.7	2.011	2.968	7.2	17.7
5 1	13 7.33	- 2 56.3	1.727	2.677	9.0	19.8	5 1	13 9.66	+ 8 3.4	2.063	2.972	10.1	17.9
5 11	13 1.53	- 2 35.1	1.793	2.681	12.6	20.1	5 11	13 4.70	+ 8 14.8	2.138	2.976	12.8	18.1
5 21	12 57.90	- 2 29.1	1.880	2.684	15.7	20.3	5 21	13 1.54	+ 8 7.2	2.233	2.980	15.2	18.3
76303	2000 <i>EY</i> ₁₃₄		4 12.0	221°22	0°9/11.3	18	467753	2009 <i>SU</i> ₃₄₄		4 12.0	233°73	0°2/11.9	17
3 12	13 47.55	- 5 58.5	2.196	3.058	11.0	19.3	3 12	13 49.25	- 8 26.7	1.959	2.818	12.2	21.7
3 22	13 40.97	- 5 57.9	2.119	3.055	7.7	19.1	3 22	13 42.44	- 8 27.7	1.876	2.809	8.7	21.5
4 1	13 32.68	- 5 52.7	2.068	3.051	4.1	18.9	4 1	13 33.60	- 8 21.4	1.818	2.800	4.7	21.2
4 11	13 23.41	- 5 45.9	2.046	3.047	0.9	18.6	4 11	13 23.54	- 8 10.6	1.788	2.790	0.4	20.9
4 21	13 14.00	- 5 40.6	2.053	3.044	3.9	18.8	4 21	13 13.24	- 7 58.7	1.788	2.780	4.0	21.1
5 1	13 5.34	- 5 39.8	2.089	3.040	7.6	19.1	5 1	13 3.73	- 7 49.7	1.815	2.770	8.2	21.4
5 11	12 58.17	- 5 46.4	2.151	3.035	11.0	19.3	5 11	12 55.91	- 7 47.5	1.868	2.759	12.0	21.6
5 21	12 52.96	- 6 1.9	2.235	3.031	13.8	19.4	5 21	12 50.34	- 7 54.6	1.943	2.749	15.2	21.8
324929	2007 <i>WE</i> ₂₁		4 12.0	83°05	3°9/15.2	18	251506	2008 <i>FB</i> ₂		4 12.0	304°08	1°3/10.6</	

EPHEMERIDES

4 12.0

4 12.0

2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
424764	2008 <i>TB</i> ₇₇		4 12.0 245°69	0°1/11.9	17		501244	2013 <i>VA</i> ₁₅		4 12.0 214°15	1°1/13.3	17	
3 12	13 45.46	- 9 48.5	1.968	2.830	12.0	21.2	3 12	13 43.29	-15 43.9	2.149	2.993	11.9	21.8
3 22	13 39.69	- 9 32.1	1.890	2.824	8.6	20.9	3 22	13 38.06	-14 53.0	2.065	2.988	8.7	21.5
4 1	13 32.09	- 9 6.5	1.836	2.818	4.7	20.7	4 1	13 31.18	-13 46.8	2.006	2.981	5.0	21.3
4 11	13 23.40	- 8 35.1	1.810	2.812	0.4	20.3	4 11	13 23.34	-12 29.0	1.974	2.975	1.5	21.0
4 21	13 14.54	- 8 2.2	1.812	2.806	3.9	20.6	4 21	13 15.39	-11 5.4	1.973	2.968	3.3	21.2
5 1	13 6.47	- 7 32.8	1.842	2.799	8.0	20.8	5 1	13 8.17	- 9 42.9	2.000	2.960	7.2	21.4
5 11	12 59.99	- 7 11.3	1.897	2.793	11.6	21.0	5 11	13 2.40	- 8 28.2	2.053	2.952	10.7	21.6
5 21	12 55.62	- 7 0.8	1.973	2.786	14.8	21.2	5 21	12 58.54	- 7 26.0	2.129	2.944	13.8	21.8
240298	2003 <i>FZ</i> ₂₇		4 12.0 242°42	0°6/12.5	18		106948	2000 <i>YM</i> ₇₆		4 12.0 240°65	4°5/17.9	18	
3 12	13 46.10	-13 19.7	1.609	2.470	14.3	21.0	3 12	13 42.74	-27 53.2	2.933	3.705	10.9	20.4
3 22	13 40.56	-12 36.0	1.525	2.458	10.4	20.7	3 22	13 37.48	-27 45.9	2.828	3.690	8.9	20.2
4 1	13 32.72	-11 34.9	1.466	2.446	5.8	20.4	4 1	13 30.82	-27 21.8	2.748	3.674	6.8	20.0
4 11	13 23.47	-10 21.2	1.432	2.434	1.0	20.1	4 11	13 23.32	-26 41.2	2.694	3.658	5.0	19.9
4 21	13 13.94	- 9 1.9	1.426	2.421	4.4	20.3	4 21	13 15.64	-25 46.1	2.668	3.642	4.6	19.8
5 1	13 5.34	- 7 45.9	1.446	2.407	9.3	20.5	5 1	13 8.49	-24 40.6	2.672	3.625	6.0	19.9
5 11	12 58.68	- 6 41.3	1.491	2.393	13.8	20.8	5 11	13 2.49	-23 29.7	2.703	3.608	8.2	20.0
5 21	12 54.57	- 5 53.5	1.555	2.379	17.6	21.0	5 21	12 58.07	-22 19.1	2.759	3.590	10.5	20.1
192621	1999 <i>JN</i> ₁₁		4 12.0 286°95	6°2/18.8	18		23139	2000 <i>AP</i> ₁₅₁		4 12.0 200°46	4°7/ 7.7	18	
3 12	13 45.00	-31 13.4	2.013	2.784	15.2	20.1	3 12	13 47.98	+ 3 25.5	2.031	2.904	11.2	19.3
3 22	13 39.78	-30 34.6	1.890	2.749	12.7	19.8	3 22	13 41.36	+ 4 19.9	1.963	2.900	8.2	19.1
4 1	13 32.44	-29 24.7	1.788	2.714	9.8	19.6	4 1	13 32.94	+ 5 13.0	1.921	2.895	5.5	19.0
4 11	13 23.34	-27 42.5	1.712	2.677	7.2	19.3	4 11	13 23.52	+ 5 58.6	1.908	2.889	4.9	18.9
4 21	13 14.10	-25 31.2	1.663	2.641	6.3	19.2	4 21	13 14.01	+ 6 31.1	1.923	2.883	7.2	19.0
5 1	13 5.49	-22 58.9	1.643	2.603	8.4	19.2	5 1	13 5.34	+ 6 46.8	1.965	2.876	10.4	19.2
5 11	12 58.61	-20 17.8	1.650	2.566	11.9	19.4	5 11	12 58.28	+ 6 44.0	2.031	2.869	13.4	19.4
5 21	12 54.15	-17 40.4	1.682	2.527	15.5	19.5	5 21	12 53.30	+ 6 23.3	2.116	2.860	16.0	19.6
24726	1991 <i>VY</i>		4 12.0 126°88	2°7/ 9.8	18		375741	2009 <i>RE</i> ₆₂		4 12.0 141°80	0°0/12.1	17	
3 12	13 47.33	- 3 17.7	1.703	2.579	12.8	18.2	3 12	13 48.75	- 9 25.9	2.266	3.117	11.1	21.2
3 22	13 41.05	- 2 37.4	1.645	2.587	9.0	17.9	3 22	13 41.70	- 9 19.8	2.199	3.128	7.9	21.0
4 1	13 32.79	- 1 52.8	1.611	2.595	4.9	17.7	4 1	13 33.04	- 9 6.3	2.159	3.140	4.2	20.8
4 11	13 23.47	- 1 9.7	1.605	2.602	2.8	17.6	4 11	13 23.53	- 8 48.3	2.148	3.150	0.4	20.5
4 21	13 14.16	- 0 34.2	1.626	2.609	5.8	17.8	4 21	13 13.99	- 8 29.0	2.167	3.160	3.4	20.8
5 1	13 5.90	- 0 11.2	1.674	2.616	9.8	18.0	5 1	13 5.28	- 8 12.1	2.216	3.169	7.0	21.1
5 11	12 59.51	- 0 3.6	1.746	2.623	13.5	18.3	5 11	12 58.09	- 8 1.1	2.291	3.178	10.3	21.3
5 21	12 55.45	- 0 12.3	1.837	2.629	16.5	18.5	5 21	12 52.85	- 7 58.3	2.389	3.186	13.0	21.5
58539	1997 <i>ET</i> ₁₆		4 12.0 268°94	0°3/11.7	17		302875	2003 <i>HP</i> ₄₇		4 12.0 312°96	0°9/11.4	17	
3 12	13 41.73	- 9 44.2	2.452	3.311	10.0	20.6	3 12	13 42.83	-10 6.3	1.221	2.108	16.0	20.3
3 22	13 36.82	- 9 11.6	2.362	3.296	7.1	20.4	3 22	13 38.77	- 9 16.9	1.143	2.090	11.5	20.0
4 1	13 30.47	- 8 30.5	2.299	3.281	3.8	20.1	4 1	13 31.98	- 8 9.4	1.087	2.073	6.2	19.6
4 11	13 23.26	- 7 44.4	2.264	3.266	0.4	19.8	4 11	13 23.45	- 6 50.7	1.055	2.056	0.9	19.2
4 21	13 15.89	- 6 57.4	2.259	3.251	3.4	20.1	4 21	13 14.50	- 5 30.5	1.047	2.040	5.9	19.5
5 1	13 9.08	- 6 14.0	2.282	3.236	6.9	20.3	5 1	13 6.63	- 4 19.6	1.062	2.025	11.6	19.8
5 11	13 3.48	- 5 38.5	2.331	3.220	10.0	20.4	5 11	13 1.07	- 3 27.3	1.098	2.010	16.8	20.0
5 21	12 59.52	- 5 13.6	2.403	3.205	12.8	20.6	5 21	12 58.52	- 2 58.3	1.152	1.996	21.2	20.2
30286	2000 <i>HG</i> ₆₁		4 12.0 254°73	1°1/10.9	18		176508	2001 <i>YQ</i> ₄₆		4 12.0 67°70	6°6/19.9	18	
3 12	13 43.29	- 6 56.7	2.194	3.061	10.7	19.9	3 12	13 43.34	-32 7.2	2.301	3.060	13.9	20.0
3 22	13 38.01	- 6 24.4	2.114	3.053	7.6	19.7	3 22	13 38.17	-32 15.5	2.221	3.065	11.7	19.9
4 1	13 31.13	- 5 45.2	2.061	3.045	4.0	19.5	4 1	13 31.26	-32 1.0	2.162	3.069	9.3	19.7
4 11	13 23.33	- 5 3.4	2.035	3.036	1.1	19.2	4 11	13 23.36	-31 23.6	2.127	3.074	7.4	19.6
4 21	13 15.39	- 4 23.4	2.039	3.028	4.1	19.4	4 21	13 15.36	-30 25.6	2.119	3.079	6.7	19.6
5 1	13 8.13	- 3 49.8	2.070	3.019	7.8	19.6	5 1	13 8.16	-29 11.9	2.137	3.084	7.7	19.6
5 11	13 2.25	- 3 26.6	2.126	3.010	11.1	19.8	5 11	13 2.52	-27 50.0	2.182	3.089	9.8	19.8
5 21	12 58.20	- 3 15.8	2.204	3.001	13.9	20.0	5 21	12 58.91	-26 27.1	2.250	3.094	12.1	19.9
155123	2005 <i>TX</i> ₇₈		4 12.0 220°92	3°3/ 8.2	17		437512	2013 <i>YV</i> ₈₃		4 12.0 35°62	5°3/ 6.4	17	
3 12	13 43.82	- 1 32.3	2.245	3.119	10.3	20.7	3 12	13 41.79	+ 4 28.6	1.966	2.850	11.0	21.1
3 22	13 38.34	- 0 13.9	2.167	3.108	7.2	20.5	3 22	13 36.96	+ 5 43.1	1.912	2.853	8.1	21.0
4 1	13 31.29	+ 1 9.0	2.117	3.097	4.3	20.3	4 1	13 30.55	+ 6 55.3	1.885	2.857	5.8	20.8
4 11	13 23.35	+ 2 30.0	2.096	3.086	3.5	20.2	4 11	13 23.29	+ 7 58.0	1.885	2.861	5.6	20.8
4 21	13 15.27	+ 3 42.6	2.104	3.073	6.0	20.3	4 21	13 16.03	+ 8 45.3	1.912	2.864	7.8	20.9
5 1	13 7.85	+ 4 41.4	2.140	3.060	9.2	20.5	5 1	13 9.59	+ 9 13.1	1.964	2.868	10.7	21.1
5 11	13 1.79	+ 5 22.8	2.200	3.046	12.2	20.7	5 11	13 4.65	+ 9 20.0	2.038	2.873	13.5	21.3
5 21	12 57.53	+ 5 45.5	2.281	3.032	14.8	20.8	5 21	13 1.61	+ 9 6.8	2.131	2.877	15.9	21.5
230327	2002 <i>CV</i> ₈₆		4 12.0 175°34	3°2/15.1	17		53165	1999 <i>CX</i> ₉		4 12.0 17°90	4°8/ 6.8	18	
3 12	13 46.24	-19 52.5	2.145	2.969	12.7	21.2	3 12	13 41.38	+ 2 39.0	2.011	2.895	10.8	17.7
3 22	13 40.18	-19 50.6	2.066	2.970	9.7	21.0	3 22	13 36.67	+ 3 56.0	1.953	2.896	7.8	17.5
4 1	13 32.33	-19 32.7	2.011	2.972	6.4	20.8	4 1	13 30.40	+ 5 12.8	1.922	2.897	5.3	17.4
4 11	13 23.45	-19 0.3	1.983	2.973	3.6	20.6	4 11	13 23.29	+ 6 22.2	1.917	2.898	5.0	17.3
4 21	13 14.43	-18 16.6	1.983	2.974	4.0	20.6	4 21	13 16.14	+ 7 17.9	1.941	2.899	7.3	17.5
5 1	13 6.21	-17 27.0	2.012	2.974	7.0	20.8	5 1	13 9.77	+ 7 55.5	1.990	2.900	10.3	17.7
5 11	12 59.56	-16 37.4	2.066	2.974	10.3	21.0	5 11	13 4.86	+ 8 12.8	2.061	2.901	13.2	17.9
5 21	12 54.97	-15 53.2	2.144	2.973	13.2	21.2	5 21	13 1.80	+ 8 10.1	2.152	2.903	15.6	18.0
500673	2012 <i>VF</i> ₄₅		4 12.0 161°93	3°3/ 7.7	18		366391	2001 <i>QW</i> ₄₇		4 12.0			

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4 12.0

4 12.1

2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
43700	6820 <i>P-L</i>		4 12.0 227°34	1°6/10.5 18			460971	2014 <i>WY</i> ₃₁₄		4 12.1 168°50	4°0/ 8.3 18		
3 12	13 43.68	- 6 41.4	2.025	2.895	11.4	20.2	3 12	13 46.17	- 0 20.4	1.831	2.709	12.0	21.4
3 22	13 38.38	- 5 50.8	1.949	2.889	8.0	20.0	3 22	13 40.18	+ 0 47.5	1.771	2.713	8.5	21.2
4 1	13 31.37	- 4 52.2	1.899	2.883	4.2	19.8	4 1	13 32.35	+ 1 57.9	1.736	2.716	5.2	21.0
4 11	13 23.39	- 3 50.9	1.876	2.876	1.6	19.6	4 11	13 23.52	+ 3 3.5	1.729	2.719	4.2	20.9
4 21	13 15.29	- 2 52.7	1.882	2.869	4.7	19.8	4 21	13 14.66	+ 3 57.5	1.750	2.721	6.8	21.1
5 1	13 7.93	- 2 3.4	1.916	2.862	8.5	20.0	5 1	13 6.74	+ 4 34.7	1.797	2.722	10.4	21.3
5 11	13 2.07	- 1 27.3	1.974	2.854	12.0	20.2	5 11	13 0.54	+ 4 52.5	1.868	2.723	13.7	21.5
5 21	12 58.18	- 1 6.8	2.053	2.846	14.9	20.4	5 21	12 56.50	+ 4 50.8	1.958	2.724	16.5	21.7
106077	2000 <i>SB</i> ₃₄₇		4 12.0 195°55	4°9/ 5.9 17			187472	2006 <i>BP</i> ₇₃		4 12.1 309°09	0°2/12.4 18		
3 12	13 43.84	+ 5 42.7	2.476	3.349	9.5	21.0	3 12	13 37.23	-10 43.9	3.943	4.793	6.8	20.1
3 22	13 38.19	+ 7 1.1	2.412	3.346	7.0	20.9	3 22	13 33.25	-10 29.7	3.851	4.779	4.8	19.9
4 1	13 31.16	+ 8 17.4	2.376	3.342	5.2	20.7	4 1	13 28.44	-10 10.5	3.786	4.765	2.7	19.8
4 11	13 23.37	+ 9 25.3	2.369	3.338	5.3	20.7	4 11	13 23.14	- 9 47.9	3.750	4.752	0.4	19.5
4 21	13 15.52	+10 19.8	2.391	3.333	7.1	20.8	4 21	13 17.77	- 9 24.1	3.744	4.738	2.0	19.7
5 1	13 8.33	+10 57.0	2.440	3.327	9.6	21.0	5 1	13 12.72	- 9 1.3	3.768	4.725	4.3	19.8
5 11	13 2.39	+11 15.4	2.512	3.320	12.0	21.1	5 11	13 8.36	- 8 41.6	3.820	4.711	6.4	20.0
5 21	12 58.10	+11 15.3	2.604	3.313	14.1	21.3	5 21	13 4.99	- 8 27.1	3.896	4.698	8.3	20.1
329973	2005 <i>SN</i> ₇₈		4 12.0 166°94	0°9/11.2 17			310016	2009 <i>KD</i> ₂₆		4 12.1 290°30	0°4/12.9 18		
3 12	13 45.41	- 8 14.6	1.923	2.789	12.1	21.9	3 12	13 36.34	-12 23.1	4.212	5.056	6.5	20.7
3 22	13 39.62	- 7 36.7	1.854	2.792	8.5	21.7	3 22	13 32.58	-12 3.0	4.121	5.046	4.7	20.6
4 1	13 32.04	- 6 49.9	1.811	2.794	4.5	21.4	4 1	13 28.06	-11 37.3	4.057	5.035	2.6	20.4
4 11	13 23.46	- 5 59.2	1.795	2.796	0.9	21.2	4 11	13 23.11	-11 7.6	4.023	5.024	0.6	20.2
4 21	13 14.81	- 5 10.0	1.807	2.798	4.3	21.4	4 21	13 18.09	-10 36.2	4.019	5.014	1.9	20.3
5 1	13 7.03	- 4 27.9	1.848	2.799	8.3	21.6	5 1	13 13.38	-10 5.2	4.045	5.003	4.0	20.5
5 11	13 0.89	- 3 57.3	1.912	2.800	11.9	21.9	5 11	13 9.33	- 9 37.0	4.099	4.992	6.0	20.6
5 21	12 56.83	- 3 40.8	1.998	2.801	15.0	22.1	5 21	13 6.18	- 9 13.4	4.177	4.982	7.7	20.7
345638	2006 <i>SN</i> ₃₅₄		4 12.0 133°37	4°4/ 6.4 17			372626	IGEM		4 12.1 117°80	0°1/12.2 17		
3 12	13 43.88	+ 7 51.7	2.945	3.811	8.3	21.6	3 12	13 45.11	-11 30.3	2.109	2.964	11.6	22.7
3 22	13 37.94	+ 8 34.9	2.897	3.825	6.3	21.5	3 22	13 39.20	-10 51.5	2.049	2.980	8.2	22.5
4 1	13 30.91	+ 9 13.5	2.878	3.839	4.7	21.4	4 1	13 31.73	-10 2.2	2.015	2.996	4.5	22.3
4 11	13 23.35	+ 9 43.6	2.887	3.852	4.6	21.4	4 11	13 23.46	- 9 6.9	2.009	3.011	0.5	22.0
4 21	13 15.84	+10 2.1	2.926	3.865	6.1	21.5	4 21	13 15.22	- 8 10.6	2.032	3.025	3.5	22.3
5 1	13 8.97	+10 7.1	2.992	3.878	8.1	21.7	5 1	13 7.85	- 7 18.8	2.083	3.039	7.3	22.5
5 11	13 3.20	+ 9 58.3	3.083	3.890	10.1	21.8	5 11	13 2.01	- 6 36.2	2.161	3.053	10.6	22.8
5 21	12 58.85	+ 9 36.2	3.195	3.901	11.8	22.0	5 21	12 58.09	- 6 5.7	2.260	3.066	13.4	23.0
192842	1999 <i>VC</i> ₁₄₃		4 12.0 172°98	0°9/13.1 17			181623	2006 <i>WO</i> ₁₉₀		4 12.1 203°96	1°3/10.5 18		
3 12	13 44.03	-14 1.3	2.286	3.132	11.2	21.4	3 12	13 40.87	- 7 14.6	2.457	3.323	9.8	20.5
3 22	13 38.47	-13 30.7	2.210	3.135	8.1	21.2	3 22	13 36.15	- 6 18.9	2.383	3.322	6.8	20.3
4 1	13 31.36	-12 48.3	2.160	3.137	4.6	21.0	4 1	13 30.09	- 5 16.2	2.336	3.320	3.6	20.1
4 11	13 23.40	-11 57.3	2.138	3.138	1.2	20.7	4 11	13 23.31	- 4 11.0	2.317	3.317	1.3	19.9
4 21	13 15.37	-11 2.2	2.145	3.140	3.2	20.9	4 21	13 16.46	- 3 8.4	2.328	3.315	3.9	20.1
5 1	13 8.06	-10 8.1	2.181	3.140	6.7	21.1	5 1	13 10.23	- 2 13.2	2.368	3.313	7.2	20.3
5 11	13 2.14	- 9 20.2	2.243	3.141	10.0	21.3	5 11	13 5.20	- 1 29.4	2.433	3.310	10.1	20.5
5 21	12 58.04	- 8 42.1	2.328	3.140	12.8	21.5	5 21	13 1.74	- 0 59.1	2.521	3.307	12.7	20.7
346200	2007 <i>XD</i> ₂₉		4 12.0 61°75	2°0/10.2 17			164425	2006 <i>BH</i> ₁₄₀		4 12.1 304°83	1°2/11.2 17		
3 12	13 44.35	- 4 1.2	2.007	2.881	11.3	21.1	3 12	13 44.45	- 8 50.9	1.271	2.156	15.7	20.3
3 22	13 38.74	- 3 33.3	1.948	2.890	7.9	20.9	3 22	13 39.88	- 8 9.2	1.193	2.139	11.2	20.0
4 1	13 31.51	- 3 1.4	1.915	2.899	4.2	20.7	4 1	13 32.60	- 7 12.4	1.136	2.122	6.0	19.7
4 11	13 23.42	- 2 30.2	1.909	2.908	2.0	20.6	4 11	13 23.58	- 6 7.0	1.104	2.105	1.2	19.3
4 21	13 15.33	- 2 4.1	1.932	2.917	4.8	20.8	4 21	13 14.14	- 5 1.7	1.096	2.089	5.9	19.6
5 1	13 8.09	- 1 47.0	1.982	2.926	8.3	21.0	5 1	13 5.74	- 4 6.0	1.113	2.073	11.5	19.8
5 11	13 2.40	- 1 41.8	2.056	2.936	11.6	21.2	5 11	12 59.63	- 3 27.8	1.150	2.057	16.6	20.1
5 21	12 58.65	- 1 49.4	2.151	2.945	14.3	21.4	5 21	12 56.50	- 3 11.1	1.205	2.042	20.9	20.3
154154	2002 <i>GB</i> ₁₁		4 12.0 107°18	0°3/11.9 17			301865	1995 <i>SM</i> ₈₀		4 12.1 278°67	0°6/12.6 17		
3 12	14 5.60	- 5 3.4	1.048	1.919	19.4	19.8	3 12	13 45.34	-10 52.3	2.220	3.074	11.1	21.2
3 22	13 55.12	- 6 6.3	0.994	1.932	13.9	19.5	3 22	13 39.53	-10 52.8	2.135	3.065	8.0	20.9
4 1	13 40.81	- 7 5.9	0.963	1.945	7.5	19.2	4 1	13 32.03	-10 45.0	2.076	3.055	4.5	20.7
4 11	13 24.33	- 8 2.3	0.956	1.958	0.7	18.8	4 11	13 23.51	-10 31.1	2.044	3.046	0.8	20.4
4 21	13 7.85	- 8 55.8	0.977	1.971	6.2	19.2	4 21	13 14.79	-10 14.3	2.042	3.036	3.4	20.6
5 1	12 53.54	- 9 48.1	1.023	1.982	12.4	19.6	5 1	13 6.74	- 9 58.2	2.068	3.027	7.1	20.8
5 11	12 42.89	-10 41.9	1.091	1.994	17.7	19.9	5 11	13 0.10	- 9 46.8	2.120	3.017	10.5	21.0
5 21	12 36.44	-11 39.5	1.177	2.005	21.9	20.2	5 21	12 55.36	- 9 42.9	2.194	3.008	13.5	21.2
354771	2005 <i>UE</i> ₉₄		4 12.0 242°82	0°4/12.5 16			40915	1999 <i>TT</i> ₁₅₅		4 12.1 237°74	1°2/10.9 18		
3 12	13 42.98	-11 28.5	2.651	3.501	9.7	21.5	3 12	13 42.96	- 8 5.0	1.977	2.846	11.6	18.9
3 22	13 37.63	-11 13.4	2.563	3.490	7.0	21.3	3 22	13 37.91	- 7 13.9	1.902	2.842	8.2	18.6
4 1	13 30.91	-10 50.2	2.501	3.480	3.9	21.1	4 1	13 31.16	- 6 13.5	1.854	2.838	4.3	18.4
4 11	13 23.38	-10 21.2	2.467	3.469	0.7	20.8	4 11	13 23.43	- 5 9.1	1.832	2.833	1.2	18.1
4 21	13 15.70	- 9 49.6	2.464	3.458	2.9	21.0	4 21	13 15.59	- 4 6.6	1.840	2.829	4.4	18.4
5 1	13 8.56	- 9 19.2	2.489	3.446	6.2	21.1	5 1	13 8.53	- 3 12.2	1.874	2.824	8.4	18.6
5 11	13 2.57	- 8 53.5	2.541	3.435	9.1	21.3	5 11	13 2.98	- 2 30.7	1.933	2.819	11.9	18.8
5 21	12 58.15	- 8 35.5	2.617	3.423	11.7	21.5	5 21	12 59.41	- 2 4.7	2.014	2.815	14.9	19.0
152101	2004 <i>RU</i> ₁₀₁		4 12.1 315°38	1°6/13.2 17			191820	2004 <i>TO</i> ₃₂₆		4 12.1 255°69	6°9/18.5 18		

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2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
263883	2009 <i>EJ</i> ₂₃		4 12.1 354°08	1°5/13.1	17		139680	2001 <i>QE</i> ₂₀₆		4 12.1 227°36	3°3/8.1	18	
3 12	13 39.76	-14 14.7	1.041	1.930	18.0	19.5	3 12	13 41.52	-1 0.5	2.336	3.213	9.8	20.4
3 22	13 36.78	-13 49.1	0.978	1.923	13.2	19.2	3 22	13 36.69	+0 10.5	2.265	3.207	6.9	20.2
4 1	13 30.97	-13 0.2	0.934	1.918	7.6	18.9	4 1	13 30.45	+1 24.7	2.220	3.201	4.2	20.0
4 11	13 23.43	-11 53.7	0.913	1.914	2.0	18.5	4 11	13 23.41	+2 36.1	2.205	3.194	3.4	20.0
4 21	13 15.64	-10 38.9	0.913	1.911	5.2	18.7	4 21	13 16.29	+3 39.2	2.218	3.187	5.7	20.1
5 1	13 9.15	-9 27.5	0.936	1.910	11.1	19.1	5 1	13 9.81	+4 29.2	2.258	3.180	8.7	20.3
5 11	13 5.20	-8 30.1	0.979	1.910	16.4	19.3	5 11	13 4.57	+5 2.9	2.324	3.173	11.5	20.4
5 21	13 4.38	-7 53.2	1.038	1.912	20.9	19.6	5 21	13 1.00	+5 19.4	2.409	3.166	14.0	20.6
62277	2000 <i>SX</i> ₁₀₀		4 12.1 112°24	5°5/18.9	18		341405	2007 <i>TZ</i> ₁₆₂		4 12.1 159°64	0°2/12.2	18	
3 12	13 43.10	-29 36.9	2.490	3.260	12.7	19.1	3 12	13 43.69	-11 1.0	2.390	3.243	10.5	21.4
3 22	13 37.87	-29 36.5	2.410	3.266	10.4	18.9	3 22	13 38.18	-10 34.6	2.317	3.247	7.5	21.2
4 1	13 31.08	-29 16.3	2.353	3.273	8.1	18.8	4 1	13 31.23	-9 59.3	2.270	3.251	4.1	21.0
4 11	13 23.43	-28 36.4	2.321	3.279	6.1	18.7	4 11	13 23.49	-9 18.5	2.252	3.254	0.5	20.7
4 21	13 15.70	-27 39.7	2.316	3.285	5.5	18.7	4 21	13 15.69	-8 36.1	2.264	3.257	3.2	21.0
5 1	13 8.70	-26 30.7	2.340	3.291	6.8	18.7	5 1	13 8.57	-7 56.6	2.304	3.260	6.6	21.2
5 11	13 3.12	-25 16.1	2.389	3.297	9.0	18.9	5 11	13 2.77	-7 24.0	2.370	3.262	9.8	21.4
5 21	12 59.36	-24 2.0	2.463	3.303	11.4	19.1	5 21	12 58.68	-7 1.1	2.459	3.265	12.4	21.6
505220	2012 <i>TY</i> ₃₀₅		4 12.1 259°12	2°7/14.2	17		289509	2005 <i>ES</i> ₁₅₄		4 12.1 310°28	0°5/11.7	17	
3 12	13 47.12	-16 37.2	2.075	2.911	12.5	21.5	3 12	13 44.76	-9 22.2	1.351	2.232	15.2	20.7
3 22	13 40.96	-16 54.6	1.990	2.905	9.4	21.2	3 22	13 40.08	-8 59.8	1.266	2.210	11.0	20.4
4 1	13 32.87	-16 59.3	1.930	2.899	6.0	21.0	4 1	13 32.75	-8 23.8	1.204	2.189	6.0	20.1
4 11	13 23.62	-16 52.1	1.897	2.892	3.0	20.8	4 11	13 23.66	-7 39.1	1.166	2.168	0.6	19.6
4 21	13 14.12	-16 35.5	1.893	2.885	3.9	20.8	4 21	13 14.09	-6 52.5	1.153	2.147	5.3	19.9
5 1	13 5.35	-16 13.6	1.916	2.879	7.3	21.0	5 1	13 5.44	-6 12.0	1.164	2.127	10.8	20.1
5 11	12 58.18	-15 51.5	1.966	2.872	10.8	21.2	5 11	12 58.96	-5 44.8	1.197	2.107	15.8	20.4
5 21	12 53.15	-15 33.7	2.037	2.865	13.8	21.4	5 21	12 55.38	-5 35.1	1.248	2.089	20.1	20.6
11895	Dehant		4 12.1 253°11	0°5/11.7	18		310165	2011 <i>RW</i> ₁₆		4 12.1 121°49	3°3/9.3	18	
3 12	13 44.40	-11 13.4	1.599	2.468	13.9	18.2	3 12	13 47.16	-3 28.2	1.579	2.459	13.5	20.9
3 22	13 39.33	-10 14.9	1.521	2.459	9.9	17.9	3 22	13 41.03	-2 18.0	1.527	2.471	9.4	20.7
4 1	13 32.09	-9 0.7	1.467	2.450	5.3	17.6	4 1	13 32.87	-1 2.2	1.500	2.484	5.2	20.5
4 11	13 23.54	-7 36.8	1.439	2.441	0.6	17.2	4 11	13 23.65	+0 11.1	1.500	2.496	3.4	20.4
4 21	13 14.78	-6 11.3	1.438	2.431	4.8	17.5	4 21	13 14.50	+1 14.0	1.528	2.507	6.6	20.6
5 1	13 6.96	-4 53.2	1.464	2.421	9.6	17.8	5 1	13 6.50	+2 0.1	1.581	2.518	10.6	20.9
5 11	13 1.03	-3 50.0	1.514	2.412	13.9	18.0	5 11	13 0.49	+2 26.0	1.657	2.529	14.3	21.1
5 21	12 57.54	-3 6.1	1.583	2.401	17.6	18.2	5 21	12 56.88	+2 31.3	1.752	2.539	17.4	21.4
33738	1999 <i>NY</i> ₄₁		4 12.1 208°14	5°6/18.6	18		460528	2014 <i>TS</i> ₂₃		4 12.1 163°59	1°4/13.3	18	
3 12	13 45.97	-30 1.6	2.898	3.652	11.4	19.1	3 12	13 47.48	-14 47.3	1.932	2.777	12.9	21.8
3 22	13 39.85	-30 29.5	2.804	3.647	9.5	19.0	3 22	13 41.15	-14 21.7	1.860	2.783	9.5	21.6
4 1	13 32.18	-30 40.8	2.734	3.642	7.6	18.8	4 1	13 32.94	-13 41.8	1.812	2.788	5.5	21.4
4 11	13 23.56	-30 34.9	2.689	3.637	6.0	18.7	4 11	13 23.66	-12 50.9	1.792	2.792	1.7	21.1
4 21	13 14.72	-30 12.7	2.673	3.631	5.6	18.7	4 21	13 14.31	-11 54.3	1.801	2.796	3.6	21.3
5 1	13 6.44	-29 36.9	2.685	3.625	6.7	18.7	5 1	13 5.88	-10 58.1	1.838	2.799	7.7	21.5
5 11	12 59.41	-28 52.5	2.724	3.618	8.6	18.9	5 11	12 59.17	-10 8.5	1.901	2.801	11.4	21.7
5 21	12 54.10	-28 4.6	2.786	3.611	10.6	19.0	5 21	12 54.66	-9 29.9	1.985	2.803	14.5	21.9
211544	2003 <i>SM</i> ₂₄		4 12.1 242°84	1°2/11.1	17		142528	2002 <i>TL</i> ₄₅		4 12.1 57°07	0°6/12.5	18	
3 12	13 48.92	-7 2.0	1.837	2.702	12.6	20.5	3 12	13 48.14	-11 58.5	1.380	2.249	15.7	19.1
3 22	13 42.41	-6 37.1	1.749	2.686	9.0	20.3	3 22	13 41.83	-11 38.4	1.340	2.276	11.2	18.9
4 1	13 33.74	-6 4.0	1.686	2.669	4.8	20.0	4 1	13 33.29	-11 4.2	1.322	2.303	6.1	18.7
4 11	13 23.72	-5 27.0	1.651	2.652	1.2	19.7	4 11	13 23.69	-10 21.1	1.329	2.331	1.0	18.4
4 21	13 13.37	-4 51.2	1.644	2.634	4.8	19.9	4 21	13 14.31	-9 35.9	1.363	2.359	4.4	18.7
5 1	13 3.80	-4 22.2	1.665	2.615	9.2	20.1	5 1	13 6.36	-8 55.5	1.423	2.386	9.2	19.1
5 11	12 55.99	-4 4.5	1.710	2.596	13.2	20.3	5 11	13 0.68	-8 25.8	1.505	2.414	13.3	19.4
5 21	12 50.54	-4 0.8	1.777	2.576	16.7	20.5	5 21	12 57.64	-8 10.0	1.608	2.442	16.7	19.7
110886	2001 <i>UG</i> ₁₁₁		4 12.1 277°07	1°4/13.2	18		483375	2016 <i>TM</i> ₅		4 12.1 253°00	6°7/20.8	16	
3 12	13 45.29	-14 4.6	1.712	2.569	13.8	19.8	3 12	13 44.27	-35 23.9	2.815	3.536	12.4	21.8
3 22	13 39.89	-13 48.9	1.633	2.562	10.1	19.6	3 22	13 38.80	-35 32.3	2.706	3.518	10.7	21.7
4 1	13 32.37	-13 18.3	1.578	2.555	5.9	19.3	4 1	13 31.68	-35 19.9	2.619	3.500	8.9	21.5
4 11	13 23.58	-12 36.1	1.548	2.549	1.8	19.0	4 11	13 23.55	-34 45.6	2.556	3.482	7.4	21.4
4 21	13 14.56	-11 47.2	1.546	2.542	4.0	19.1	4 21	13 15.18	-33 50.3	2.520	3.463	6.7	21.3
5 1	13 6.44	-10 58.4	1.571	2.535	8.4	19.4	5 1	13 7.40	-32 37.8	2.511	3.443	7.4	21.3
5 11	13 0.14	-10 16.0	1.620	2.528	12.5	19.6	5 11	13 0.94	-31 13.8	2.529	3.423	9.1	21.4
5 21	12 56.22	-9 45.1	1.689	2.521	16.1	19.8	5 21	12 56.31	-29 45.1	2.571	3.403	11.2	21.5
512480	2016 <i>QW</i> ₇₄		4 12.1 254°69	5°8/18.3	18		518731	2009 <i>FF</i> ₈₀		4 12.1 0°34	1°2/11.2	17	
3 12	13 45.39	-29 20.6	2.578	3.344	12.4	21.5	3 12	13 42.67	-9 6.4	1.214	2.104	15.9	20.4
3 22	13 39.64	-29 43.5	2.476	3.329	10.3	21.3	3 22	13 38.48	-8 17.8	1.153	2.102	11.3	20.1
4 1	13 32.16	-29 48.3	2.397	3.313	8.1	21.2	4 1	13 31.76	-7 14.4	1.114	2.101	6.0	19.8
4 11	13 23.57	-29 34.0	2.344	3.298	6.3	21.0	4 11	13 23.56	-6 3.9	1.099	2.100	1.2	19.5
4 21	13 14.69	-29 1.7	2.318	3.282	5.9	21.0	4 21	13 15.23	-4 55.6	1.108	2.101	5.8	19.8
5 1	13 6.38	-28 14.8	2.320	3.265	7.2	21.0	5 1	13 8.13	-3 59.0	1.140	2.102	11.1	20.1
5 11	12 59.43	-27 18.9	2.348	3.249	9.5	21.1	5 11	13 3.32	-3 21.1	1.194	2.104	15.9	20.4
5 21	12 54.37	-26 20.1	2.399	3.232	11.9	21.3	5 21	13 1.34	-3 4.9	1.266	2.107	19.8	20.6
513033	2017 <i>VV</i> ₄		4 12.1 236°48	5°1/6.5	18		461650	2005 <i>GP</i> ₉	</				

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2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
114627	2003 <i>EZ</i> ₁₅		4 12.1 351 ^o .49	1 ^o .8/10.5 17			374146	2004 <i>TV</i> ₂₁₂		4 12.1 172 ^o .71	2 ^o .5/14.9 17		
3 12	13 42.68	- 5 3.1	1.784	2.664	12.2	19.5	3 12	13 42.94	-20 37.4	2.088	2.915	12.8	21.0
3 22	13 37.88	- 4 37.4	1.715	2.659	8.5	19.3	3 22	13 37.89	-19 43.3	2.008	2.916	9.7	20.8
4 1	13 31.23	- 4 6.0	1.670	2.655	4.6	19.0	4 1	13 31.18	-18 29.5	1.952	2.918	6.2	20.6
4 11	13 23.51	- 3 33.7	1.652	2.651	1.8	18.8	4 11	13 23.54	-16 59.6	1.924	2.919	3.0	20.4
4 21	13 15.68	- 3 5.8	1.660	2.649	5.0	19.0	4 21	13 15.84	-15 19.8	1.925	2.919	3.5	20.4
5 1	13 8.69	- 2 46.9	1.695	2.647	9.0	19.3	5 1	13 8.96	-13 37.8	1.955	2.920	7.0	20.6
5 11	13 3.33	- 2 40.6	1.754	2.645	12.7	19.5	5 11	13 3.60	-12 1.6	2.011	2.920	10.4	20.8
5 21	13 0.11	- 2 48.4	1.833	2.644	15.8	19.7	5 21	13 0.21	-10 37.4	2.091	2.920	13.5	21.0
107040	2000 <i>YN</i> ₁₂₈		4 12.1 0 ^o .16	5 ^o .2/15.3 17			66882	1999 <i>VZ</i> ₆₇		4 12.1 178 ^o .27	0 ^o .3/11.8 18		
3 12	13 45.71	-19 32.0	1.203	2.062	18.3	19.1	3 12	13 43.94	-10 12.3	2.221	3.080	11.0	20.2
3 22	13 40.94	-20 7.0	1.137	2.060	14.2	18.9	3 22	13 38.47	- 9 34.5	2.148	3.081	7.8	20.0
4 1	13 33.24	-20 19.3	1.091	2.058	9.6	18.6	4 1	13 31.45	- 8 47.3	2.100	3.082	4.2	19.7
4 11	13 23.73	-20 8.6	1.067	2.058	5.8	18.4	4 11	13 23.57	- 7 54.7	2.080	3.082	0.4	19.4
4 21	13 13.89	-19 38.5	1.066	2.058	6.2	18.4	4 21	13 15.61	- 7 1.7	2.090	3.082	3.6	19.7
5 1	13 5.35	-18 56.5	1.089	2.060	10.3	18.6	5 1	13 8.38	- 6 13.2	2.128	3.082	7.2	19.9
5 11	12 59.37	-18 12.6	1.133	2.062	14.8	18.9	5 11	13 2.54	- 5 33.9	2.192	3.081	10.6	20.1
5 21	12 56.63	-17 35.3	1.195	2.066	18.9	19.1	5 21	12 58.53	- 5 6.5	2.278	3.080	13.4	20.3
338629	2003 <i>SN</i> ₂₇₁		4 12.1 211 ^o .16	2 ^o .6/ 8.9 18			139327	2001 <i>KY</i> ₃₅		4 12.1 307 ^o .47	1 ^o .0/12.9 17		
3 12	13 42.72	- 2 55.0	2.368	3.240	9.9	21.5	3 12	13 42.51	-14 21.2	1.439	2.308	15.2	19.9
3 22	13 37.54	- 1 49.3	2.293	3.234	6.9	21.3	3 22	13 38.33	-13 38.8	1.354	2.290	11.1	19.6
4 1	13 30.92	- 0 39.2	2.246	3.228	3.9	21.1	4 1	13 31.74	-12 35.9	1.290	2.271	6.4	19.3
4 11	13 23.49	+ 0 30.0	2.227	3.221	2.8	21.0	4 11	13 23.62	-11 17.2	1.252	2.253	1.4	18.9
4 21	13 15.98	+ 1 32.7	2.238	3.214	5.1	21.1	4 21	13 15.12	- 9 50.5	1.240	2.236	4.6	19.1
5 1	13 9.10	+ 2 24.0	2.277	3.206	8.3	21.3	5 1	13 7.54	- 8 25.8	1.252	2.219	9.8	19.4
5 11	13 3.48	+ 3 0.7	2.341	3.198	11.2	21.5	5 11	13 1.98	- 7 12.7	1.288	2.202	14.6	19.6
5 21	12 59.54	+ 3 21.2	2.426	3.190	13.7	21.6	5 21	12 59.10	- 6 17.9	1.342	2.185	18.8	19.8
55167	2001 <i>QY</i> ₂₄₃		4 12.1 100 ^o .19	0 ^o .1/12.2 18			336440	2008 <i>UD</i> ₂₉₉		4 12.1 245 ^o .10	1 ^o .0/13.0 17		
3 12	13 42.85	-11 2.0	2.209	3.067	11.0	19.0	3 12	13 44.78	-13 19.0	2.078	2.929	11.9	21.3
3 22	13 37.67	-10 30.3	2.141	3.073	7.8	18.8	3 22	13 39.27	-13 2.7	1.995	2.922	8.7	21.1
4 1	13 30.99	- 9 49.0	2.099	3.080	4.3	18.6	4 1	13 31.98	-12 34.6	1.936	2.914	5.0	20.9
4 11	13 23.50	- 9 1.9	2.085	3.086	0.5	18.3	4 11	13 23.64	-11 57.5	1.905	2.906	1.3	20.6
4 21	13 15.97	- 8 13.7	2.099	3.093	3.4	18.6	4 21	13 15.11	-11 15.5	1.902	2.897	3.4	20.7
5 1	13 9.19	- 7 29.2	2.142	3.099	7.0	18.8	5 1	13 7.30	-10 33.7	1.928	2.889	7.3	21.0
5 11	13 3.79	- 6 52.8	2.210	3.105	10.2	19.0	5 11	13 1.00	- 9 57.5	1.979	2.880	10.9	21.2
5 21	13 0.19	- 6 27.5	2.301	3.112	13.0	19.2	5 21	12 56.70	- 9 30.7	2.051	2.871	14.0	21.4
155017	2005 <i>QK</i> ₂₆		4 12.1 103 ^o .61	3 ^o .7/ 8.2 18			307175	2002 <i>ES</i> ₄₉		4 12.1 0 ^o .95	0 ^o .7/12.5 17		
3 12	13 44.20	- 1 46.2	1.855	2.735	11.8	20.6	3 12	13 43.95	-11 58.5	1.151	2.036	17.0	20.5
3 22	13 38.70	- 0 20.1	1.807	2.751	8.2	20.5	3 22	13 39.58	-11 39.5	1.090	2.034	12.3	20.2
4 1	13 31.54	+ 1 9.1	1.786	2.767	4.9	20.3	4 1	13 32.45	-11 3.2	1.049	2.033	6.9	19.9
4 11	13 23.56	+ 2 33.6	1.793	2.783	3.9	20.3	4 11	13 23.69	-10 14.5	1.031	2.033	1.1	19.5
4 21	13 15.66	+ 3 46.1	1.828	2.799	6.6	20.4	4 21	13 14.74	- 9 21.5	1.037	2.033	5.1	19.7
5 1	13 8.73	+ 4 41.1	1.889	2.814	9.9	20.7	5 1	13 7.09	- 8 33.2	1.066	2.035	10.7	20.1
5 11	13 3.43	+ 5 15.7	1.974	2.829	13.1	20.9	5 11	13 1.92	- 7 57.8	1.116	2.038	15.7	20.3
5 21	13 0.15	+ 5 29.7	2.079	2.844	15.7	21.1	5 21	12 59.79	- 7 39.9	1.184	2.041	19.9	20.6
61017	2000 <i>KX</i> ₄₂		4 12.1 131 ^o .41	1 ^o .8/10.6 18			472210	2014 <i>EJ</i> ₂₂		4 12.1 27 ^o .82	1 ^o .4/13.5 17		
3 12	13 47.06	- 5 28.6	1.869	2.739	12.2	19.9	3 12	13 44.32	-14 2.3	2.261	3.107	11.3	20.9
3 22	13 40.80	- 4 54.1	1.808	2.748	8.5	19.7	3 22	13 38.78	-14 0.1	2.184	3.107	8.3	20.7
4 1	13 32.73	- 4 13.7	1.773	2.757	4.5	19.4	4 1	13 31.65	-13 47.2	2.133	3.108	4.9	20.5
4 11	13 23.68	- 3 32.4	1.766	2.765	1.8	19.3	4 11	13 23.60	-13 25.8	2.109	3.108	1.7	20.3
4 21	13 14.64	- 2 55.5	1.786	2.773	4.9	19.5	4 21	13 15.44	-12 59.1	2.114	3.109	3.2	20.4
5 1	13 6.54	- 2 27.9	1.835	2.781	8.8	19.7	5 1	13 7.98	-12 31.2	2.147	3.109	6.6	20.6
5 11	13 0.17	- 2 13.0	1.907	2.789	12.3	20.0	5 11	13 1.91	-12 6.4	2.206	3.109	9.9	20.8
5 21	12 55.95	- 2 12.2	2.001	2.796	15.2	20.2	5 21	12 57.69	-11 48.4	2.288	3.110	12.7	21.0
406392	2007 <i>TB</i> ₁₇		4 12.1 111 ^o .42	1 ^o .1/13.1 18			431834	2008 <i>SA</i> ₁₁		4 12.1 276 ^o .19	3 ^o .2/14.2 17		
3 12	13 45.67	-15 25.5	1.616	2.471	14.5	21.3	3 12	13 49.68	-16 46.1	1.914	2.750	13.5	21.3
3 22	13 40.06	-14 33.3	1.555	2.483	10.6	21.1	3 22	13 43.13	-17 15.3	1.816	2.730	10.3	21.0
4 1	13 32.40	-13 23.0	1.517	2.495	6.0	20.9	4 1	13 34.28	-17 31.5	1.742	2.709	6.6	20.8
4 11	13 23.65	-12 0.1	1.505	2.506	1.6	20.6	4 11	13 23.89	-17 34.9	1.695	2.688	3.5	20.5
4 21	13 14.92	-10 32.4	1.521	2.517	4.0	20.8	4 21	13 13.00	-17 26.9	1.676	2.667	4.4	20.5
5 1	13 7.30	- 9 8.7	1.565	2.528	8.5	21.1	5 1	13 2.77	-17 11.5	1.685	2.646	8.2	20.7
5 11	13 1.63	- 7 56.9	1.632	2.538	12.6	21.3	5 11	12 54.27	-16 54.2	1.719	2.625	12.1	20.9
5 21	12 58.35	- 7 1.8	1.721	2.548	16.0	21.6	5 21	12 48.20	-16 40.1	1.775	2.603	15.5	21.1
205679	2001 <i>YA</i> ₂		4 12.1 195 ^o .75	2 ^o .1/10.2 18			212063	2005 <i>EB</i> ₃₃		4 12.1 348 ^o .32	2 ^o .5/14.1 17		
3 12	13 48.82	- 4 47.5	1.943	2.810	11.9	21.6	3 12	13 43.98	-17 10.8	1.380	2.241	16.2	19.8
3 22	13 42.11	- 4 3.1	1.869	2.807	8.4	21.4	3 22	13 39.34	-16 45.8	1.310	2.238	12.1	19.6
4 1	13 33.49	- 3 12.5	1.821	2.804	4.6	21.1	4 1	13 32.23	-15 58.8	1.261	2.236	7.4	19.3
4 11	13 23.77	- 2 21.1	1.801	2.799	2.2	21.0	4 11	13 23.67	-14 53.6	1.236	2.234	3.0	19.0
4 21	13 13.91	- 1 34.6	1.810	2.794	5.2	21.1	4 21	13 14.92	-13 37.3	1.237	2.233	4.5	19.1
5 1	13 4.92	- 0 58.3	1.847	2.787	9.1	21.4	5 1	13 7.28	-12 19.6	1.262	2.232	9.4	19.4
5 11	12 57.63	- 0 36.1	1.908	2.780	12.7	21.6	5 11	13 1.84	-11 10.1	1.311	2.231	14.0	19.6
5 21	12 52.52	- 0 29.6	1.991	2.772	15.8	21.8	5 21	12 59.14	-10 15.7				

EPHEMERIDES

4 12.1

4 12.1

2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
254010	2004 <i>FM</i> ₂₄		4 12.1 340°66	7.4/19.1	18		375933	2009 <i>WQ</i> ₇₅		4 12.1 187°47	0°8/11.4	17	
3 12	13 43.88	-31 15.7	2.333	3.096	13.6	18.9	3 12	13 44.60	-8 56.2	2.063	2.927	11.5	21.4
3 22	13 38.83	-32 9.0	2.239	3.082	11.6	18.7	3 22	13 39.06	-8 13.9	1.990	2.927	8.1	21.2
4 1	13 31.86	-32 43.2	2.166	3.069	9.5	18.5	4 1	13 31.84	-7 22.4	1.943	2.926	4.3	21.0
4 11	13 23.65	-32 56.4	2.117	3.057	7.9	18.4	4 11	13 23.67	-6 26.4	1.923	2.925	0.8	20.7
4 21	13 15.06	-32 48.5	2.094	3.045	7.4	18.4	4 21	13 15.42	-5 31.1	1.933	2.924	4.0	20.9
5 1	13 7.08	-32 22.2	2.097	3.034	8.4	18.4	5 1	13 7.94	-4 42.2	1.970	2.922	7.9	21.2
5 11	13 0.57	-31 43.1	2.124	3.024	10.4	18.5	5 11	13 1.97	-4 4.2	2.032	2.920	11.4	21.4
5 21	12 56.15	-30 57.3	2.174	3.014	12.7	18.6	5 21	12 57.95	-3 39.9	2.116	2.917	14.3	21.6
521159	2015 <i>FY</i> ₄₀₇		4 12.1 243°49	5°0/6.6	17		406402	2007 <i>TB</i> ₉₄		4 12.1 182°14	1°1/13.1	17	
3 12	13 43.68	+6 8.2	2.319	3.194	9.9	21.5	3 12	13 47.19	-14 40.1	1.875	2.723	13.2	21.7
3 22	13 38.24	+7 1.8	2.251	3.186	7.4	21.3	3 22	13 41.07	-14 4.4	1.799	2.724	9.6	21.5
4 1	13 31.33	+7 52.1	2.210	3.178	5.4	21.2	4 1	13 32.99	-13 13.3	1.748	2.724	5.5	21.2
4 11	13 23.59	+8 33.7	2.197	3.169	5.3	21.1	4 11	13 23.80	-12 10.9	1.724	2.724	1.5	21.0
4 21	13 15.75	+9 2.0	2.212	3.161	7.2	21.2	4 21	13 14.48	-11 2.8	1.728	2.723	3.7	21.1
5 1	13 8.60	+9 13.6	2.253	3.152	9.8	21.4	5 1	13 6.08	-9 56.1	1.761	2.722	8.0	21.4
5 11	13 2.76	+9 7.6	2.318	3.143	12.4	21.6	5 11	12 59.42	-8 57.4	1.819	2.719	11.8	21.6
5 21	12 58.65	+8 44.5	2.402	3.134	14.6	21.7	5 21	12 55.01	-8 11.6	1.899	2.716	15.1	21.8
14891	1991 <i>VY</i> ₄		4 12.1 113°62	2°2/10.2	18		459998	2014 <i>OD</i> ₇₃		4 12.1 205°65	2°6/14.4	16	
3 12	13 47.16	-5 4.6	1.736	2.610	12.8	18.2	3 12	13 49.02	-17 53.8	2.133	2.960	12.6	21.8
3 22	13 40.93	-4 17.0	1.682	2.624	8.9	18.0	3 22	13 42.31	-17 46.3	2.044	2.954	9.5	21.6
4 1	13 32.82	-3 23.3	1.654	2.638	4.8	17.8	4 1	13 33.67	-17 23.6	1.980	2.947	6.0	21.4
4 11	13 23.73	-2 29.6	1.652	2.651	2.2	17.7	4 11	13 23.87	-16 47.4	1.944	2.939	2.9	21.2
4 21	13 14.70	-1 42.2	1.679	2.664	5.4	17.9	4 21	13 13.84	-16 1.2	1.937	2.930	3.7	21.2
5 1	13 6.73	-1 6.5	1.732	2.676	9.4	18.2	5 1	13 4.57	-15 10.4	1.959	2.920	7.3	21.4
5 11	13 0.60	-0 46.1	1.809	2.689	12.9	18.4	5 11	12 56.90	-14 21.0	2.007	2.909	10.8	21.6
5 21	12 56.71	-0 42.1	1.907	2.700	15.9	18.6	5 21	12 51.38	-13 38.4	2.079	2.898	13.9	21.8
305910	2009 <i>FB</i> ₅₀		4 12.1 309°80	3°5/9.5	16		522787	2016 <i>MA</i> ₇₈		4 12.1 182°38	3°9/7.9	17	
3 12	13 47.93	+1 19.3	1.947	2.821	11.6	20.2	3 12	13 43.72	+3 15.6	2.416	3.290	9.6	21.7
3 22	13 41.65	+1 26.9	1.858	2.798	8.4	20.0	3 22	13 38.19	+3 56.7	2.353	3.291	7.0	21.6
4 1	13 33.36	+1 33.3	1.796	2.775	5.1	19.7	4 1	13 31.28	+4 36.3	2.316	3.291	4.6	21.4
4 11	13 23.81	+1 34.1	1.760	2.753	3.6	19.6	4 11	13 23.63	+5 9.6	2.308	3.291	4.1	21.4
4 21	13 13.93	+1 25.3	1.753	2.730	6.1	19.7	4 21	13 15.93	+5 32.6	2.328	3.290	6.0	21.5
5 1	13 4.77	+1 4.1	1.773	2.708	9.8	19.8	5 1	13 8.91	+5 42.5	2.375	3.290	8.7	21.7
5 11	12 57.21	+0 29.2	1.818	2.687	13.4	20.0	5 11	13 3.17	+5 37.7	2.447	3.289	11.3	21.8
5 21	12 51.84	-0 19.4	1.883	2.666	16.5	20.2	5 21	12 59.08	+5 18.5	2.540	3.289	13.5	22.0
174551	2003 <i>FH</i> ₇₅		4 12.1 63°12	3°0/14.5	17		461373	2000 <i>TW</i> ₄₉		4 12.1 263°53	0°2/11.9	17	
3 12	13 49.45	-16 57.1	2.114	2.945	12.6	19.7	3 12	13 48.82	-9 1.4	2.112	2.967	11.6	21.2
3 22	13 42.43	-17 30.6	2.053	2.963	9.4	19.5	3 22	13 42.29	-8 53.0	2.010	2.941	8.4	20.9
4 1	13 33.62	-17 51.6	2.016	2.981	6.1	19.4	4 1	13 33.75	-8 36.6	1.934	2.916	4.6	20.7
4 11	13 23.84	-18 0.5	2.007	3.000	3.3	19.2	4 11	13 23.90	-8 14.8	1.887	2.889	0.4	20.3
4 21	13 14.02	-17 59.5	2.027	3.018	3.9	19.3	4 21	13 13.64	-7 51.3	1.869	2.862	3.9	20.5
5 1	13 5.11	-17 52.0	2.076	3.037	6.9	19.5	5 1	13 3.98	-7 30.5	1.880	2.834	8.1	20.7
5 11	12 57.88	-17 42.6	2.151	3.055	10.1	19.7	5 11	12 55.80	-7 16.6	1.917	2.806	11.9	20.9
5 21	12 52.77	-17 35.4	2.249	3.074	12.8	20.0	5 21	12 49.74	-7 12.7	1.976	2.777	15.2	21.0
9765	1991 <i>XZ</i>		4 12.1 61°56	3°1/14.1	18		288280	2004 <i>AA</i> ₂		4 12.1 146°13	9°1/3.5	18	
3 12	13 49.52	-16 42.6	1.228	2.089	17.8	17.0	3 12	13 46.97	+13 47.1	1.711	2.585	12.9	20.5
3 22	13 43.23	-16 44.8	1.180	2.108	13.2	16.7	3 22	13 40.88	+15 16.3	1.669	2.589	10.5	20.3
4 1	13 34.27	-16 26.0	1.154	2.128	8.1	16.5	4 1	13 32.84	+16 33.3	1.651	2.593	9.2	20.3
4 11	13 23.90	-15 49.3	1.151	2.148	3.5	16.3	4 11	13 23.78	+17 29.0	1.658	2.597	9.7	20.3
4 21	13 13.64	-15 1.2	1.173	2.169	4.9	16.4	4 21	13 14.77	+17 57.4	1.690	2.601	11.6	20.4
5 1	13 4.95	-14 10.6	1.220	2.189	9.7	16.8	5 1	13 6.85	+17 56.4	1.745	2.604	14.2	20.6
5 11	12 58.85	-13 26.2	1.290	2.210	14.2	17.1	5 11	13 0.82	+17 27.4	1.820	2.608	16.7	20.8
5 21	12 55.80	-12 53.8	1.378	2.230	17.9	17.4	5 21	12 57.09	+16 34.4	1.911	2.610	18.9	21.0
378275	2007 <i>ET</i> ₅₄		4 12.1 260°70	0°4/12.9	18		213587	2002 <i>NV</i> ₆₄		4 12.1 287°16	0°7/12.6	17	
3 12	13 36.41	-12 28.5	4.408	5.250	6.3	21.1	3 12	13 46.46	-12 9.9	1.548	2.413	14.5	21.5
3 22	13 32.65	-12 8.7	4.320	5.244	4.5	21.0	3 22	13 41.15	-11 52.0	1.455	2.390	10.6	21.2
4 1	13 28.17	-11 43.4	4.260	5.237	2.5	20.8	4 1	13 33.34	-11 19.1	1.385	2.366	6.0	20.9
4 11	13 23.29	-11 14.5	4.230	5.231	0.6	20.6	4 11	13 23.86	-10 34.6	1.341	2.343	1.1	20.5
4 21	13 18.36	-10 43.8	4.230	5.224	1.8	20.7	4 21	13 13.88	-9 44.0	1.323	2.319	4.5	20.6
5 1	13 13.73	-10 13.6	4.260	5.218	3.8	20.9	5 1	13 4.70	-8 54.8	1.332	2.295	9.7	20.9
5 11	13 9.72	-9 46.0	4.318	5.211	5.7	21.0	5 11	12 57.49	-8 14.4	1.363	2.271	14.4	21.1
5 21	13 6.59	-9 22.8	4.401	5.205	7.4	21.1	5 21	12 52.98	-7 48.1	1.414	2.247	18.6	21.3
522866	2016 <i>NG</i> ₈₈		4 12.1 136°66	3°3/8.2	17		268506	2005 <i>YW</i> ₁₂₉		4 12.1 95°92	5°5/7.3	18	
3 12	13 41.10	-0 38.0	2.340	3.217	9.7	21.9	3 12	13 46.07	+4 53.5	1.821	2.702	11.9	20.4
3 22	13 36.38	+0 29.0	2.277	3.220	6.9	21.7	3 22	13 40.12	+5 49.2	1.771	2.710	8.7	20.2
4 1	13 30.31	+1 38.1	2.242	3.222	4.2	21.6	4 1	13 32.39	+6 41.2	1.747	2.719	6.1	20.1
4 11	13 23.51	+2 43.7	2.235	3.224	3.4	21.5	4 11	13 23.74	+7 22.7	1.749	2.727	5.7	20.0
4 21	13 16.67	+3 40.5	2.256	3.226	5.6	21.7	4 21	13 15.13	+7 48.4	1.778	2.735	7.9	20.2
5 1	13 10.50	+4 24.1	2.305	3.228	8.5	21.8	5 1	13 7.51	+7 54.9	1.832	2.744	11.0	20.4
5 11	13 5.58	+4 51.8	2.379	3.230	11.3	22.0	5 11	13 1.61	+7 41.5	1.910	2.752	14.0	20.6
5 21	13 2.29	+5 3.1	2.473	3.232	13.6	22.2	5 21	12 57.84	+7 9.8	2.006	2.760	16.5	20.8
382474	2000 <i>VF</i> ₅₈		4 12.1 242°32	2°9/15.3	18		370963	2005 <i>SB</i> ₁₂₄		4 12.1 186°87	0°1/12.2	17	
3 12	13 45.06	-20 49.0											

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2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
500459	2012 <i>TP</i> ₂₁₀		4 12.1 343°90	3°6/ 8.8	17		100694	1997 <i>YH</i> ₁₁		4 12.1 97°54	0°8/12.8	18	
3 12	13 43.82	- 0 27.4	1.880	2.761	11.6	20.9	3 12	13 47.89	-12 46.4	1.866	2.719	13.0	19.7
3 22	13 38.61	+ 0 19.1	1.815	2.759	8.2	20.7	3 22	13 41.37	-12 25.7	1.812	2.740	9.3	19.5
4 1	13 31.63	+ 1 7.4	1.776	2.758	4.9	20.5	4 1	13 33.06	-11 53.0	1.783	2.761	5.2	19.3
4 11	13 23.68	+ 1 51.5	1.764	2.756	3.7	20.4	4 11	13 23.84	-11 12.1	1.781	2.782	1.1	19.0
4 21	13 15.64	+ 2 26.0	1.779	2.755	6.3	20.5	4 21	13 14.69	-10 28.0	1.807	2.802	3.6	19.3
5 1	13 8.45	+ 2 46.4	1.821	2.754	9.8	20.7	5 1	13 6.60	- 9 46.3	1.861	2.822	7.6	19.5
5 11	13 2.85	+ 2 50.1	1.886	2.753	13.1	20.9	5 11	13 0.28	- 9 12.2	1.941	2.841	11.2	19.8
5 21	12 59.30	+ 2 37.0	1.970	2.752	15.9	21.1	5 21	12 56.16	- 8 48.8	2.042	2.860	14.2	20.0
419163	2009 <i>SY</i> ₃₅₇		4 12.1 71°34	3°6/ 9.8	18		496680	2016 <i>CK</i> ₁₃₃		4 12.1 281°10	4°1/ 9.0	17	
3 12	13 51.74	+ 0 59.6	1.686	2.559	13.1	20.4	3 12	13 46.73	- 1 19.1	1.459	2.345	14.0	21.3
3 22	13 44.15	+ 1 5.5	1.637	2.577	9.3	20.2	3 22	13 41.23	- 0 26.9	1.385	2.332	10.0	21.0
4 1	13 34.55	+ 1 9.9	1.614	2.594	5.5	20.1	4 1	13 33.30	+ 0 30.0	1.335	2.318	5.9	20.7
4 11	13 23.96	+ 1 8.2	1.618	2.612	3.6	20.0	4 11	13 23.88	+ 1 23.8	1.311	2.304	4.2	20.6
4 21	13 13.51	+ 0 57.1	1.650	2.629	6.3	20.2	4 21	13 14.17	+ 2 6.6	1.312	2.291	7.5	20.7
5 1	13 4.28	+ 0 34.2	1.709	2.647	10.0	20.4	5 1	13 5.46	+ 2 31.7	1.338	2.277	12.0	20.9
5 11	12 57.08	- 0 1.2	1.793	2.664	13.4	20.7	5 11	12 58.81	+ 2 35.6	1.385	2.263	16.2	21.2
5 21	12 52.32	- 0 48.2	1.896	2.682	16.3	20.9	5 21	12 54.84	+ 2 17.8	1.450	2.249	19.8	21.4
38249	1999 <i>QJ</i> ₂		4 12.1 297°92	5°1/ 6.7	18		176868	2002 <i>TF</i> ₃₇₄		4 12.1 350°44	1°8/10.6	18	
3 12	13 41.69	+ 0 15.5	1.698	2.587	12.2	18.6	3 12	13 42.24	- 8 17.6	1.379	2.265	14.6	19.7
3 22	13 37.44	+ 1 59.4	1.615	2.561	8.8	18.4	3 22	13 38.01	- 7 10.3	1.314	2.261	10.3	19.4
4 1	13 31.18	+ 3 50.2	1.557	2.535	5.8	18.1	4 1	13 31.51	- 5 49.4	1.272	2.258	5.4	19.1
4 11	13 23.64	+ 5 38.1	1.525	2.509	5.5	18.1	4 11	13 23.69	- 4 22.9	1.256	2.256	1.8	18.9
4 21	13 15.79	+ 7 13.3	1.521	2.484	8.5	18.2	4 21	13 15.75	- 3 0.5	1.264	2.254	5.9	19.1
5 1	13 8.67	+ 8 27.2	1.542	2.458	12.4	18.3	5 1	13 8.88	- 1 51.5	1.298	2.253	10.8	19.4
5 11	13 3.19	+ 9 14.8	1.584	2.432	16.1	18.5	5 11	13 4.04	- 1 2.6	1.354	2.253	15.2	19.7
5 21	12 59.95	+ 9 35.1	1.644	2.406	19.3	18.7	5 21	13 1.77	- 0 36.5	1.428	2.252	18.8	19.9
438157	2005 <i>SL</i> ₁₉₈		4 12.1 202°14	1°7/ 9.9	17		34482	2000 <i>SX</i> ₁₂₂		4 12.1 203°46	1°3/10.6	18	
3 12	13 40.84	- 5 35.9	2.590	3.458	9.3	21.9	3 12	13 42.64	- 5 50.3	2.510	3.376	9.6	19.6
3 22	13 36.14	- 4 35.7	2.516	3.456	6.5	21.7	3 22	13 37.45	- 5 16.4	2.436	3.374	6.7	19.4
4 1	13 30.18	- 3 29.9	2.469	3.453	3.5	21.5	4 1	13 30.92	- 4 37.4	2.388	3.372	3.6	19.2
4 11	13 23.53	- 2 23.1	2.452	3.450	1.8	21.4	4 11	13 23.63	- 3 57.2	2.369	3.369	1.3	19.0
4 21	13 16.81	- 1 20.0	2.464	3.447	4.1	21.5	4 21	13 16.26	- 3 19.6	2.380	3.366	3.8	19.2
5 1	13 10.67	- 0 25.4	2.505	3.444	7.1	21.7	5 1	13 9.51	- 2 48.6	2.418	3.364	7.0	19.4
5 11	13 5.66	+ 0 17.3	2.572	3.440	9.9	21.9	5 11	13 3.95	- 2 27.3	2.483	3.361	9.9	19.6
5 21	13 2.15	+ 0 46.2	2.661	3.437	12.3	22.0	5 21	12 59.98	- 2 17.3	2.570	3.357	12.4	19.7
489325	2006 <i>TM</i> ₄₅		4 12.1 146°72	0°8/11.1	17		181416	2006 <i>SL</i> ₂₁₀		4 12.1 229°92	0°5/11.7	17	
3 12	13 42.59	- 7 36.5	2.792	3.650	9.0	22.2	3 12	13 45.71	- 9 59.2	1.654	2.523	13.6	21.3
3 22	13 37.25	- 7 3.3	2.724	3.659	6.3	22.1	3 22	13 40.23	- 9 21.5	1.582	2.520	9.7	21.0
4 1	13 30.73	- 6 24.5	2.684	3.667	3.3	21.9	4 1	13 32.64	- 8 31.5	1.533	2.516	5.2	20.8
4 11	13 23.58	- 5 43.6	2.673	3.674	0.8	21.7	4 11	13 23.81	- 7 34.5	1.511	2.513	0.6	20.4
4 21	13 16.42	- 5 4.2	2.692	3.681	3.2	21.9	4 21	13 14.83	- 6 37.0	1.516	2.509	4.5	20.7
5 1	13 9.85	- 4 29.7	2.740	3.688	6.2	22.1	5 1	13 6.80	- 5 45.8	1.548	2.505	9.1	21.0
5 11	13 4.38	- 4 3.1	2.815	3.695	8.8	22.3	5 11	13 0.63	- 5 7.1	1.603	2.502	13.2	21.2
5 21	13 0.36	- 3 46.3	2.914	3.701	11.1	22.5	5 21	12 56.85	- 4 44.1	1.679	2.497	16.7	21.4
468630	2008 <i>RZ</i> ₃₂		4 12.1 254°15	0°0/12.1	17		497794	2006 <i>ST</i> ₄₀₂		4 12.1 84°01	1°1/11.0	17	
3 12	13 43.39	-11 35.1	1.945	2.806	12.2	21.8	3 12	13 44.83	- 5 57.7	2.246	3.112	10.6	21.4
3 22	13 38.37	-10 50.6	1.864	2.798	8.7	21.6	3 22	13 39.08	- 5 41.8	2.181	3.118	7.4	21.2
4 1	13 31.55	- 9 53.4	1.808	2.789	4.8	21.3	4 1	13 31.81	- 5 21.0	2.141	3.125	3.9	21.0
4 11	13 23.68	- 8 48.0	1.779	2.781	0.5	21.0	4 11	13 23.72	- 4 58.9	2.130	3.131	1.1	20.8
4 21	13 15.64	- 7 40.4	1.778	2.772	3.9	21.2	4 21	13 15.60	- 4 39.1	2.148	3.137	3.9	21.0
5 1	13 8.36	- 6 37.2	1.805	2.763	8.0	21.5	5 1	13 8.22	- 4 25.2	2.194	3.143	7.4	21.2
5 11	13 2.63	- 5 44.3	1.857	2.754	11.8	21.7	5 11	13 2.24	- 4 19.9	2.265	3.150	10.5	21.4
5 21	12 58.95	- 5 5.7	1.931	2.745	15.0	21.9	5 21	12 58.06	- 4 24.7	2.359	3.156	13.1	21.6
363747	2004 <i>YR</i> ₆		4 12.1 92°58	2°9/14.6	18		156916	2003 <i>FJ</i> ₄₀		4 12.1 271°32	1°4/13.3	17	
3 12	13 45.66	-18 57.4	1.459	2.308	16.2	20.7	3 12	13 45.82	-13 53.9	1.787	2.641	13.4	20.6
3 22	13 40.39	-18 25.9	1.392	2.313	12.2	20.5	3 22	13 40.28	-13 43.5	1.706	2.634	9.8	20.4
4 1	13 32.76	-17 31.4	1.348	2.319	7.6	20.2	4 1	13 32.68	-13 19.2	1.649	2.627	5.7	20.1
4 11	13 23.80	-16 17.6	1.328	2.325	3.5	20.0	4 11	13 23.83	-12 44.1	1.619	2.619	1.8	19.9
4 21	13 14.76	-14 51.9	1.334	2.330	4.5	20.1	4 21	13 14.74	-12 2.4	1.616	2.612	3.8	20.0
5 1	13 6.89	-13 24.2	1.367	2.335	8.9	20.3	5 1	13 6.50	-11 20.3	1.640	2.604	8.2	20.2
5 11	13 1.18	-12 4.3	1.423	2.341	13.3	20.6	5 11	13 0.02	-10 43.7	1.689	2.597	12.1	20.4
5 21	12 58.14	-10 59.1	1.499	2.346	17.0	20.8	5 21	12 55.86	-10 17.3	1.759	2.589	15.6	20.6
195322	2002 <i>EF</i> ₁₂₁		4 12.1 218°41	3°4/14.9	17		507840	2014 <i>FT</i> ₁₄		4 12.1 41°29	0°7/12.7	17	
3 12	13 48.70	-19 8.9	2.157	2.979	12.6	20.4	3 12	13 46.89	-10 43.1	2.260	3.111	11.1	21.3
3 22	13 42.12	-19 30.2	2.070	2.974	9.7	20.2	3 22	13 40.62	-10 54.4	2.185	3.113	8.0	21.1
4 1	13 33.61	-19 37.3	2.007	2.968	6.5	20.0	4 1	13 32.69	-10 58.3	2.135	3.114	4.5	20.9
4 11	13 23.90	-19 30.5	1.972	2.961	3.8	19.8	4 11	13 23.83	-10 56.4	2.114	3.116	0.9	20.6
4 21	13 13.92	-19 12.0	1.965	2.954	4.2	19.8	4 21	13 14.84	-10 51.3	2.123	3.117	3.2	20.8
5 1	13 4.67	-18 45.7	1.987	2.947	7.2	20.0	5 1	13 6.57	-10 46.4	2.160	3.119	6.8	21.1
5 11	12 57.01	-18 17.0	2.035	2.940	10.5	20.2	5 11	12 59.74	-10 44.9	2.223	3.120	10.1	21.3
5 21	12 51.48	-17 51.0	2.105	2.932	13.5	20.3	5 21	12 54.81	-10 49.4	2.309	3.122	12.9	21.4
149487	2003 <i>EU</i> ₃₇												

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2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
126944	2002 <i>FN</i> ₁	4 12.1 316°46' 10.0°/ 2.5 18					238070	2003 <i>EF</i> ₅₇	4 12.1 352°84' 15.4°/24.3 16				
3 12	13 44.90	+15 36.5	1.646	2.521	13.3	18.8	3 12	13 34.12	+15 16.0	0.928	1.843	17.1	18.5
3 22	13 39.65	+17 2.2	1.593	2.511	11.1	18.6	3 22	13 32.93	+19 41.2	0.900	1.834	15.5	18.3
4 1	13 32.31	+18 14.5	1.563	2.500	10.1	18.5	4 1	13 29.00	+23 45.0	0.895	1.828	16.1	18.3
4 11	13 23.80	+19 4.0	1.557	2.490	10.7	18.5	4 11	13 23.51	+27 2.0	0.910	1.822	18.6	18.5
4 21	13 15.20	+19 24.2	1.575	2.480	12.7	18.6	4 21	13 17.88	+29 16.4	0.944	1.819	21.8	18.6
5 1	13 7.59	+19 12.5	1.615	2.471	15.3	18.7	5 1	13 13.60	+30 24.1	0.992	1.817	24.9	18.8
5 11	13 1.87	+18 30.4	1.673	2.462	17.9	18.9	5 11	13 11.73	+30 30.7	1.052	1.817	27.6	19.0
5 21	12 58.52	+17 22.3	1.747	2.453	20.2	19.1	5 21	13 12.77	+29 46.4	1.120	1.819	29.7	19.2
216602	2002 <i>RQ</i> ₁₉	4 12.1 263°19' 5.0°/ 6.9 17					264977	2003 <i>BG</i> ₄₇	4 12.1 351°78' 18.7°/21.0 17				
3 12	13 43.48	- 0 7.2	1.681	2.567	12.4	20.3	3 12	13 59.97	-44 40.0	1.463	2.155	23.2	19.8
3 22	13 38.66	+ 1 38.0	1.607	2.553	8.9	20.1	3 22	13 52.88	-47 55.0	1.393	2.148	21.6	19.6
4 1	13 31.82	+ 3 29.1	1.559	2.538	5.8	19.8	4 1	13 40.91	-50 39.7	1.339	2.143	20.2	19.5
4 11	13 23.77	+ 5 16.3	1.538	2.523	5.4	19.8	4 11	13 24.85	-52 40.3	1.304	2.138	19.1	19.4
4 21	13 15.49	+ 6 49.9	1.545	2.508	8.3	19.9	4 21	13 6.69	-53 47.1	1.288	2.135	18.7	19.4
5 1	13 8.06	+ 8 1.7	1.576	2.492	12.1	20.1	5 1	12 49.40	-53 59.1	1.290	2.133	19.1	19.4
5 11	13 2.35	+ 8 47.4	1.630	2.477	15.7	20.3	5 11	12 35.80	-53 26.0	1.308	2.132	20.1	19.4
5 21	12 58.91	+ 9 6.3	1.701	2.461	18.8	20.5	5 21	12 27.52	-52 23.2	1.342	2.132	21.6	19.5
180446	2004 <i>BH</i> ₁₁₆	4 12.1 133°91' 2.2°/10.2 18					336178	2008 <i>RJ</i> ₈₇	4 12.1 134°07' 2.5°/14.8 17				
3 12	13 47.88	- 4 27.5	1.867	2.737	12.2	20.7	3 12	13 44.48	-18 54.0	2.129	2.960	12.5	20.8
3 22	13 41.40	- 3 45.3	1.810	2.749	8.5	20.5	3 22	13 39.01	-18 32.2	2.056	2.967	9.4	20.6
4 1	13 33.12	- 2 58.0	1.778	2.761	4.6	20.3	4 1	13 31.86	-17 54.4	2.008	2.974	6.0	20.5
4 11	13 23.89	- 2 11.1	1.773	2.772	2.3	20.1	4 11	13 23.80	-17 3.2	1.986	2.980	3.0	20.3
4 21	13 14.68	- 1 30.1	1.798	2.782	5.2	20.3	4 21	13 15.68	-16 2.9	1.993	2.987	3.5	20.3
5 1	13 6.46	- 1 0.0	1.850	2.792	9.0	20.6	5 1	13 8.36	-14 59.6	2.028	2.993	6.8	20.5
5 11	12 59.97	- 0 44.0	1.926	2.801	12.5	20.8	5 11	13 2.57	-13 59.4	2.090	2.998	10.1	20.7
5 21	12 55.66	- 0 43.2	2.022	2.810	15.3	21.0	5 21	12 58.73	-13 7.3	2.174	3.004	13.0	20.9
518958	2010 <i>HR</i> ₂₈	4 12.1 237°44' 7.1°/ 3.9 17					127780	2003 <i>FU</i> ₅₄	4 12.1 333°42' 7.9°/ 6.8 17				
3 12	13 43.31	+10 12.9	2.042	2.919	11.0	21.1	3 12	13 46.67	+ 8 24.9	1.368	2.258	14.5	18.7
3 22	13 38.19	+11 42.9	1.985	2.913	8.6	20.9	3 22	13 41.29	+ 9 9.3	1.303	2.243	11.1	18.4
4 1	13 31.41	+13 6.6	1.954	2.907	7.2	20.8	4 1	13 33.38	+ 9 45.4	1.261	2.229	8.5	18.2
4 11	13 23.72	+14 16.1	1.950	2.901	7.6	20.8	4 11	13 23.98	+10 4.4	1.243	2.216	8.2	18.2
4 21	13 15.96	+15 5.2	1.973	2.895	9.6	20.9	4 21	13 14.34	+ 9 59.4	1.249	2.204	10.7	18.3
5 1	13 8.97	+15 30.3	2.019	2.888	12.1	21.1	5 1	13 5.83	+ 9 27.4	1.277	2.193	14.4	18.4
5 11	13 3.47	+15 30.9	2.087	2.881	14.6	21.2	5 11	12 59.51	+ 8 29.1	1.326	2.183	18.0	18.6
5 21	12 59.89	+15 8.7	2.172	2.874	16.8	21.4	5 21	12 55.98	+ 7 8.3	1.391	2.174	21.3	18.8
355650	2008 <i>EX</i> ₆₃	4 12.1 298°02' 1.8°/13.9 17					521083	2015 <i>DJ</i> ₂₄₁	4 12.1 38°69' 2.4°/14.6 16				
3 12	13 42.14	-16 2.0	2.279	3.121	11.3	21.1	3 12	13 42.56	-18 59.6	1.772	2.615	14.0	21.1
3 22	13 37.36	-15 46.2	2.190	3.110	8.4	20.8	3 22	13 37.91	-18 15.0	1.700	2.618	10.5	20.9
4 1	13 31.00	-15 17.6	2.127	3.099	5.1	20.6	4 1	13 31.37	-17 10.1	1.650	2.621	6.6	20.7
4 11	13 23.69	-14 38.3	2.091	3.089	2.1	20.4	4 11	13 23.76	-15 48.8	1.627	2.624	2.9	20.5
4 21	13 16.20	-13 52.1	2.083	3.078	3.2	20.5	4 21	13 16.07	-14 18.0	1.631	2.627	3.8	20.5
5 1	13 9.34	-13 4.0	2.104	3.068	6.6	20.6	5 1	13 9.31	-12 46.0	1.663	2.630	7.7	20.8
5 11	13 3.80	-12 19.0	2.150	3.058	9.9	20.8	5 11	13 4.27	-11 21.4	1.720	2.634	11.6	21.0
5 21	13 0.06	-11 41.6	2.220	3.048	12.8	21.0	5 21	13 1.43	-10 10.2	1.798	2.637	14.9	21.2
458779	2011 <i>SS</i> ₁₀₈	4 12.1 215°06' 2.2°/13.7 17					82670	2001 <i>PC</i> ₂₁	4 12.1 228°74' 0.6°/12.7 17				
3 12	13 50.60	-15 20.7	1.683	2.529	14.5	22.2	3 12	13 45.22	-12 44.9	1.726	2.587	13.5	19.6
3 22	13 43.87	-15 21.0	1.601	2.522	10.8	21.9	3 22	13 39.86	-12 13.0	1.652	2.585	9.8	19.4
4 1	13 34.72	-15 5.9	1.542	2.515	6.6	21.6	4 1	13 32.46	-11 27.1	1.602	2.582	5.5	19.1
4 11	13 24.08	-14 37.2	1.509	2.508	2.6	21.4	4 11	13 23.88	-10 31.1	1.578	2.579	1.0	18.8
4 21	13 13.13	-13 58.9	1.505	2.499	4.2	21.5	4 21	13 15.14	- 9 31.2	1.581	2.576	4.0	19.0
5 1	13 3.12	-13 17.2	1.527	2.490	8.7	21.7	5 1	13 7.31	- 8 34.3	1.612	2.574	8.5	19.3
5 11	12 55.12	-12 39.2	1.574	2.480	13.0	21.9	5 11	13 1.28	- 7 46.9	1.667	2.571	12.5	19.5
5 21	12 49.77	-12 10.3	1.642	2.470	16.6	22.1	5 21	12 57.56	- 7 13.3	1.742	2.567	15.9	19.7
502103	2015 <i>AN</i> ₂₆₄	4 12.1 90°23' 3.4°/ 9.3 17					36610	2000 <i>QR</i> ₁₄₄	4 12.1 75°83' 1.5°/10.9 18				
3 12	13 47.10	- 0 7.5	1.865	2.741	11.9	21.0	3 12	13 45.56	- 6 37.5	1.739	2.612	12.8	19.0
3 22	13 40.87	+ 0 22.9	1.808	2.750	8.4	20.8	3 22	13 39.97	- 6 3.8	1.675	2.616	9.0	18.8
4 1	13 32.84	+ 0 54.0	1.777	2.758	5.0	20.6	4 1	13 32.45	- 5 22.5	1.636	2.621	4.8	18.6
4 11	13 23.87	+ 1 20.3	1.773	2.766	3.5	20.5	4 11	13 23.87	- 4 38.8	1.624	2.625	1.5	18.3
4 21	13 14.91	+ 1 37.4	1.797	2.775	6.0	20.7	4 21	13 15.23	- 3 58.5	1.640	2.629	4.8	18.6
5 1	13 6.91	+ 1 41.6	1.848	2.783	9.5	20.9	5 1	13 7.55	- 3 27.0	1.682	2.634	9.0	18.8
5 11	13 0.62	+ 1 31.1	1.923	2.791	12.8	21.1	5 11	13 1.63	- 3 8.5	1.748	2.638	12.8	19.1
5 21	12 56.47	+ 1 6.2	2.018	2.799	15.6	21.3	5 21	12 57.94	- 3 4.8	1.834	2.642	15.9	19.3
295780	2008 <i>UG</i> ₂₁₃	4 12.1 262°89' 4.2°/14.8 17					499288	2009 <i>VA</i> ₁₁₃	4 12.1 93°48' 2.8°/14.8 17				
3 12	13 49.55	-19 7.9	1.464	2.307	16.5	20.5	3 12	13 44.43	-19 4.3	1.860	2.697	13.7	21.8
3 22	13 43.59	-19 21.6	1.376	2.291	12.7	20.2	3 22	13 39.17	-18 42.3	1.790	2.703	10.4	21.6
4 1	13 34.80	-19 14.7	1.308	2.275	8.4	20.0	4 1	13 32.02	-18 2.1	1.742	2.709	6.6	21.4
4 11	13 24.12	-18 47.2	1.266	2.258	4.7	19.7	4 11	13 23.83	-17 6.6	1.721	2.715	3.3	21.2
4 21	13 12.88	-18 2.5	1.249	2.241	5.4	19.7	4 21	13 15.56	-16 0.7	1.727	2.721	3.9	21.2
5 1	13 2.58	-17 7.7	1.257	2.224	9.7	19.9	5 1	13 8.20	-14 51.6	1.761	2.727	7.5	21.4
5 11	12 54.54	-16 12.2	1.289	2.206	14.4	20.1	5 11	13 2.56	-13 46.4	1.820	2.733	11.1	21.7
5 21	12 49.55	-15 24.4	1.341	2.188	18.6	20.3	5 21	12 59.10	-12 51.0	1.901	2.739	14.3	21.9
67033	1999 <i>XN</i> ₁₆₉	4 12.1 168°13' 2.7°/15.2 18					328940	2010 <i>VW</i> ₄₁	4 12.1 21°27' 14.2°/ 4.2 18				
3 12	13 45.21	-19 51.1	2.560	3.376	11.1	19.7	3 12	13 59.98	+27 53.5	1.532	2.354	16.9	20.5
3 22	13 39.33	-19 38.5	2.4										

EPHEMERIDES

4 12.1

4 12.1

2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
300247	2007 <i>EX</i> ₁₁₁		4 12.1 329°63	0°7/11.8	15		314388	2005 <i>UW</i> ₁₁₄		4 12.1 224°14	5°1/ 5.1	17	
3 12	13 47.84	- 7 45.0	1.106	1.995	17.2	20.6	3 12	13 44.56	+11 47.9	3.174	4.032	8.0	21.1
3 22	13 42.68	- 7 46.1	1.037	1.984	12.3	20.3	3 22	13 38.62	+12 30.3	3.104	4.020	6.4	21.0
4 1	13 34.40	- 7 36.6	0.988	1.974	6.7	20.0	4 1	13 31.53	+13 6.9	3.061	4.007	5.2	20.9
4 11	13 24.11	- 7 21.1	0.963	1.965	0.8	19.5	4 11	13 23.80	+13 33.5	3.047	3.994	5.4	20.9
4 21	13 13.38	- 7 5.7	0.961	1.956	5.9	19.8	4 21	13 16.00	+13 47.1	3.062	3.980	6.7	20.9
5 1	13 3.92	- 6 57.2	0.982	1.948	11.9	20.1	5 1	13 8.71	+13 46.0	3.104	3.966	8.5	21.0
5 11	12 57.15	- 7 1.5	1.023	1.941	17.2	20.4	5 11	13 2.42	+13 29.7	3.170	3.951	10.4	21.2
5 21	12 53.78	- 7 21.4	1.081	1.934	21.7	20.7	5 21	12 57.49	+12 59.2	3.257	3.936	12.0	21.3
257520	1997 <i>ML</i>		4 12.1 252°67	4°4/ 8.3	17		370195	2002 <i>CU</i> ₂₃₁		4 12.1 69°89	2°0/10.2	18	
3 12	13 46.13	+ 0 32.5	1.737	2.618	12.4	20.5	3 12	13 44.11	- 7 56.1	1.668	2.544	13.1	21.2
3 22	13 40.48	+ 1 30.9	1.665	2.608	8.9	20.3	3 22	13 38.79	- 6 27.4	1.627	2.570	9.1	21.0
4 1	13 32.81	+ 2 31.5	1.618	2.597	5.5	20.1	4 1	13 31.71	- 4 49.6	1.610	2.595	4.7	20.8
4 11	13 23.93	+ 3 27.1	1.597	2.586	4.6	20.0	4 11	13 23.81	- 3 11.1	1.621	2.621	2.0	20.7
4 21	13 14.86	+ 4 10.8	1.604	2.575	7.3	20.1	4 21	13 16.08	- 1 40.4	1.661	2.646	5.3	21.0
5 1	13 6.66	+ 4 37.2	1.637	2.564	11.0	20.3	5 1	13 9.44	- 0 24.9	1.727	2.672	9.3	21.2
5 11	13 0.22	+ 4 43.5	1.692	2.552	14.6	20.5	5 11	13 4.59	+ 0 30.9	1.816	2.697	12.8	21.5
5 21	12 56.08	+ 4 29.7	1.766	2.540	17.7	20.7	5 21	13 1.88	+ 1 5.6	1.926	2.722	15.7	21.8
113360	2002 <i>SC</i> ₁		4 12.1 237°83	0°2/12.4	17		125245	2001 <i>UB</i> ₁₇₅		4 12.1 267°12	7°2/ 6.0	18	
3 12	13 46.71	-11 37.9	1.924	2.781	12.5	21.7	3 12	13 47.93	+ 9 30.8	1.784	2.659	12.4	19.4
3 22	13 40.85	-11 7.4	1.837	2.768	9.0	21.4	3 22	13 41.72	+10 26.2	1.717	2.648	9.6	19.2
4 1	13 33.01	-10 24.5	1.774	2.754	5.0	21.2	4 1	13 33.45	+11 14.5	1.676	2.636	7.6	19.1
4 11	13 23.95	- 9 32.9	1.738	2.740	0.7	20.8	4 11	13 24.01	+11 47.8	1.660	2.624	7.6	19.0
4 21	13 14.63	- 8 37.8	1.731	2.725	3.9	21.0	4 21	13 14.41	+12 0.6	1.671	2.611	9.7	19.1
5 1	13 6.06	- 7 45.6	1.752	2.710	8.2	21.3	5 1	13 5.73	+11 49.6	1.706	2.599	12.7	19.3
5 11	12 59.12	- 7 2.1	1.798	2.694	12.2	21.5	5 11	12 58.84	+11 15.0	1.763	2.587	15.7	19.5
5 21	12 54.39	- 6 31.4	1.866	2.678	15.5	21.6	5 21	12 54.28	+10 19.3	1.837	2.574	18.4	19.6
504383	2007 <i>VK</i> ₁₆₁		4 12.1 231°60	0°6/12.7	17		199014	2005 <i>WS</i> ₈₉		4 12.1 258°91	4°2/ 8.9	17	
3 12	13 44.25	-12 0.4	2.288	3.140	11.0	22.0	3 12	13 48.01	- 1 36.5	1.443	2.328	14.2	20.4
3 22	13 38.80	-11 43.2	2.206	3.134	7.9	21.8	3 22	13 42.24	- 0 34.9	1.367	2.313	10.1	20.2
4 1	13 31.77	-11 16.2	2.150	3.128	4.4	21.5	4 1	13 33.94	+ 0 32.8	1.315	2.297	6.0	19.9
4 11	13 23.82	-10 42.2	2.121	3.123	0.9	21.2	4 11	13 24.07	+ 1 38.1	1.288	2.282	4.4	19.7
4 21	13 15.72	-10 5.0	2.122	3.116	3.2	21.4	4 21	13 13.86	+ 2 32.2	1.288	2.266	7.8	19.9
5 1	13 8.28	- 9 29.2	2.151	3.110	6.8	21.6	5 1	13 4.65	+ 3 7.8	1.312	2.249	12.4	20.1
5 11	13 2.19	- 8 59.0	2.206	3.104	10.1	21.8	5 11	12 57.55	+ 3 20.6	1.358	2.232	16.7	20.3
5 21	12 57.91	- 8 37.7	2.284	3.097	13.0	22.0	5 21	12 53.22	+ 3 10.0	1.421	2.215	20.4	20.5
414064	2007 <i>SM</i> ₁₉		4 12.1 233°83	3°5/ 8.9	17		294269	2007 <i>UM</i> ₆₈		4 12.1 224°31	1°2/13.2	16	
3 12	13 48.14	- 1 26.4	1.894	2.767	11.9	22.3	3 12	13 46.92	-14 34.3	1.802	2.652	13.5	21.6
3 22	13 41.85	- 0 29.4	1.812	2.752	8.5	22.1	3 22	13 41.10	-14 2.3	1.717	2.643	9.9	21.3
4 1	13 33.54	+ 0 32.1	1.756	2.737	5.0	21.8	4 1	13 33.18	-13 14.4	1.657	2.634	5.8	21.1
4 11	13 24.01	+ 1 31.6	1.728	2.720	3.6	21.7	4 11	13 23.99	-12 14.0	1.624	2.625	1.6	20.8
4 21	13 14.22	+ 2 22.4	1.728	2.703	6.4	21.8	4 21	13 14.55	-11 6.9	1.619	2.614	3.9	20.9
5 1	13 5.21	+ 2 59.0	1.755	2.684	10.3	22.0	5 1	13 5.96	-10 0.4	1.641	2.603	8.3	21.1
5 11	12 57.86	+ 3 17.6	1.806	2.665	13.9	22.2	5 11	12 59.15	- 9 1.7	1.689	2.592	12.4	21.3
5 21	12 52.74	+ 3 17.3	1.877	2.646	17.0	22.4	5 21	12 54.69	- 8 16.0	1.758	2.580	15.9	21.5
194368	2001 <i>UQ</i> ₁₈₉		4 12.1 112°09	1°1/12.9	18		433873	2015 <i>BQ</i> ₃₁₁		4 12.1 238°34	3°0/31.9	18	
3 12	13 49.10	-13 32.4	1.485	2.345	15.3	20.8	3 12	13 32.93	+18 50.2	7.738	8.580	3.7	21.5
3 22	13 42.72	-13 9.4	1.426	2.357	11.1	20.5	3 22	13 30.06	+19 22.6	7.682	8.569	3.2	21.4
4 1	13 34.02	-12 30.5	1.390	2.369	6.3	20.3	4 1	13 26.79	+19 51.0	7.654	8.558	3.0	21.4
4 11	13 24.05	-11 40.0	1.380	2.381	1.5	20.0	4 11	13 23.31	+20 13.8	7.653	8.547	3.2	21.4
4 21	13 14.07	-10 44.5	1.396	2.392	4.3	20.2	4 21	13 19.81	+20 30.0	7.680	8.535	3.7	21.4
5 1	13 5.34	- 9 51.7	1.439	2.403	9.1	20.5	5 1	13 16.47	+20 38.9	7.732	8.524	4.4	21.5
5 11	12 58.80	- 9 8.5	1.506	2.413	13.4	20.8	5 11	13 13.48	+20 40.2	7.807	8.512	5.1	21.5
5 21	12 54.94	- 8 39.3	1.593	2.424	16.9	21.0	5 21	13 10.97	+20 34.1	7.902	8.501	5.7	21.6
10294	1988 <i>AA</i> ₂		4 12.1 92°04	3°7/ 9.4	18		424106	2007 <i>EU</i> ₆₀		4 12.1 275°53	5°3/ 6.5	17	
3 12	13 49.21	- 2 11.1	1.447	2.329	14.3	17.5	3 12	13 42.34	+ 1 22.7	1.775	2.662	11.8	20.9
3 22	13 42.62	- 1 16.6	1.403	2.348	10.0	17.3	3 22	13 37.76	+ 3 6.8	1.705	2.650	8.6	20.7
4 1	13 33.86	- 0 18.8	1.384	2.367	5.7	17.1	4 1	13 31.33	+ 4 54.5	1.661	2.637	5.8	20.5
4 11	13 24.02	+ 0 34.6	1.390	2.385	3.8	17.1	4 11	13 23.79	+ 6 36.3	1.644	2.625	5.7	20.4
4 21	13 14.35	+ 1 16.3	1.423	2.403	6.9	17.3	4 21	13 16.08	+ 8 3.4	1.654	2.612	8.4	20.6
5 1	13 6.00	+ 1 41.1	1.481	2.421	11.0	17.6	5 1	13 9.18	+ 9 8.6	1.690	2.600	11.8	20.7
5 11	12 59.82	+ 1 46.5	1.562	2.438	14.8	17.8	5 11	13 3.88	+ 9 48.4	1.747	2.587	15.2	20.9
5 21	12 56.24	+ 1 33.0	1.661	2.455	17.9	18.1	5 21	13 0.71	+10 2.6	1.823	2.575	18.0	21.1
104334	2000 <i>FF</i> ₁₀		4 12.1 247°00	0°7/11.4	18		271214	2003 <i>TX</i> ₈		4 12.1 205°54	3°3/ 8.7	18	
3 12	13 43.11	- 8 44.3	2.179	3.043	10.9	19.8	3 12	13 46.67	+ 1 30.5	2.464	3.331	9.7	20.9
3 22	13 38.03	- 8 5.8	2.100	3.036	7.7	19.6	3 22	13 40.35	+ 2 3.4	2.390	3.326	6.9	20.7
4 1	13 31.37	- 7 18.5	2.046	3.029	4.1	19.3	4 1	13 32.55	+ 2 36.1	2.343	3.320	4.3	20.5
4 11	13 23.78	- 6 26.9	2.021	3.022	0.7	19.1	4 11	13 23.92	+ 3 4.2	2.326	3.314	3.4	20.5
4 21	13 16.06	- 5 35.8	2.024	3.015	3.9	19.3	4 21	13 15.19	+ 3 23.9	2.338	3.307	5.5	20.6
5 1	13 9.02	- 4 50.4	2.055	3.008	7.6	19.5	5 1	13 7.12	+ 3 32.1	2.378	3.300	8.3	20.8
5 11	13 3.35	- 4 15.0	2.112	3.000	10.9	19.7	5 11	13 0.36	+ 3 27.2	2.444	3.292	11.1	20.9
5 21	12 59.51	- 3 52.4	2.190	2.993	13.8	19.9	5 21	12 55.32	+ 3 8.9	2.532	3.284	13.5	21.1
347420	2012 <i>SD</i> ₄₉		4 12.1 212°35	1°0/11.1	17		268414	2005 <i>UR</i> ₃₂₀		4			

EPHEMERIDES

4 12.1

4 12.2

2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V	
248391	2005 SV ₂₃	4 12.1 132°58' 0°6/11.6 18						506275	2016 RY ₁₄	4 12.2 260°20' 3°5/16.1 17				
3 12	13 45.09	- 7 20.3	2.552	3.410	9.8	20.2	3 12	13 42.72	-22 8.2	2.436	3.248	11.7	21.3	
3 22	13 39.17	- 7 10.7	2.482	3.416	6.9	20.1	3 22	13 37.72	-22 2.7	2.352	3.247	9.1	21.1	
4 1	13 31.88	- 6 56.0	2.439	3.422	3.7	19.9	4 1	13 31.21	-21 41.4	2.292	3.245	6.3	20.9	
4 11	13 23.85	- 6 39.0	2.426	3.427	0.6	19.6	4 11	13 23.81	-21 5.7	2.259	3.243	3.9	20.8	
4 21	13 15.77	- 6 22.6	2.442	3.433	3.3	19.8	4 21	13 16.29	-20 18.5	2.254	3.242	3.9	20.8	
5 1	13 8.34	- 6 10.0	2.487	3.438	6.5	20.1	5 1	13 9.41	-19 24.5	2.277	3.240	6.3	20.9	
5 11	13 2.16	- 6 3.8	2.558	3.443	9.4	20.2	5 11	13 3.85	-18 29.1	2.327	3.238	9.1	21.1	
5 21	12 57.61	- 6 5.8	2.653	3.448	11.9	20.4	5 21	13 0.04	-17 37.6	2.400	3.237	11.7	21.3	
498585	2008 QV ₁₆	4 12.1 156°00' 3°1/15.8 17						158973	2004 RP ₂₈₉	4 12.2 160°35' 1°2/10.9 17				
3 12	13 44.03	-21 57.4	2.271	3.086	12.3	20.9	3 12	13 47.03	- 6 1.9	2.454	3.313	10.1	21.1	
3 22	13 38.64	-21 24.8	2.193	3.092	9.5	20.7	3 22	13 40.57	- 5 38.7	2.386	3.320	7.1	20.9	
4 1	13 31.67	-20 34.1	2.139	3.097	6.4	20.5	4 1	13 32.66	- 5 10.6	2.344	3.326	3.8	20.7	
4 11	13 23.83	-19 28.0	2.112	3.101	3.6	20.3	4 11	13 23.97	- 4 41.2	2.332	3.332	1.2	20.5	
4 21	13 15.94	-18 10.8	2.114	3.106	3.7	20.3	4 21	13 15.24	- 4 14.0	2.349	3.337	3.8	20.7	
5 1	13 8.81	-16 48.8	2.145	3.109	6.5	20.5	5 1	13 7.23	- 3 52.6	2.396	3.342	7.0	20.9	
5 11	13 3.14	-15 29.0	2.203	3.113	9.6	20.7	5 11	13 0.55	- 3 39.9	2.470	3.346	10.0	21.1	
5 21	12 59.34	-14 17.1	2.285	3.116	12.4	20.9	5 21	12 55.61	- 3 37.5	2.566	3.349	12.5	21.3	
154229	2002 JN ₉₇	4 12.1 73°81' 5°7/ 9.0 18						265583	2005 QS ₁₄₇	4 12.2 184°05' 0°3/11.9 17				
3 12	14 14.15	+ 1 4.5	1.284	2.134	17.9	19.6	3 12	13 48.23	- 8 58.9	2.071	2.928	11.7	21.0	
3 22	13 59.14	+ 2 37.8	1.282	2.209	12.4	19.5	3 22	13 41.72	- 8 43.3	1.996	2.928	8.3	20.8	
4 1	13 42.09	+ 4 5.2	1.307	2.281	7.5	19.4	4 1	13 33.40	- 8 19.6	1.946	2.928	4.5	20.6	
4 11	13 24.83	+ 5 15.9	1.363	2.349	5.8	19.5	4 11	13 24.06	- 7 51.3	1.925	2.927	0.5	20.3	
4 21	13 9.10	+ 6 3.1	1.450	2.414	8.7	19.8	4 21	13 14.59	- 7 22.3	1.934	2.926	3.8	20.5	
5 1	12 56.16	+ 6 24.7	1.564	2.475	12.6	20.2	5 1	13 5.92	- 6 57.1	1.970	2.924	7.7	20.8	
5 11	12 46.61	+ 6 22.7	1.702	2.534	15.9	20.5	5 11	12 58.84	- 6 39.8	2.033	2.922	11.3	21.0	
5 21	12 40.47	+ 6 1.1	1.859	2.589	18.4	20.9	5 21	12 53.83	- 6 33.0	2.117	2.920	14.2	21.2	
382777	2003 SR ₁₁₁	4 12.1 149°23' 1°1/10.8 17						50629	2000 EG ₆₉	4 12.2 236°54' 0°5/11.6 18				
3 12	13 45.42	- 5 59.1	2.820	3.677	9.0	22.1	3 12	13 44.12	- 8 51.5	2.201	3.063	10.9	19.1	
3 22	13 39.25	- 5 30.3	2.755	3.689	6.3	21.9	3 22	13 38.75	- 8 23.8	2.122	3.057	7.8	18.9	
4 1	13 31.87	- 4 57.3	2.718	3.700	3.3	21.7	4 1	13 31.78	- 7 48.1	2.068	3.051	4.2	18.7	
4 11	13 23.85	- 4 23.2	2.710	3.710	1.1	21.6	4 11	13 23.89	- 7 8.0	2.043	3.045	0.6	18.4	
4 21	13 15.84	- 3 51.5	2.733	3.720	3.4	21.8	4 21	13 15.85	- 6 27.8	2.047	3.039	3.7	18.6	
5 1	13 8.46	- 3 25.3	2.786	3.730	6.3	22.0	5 1	13 8.50	- 5 52.4	2.079	3.033	7.4	18.8	
5 11	13 2.22	- 3 7.2	2.866	3.738	8.9	22.2	5 11	13 2.53	- 5 25.6	2.136	3.026	10.8	19.0	
5 21	12 57.49	- 2 58.7	2.970	3.746	11.2	22.3	5 21	12 58.40	- 5 10.3	2.215	3.019	13.6	19.2	
142268	2002 RW ₁₁₃	4 12.1 137°16' 2°7/14.3 18						163399	2002 QT ₆₄	4 12.2 15°88' 0°3/12.4 17				
3 12	13 47.73	-17 7.8	1.672	2.517	14.7	20.0	3 12	13 44.31	-11 11.9	1.970	2.830	12.1	20.6	
3 22	13 41.73	-17 6.1	1.601	2.520	11.0	19.8	3 22	13 39.01	-10 48.9	1.897	2.830	8.7	20.3	
4 1	13 33.53	-16 47.1	1.552	2.523	6.9	19.6	4 1	13 31.96	-10 15.3	1.850	2.831	4.8	20.1	
4 11	13 24.04	-16 13.2	1.530	2.526	3.2	19.4	4 11	13 23.91	- 9 34.8	1.829	2.831	0.6	19.8	
4 21	13 14.39	-15 28.7	1.535	2.529	4.2	19.4	4 21	13 15.75	- 8 52.1	1.837	2.831	3.6	20.0	
5 1	13 5.77	-14 40.3	1.566	2.532	8.3	19.7	5 1	13 8.38	- 8 12.6	1.872	2.832	7.6	20.3	
5 11	12 59.11	-13 55.0	1.622	2.535	12.3	19.9	5 11	13 2.58	- 7 41.0	1.932	2.832	11.2	20.5	
5 21	12 54.95	-13 18.6	1.699	2.537	15.7	20.1	5 21	12 58.80	- 7 20.6	2.014	2.832	14.3	20.7	
141379	2002 AP ₆₆	4 12.1 108°01' 6°8/ 2.2 18						235986	2005 EY ₃₂₆	4 12.2 181°41' 1°4/10.7 18				
3 12	13 41.42	+12 52.9	2.536	3.405	9.4	20.2	3 12	13 43.91	- 6 13.9	2.241	3.108	10.6	20.8	
3 22	13 36.55	+14 39.4	2.502	3.419	7.6	20.1	3 22	13 38.52	- 5 33.9	2.170	3.108	7.4	20.6	
4 1	13 30.44	+16 17.4	2.496	3.433	6.8	20.1	4 1	13 31.62	- 4 47.8	2.125	3.109	3.9	20.4	
4 11	13 23.71	+17 40.2	2.518	3.447	7.3	20.1	4 11	13 23.87	- 4 0.0	2.109	3.109	1.4	20.2	
4 21	13 17.01	+18 43.2	2.567	3.460	8.9	20.2	4 21	13 16.05	- 3 15.3	2.121	3.108	4.2	20.4	
5 1	13 10.99	+19 23.7	2.641	3.474	10.7	20.4	5 1	13 8.93	- 2 38.2	2.162	3.108	7.7	20.6	
5 11	13 6.17	+19 41.6	2.736	3.487	12.6	20.5	5 11	13 3.18	- 2 12.2	2.227	3.107	10.8	20.8	
5 21	13 2.89	+19 38.8	2.849	3.499	14.1	20.7	5 21	12 59.21	- 1 59.3	2.315	3.106	13.5	21.0	
299485	2006 BM ₁₈₄	4 12.1 357°26' 1°8/10.9 18						488820	2005 NF ₆	4 12.2 170°45' 3°6/17.5 18				
3 12	13 45.90	- 6 53.6	1.176	2.066	16.3	20.1	3 12	13 43.05	-26 3.3	3.312	4.088	9.7	22.6	
3 22	13 40.97	- 6 20.7	1.115	2.064	11.5	19.8	3 22	13 37.62	-25 53.1	3.225	4.092	7.7	22.5	
4 1	13 33.30	- 5 36.8	1.076	2.063	6.2	19.5	4 1	13 31.03	-25 29.0	3.163	4.096	5.7	22.3	
4 11	13 24.03	- 4 48.8	1.061	2.062	1.8	19.2	4 11	13 23.81	-24 51.8	3.129	4.099	4.0	22.2	
4 21	13 14.57	- 4 5.0	1.069	2.061	6.2	19.5	4 21	13 16.53	-24 3.7	3.124	4.102	3.7	22.2	
5 1	13 6.42	- 3 33.5	1.102	2.062	11.6	19.8	5 1	13 9.76	-23 8.3	3.149	4.104	5.1	22.3	
5 11	13 0.72	- 3 19.8	1.154	2.063	16.4	20.1	5 11	13 4.03	-22 9.7	3.202	4.105	7.1	22.4	
5 21	12 58.04	- 3 25.9	1.225	2.064	20.5	20.3	5 21	12 59.67	-21 12.3	3.281	4.106	9.1	22.6	
500236	2012 JC ₁₇	4 12.1 266°85' 6°8/ 6.8 17						269013	2007 EW ₁₈₀	4 12.2 315°56' 0°7/12.8 17				
3 12	13 49.34	+ 8 34.3	1.804	2.677	12.4	21.7	3 12	13 43.16	-13 15.3	1.672	2.536	13.7	20.4	
3 22	13 42.75	+ 9 18.6	1.732	2.663	9.5	21.4	3 22	13 38.51	-12 37.9	1.594	2.528	9.9	20.2	
4 1	13 34.05	+ 9 56.4	1.685	2.648	7.2	21.3	4 1	13 31.81	-11 44.9	1.541	2.521	5.6	19.9	
4 11	13 24.11	+10 20.4	1.664	2.633	7.0	21.2	4 11	13 23.90	-10 40.8	1.513	2.514	1.1	19.6	
4 21	13 13.96	+10 25.4	1.670	2.618	9.2	21.3	4 21	13 15.80	- 9 32.1	1.512	2.508	4.0	19.8	
5 1	13 4.72	+10 8.1	1.702	2.602	12.3	21.5	5 1	13 8.57	- 8 26.4	1.538	2.501	8.6	20.0	
5 11	12 57.28	+ 9 28.7	1.756	2.587	15.5	21.6	5 11	13 3.12	- 7 30.9	1.587	2.495	12.8	20.2	
5 21	12 52.20	+ 8 29.6	1.828	2.571	18.2	21.8	5 21	12 59.97	- 6 50.3	1.657	2.489	16.3	20.5	
307968	2004 JK ₁₆	4 12.1 351°70' 4°5/ 8.9 18						264217	2010 RB ₅₂	4 12.2 132°61' 0°6/11.6 18				
3 12	13 44.52	- 0 25.5	1.344	2.237	14.4	19.7	3 12	13 47.61	- 9 4.0	1.896	2.758	12.4	21.7	
3 22	13 39.70	+ 0 23.6	1.284	2.233	10.3	19.4	3 22	13 41.27	- 8 28.7	1.835	2.770	8.8	21.5	

EPHEMERIDES

4 12.2

4 12.2

2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
489300	2006 SX ₂₅₉		4 12.2 149°73	0°6/12.9 17			214842	2006 VG ₁₅₀		4 12.2 145°45	2°2/10.0 17		
3 12	13 43.35	-12 49.7	2.755	3.598	9.6	22.6	3 12	13 45.86	-1 54.8	2.506	3.372	9.6	21.0
3 22	13 37.90	-12 27.1	2.682	3.606	6.9	22.4	3 22	13 39.74	-1 37.8	2.439	3.377	6.8	20.8
4 1	13 31.21	-11 55.8	2.636	3.613	3.9	22.3	4 1	13 32.24	-1 19.2	2.400	3.381	3.8	20.6
4 11	13 23.84	-11 18.5	2.619	3.620	0.9	22.0	4 11	13 23.99	-1 2.6	2.389	3.386	2.2	20.5
4 21	13 16.43	-10 38.4	2.632	3.626	2.7	22.2	4 21	13 15.70	-0 51.0	2.409	3.390	4.3	20.6
5 1	13 9.62	-9 59.4	2.674	3.633	5.7	22.4	5 1	13 8.09	-0 47.3	2.457	3.394	7.3	20.8
5 11	13 3.96	-9 25.1	2.744	3.638	8.5	22.6	5 11	13 1.76	-0 53.3	2.530	3.398	10.1	21.0
5 21	12 59.79	-8 58.4	2.837	3.644	10.9	22.8	5 21	12 57.09	-1 9.7	2.627	3.401	12.5	21.2
206811	2004 DB ₆₁		4 12.2 359°51	1°1/11.1 17			13188	Okinawa		4 12.2 2°55	1°4/13.1 18		
3 12	13 42.78	-7 44.3	1.921	2.793	11.8	20.3	3 12	13 46.46	-13 10.4	1.129	2.008	17.7	17.9
3 22	13 37.94	-7 6.9	1.852	2.792	8.3	20.0	3 22	13 41.57	-13 1.9	1.067	2.007	12.9	17.6
4 1	13 31.38	-6 21.4	1.808	2.792	4.4	19.8	4 1	13 33.75	-12 34.7	1.025	2.007	7.4	17.3
4 11	13 23.87	-5 32.3	1.791	2.792	1.1	19.6	4 11	13 24.17	-11 53.0	1.006	2.007	1.9	17.0
4 21	13 16.25	-4 45.3	1.801	2.792	4.3	19.8	4 21	13 14.35	-11 3.9	1.011	2.008	5.1	17.2
5 1	13 9.44	-4 5.7	1.839	2.792	8.2	20.0	5 1	13 5.90	-10 16.7	1.039	2.009	10.8	17.5
5 11	13 4.15	-3 37.8	1.901	2.793	11.8	20.2	5 11	13 0.06	-9 40.1	1.088	2.011	15.9	17.8
5 21	13 0.86	-3 24.0	1.983	2.794	14.8	20.4	5 21	12 57.43	-9 19.6	1.154	2.014	20.2	18.0
131808	2002 AB ₇₇		4 12.2 38°41	0°2/12.3 18			93491	2000 TC ₃₄		4 12.2 150°05	0°8/13.1 17		
3 12	13 47.42	-10 38.7	1.230	2.110	16.5	20.4	3 12	13 44.78	-14 12.1	2.410	3.252	10.8	20.1
3 22	13 41.91	-10 23.4	1.175	2.117	11.8	20.1	3 22	13 39.04	-13 30.3	2.339	3.262	7.8	19.9
4 1	13 33.76	-9 53.8	1.141	2.124	6.5	19.8	4 1	13 31.87	-12 36.9	2.295	3.271	4.4	19.7
4 11	13 24.13	-9 15.1	1.131	2.133	0.8	19.4	4 11	13 23.95	-11 35.4	2.279	3.280	1.1	19.4
4 21	13 14.43	-8 34.2	1.145	2.141	5.0	19.8	4 21	13 16.01	-10 30.6	2.294	3.288	3.0	19.6
5 1	13 6.10	-7 58.9	1.185	2.150	10.3	20.1	5 1	13 8.79	-9 27.8	2.337	3.296	6.4	19.8
5 11	13 0.22	-7 35.7	1.245	2.160	15.0	20.4	5 11	13 2.92	-8 32.0	2.408	3.303	9.5	20.0
5 21	12 57.29	-7 28.1	1.325	2.169	18.9	20.7	5 21	12 58.76	-7 46.7	2.502	3.309	12.2	20.2
132260	2002 EM ₁₁₆		4 12.2 319°17	0°8/12.7 17			187920	2000 XF ₄₁		4 12.2 221°25	3°6/15.3 17		
3 12	13 43.56	-12 36.8	1.226	2.106	16.5	19.9	3 12	13 49.09	-20 10.0	2.263	3.077	12.4	20.4
3 22	13 39.52	-12 13.2	1.146	2.088	12.1	19.6	3 22	13 42.45	-20 29.9	2.171	3.069	9.6	20.1
4 1	13 32.69	-11 30.7	1.087	2.070	6.9	19.3	4 1	13 33.91	-20 35.4	2.103	3.060	6.5	19.9
4 11	13 24.04	-10 33.6	1.051	2.053	1.3	18.8	4 11	13 24.19	-20 26.7	2.064	3.050	4.0	19.8
4 21	13 14.90	-9 29.5	1.039	2.036	5.1	19.1	4 21	13 14.17	-20 5.7	2.053	3.041	4.2	19.8
5 1	13 6.80	-8 28.2	1.051	2.020	10.9	19.3	5 1	13 4.82	-19 36.2	2.071	3.030	7.0	19.9
5 11	13 1.02	-7 39.2	1.084	2.005	16.1	19.6	5 11	12 56.98	-19 3.7	2.115	3.019	10.2	20.1
5 21	12 58.32	-7 8.6	1.134	1.991	20.7	19.8	5 21	12 51.22	-18 33.2	2.183	3.008	13.1	20.3
222820	2002 CT ₃₀₄		4 12.2 57°52	2°9/ 9.4 18			426709	2013 TN ₃₇		4 12.2 233°43	3°1/14.8 17		
3 12	13 43.19	-6 16.0	1.528	2.411	13.6	20.3	3 12	13 47.91	-18 41.4	2.101	2.927	12.8	21.7
3 22	13 38.30	-4 36.6	1.488	2.434	9.4	20.1	3 22	13 41.70	-18 47.3	2.009	2.916	9.8	21.5
4 1	13 31.54	-2 49.2	1.472	2.458	5.0	19.9	4 1	13 33.54	-18 38.3	1.941	2.905	6.4	21.2
4 11	13 23.89	-1 3.4	1.484	2.481	3.0	19.8	4 11	13 24.15	-18 15.1	1.901	2.893	3.5	21.0
4 21	13 16.39	+0 31.3	1.523	2.505	6.3	20.1	4 21	13 14.46	-17 40.6	1.889	2.880	4.0	21.0
5 1	13 10.05	+1 47.0	1.587	2.529	10.3	20.4	5 1	13 5.47	-16 59.6	1.905	2.868	7.3	21.2
5 11	13 5.56	+2 39.7	1.675	2.553	13.9	20.6	5 11	12 58.07	-16 18.0	1.948	2.854	10.8	21.4
5 21	13 3.30	+3 8.6	1.782	2.576	16.8	20.9	5 21	12 52.81	-15 41.3	2.012	2.841	14.0	21.6
410756	2009 DW ₆₁		4 12.2 163°98	3°5/ 9.1 17			272519	2005 UA ₂₅₆		4 12.2 191°01	0°1/12.1 17		
3 12	13 46.70	-2 38.8	1.700	2.579	12.7	21.3	3 12	13 45.22	-11 6.9	2.239	3.092	11.1	22.4
3 22	13 40.82	-1 30.0	1.640	2.583	9.0	21.0	3 22	13 39.51	-10 25.4	2.160	3.091	7.9	22.2
4 1	13 32.98	-0 16.1	1.604	2.586	5.1	20.8	4 1	13 32.21	-9 33.6	2.108	3.089	4.3	22.0
4 11	13 24.05	+0 55.3	1.595	2.589	3.6	20.7	4 11	13 24.00	-8 35.2	2.085	3.086	0.4	21.6
4 21	13 15.08	+1 56.8	1.614	2.592	6.5	20.9	4 21	13 15.69	-7 35.5	2.090	3.083	3.5	21.9
5 1	13 7.10	+2 42.2	1.660	2.594	10.4	21.1	5 1	13 8.10	-6 39.8	2.125	3.080	7.2	22.1
5 11	13 0.95	+3 8.0	1.728	2.596	14.0	21.4	5 11	13 1.91	-5 53.1	2.186	3.075	10.6	22.3
5 21	12 57.08	+3 13.4	1.816	2.597	17.1	21.6	5 21	12 57.56	-5 18.5	2.269	3.071	13.4	22.5
144145	2004 BT ₉₃		4 12.2 324°23	5°3/16.8 17			199568	2006 EF ₄₈		4 12.2 236°53	2°8/ 9.2 18		
3 12	13 41.30	-24 32.3	1.387	2.223	17.6	19.2	3 12	13 44.38	-2 25.8	2.222	3.094	10.4	20.9
3 22	13 37.74	-24 9.7	1.301	2.208	14.0	18.9	3 22	13 38.96	-1 32.0	2.142	3.083	7.4	20.6
4 1	13 31.64	-23 16.1	1.236	2.194	9.9	18.6	4 1	13 31.94	-0 33.9	2.089	3.071	4.2	20.4
4 11	13 23.93	-21 52.5	1.193	2.180	6.2	18.4	4 11	13 23.98	+0 23.0	2.064	3.058	2.9	20.3
4 21	13 15.87	-20 4.8	1.175	2.167	5.8	18.3	4 21	13 15.87	+1 13.5	2.067	3.045	5.3	20.4
5 1	13 8.82	-18 4.3	1.182	2.155	9.4	18.5	5 1	13 8.40	+1 52.6	2.099	3.031	8.7	20.6
5 11	13 3.95	-16 4.4	1.212	2.143	13.9	18.7	5 11	13 2.29	+2 17.0	2.155	3.017	11.8	20.8
5 21	13 1.91	-14 16.8	1.262	2.133	18.1	18.9	5 21	12 57.99	+2 25.5	2.232	3.003	14.6	20.9
282683	2005 XT ₂		4 12.2 179°19	3°6/15.0 18			78374	2002 PF ₁₂₆		4 12.2 257°73	1°8/13.6 18		
3 12	13 49.63	-19 48.0	1.663	2.496	15.3	21.2	3 12	13 47.82	-15 4.0	1.785	2.633	13.7	20.6
3 22	13 43.19	-19 41.1	1.587	2.497	11.7	21.0	3 22	13 41.93	-14 55.1	1.693	2.616	10.2	20.4
4 1	13 34.40	-19 13.6	1.534	2.498	7.7	20.8	4 1	13 33.79	-14 31.1	1.624	2.599	6.1	20.1
4 11	13 24.22	-18 27.4	1.506	2.499	4.1	20.5	4 11	13 24.20	-13 54.0	1.582	2.581	2.2	19.8
4 21	13 13.85	-17 27.1	1.506	2.499	4.6	20.6	4 21	13 14.22	-13 8.2	1.568	2.563	4.0	19.9
5 1	13 4.52	-16 20.4	1.533	2.498	8.5	20.8	5 1	13 5.00	-12 19.8	1.580	2.544	8.4	20.1
5 11	12 57.26	-15 15.7	1.584	2.497	12.5	21.0	5 11	12 57.57	-11 35.7	1.618	2.525	12.6	20.3
5 21	12 52.63	-14 20.1	1.657	2.495	16.1	21.3	5 21	12 52.58	-11 1.5	1.677	2.506	16.3	20.5
468849	2012 XA ₁₁₁		4 12.2 39°09	5°5/18.3 17			412598	2014 OW ₇₀		4 12.2 202°88	2°3/10.1 16		
3 12	13 42.47	-27 29.2	1.983	2.781	14.5	20.2	3 12	13 48.03	-4 52.8				

EPHEMERIDES

4 12.2

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2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
332586	2008 SS ₁₄₉		4 12.2 240°98	1.6/13.8	17		346040	2007 TD ₄₂₃		4 12.2 219°85	0.3/12.5	17	
3 12	13 44.50	-16 1.3	2.161	3.002	11.9	21.4	3 12	13 43.58	-11 47.8	2.219	3.074	11.1	22.0
3 22	13 39.18	-15 32.4	2.070	2.990	8.8	21.2	3 22	13 38.40	-11 16.7	2.140	3.070	8.0	21.8
4 1	13 32.12	-14 49.0	2.004	2.977	5.3	20.9	4 1	13 31.64	-10 35.2	2.086	3.066	4.4	21.5
4 11	13 24.01	-13 53.8	1.966	2.965	1.9	20.7	4 11	13 23.98	-9 46.7	2.061	3.062	0.6	21.2
4 21	13 15.69	-12 51.3	1.957	2.952	3.3	20.7	4 21	13 16.20	-8 55.8	2.064	3.058	3.3	21.4
5 1	13 8.05	-11 47.5	1.976	2.938	7.1	20.9	5 1	13 9.10	-8 7.5	2.096	3.054	7.0	21.7
5 11	13 1.85	-10 48.5	2.021	2.924	10.6	21.1	5 11	13 3.38	-7 26.8	2.153	3.050	10.4	21.8
5 21	12 57.59	-9 59.2	2.088	2.910	13.8	21.3	5 21	12 59.47	-6 56.9	2.233	3.045	13.3	22.0
328994	2010 XQ ₃		4 12.2 59°10	7.3/6.9	17		292162	2006 SO		4 12.2 170°99	3.7/16.5	18	
3 12	13 49.17	+ 8 23.7	1.536	2.417	13.7	20.4	3 12	13 44.18	-23 11.1	2.570	3.373	11.4	21.0
3 22	13 42.65	+ 9 11.6	1.489	2.424	10.4	20.3	3 22	13 38.72	-23 7.6	2.487	3.375	9.0	20.8
4 1	13 33.98	+ 9 51.1	1.466	2.431	7.8	20.1	4 1	13 31.78	-22 48.6	2.429	3.376	6.3	20.7
4 11	13 24.20	+10 14.3	1.468	2.439	7.5	20.1	4 11	13 24.00	-22 15.0	2.397	3.378	4.1	20.5
4 21	13 14.48	+10 16.2	1.495	2.446	9.8	20.3	4 21	13 16.11	-21 29.6	2.394	3.379	4.0	20.5
5 1	13 5.99	+ 9 54.4	1.547	2.454	13.0	20.5	5 1	13 8.85	-20 36.7	2.420	3.380	6.1	20.6
5 11	12 59.58	+ 9 10.1	1.620	2.461	16.1	20.7	5 11	13 2.90	-19 41.8	2.472	3.381	8.8	20.8
5 21	12 55.70	+ 8 6.6	1.711	2.469	18.8	20.9	5 21	12 58.66	-18 49.7	2.549	3.381	11.3	21.0
484540	2008 FV ₁₂₀		4 12.2 190°86	1.1/10.4	18		389801	2011 UH ₁₉₀		4 12.2 233°98	4.5/6.9	17	
3 12	13 39.64	- 3 4.5	4.484	5.343	5.8	20.7	3 12	13 43.30	+ 5 6.4	2.524	3.397	9.3	20.8
3 22	13 34.95	- 2 57.5	4.408	5.342	4.1	20.5	3 22	13 38.01	+ 5 58.4	2.454	3.389	6.9	20.6
4 1	13 29.54	- 2 49.4	4.360	5.342	2.2	20.4	4 1	13 31.37	+ 6 48.1	2.412	3.381	4.9	20.5
4 11	13 23.73	- 2 41.7	4.343	5.341	1.1	20.3	4 11	13 23.96	+ 7 30.6	2.397	3.372	4.7	20.4
4 21	13 17.89	- 2 36.2	4.358	5.341	2.5	20.4	4 21	13 16.46	+ 8 1.5	2.411	3.363	6.5	20.5
5 1	13 12.36	- 2 34.3	4.402	5.340	4.3	20.5	5 1	13 9.56	+ 8 17.8	2.452	3.354	9.0	20.7
5 11	13 7.48	- 2 37.3	4.474	5.340	6.1	20.7	5 11	13 3.86	+ 8 18.1	2.517	3.345	11.4	20.8
5 21	13 3.49	- 2 45.9	4.571	5.339	7.6	20.8	5 21	12 59.75	+ 8 2.6	2.603	3.335	13.6	21.0
436356	2010 JX ₁₃₀		4 12.2 245°45	2.8/8.4	16		36607	2000 QS ₁₄₃		4 12.2 338°79	0.1/12.2	18	
3 12	13 41.23	- 1 6.1	2.719	3.591	8.7	21.7	3 12	13 48.92	- 9 5.7	1.291	2.169	16.0	18.2
3 22	13 36.51	- 0 2.9	2.637	3.577	6.2	21.6	3 22	13 43.13	- 9 8.5	1.223	2.164	11.5	17.9
4 1	13 30.54	+ 1 3.3	2.583	3.563	3.7	21.4	4 1	13 34.57	- 9 0.4	1.176	2.160	6.3	17.6
4 11	13 23.84	+ 2 7.6	2.559	3.549	3.0	21.3	4 11	13 24.33	- 8 45.1	1.155	2.156	0.7	17.2
4 21	13 17.03	+ 3 5.4	2.564	3.534	5.0	21.4	4 21	13 13.80	- 8 27.9	1.158	2.153	5.0	17.5
5 1	13 10.71	+ 3 52.5	2.597	3.519	7.7	21.6	5 1	13 4.47	- 8 14.8	1.186	2.151	10.5	17.8
5 11	13 5.45	+ 4 26.0	2.655	3.503	10.3	21.7	5 11	12 57.54	- 8 11.4	1.236	2.148	15.3	18.1
5 21	13 1.63	+ 4 44.7	2.735	3.488	12.6	21.8	5 21	12 53.65	- 8 21.0	1.305	2.146	19.3	18.3
348425	2005 NH ₁₂₅		4 12.2 234°87	7.0/2.4	18		508504	2016 QH ₁₉		4 12.2 321°78	4.9/17.2	18	
3 12	13 43.54	+16 17.5	2.739	3.595	9.2	21.1	3 12	13 43.43	-25 12.5	2.132	2.936	13.4	20.4
3 22	13 38.12	+17 26.1	2.679	3.583	7.8	21.0	3 22	13 38.52	-25 17.5	2.047	2.931	10.8	20.2
4 1	13 31.39	+18 25.7	2.645	3.571	7.0	20.9	4 1	13 31.81	-25 2.9	1.983	2.926	7.9	20.0
4 11	13 23.93	+19 10.7	2.639	3.558	7.5	20.9	4 11	13 24.02	-24 29.2	1.945	2.921	5.5	19.8
4 21	13 16.40	+19 37.3	2.659	3.545	8.9	21.0	4 21	13 16.03	-23 39.1	1.934	2.916	5.2	19.8
5 1	13 9.44	+19 43.3	2.704	3.532	10.7	21.1	5 1	13 8.77	-22 37.8	1.951	2.912	7.3	19.9
5 11	13 3.65	+19 28.9	2.771	3.518	12.5	21.2	5 11	13 3.04	-21 32.4	1.992	2.908	10.2	20.1
5 21	12 59.39	+18 55.8	2.855	3.504	14.1	21.3	5 21	12 59.36	-20 29.3	2.057	2.904	13.0	20.2
106185	2000 UP ₉		4 12.2 173°19	3.8/7.7	18		23376	2239 T ₋₂		4 12.2 167°39	0.2/11.9	18	
3 12	13 44.27	+ 4 22.6	2.760	3.629	8.7	20.0	3 12	13 42.71	-10 3.3	2.821	3.672	9.1	20.2
3 22	13 38.53	+ 4 58.4	2.697	3.631	6.4	19.8	3 22	13 37.47	- 9 29.6	2.746	3.676	6.5	20.0
4 1	13 31.57	+ 5 31.9	2.661	3.632	4.3	19.7	4 1	13 31.03	- 8 48.7	2.699	3.680	3.5	19.8
4 11	13 23.95	+ 5 59.1	2.654	3.634	3.9	19.7	4 11	13 23.93	- 8 3.7	2.681	3.683	0.4	19.6
4 21	13 16.31	+ 6 16.7	2.677	3.635	5.6	19.8	4 21	13 16.79	- 7 18.3	2.693	3.686	2.9	19.8
5 1	13 9.27	+ 6 22.2	2.727	3.636	7.9	19.9	5 1	13 10.20	- 6 36.4	2.735	3.688	5.9	20.0
5 11	13 3.37	+ 6 14.7	2.803	3.636	10.3	20.1	5 11	13 4.71	- 6 1.2	2.804	3.690	8.6	20.2
5 21	12 58.96	+ 5 54.3	2.900	3.636	12.3	20.3	5 21	13 0.65	- 5 35.2	2.896	3.691	11.0	20.3
71800	2000 SM ₂₆₄		4 12.2 273°18	0.1/12.3	18		1618	Dawn		4 12.2 277°88	1.7/10.5	18	R
3 12	13 42.88	-11 2.2	2.265	3.122	10.8	19.9	3 12	13 43.86	- 5 47.1	1.996	2.868	11.4	15.7
3 22	13 37.90	-10 35.7	2.183	3.115	7.8	19.7	3 22	13 38.70	- 5 7.0	1.924	2.865	8.0	15.5
4 1	13 31.37	- 9 59.6	2.127	3.108	4.3	19.5	4 1	13 31.85	- 4 20.5	1.878	2.862	4.3	15.2
4 11	13 23.94	- 9 17.2	2.098	3.100	0.5	19.2	4 11	13 24.03	- 3 32.5	1.860	2.859	1.7	15.0
4 21	13 16.37	- 8 32.9	2.099	3.093	3.3	19.4	4 21	13 16.10	- 2 48.2	1.869	2.857	4.7	15.2
5 1	13 9.43	- 7 51.3	2.127	3.085	7.0	19.6	5 1	13 8.94	- 2 12.8	1.906	2.854	8.4	15.5
5 11	13 3.82	- 7 17.0	2.181	3.078	10.3	19.8	5 11	13 3.27	- 1 50.0	1.968	2.851	11.9	15.7
5 21	12 59.98	- 6 53.0	2.258	3.070	13.2	20.0	5 21	12 59.57	- 1 41.7	2.050	2.848	14.8	15.9
469047	2015 AD ₂₆₀		4 12.2 204°40	0.5/12.6	17		506270	2016 RF ₅		4 12.2 325°46	1.7/10.2	17	
3 12	13 47.12	-11 16.9	1.835	2.694	12.9	21.0	3 12	13 40.51	- 7 33.7	2.147	3.018	10.8	20.9
3 22	13 41.18	-11 6.5	1.761	2.693	9.3	20.8	3 22	13 36.23	- 6 15.9	2.075	3.016	7.5	20.7
4 1	13 33.24	-10 45.3	1.711	2.691	5.2	20.5	4 1	13 30.46	- 4 49.0	2.029	3.013	4.0	20.5
4 11	13 24.15	-10 16.4	1.689	2.690	0.9	20.2	4 11	13 23.88	- 3 19.0	2.011	3.011	1.7	20.3
4 21	13 14.89	- 9 44.2	1.694	2.689	3.8	20.4	4 21	13 17.21	- 1 52.8	2.023	3.009	4.6	20.5
5 1	13 6.51	- 9 14.1	1.726	2.687	8.1	20.7	5 1	13 11.23	- 0 36.8	2.063	3.006	8.1	20.7
5 11	12 59.87	- 8 51.0	1.784	2.685	11.9	20.9	5 11	13 6.58	+ 0 24.2	2.127	3.004	11.4	20.9
5 21	12 55.48	- 8 38.3	1.863	2.684	15.2	21.1	5 21	13 3.66	+ 1 7.6	2.213	3.002	14.1	21.1
283738	2002 XB ₂₁		4 12.2 110°52	1.2/13.5	17		329305	2000 SY ₁₆		4 12.2 260°77	0.9/13.1	17	
3 12	13 44.18	-14 35.2	2.263	3.107	11.3	20.8</							

EPHEMERIDES

4 12.2

4 12.2

2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
198485	2004 <i>XD</i> ₄₉		4 12.2 193°03	5°4/18.0	18		215046	2009 <i>DS</i> ₉		4 12.2 69°10	2°6/14.3	18	
3 12	13 46.56	-27 52.0	2.415	3.191	12.8	20.3	3 12	13 49.25	-16 10.9	2.083	2.917	12.6	20.0
3 22	13 40.60	-28 1.0	2.326	3.190	10.5	20.1	3 22	13 42.46	-16 38.0	2.019	2.933	9.4	19.8
4 1	13 32.89	-27 50.8	2.260	3.187	8.0	20.0	4 1	13 33.86	-16 52.8	1.980	2.948	5.9	19.6
4 11	13 24.15	-27 21.1	2.221	3.185	5.9	19.8	4 11	13 24.27	-16 56.4	1.969	2.963	2.9	19.4
4 21	13 15.22	-26 34.2	2.209	3.182	5.5	19.8	4 21	13 14.62	-16 50.9	1.986	2.979	3.7	19.5
5 1	13 7.00	-25 34.6	2.225	3.178	7.1	19.9	5 1	13 5.86	-16 40.0	2.032	2.994	7.0	19.7
5 11	13 0.26	-24 28.7	2.268	3.174	9.5	20.0	5 11	12 58.76	-16 28.4	2.104	3.010	10.2	20.0
5 21	12 55.48	-23 22.9	2.335	3.170	12.1	20.2	5 21	12 53.78	-16 20.0	2.199	3.025	13.0	20.2
237838	2002 <i>EV</i> ₇₁		4 12.2 45°77	2°2/14.8	18		242476	2004 <i>TT</i> ₄₂		4 12.2 260°51	1°9/13.6	16	
3 12	13 43.03	-17 29.1	2.728	3.555	10.1	20.5	3 12	13 47.54	-15 35.1	1.574	2.427	15.0	21.3
3 22	13 37.68	-17 33.2	2.672	3.581	7.6	20.3	3 22	13 41.98	-15 14.4	1.485	2.411	11.2	21.1
4 1	13 31.12	-17 26.6	2.643	3.608	4.8	20.2	4 1	13 33.94	-14 35.1	1.418	2.394	6.7	20.8
4 11	13 23.95	-17 11.0	2.642	3.635	2.5	20.1	4 11	13 24.30	-13 40.0	1.377	2.377	2.3	20.4
4 21	13 16.81	-16 48.8	2.670	3.662	2.9	20.2	4 21	13 14.23	-12 34.8	1.363	2.359	4.3	20.5
5 1	13 10.33	-16 23.4	2.726	3.689	5.4	20.4	5 1	13 5.04	-11 27.5	1.375	2.341	9.2	20.8
5 11	13 5.04	-15 58.6	2.810	3.716	7.9	20.6	5 11	12 57.85	-10 26.8	1.411	2.322	13.8	21.0
5 21	13 1.27	-15 37.4	2.918	3.744	10.2	20.7	5 21	12 53.35	-9 39.2	1.467	2.303	17.8	21.2
19056	1162 <i>T</i> -2		4 12.2 173°27	0°1/12.1	18		430405	2015 <i>BZ</i> ₃₀₂		4 12.2 34°20	1°4/11.4	16	
3 12	13 45.87	-10 23.4	2.151	3.007	11.4	19.7	3 12	13 50.28	-4 29.5	1.498	2.374	14.3	20.3
3 22	13 40.03	-9 57.2	2.078	3.009	8.1	19.4	3 22	13 43.50	-4 45.5	1.448	2.389	10.1	20.0
4 1	13 32.53	-9 21.8	2.030	3.011	4.4	19.2	4 1	13 34.50	-4 57.6	1.422	2.406	5.4	19.8
4 11	13 24.11	-8 40.6	2.010	3.012	0.5	18.9	4 11	13 24.33	-5 9.2	1.422	2.423	1.4	19.6
4 21	13 15.59	-7 58.2	2.020	3.013	3.5	19.2	4 21	13 14.24	-5 23.4	1.449	2.441	5.0	19.9
5 1	13 7.84	-7 19.4	2.058	3.014	7.3	19.4	5 1	13 5.41	-5 43.5	1.502	2.459	9.4	20.2
5 11	13 1.55	-6 48.7	2.121	3.014	10.7	19.6	5 11	12 58.74	-6 11.5	1.579	2.478	13.4	20.4
5 21	12 57.19	-6 28.8	2.207	3.014	13.6	19.8	5 21	12 54.68	-6 48.5	1.676	2.497	16.6	20.7
378778	2008 <i>SL</i> ₂₇		4 12.2 138°31	0°3/11.9	17		219060	1996 <i>TL</i> ₃₅		4 12.2 80°01	2°5/9.9	17	
3 12	13 44.34	-10 15.3	2.054	2.915	11.6	21.6	3 12	13 45.29	-4 24.3	1.723	2.601	12.6	20.3
3 22	13 38.97	-9 35.4	1.986	2.920	8.3	21.4	3 22	13 39.80	-3 33.4	1.668	2.611	8.8	20.1
4 1	13 31.96	-8 45.6	1.943	2.925	4.4	21.2	4 1	13 32.45	-2 36.8	1.638	2.622	4.8	19.9
4 11	13 24.05	-7 50.2	1.928	2.930	0.5	20.9	4 11	13 24.12	-1 41.1	1.634	2.632	2.6	19.7
4 21	13 16.08	-6 54.6	1.941	2.934	3.7	21.1	4 21	13 15.80	-0 52.4	1.658	2.642	5.6	20.0
5 1	13 8.92	-6 4.4	1.983	2.939	7.6	21.4	5 1	13 8.47	-0 16.4	1.708	2.652	9.5	20.2
5 11	13 3.25	-5 24.2	2.050	2.943	11.0	21.6	5 11	13 2.91	+0 3.6	1.782	2.663	13.0	20.4
5 21	12 59.51	-4 57.0	2.138	2.947	13.9	21.8	5 21	12 59.52	+0 6.4	1.876	2.673	16.0	20.7
458874	2011 <i>UJ</i> ₁₃₈		4 12.2 102°39	1°5/11.2	18		343073	2009 <i>CA</i> ₅₇		4 12.2 75°50	1°9/9.8	17	
3 12	13 50.27	-6 6.9	1.490	2.364	14.5	20.8	3 12	13 41.21	-6 52.6	2.136	3.008	10.8	20.3
3 22	13 43.59	-5 48.6	1.433	2.373	10.2	20.6	3 22	13 36.64	-5 27.6	2.078	3.019	7.5	20.1
4 1	13 34.60	-5 23.1	1.398	2.382	5.5	20.4	4 1	13 30.65	-3 55.1	2.047	3.031	4.0	19.9
4 11	13 24.34	-4 55.5	1.390	2.391	1.5	20.1	4 11	13 23.92	-2 21.5	2.045	3.043	2.0	19.8
4 21	13 14.05	-4 31.3	1.409	2.400	5.3	20.4	4 21	13 17.21	-0 53.7	2.072	3.055	4.7	20.0
5 1	13 4.98	-4 16.0	1.454	2.409	9.9	20.7	5 1	13 11.26	+0 22.0	2.127	3.067	8.1	20.2
5 11	12 58.08	-4 13.3	1.523	2.417	14.1	20.9	5 11	13 6.67	+1 21.5	2.207	3.079	11.2	20.5
5 21	12 53.85	-4 24.8	1.610	2.425	17.5	21.2	5 21	13 3.80	+2 2.7	2.309	3.091	13.8	20.7
305989	2009 <i>JK</i> ₆		4 12.2 192°61	3°6/7.6	18		156533	2002 <i>CP</i> ₂₇₉		4 12.2 291°34	0°7/12.8	17	
3 12	13 41.75	+2 1.6	2.624	3.498	8.9	20.2	3 12	13 44.81	-12 34.6	1.782	2.642	13.2	20.1
3 22	13 36.86	+2 59.6	2.559	3.497	6.4	20.0	3 22	13 39.62	-12 9.6	1.706	2.638	9.5	19.9
4 1	13 30.73	+3 57.6	2.521	3.496	4.2	19.9	4 1	13 32.46	-11 31.4	1.654	2.633	5.4	19.6
4 11	13 23.92	+4 50.6	2.512	3.495	3.8	19.9	4 11	13 24.13	-10 43.8	1.628	2.629	1.1	19.3
4 21	13 17.06	+5 34.4	2.531	3.493	5.6	20.0	4 21	13 15.63	-9 52.0	1.629	2.625	3.8	19.5
5 1	13 10.78	+6 5.4	2.579	3.491	8.2	20.1	5 1	13 7.97	-9 2.6	1.658	2.621	8.2	19.8
5 11	13 5.62	+6 21.8	2.650	3.489	10.6	20.3	5 11	13 2.04	-8 21.6	1.711	2.617	12.1	20.0
5 21	13 1.95	+6 23.1	2.743	3.487	12.7	20.5	5 21	12 58.34	-7 52.9	1.785	2.612	15.5	20.2
425310	2009 <i>YZ</i> ₁₈		4 12.2 150°29	2°2/9.9	17		101743	1999 <i>FN</i> ₈		4 12.2 33°23	11°3/14.9	18	
3 12	13 44.18	-4 50.9	2.103	2.974	11.0	21.4	3 12	14 4.97	-22 16.2	0.957	1.796	23.4	19.0
3 22	13 38.80	-3 55.5	2.039	2.979	7.7	21.2	3 22	13 56.24	-25 6.9	0.897	1.800	19.1	18.7
4 1	13 31.85	-2 54.5	2.001	2.984	4.2	21.0	4 1	13 42.55	-27 37.9	0.856	1.803	14.7	18.5
4 11	13 24.04	-1 53.4	1.991	2.989	2.2	20.8	4 11	13 25.30	-29 35.2	0.837	1.808	11.6	18.3
4 21	13 16.21	-0 57.7	2.010	2.993	4.9	21.0	4 21	13 6.95	-30 49.4	0.841	1.812	12.0	18.3
5 1	13 9.14	-0 12.6	2.056	2.997	8.4	21.2	5 1	12 50.46	-31 22.0	0.867	1.817	15.4	18.5
5 11	13 3.53	+0 18.3	2.128	3.000	11.5	21.4	5 11	12 38.18	-31 25.4	0.913	1.823	19.6	18.8
5 21	12 59.78	+0 33.6	2.220	3.004	14.3	21.6	5 21	12 31.16	-31 15.0	0.975	1.828	23.5	19.1
425724	2011 <i>BJ</i> ₄₅		4 12.2 21°34	7°9/18.2	17		347721	2001 <i>XX</i> ₁₃₁		4 12.2 151°25	2°3/9.6	17	
3 12	13 48.33	-28 11.1	1.630	2.428	17.1	20.3	3 12	13 43.41	-2 23.3	2.609	3.477	9.2	21.2
3 22	13 42.56	-29 3.4	1.558	2.431	14.2	20.1	3 22	13 38.01	-1 43.7	2.545	3.483	6.4	21.0
4 1	13 34.23	-29 31.1	1.506	2.434	11.1	19.9	4 1	13 31.35	-1 1.8	2.507	3.489	3.6	20.9
4 11	13 24.32	-29 31.7	1.477	2.438	8.6	19.8	4 11	13 24.01	-0 21.5	2.499	3.494	2.3	20.8
4 21	13 14.10	-29 6.3	1.473	2.442	8.0	19.7	4 21	13 16.64	+0 13.2	2.520	3.499	4.4	20.9
5 1	13 4.94	-28 20.4	1.493	2.447	9.8	19.9	5 1	13 9.90	+0 39.0	2.570	3.504	7.2	21.1
5 11	12 57.98	-27 23.0	1.538	2.451	12.7	20.0	5 11	13 4.34	+0 53.5	2.646	3.508	9.9	21.3
5 21	12 53.85	-26 23.3	1.602	2.457	15.7	20.2	5 21	13 0.30	+0 55.8	2.743	3.512	12.2	21.5
25931	Peterhu		4 12.2 280°81	1°5/10.8	18		390965	2005 <i>QU</i> ₄₇		4 12.2 287°47	1°6/13.6	16	
3 12	13 43.57	-7 3.6	1.912	2									

EPHEMERIDES

4 12.2

4 12.2

2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
401614	2013 <i>GP</i> ₄₂	4 12.2 179°42' 0" / 11.5 17'											
3 12	13 46.91	- 9 48.5	1.721	2.587	13.3	21.5	18383	1992 <i>ER</i> ₂₈	4 12.2 247°18' 1" / 10.9 18'				
3 22	13 41.09	- 8 54.6	1.651	2.588	9.4	21.3	3 12	13 42.89	- 7 2.5	2.528	3.391	9.7	19.5
4 1	13 33.23	- 7 48.3	1.606	2.589	5.0	21.0	3 22	13 37.82	- 6 26.4	2.443	3.379	6.8	19.3
4 11	13 24.23	- 6 35.7	1.588	2.590	0.8	20.7	4 1	13 31.34	- 5 43.8	2.384	3.367	3.6	19.1
4 21	13 15.12	- 5 23.7	1.598	2.589	4.6	21.0	4 11	13 24.05	- 4 58.6	2.353	3.354	1.1	18.8
5 1	13 6.97	- 4 20.0	1.635	2.589	9.1	21.2	4 21	13 16.61	- 4 14.8	2.353	3.341	3.7	19.0
5 11	13 0.64	- 3 30.3	1.696	2.587	13.0	21.5	5 1	13 9.72	- 3 36.8	2.381	3.328	7.0	19.2
5 21	12 56.64	- 2 58.1	1.778	2.586	16.4	21.7	5 11	13 4.00	- 3 8.0	2.434	3.315	10.0	19.4
							5 21	12 59.86	- 2 50.7	2.511	3.302	12.6	19.5
236741	2007 <i>JF</i> ₂₉	4 12.2 175°63' 7" / 5.4 17'											
3 12	13 47.04	+11 4.5	1.984	2.855	11.5	20.4	85578	1998 <i>DP</i> ₁₃	4 12.2 333°07' 21" / 13.2 17'				
3 22	13 40.89	+12 3.1	1.931	2.856	9.1	20.2	3 12	14 0.54	-43 8.7	1.373	2.082	23.8	18.7
4 1	13 33.00	+12 53.1	1.904	2.857	7.4	20.1	3 22	13 54.37	-47 4.7	1.282	2.051	22.6	18.5
4 11	13 24.20	+13 27.8	1.902	2.857	7.5	20.1	4 1	13 42.68	-50 41.4	1.210	2.021	21.5	18.3
4 21	13 15.39	+13 42.4	1.928	2.857	9.3	20.2	4 11	13 25.53	-53 40.9	1.157	1.992	21.0	18.1
5 1	13 7.48	+13 34.6	1.978	2.858	11.9	20.4	4 21	13 4.40	-55 46.6	1.122	1.965	21.2	18.1
5 11	13 1.20	+13 4.9	2.050	2.857	14.4	20.6	5 1	12 42.55	-56 50.3	1.106	1.940	22.2	18.0
5 21	12 56.97	+12 15.8	2.141	2.857	16.6	20.7	5 11	12 23.96	-56 58.0	1.105	1.917	23.8	18.0
							5 21	12 11.56	-56 25.8	1.116	1.895	25.7	18.1
344426	2002 <i>CF</i> ₂₅₈	4 12.2 89°21' 7" / 1.5 17'											
3 12	13 42.61	+16 39.2	2.396	3.257	10.2	20.2	390141	2012 <i>VQ</i> ₈₃	4 12.2 35°64' 0" / 11.3 17'				
3 22	13 37.48	+18 15.9	2.371	3.276	8.6	20.1	3 12	13 42.61	- 8 8.8	1.771	2.842	11.6	21.0
4 1	13 31.05	+19 40.3	2.372	3.294	7.9	20.1	3 22	13 37.80	- 7 30.8	1.909	2.848	8.2	20.7
4 11	13 23.98	+20 46.2	2.400	3.312	8.5	20.2	4 1	13 31.37	- 6 44.6	1.871	2.855	4.3	20.5
4 21	13 17.00	+21 29.4	2.453	3.329	9.9	20.3	4 11	13 24.06	- 5 55.2	1.861	2.863	1.0	20.3
5 1	13 10.78	+21 48.4	2.530	3.347	11.6	20.5	4 21	13 16.71	- 5 7.6	1.879	2.870	4.1	20.5
5 11	13 5.88	+21 44.1	2.627	3.364	13.3	20.6	5 1	13 10.17	- 4 27.3	1.924	2.878	7.9	20.8
5 21	13 2.62	+21 19.1	2.741	3.381	14.8	20.8	5 11	13 5.13	- 3 58.2	1.994	2.886	11.3	21.0
							5 21	13 2.00	- 3 42.6	2.084	2.895	14.2	21.2
100944	1998 <i>OT</i> ₇	4 12.2 302°65' 0" / 12.7 18'											
3 12	13 44.65	-12 32.9	1.436	2.307	15.1	19.7	206962	2004 <i>SG</i> ₃₂	4 12.2 166°66' 2" / 10.4 18'				
3 22	13 40.07	-12 4.8	1.349	2.287	11.0	19.4	3 12	13 47.54	- 6 30.6	1.761	2.631	12.8	21.1
4 1	13 32.97	-11 19.6	1.285	2.266	6.3	19.1	3 22	13 41.46	- 5 28.7	1.696	2.636	9.0	20.9
4 11	13 24.23	-10 21.3	1.245	2.246	1.1	18.7	4 1	13 33.41	- 4 18.0	1.656	2.640	4.8	20.6
4 21	13 15.03	- 9 16.9	1.231	2.227	4.6	18.9	4 11	13 24.29	- 3 5.2	1.644	2.644	2.0	20.4
5 1	13 6.71	- 8 14.9	1.242	2.207	10.0	19.1	4 21	13 15.11	- 1 57.4	1.660	2.646	5.3	20.7
5 11	13 0.44	- 7 23.8	1.275	2.188	14.9	19.4	5 1	13 6.90	- 1 1.4	1.704	2.649	9.5	20.9
5 21	12 56.93	- 6 49.3	1.327	2.169	19.1	19.6	5 11	13 0.48	- 0 21.9	1.771	2.650	13.2	21.1
							5 21	12 56.34	- 0 0.8	1.859	2.651	16.3	21.3
208417	2001 <i>SH</i> ₂₉₃	4 12.2 99°55' 0" / 12.0 17'											
3 12	13 43.74	-10 25.2	2.348	3.204	10.6	20.9	410444	2008 <i>CC</i> ₄₄	4 12.2 107°59' 2" / 10.4 18'				
3 22	13 38.33	- 9 49.1	2.289	3.221	7.5	20.7	3 12	13 48.56	- 4 56.8	1.797	2.668	12.6	21.7
4 1	13 31.54	- 9 4.5	2.256	3.237	4.0	20.5	3 22	13 41.99	- 4 12.8	1.748	2.687	8.8	21.5
4 11	13 24.04	- 8 15.4	2.252	3.254	0.4	20.2	4 1	13 33.60	- 3 23.3	1.723	2.707	4.7	21.3
4 21	13 16.58	- 7 26.3	2.277	3.270	3.2	20.5	4 11	13 24.30	- 2 34.2	1.727	2.726	2.2	21.1
5 1	13 9.85	- 6 41.7	2.330	3.286	6.6	20.7	4 21	13 15.11	- 1 51.3	1.759	2.744	5.2	21.3
5 11	13 4.46	- 6 5.5	2.410	3.301	9.7	20.9	5 1	13 6.98	- 1 19.4	1.817	2.762	9.0	21.6
5 21	13 0.76	- 5 40.2	2.513	3.317	12.2	21.1	5 11	13 0.66	- 1 1.9	1.901	2.779	12.5	21.9
							5 21	12 56.55	- 0 59.7	2.005	2.796	15.3	22.1
250105	2002 <i>JY</i> ₅₇	4 12.2 257°43' 1" / 13.8 17'											
3 12	13 46.30	-16 10.9	1.699	2.548	14.2	20.4	282900	2007 <i>GG</i> ₅₀	4 12.2 7°03' 3" / 15.2 17'				
3 22	13 40.93	-15 42.3	1.609	2.533	10.6	20.1	3 12	13 40.85	-21 8.4	1.491	2.338	16.0	19.3
4 1	13 33.31	-14 55.1	1.543	2.518	6.4	19.8	3 22	13 37.10	-20 11.2	1.420	2.338	12.2	19.0
4 11	13 24.27	-13 52.4	1.503	2.502	2.3	19.5	4 1	13 31.19	-18 47.1	1.370	2.339	7.8	18.8
4 21	13 14.88	-12 40.0	1.490	2.485	4.0	19.6	4 11	13 24.05	-17 0.9	1.346	2.341	3.8	18.5
5 1	13 6.33	-11 25.7	1.504	2.469	8.6	19.8	4 21	13 16.81	-15 1.4	1.347	2.343	4.3	18.6
5 11	12 59.61	-10 18.0	1.542	2.452	13.0	20.0	5 1	13 10.61	-13 0.2	1.375	2.346	8.5	18.8
5 21	12 55.37	- 9 23.3	1.602	2.435	16.7	20.2	5 11	13 6.37	-11 8.6	1.427	2.350	12.8	19.1
							5 21	13 4.56	- 9 35.0	1.500	2.354	16.6	19.3
413453	2005 <i>EZ</i> ₆₅	4 12.2 358°02' 3" / 14.3 17'											
3 12	13 48.15	-16 23.6	1.322	2.181	16.9	20.3	171570	1999 <i>UK</i> ₂₈	4 12.2 129°92' 0" / 11.7 18'				
3 22	13 42.63	-16 48.3	1.253	2.180	12.7	20.0	3 12	13 47.52	- 9 47.6	1.785	2.647	13.0	21.5
4 1	13 34.36	-16 55.0	1.205	2.178	8.1	19.8	3 22	13 41.38	- 9 5.4	1.724	2.659	9.2	21.3
4 11	13 24.39	-16 44.5	1.182	2.178	3.9	19.5	4 1	13 33.34	- 8 12.5	1.688	2.670	4.9	21.1
4 21	13 14.11	-16 20.6	1.183	2.178	5.1	19.6	4 11	13 24.28	- 7 14.2	1.679	2.681	0.7	20.8
5 1	13 5.02	-15 50.0	1.208	2.178	9.7	19.8	4 21	13 15.22	- 6 16.6	1.699	2.692	4.3	21.1
5 11	12 58.32	-15 20.6	1.256	2.179	14.3	20.1	5 1	13 7.17	- 5 26.0	1.746	2.701	8.5	21.4
5 21	12 54.67	-14 59.1	1.324	2.180	18.2	20.3	5 11	13 0.91	- 4 47.5	1.818	2.711	12.2	21.6
							5 21	12 56.89	- 4 24.0	1.911	2.719	15.4	21.8
297600	2001 <i>SJ</i> ₂₀₇	4 12.2 207°66' 0" / 12.4 16'											
3 12	13 48.55	-11 34.2	1.583	2.445	14.4	21.9	213789	2003 <i>FF</i> ₂₇	4 12.2 239°23' 0" / 11.9 17'				
3 22	13 42.50	-11 4.4	1.508	2.442	10.4	21.6	3 12	13 42.15	-10 28.1	2.501	3.357	10.0	20.9
4 1	13 34.12	-10 20.5	1.457	2.438	5.7	21.3	3 22	13 37.30	- 9 50.1	2.417	3.349	7.1	20.7
4 11	13 24.36	- 9 27.1	1.432	2.434	0.7	20.9	4 1	13 31.06	- 9 3.2	2.360	3.342	3.8	20.4
4 21	13 14.37	- 8 30.3	1.434	2.429	4.4	21.2	4 11	13 24.04	- 8 11.1	2.332	3.334	0.4	20.1
5 1	13 5.40	- 7 37.8	1.463	2.424	9.3	21.5	4 21	13 16.89	- 7 17.9	2.333	3.326	3.2	20.4
5 11	12 58.45	- 6 56.2	1.516	2.418	13.6	21.7	5 1	13 10.32	- 6 28.3	2.362	3.317	6.6	20.6
5 21	12 54.09	- 6 29.6	1.589	2.412	17.3	21.9	5 11	13 4.92	- 5 46.6	2.418	3.309	9.7	20.7
							5 21						

EPHEMERIDES

4 12.2

4 12.2

2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
297615	2001 SY ₃₅₄		4 12.2 142°93	3°6/ 9.3 18			347753	2002 AS ₁₆₄		4 12.2 70°46	8°1/21.4 18		
3 12	13 49.69	- 1 35.1	1.713	2.587	12.9	21.4	3 12	13 46.97	-35 51.4	2.383	3.109	14.3	20.8
3 22	13 42.92	- 0 39.1	1.658	2.599	9.1	21.2	3 22	13 41.08	-36 32.7	2.306	3.117	12.4	20.6
4 1	13 34.17	+ 0 19.8	1.628	2.609	5.3	21.0	4 1	13 33.26	-36 51.4	2.250	3.126	10.4	20.5
4 11	13 24.38	+ 1 14.8	1.626	2.619	3.7	20.9	4 11	13 24.31	-36 45.5	2.218	3.135	8.8	20.4
4 21	13 14.62	+ 1 59.3	1.652	2.629	6.5	21.1	4 21	13 15.18	-36 15.8	2.211	3.144	8.1	20.4
5 1	13 5.94	+ 2 28.4	1.704	2.637	10.3	21.3	5 1	13 6.85	-35 26.2	2.229	3.154	8.7	20.4
5 11	12 59.17	+ 2 39.3	1.780	2.645	13.8	21.6	5 11	13 0.17	-34 23.2	2.272	3.163	10.2	20.5
5 21	12 54.75	+ 2 32.0	1.875	2.652	16.7	21.8	5 21	12 55.66	-33 14.0	2.339	3.172	12.1	20.7
53148	1999 BV ₁₄		4 12.2 33°47	0°1/12.1 18			57604	2001 TF ₁₀₅		4 12.2 204°89	2°4/14.8 18		
3 12	13 45.72	-10 25.3	1.544	2.415	14.2	19.1	3 12	13 44.92	-19 34.7	2.134	2.961	12.6	19.2
3 22	13 40.43	- 9 58.7	1.480	2.418	10.2	18.8	3 22	13 39.51	-18 53.3	2.047	2.956	9.5	19.0
4 1	13 32.96	- 9 19.8	1.439	2.422	5.5	18.6	4 1	13 32.36	-17 53.7	1.986	2.952	6.1	18.8
4 11	13 24.26	- 8 33.4	1.424	2.426	0.6	18.2	4 11	13 24.22	-16 38.8	1.952	2.946	2.9	18.6
4 21	13 15.46	- 7 45.9	1.435	2.430	4.4	18.5	4 21	13 15.93	-15 14.0	1.946	2.941	3.5	18.6
5 1	13 7.71	- 7 4.0	1.473	2.434	9.1	18.8	5 1	13 8.39	-13 46.2	1.970	2.934	7.0	18.8
5 11	13 1.92	- 6 33.4	1.533	2.439	13.3	19.0	5 11	13 2.37	-12 22.8	2.020	2.928	10.5	19.0
5 21	12 58.60	- 6 17.4	1.614	2.444	16.8	19.3	5 21	12 58.33	-11 9.7	2.094	2.920	13.6	19.2
204172	2004 BD ₃₅		4 12.2 146°84	0°0/12.2 18			18446	1994 PN ₁₃		4 12.2 153°18	0°3/12.6 18		
3 12	13 44.44	-10 34.3	2.306	3.161	10.8	21.1	3 12	13 42.93	-11 49.2	2.928	3.773	9.0	20.0
3 22	13 38.94	-10 7.9	2.235	3.166	7.7	20.9	3 22	13 37.62	-11 22.1	2.855	3.780	6.4	19.9
4 1	13 31.95	- 9 32.7	2.190	3.171	4.2	20.7	4 1	13 31.16	-10 47.2	2.809	3.788	3.6	19.7
4 11	13 24.15	- 8 52.2	2.174	3.176	0.5	20.4	4 11	13 24.08	-10 7.3	2.793	3.794	0.6	19.4
4 21	13 16.28	- 8 10.5	2.186	3.180	3.3	20.6	4 21	13 16.96	- 9 25.6	2.807	3.801	2.6	19.6
5 1	13 9.11	- 7 32.2	2.228	3.184	6.8	20.9	5 1	13 10.40	- 8 45.8	2.850	3.807	5.5	19.8
5 11	13 3.30	- 7 1.3	2.295	3.188	10.0	21.1	5 11	13 4.89	- 8 11.3	2.921	3.812	8.2	20.0
5 21	12 59.24	- 6 40.5	2.384	3.192	12.7	21.3	5 21	13 0.79	- 7 44.5	3.016	3.817	10.5	20.2
174024	2001 YB ₁₃₄		4 12.2 33°35	6°3/ 7.5 17			133819	2003 XS		4 12.2 267°52	1°3/13.2 18		
3 12	13 47.23	+ 8 12.3	1.754	2.632	12.4	19.2	3 12	13 50.38	-13 45.5	1.912	2.757	13.1	20.5
3 22	13 41.06	+ 8 41.9	1.713	2.647	9.3	19.0	3 22	13 43.87	-13 35.5	1.803	2.725	9.7	20.2
4 1	13 33.10	+ 9 3.6	1.696	2.662	6.9	18.9	4 1	13 35.01	-13 11.8	1.717	2.693	5.8	19.9
4 11	13 24.27	+ 9 11.6	1.706	2.678	6.5	18.9	4 11	13 24.54	-12 36.3	1.660	2.660	1.7	19.5
4 21	13 15.57	+ 9 2.1	1.742	2.695	8.4	19.0	4 21	13 13.46	-11 52.8	1.631	2.625	3.9	19.6
5 1	13 7.95	+ 8 33.8	1.803	2.712	11.3	19.2	5 1	13 2.95	-11 7.1	1.630	2.590	8.5	19.8
5 11	13 2.15	+ 7 47.5	1.886	2.729	14.1	19.5	5 11	12 54.08	-10 25.7	1.655	2.554	12.9	20.0
5 21	12 58.53	+ 6 45.8	1.989	2.747	16.5	19.7	5 21	12 47.62	- 9 54.1	1.701	2.517	16.7	20.1
329805	2004 RH ₁₅		4 12.2 254°61	2°4/ 9.6 17			35088	1990 VU ₄		4 12.2 195°49	3°5/ 9.2 18		
3 12	13 43.71	- 5 24.5	2.039	2.911	11.2	21.1	3 12	13 47.74	- 2 20.1	1.739	2.615	12.6	19.7
3 22	13 38.71	- 4 8.7	1.953	2.894	7.9	20.8	3 22	13 41.68	- 1 18.2	1.671	2.613	8.9	19.5
4 1	13 31.96	- 2 44.0	1.893	2.877	4.3	20.6	4 1	13 33.60	- 0 11.4	1.629	2.611	5.2	19.3
4 11	13 24.16	- 1 16.7	1.862	2.859	2.5	20.4	4 11	13 24.36	+ 0 53.2	1.614	2.608	3.6	19.2
4 21	13 16.14	+ 0 6.0	1.859	2.841	5.4	20.6	4 21	13 15.00	+ 1 48.5	1.626	2.604	6.5	19.3
5 1	13 8.79	+ 1 17.1	1.885	2.822	9.2	20.7	5 1	13 6.58	+ 2 28.6	1.666	2.600	10.4	19.5
5 11	13 2.87	+ 2 11.5	1.934	2.803	12.7	20.9	5 11	12 59.97	+ 2 49.8	1.728	2.595	14.1	19.8
5 21	12 58.90	+ 2 46.7	2.005	2.783	15.7	21.1	5 21	12 55.66	+ 2 51.5	1.810	2.590	17.1	20.0
49278	1998 UO ₂₂		4 12.2 265°60	0°4/12.6 18			309948	2009 GL ₂		4 12.2 275°05	4°7/ 6.8 18		
3 12	13 44.55	-11 42.8	2.003	2.861	12.0	19.3	3 12	13 42.84	+ 4 42.4	2.330	3.207	9.8	20.4
3 22	13 39.29	-11 19.9	1.925	2.857	8.7	19.1	3 22	13 37.88	+ 5 41.2	2.256	3.192	7.3	20.2
4 1	13 32.26	-10 45.9	1.872	2.852	4.8	18.8	4 1	13 31.43	+ 6 38.6	2.208	3.178	5.2	20.1
4 11	13 24.20	-10 4.4	1.846	2.847	0.8	18.5	4 11	13 24.12	+ 7 28.7	2.188	3.164	5.0	20.0
4 21	13 15.97	- 9 19.9	1.848	2.842	3.6	18.7	4 21	13 16.67	+ 8 6.6	2.195	3.149	6.9	20.1
5 1	13 8.50	- 8 37.8	1.877	2.838	7.6	19.0	5 1	13 9.83	+ 8 28.5	2.230	3.134	9.6	20.3
5 11	13 2.56	- 8 3.3	1.932	2.833	11.2	19.2	5 11	13 4.25	+ 8 32.6	2.288	3.119	12.3	20.4
5 21	12 58.63	- 7 39.7	2.009	2.828	14.3	19.4	5 21	13 0.36	+ 8 19.2	2.365	3.105	14.7	20.6
300038	2006 UF ₁₃₂		4 12.2 313°11	2°1/14.1 17			130073	1999 VH ₂₀₄		4 12.2 214°87	2°0/14.1 17		
3 12	13 43.67	-16 6.0	1.984	2.830	12.6	20.2	3 12	13 48.03	-16 34.3	2.019	2.855	12.8	20.8
3 22	13 38.79	-15 59.5	1.897	2.818	9.4	20.0	3 22	13 41.86	-16 17.6	1.931	2.847	9.6	20.5
4 1	13 32.05	-15 38.8	1.835	2.807	5.8	19.7	4 1	13 33.72	-15 45.5	1.868	2.839	5.9	20.3
4 11	13 24.18	-15 6.1	1.799	2.796	2.5	19.5	4 11	13 24.39	-15 0.5	1.832	2.830	2.4	20.0
4 21	13 16.07	-14 25.1	1.790	2.786	3.6	19.5	4 21	13 14.81	-14 6.7	1.825	2.820	3.6	20.1
5 1	13 8.66	-13 41.2	1.809	2.775	7.3	19.7	5 1	13 6.01	-13 10.2	1.846	2.809	7.5	20.3
5 11	13 2.79	-13 0.2	1.853	2.765	11.0	19.9	5 11	12 58.83	-12 17.3	1.894	2.798	11.2	20.5
5 21	12 58.99	-12 26.9	1.919	2.755	14.2	20.1	5 21	12 53.83	-11 33.3	1.963	2.786	14.5	20.7
375211	2008 EQ ₁₆₃		4 12.2 303°94	0°7/13.3 18			61948	2000 RA ₁₅		4 12.2 95°17	0°2/11.9 18		
3 12	13 41.67	-12 19.9	4.211	5.045	6.7	20.7	3 12	13 41.93	-11 41.7	2.387	3.242	10.4	19.1
3 22	13 36.52	-12 29.9	4.124	5.042	4.9	20.6	3 22	13 37.07	-10 40.4	2.326	3.257	7.4	18.9
4 1	13 30.50	-12 35.0	4.064	5.038	2.8	20.5	4 1	13 30.90	- 9 29.1	2.292	3.273	4.0	18.7
4 11	13 24.01	-12 36.3	4.035	5.035	0.9	20.3	4 11	13 24.06	- 8 12.6	2.286	3.288	0.4	18.5
4 21	13 17.42	-12 35.1	4.037	5.031	1.9	20.4	4 21	13 17.25	- 6 56.3	2.310	3.303	3.2	18.7
5 1	13 11.16	-12 33.1	4.070	5.028	4.0	20.5	5 1	13 11.15	- 5 45.8	2.363	3.318	6.6	19.0
5 11	13 5.61	-12 32.1	4.131	5.024	5.9	20.7	5 11	13 6.31	- 4 45.7	2.443	3.332	9.6	19.2
5 21	13 1.05	-12 33.6	4.218	5.021	7.7	20.8	5 21	13 3.08	- 3 58.7	2.545	3.347	12.2	19.4
283506	2001 SV ₃₃₄		4 12.2 223°02	0°6/11.5 17			47543	2000 AP ₁₁₈		4 12.2 128°29	1°8/13.9 18		
3 12	13 43.48	- 8 44.6	2.478	3									

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4 12.2

4 12.2

2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
251419	2008 AY ₇₄		4 12.2 173°37'	0°2/12.1 16			111593	2002 AO ₆₅		4 12.2 146°75'	4°4/17.6 18		
3 12	13 47.69	-10 41.9	2.074	2.928	11.8	22.1	3 12	13 45.37	-26 23.2	2.873	3.650	11.0	19.9
3 22	13 41.40	-10 4.9	2.001	2.932	8.4	21.9	3 22	13 39.53	-26 35.3	2.792	3.658	8.9	19.7
4 1	13 33.37	-9 17.4	1.954	2.935	4.6	21.7	4 1	13 32.29	-26 32.1	2.735	3.665	6.6	19.6
4 11	13 24.36	-8 23.6	1.935	2.937	0.5	21.4	4 11	13 24.27	-26 13.8	2.706	3.672	4.8	19.5
4 21	13 15.27	-7 28.7	1.946	2.939	3.7	21.6	4 21	13 16.13	-25 42.4	2.705	3.679	4.5	19.5
5 1	13 7.00	-6 38.3	1.985	2.939	7.6	21.9	5 1	13 8.61	-25 1.3	2.733	3.685	5.9	19.6
5 11	13 0.29	-5 57.3	2.049	2.939	11.2	22.1	5 11	13 2.30	-24 15.2	2.788	3.691	8.1	19.7
5 21	12 55.62	-5 28.9	2.136	2.939	14.1	22.3	5 21	12 57.61	-23 28.8	2.868	3.697	10.2	19.9
292325	2006 SQ ₁₇₇		4 12.2 308°88'	0°6/11.7 17			161080	2002 MC ₁		4 12.2 199°12'	6°2/19.5 18		
3 12	13 42.80	-9 19.1	1.965	2.833	11.8	20.6	3 12	13 46.80	-31 55.4	2.672	3.417	12.5	19.4
3 22	13 38.12	-8 45.0	1.883	2.821	8.4	20.4	3 22	13 40.78	-32 15.2	2.579	3.414	10.5	19.3
4 1	13 31.68	-8 1.1	1.826	2.809	4.5	20.1	4 1	13 33.08	-32 15.7	2.509	3.410	8.5	19.1
4 11	13 24.18	-7 11.5	1.796	2.797	0.6	19.8	4 11	13 24.36	-31 56.0	2.464	3.406	6.8	19.0
4 21	13 16.48	-6 21.5	1.793	2.786	4.0	20.1	4 21	13 15.43	-31 17.4	2.447	3.401	6.2	19.0
5 1	13 9.49	-5 36.9	1.818	2.775	8.1	20.3	5 1	13 7.14	-30 23.5	2.457	3.396	7.2	19.0
5 11	13 3.98	-5 2.5	1.868	2.764	11.7	20.5	5 11	13 0.24	-29 20.0	2.493	3.391	9.1	19.1
5 21	13 0.46	-4 41.6	1.938	2.754	14.9	20.7	5 21	12 55.21	-28 13.3	2.554	3.385	11.3	19.3
362956	2013 AV ₈₆		4 12.2 163°11'	4°2/15.2 18			224536	2005 WQ ₁₁₆		4 12.2 104°26'	5°6/7.2 18		
3 12	13 50.24	-19 44.4	1.427	2.268	16.9	20.9	3 12	13 46.70	+5 10.7	1.838	2.717	11.9	20.2
3 22	13 44.03	-19 53.8	1.356	2.270	13.0	20.7	3 22	13 40.73	+6 9.3	1.789	2.727	8.8	20.0
4 1	13 35.11	-19 41.1	1.307	2.272	8.6	20.5	4 1	13 32.99	+7 4.1	1.765	2.736	6.2	19.9
4 11	13 24.57	-19 7.5	1.282	2.274	4.8	20.2	4 11	13 24.34	+7 48.0	1.768	2.745	5.8	19.9
4 21	13 13.78	-18 17.4	1.283	2.275	5.3	20.3	4 21	13 15.73	+8 15.8	1.798	2.754	8.0	20.0
5 1	13 4.19	-17 18.7	1.309	2.276	9.4	20.5	5 1	13 8.09	+8 24.0	1.854	2.763	11.0	20.2
5 11	12 56.96	-16 21.0	1.359	2.277	13.7	20.7	5 11	13 2.15	+8 12.1	1.932	2.771	13.9	20.4
5 21	12 52.71	-15 31.9	1.428	2.278	17.6	21.0	5 21	12 58.34	+7 41.6	2.029	2.780	16.4	20.6
147838	2005 TJ ₁₅₆		4 12.2 62°61'	2°2/14.0 18			203990	2003 SB ₃₀₆		4 12.2 66°17'	5°7/18.5 18		
3 12	13 46.34	-16 14.9	1.597	2.449	14.8	20.3	3 12	13 44.23	-28 13.0	1.945	2.736	14.9	19.7
3 22	13 40.79	-16 0.2	1.538	2.462	11.0	20.1	3 22	13 39.19	-28 2.4	1.872	2.746	12.1	19.5
4 1	13 33.14	-15 28.2	1.501	2.475	6.6	19.9	4 1	13 32.26	-27 27.3	1.822	2.756	9.1	19.3
4 11	13 24.34	-14 42.5	1.491	2.489	2.6	19.6	4 11	13 24.27	-26 28.9	1.796	2.766	6.5	19.2
4 21	13 15.52	-13 48.7	1.507	2.503	4.0	19.7	4 21	13 16.22	-25 11.3	1.797	2.776	5.8	19.2
5 1	13 7.81	-12 54.0	1.549	2.516	8.2	20.0	5 1	13 9.11	-23 41.6	1.824	2.786	7.7	19.3
5 11	13 2.07	-12 5.5	1.616	2.530	12.2	20.3	5 11	13 3.75	-22 8.6	1.878	2.796	10.5	19.5
5 21	12 58.76	-11 28.2	1.703	2.544	15.6	20.5	5 21	13 0.58	-20 40.4	1.954	2.806	13.4	19.7
497440	2005 YT ₁₃		4 12.2 88°57'	6°6/18.6 17			388353	2006 TV ₁₁₅		4 12.2 59°53'	3°7/7.9 17		
3 12	13 47.13	-28 52.3	1.898	2.684	15.5	21.0	3 12	13 41.64	-0 5.9	2.187	3.067	10.2	21.0
3 22	13 41.34	-29 7.9	1.828	2.695	12.7	20.8	3 22	13 37.03	+1 6.4	2.126	3.068	7.3	20.8
4 1	13 33.45	-28 59.4	1.779	2.706	9.8	20.6	4 1	13 30.97	+2 20.7	2.091	3.070	4.5	20.6
4 11	13 24.38	-28 26.3	1.755	2.717	7.3	20.5	4 11	13 24.12	+3 30.7	2.084	3.072	3.9	20.6
4 21	13 15.20	-27 31.7	1.756	2.728	6.7	20.5	4 21	13 17.23	+4 30.6	2.105	3.073	6.1	20.7
5 1	13 7.03	-26 21.9	1.784	2.739	8.3	20.6	5 1	13 11.03	+5 15.7	2.154	3.075	9.1	20.9
5 11	13 0.74	-25 5.3	1.837	2.750	11.0	20.8	5 11	13 6.16	+5 43.4	2.226	3.077	11.9	21.1
5 21	12 56.85	-23 50.1	1.913	2.761	13.8	21.0	5 21	13 3.00	+5 53.0	2.318	3.079	14.4	21.3
331002	2009 UN ₆₉		4 12.2 223°89'	0°9/11.3 17			229553	2005 YT ₁₉₁		4 12.2 94°57'	1°3/13.4 17		
3 12	13 45.18	-8 50.0	2.072	2.934	11.5	21.9	3 12	13 45.97	-14 10.1	1.852	2.704	13.1	20.8
3 22	13 39.71	-8 0.7	1.990	2.926	8.1	21.7	3 22	13 40.37	-13 53.7	1.784	2.711	9.6	20.6
4 1	13 32.50	-7 1.5	1.934	2.917	4.3	21.4	4 1	13 32.88	-13 23.8	1.740	2.717	5.6	20.3
4 11	13 24.28	-5 57.2	1.906	2.907	0.9	21.2	4 11	13 24.34	-12 43.6	1.723	2.723	1.7	20.1
4 21	13 15.88	-4 53.6	1.907	2.897	4.2	21.4	4 21	13 15.71	-11 57.8	1.734	2.729	3.6	20.2
5 1	13 8.20	-3 56.6	1.936	2.887	8.1	21.6	5 1	13 7.99	-11 12.5	1.771	2.735	7.6	20.5
5 11	13 1.99	-3 11.4	1.990	2.876	11.7	21.8	5 11	13 1.97	-10 33.3	1.834	2.741	11.4	20.7
5 21	12 57.74	-2 40.9	2.066	2.864	14.7	22.0	5 21	12 58.13	-10 4.4	1.919	2.747	14.5	20.9
9280	Stevenjoy		4 12.2 182°61'	3°6/15.5 18			406393	2007 TQ ₁₉		4 12.2 206°99'	3°2/14.9 16		
3 12	13 48.55	-20 45.7	2.058	2.876	13.3	19.4	3 12	13 48.89	-19 15.8	1.866	2.695	14.0	21.6
3 22	13 42.19	-20 45.9	1.977	2.877	10.3	19.2	3 22	13 42.63	-19 8.2	1.781	2.690	10.7	21.4
4 1	13 33.89	-20 28.9	1.919	2.877	6.9	19.0	4 1	13 34.22	-18 42.4	1.720	2.684	7.0	21.1
4 11	13 24.44	-19 55.7	1.888	2.877	4.1	18.8	4 11	13 24.50	-18 0.1	1.685	2.678	3.7	20.9
4 21	13 14.80	-19 9.7	1.886	2.876	4.3	18.9	4 21	13 14.53	-17 5.1	1.678	2.671	4.2	20.9
5 1	13 6.00	-18 16.3	1.912	2.874	7.3	19.0	5 1	13 5.42	-16 4.1	1.700	2.664	7.9	21.1
5 11	12 58.86	-17 22.2	1.964	2.872	10.7	19.2	5 11	12 58.12	-15 4.4	1.746	2.656	11.7	21.3
5 21	12 53.92	-16 33.3	2.038	2.870	13.7	19.4	5 21	12 53.20	-14 12.5	1.815	2.647	15.1	21.5
114391	2002 YQ ₆		4 12.2 73°17'	2°2/13.9 18			350620	2001 SS ₂₀₇		4 12.2 166°07'	1°4/10.3 18		
3 12	13 47.67	-16 3.9	1.605	2.456	14.9	20.0	3 12	13 42.43	-5 37.3	2.942	3.803	8.5	22.4
3 22	13 41.69	-15 51.7	1.550	2.473	11.0	19.8	3 22	13 37.27	-4 45.9	2.872	3.808	5.9	22.3
4 1	13 33.60	-15 22.8	1.517	2.491	6.6	19.6	4 1	13 31.00	-3 49.8	2.831	3.813	3.2	22.1
4 11	13 24.40	-14 40.5	1.510	2.509	2.6	19.4	4 11	13 24.13	-2 53.0	2.819	3.817	1.5	22.0
4 21	13 15.24	-13 50.3	1.531	2.526	4.0	19.5	4 21	13 17.23	-1 59.5	2.837	3.821	3.6	22.1
5 1	13 7.22	-12 59.3	1.578	2.544	8.2	19.8	5 1	13 10.86	-1 13.0	2.885	3.824	6.3	22.3
5 11	13 1.22	-12 14.3	1.649	2.562	12.1	20.1	5 11	13 5.52	-0 36.3	2.960	3.827	8.8	22.5
5 21	12 57.68	-11 40.1	1.741	2.579	15.4	20.3	5 21	13 1.54	-0 11.2	3.058	3.829	11.0	22.6
178216	2006 VN ₈₆		4 12.2 59°58'	7°0/5.2 17			411745	2012 BM ₈₉		4 12.2 140°33'	2°2/10.3 18		
3 12	13 45.53	+12 46.8	2.180	3.047	10.8	19.5	3 12	13 48.56	-4				

EPHEMERIDES

4 12.2

4 12.3

2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
100334	1995 SZ ₁₀		4 12.2 199°65	0°3/12.5	16		366460	2002 CB ₃₁		4 12.2 110°04	7°0/4.8	18	
3 12	13 48.07	-11 31.8	2.057	2.908	12.0	21.3	3 12	13 47.17	+11 20.4	2.119	2.987	11.0	20.8
3 22	13 41.78	-11 5.2	1.976	2.905	8.7	21.1	3 22	13 40.80	+12 39.3	2.087	3.009	8.7	20.7
4 1	13 33.65	-10 27.6	1.921	2.900	4.8	20.8	4 1	13 32.94	+13 48.9	2.082	3.030	7.2	20.6
4 11	13 24.44	-9 42.4	1.894	2.895	0.7	20.5	4 11	13 24.37	+14 42.5	2.104	3.051	7.4	20.7
4 21	13 15.05	-8 54.4	1.895	2.890	3.6	20.7	4 21	13 15.95	+15 15.5	2.153	3.072	9.1	20.8
5 1	13 6.44	-8 9.0	1.926	2.883	7.7	21.0	5 1	13 8.47	+15 26.0	2.227	3.091	11.3	21.0
5 11	12 59.41	-7 31.4	1.982	2.876	11.3	21.2	5 11	13 2.56	+15 14.6	2.323	3.110	13.5	21.2
5 21	12 54.46	-7 5.1	2.060	2.868	14.4	21.4	5 21	12 58.55	+14 43.9	2.437	3.129	15.4	21.4
328240	2008 FH ₆₆		4 12.2 123°00	0°7/11.5	18		156853	2003 CD ₁₇		4 12.2 176°74	1°6/10.8	18	
3 12	13 46.12	-9 32.0	1.881	2.745	12.4	21.0	3 12	13 48.80	-7 22.0	1.714	2.582	13.2	20.9
3 22	13 40.35	-8 42.7	1.821	2.757	8.8	20.8	3 22	13 42.48	-6 28.6	1.646	2.585	9.3	20.7
4 1	13 32.81	-7 43.2	1.786	2.769	4.7	20.6	4 1	13 34.09	-5 25.4	1.603	2.586	5.0	20.4
4 11	13 24.33	-6 38.9	1.778	2.780	0.8	20.3	4 11	13 24.52	-4 18.7	1.587	2.588	1.6	20.2
4 21	13 15.87	-5 36.0	1.799	2.791	4.2	20.6	4 21	13 14.85	-3 15.5	1.600	2.588	5.1	20.4
5 1	13 8.33	-4 40.9	1.848	2.801	8.2	20.8	5 1	13 6.17	-2 22.6	1.639	2.588	9.5	20.7
5 11	13 2.46	-3 58.2	1.921	2.812	11.8	21.1	5 11	12 59.36	-1 45.1	1.703	2.587	13.4	20.9
5 21	12 58.69	-3 30.8	2.016	2.821	14.8	21.3	5 21	12 54.93	-1 25.4	1.787	2.585	16.7	21.1
278800	2008 ST ₂₃₃		4 12.2 318°44	2°0/10.5	17		176541	2002 AR ₅₂		4 12.2 147°76	3°9/16.7	18	
3 12	13 44.59	-5 32.9	1.749	2.626	12.5	20.9	3 12	13 44.21	-23 35.7	2.526	3.327	11.6	20.2
3 22	13 39.50	-4 52.9	1.679	2.621	8.8	20.6	3 22	13 38.86	-23 37.5	2.445	3.330	9.2	20.1
4 1	13 32.47	-4 5.8	1.632	2.617	4.8	20.4	4 1	13 32.00	-23 23.5	2.388	3.334	6.6	19.9
4 11	13 24.31	-3 17.1	1.613	2.612	2.0	20.2	4 11	13 24.29	-22 54.6	2.357	3.336	4.4	19.8
4 21	13 16.00	-2 32.8	1.620	2.608	5.2	20.4	4 21	13 16.45	-22 13.3	2.355	3.339	4.2	19.8
5 1	13 8.55	-1 58.8	1.654	2.604	9.3	20.6	5 1	13 9.27	-21 23.9	2.381	3.342	6.2	19.9
5 11	13 2.80	-1 39.1	1.712	2.600	13.1	20.8	5 11	13 3.39	-20 31.7	2.434	3.344	8.8	20.1
5 21	12 59.25	-1 35.7	1.789	2.596	16.3	21.0	5 21	12 59.26	-19 41.9	2.511	3.347	11.3	20.2
249611	1999 RX ₁₈₅		4 12.2 260°63	0°9/11.5	17		352572	2008 DO ₂₂		4 12.3 99°02	7°9/6.6	18	
3 12	13 46.99	-9 4.3	1.708	2.575	13.3	21.3	3 12	13 50.73	+10 26.7	1.607	2.481	13.6	20.3
3 22	13 41.43	-8 22.9	1.619	2.557	9.5	21.0	3 22	13 43.82	+11 15.1	1.558	2.487	10.5	20.1
4 1	13 33.65	-7 29.3	1.555	2.538	5.1	20.7	4 1	13 34.77	+11 53.4	1.533	2.492	8.3	20.0
4 11	13 24.46	-6 28.5	1.517	2.519	0.9	20.4	4 11	13 24.61	+12 13.7	1.534	2.497	8.1	20.0
4 21	13 14.90	-5 27.1	1.507	2.499	4.8	20.6	4 21	13 14.49	+12 11.2	1.561	2.502	10.2	20.1
5 1	13 6.13	-4 32.4	1.524	2.479	9.5	20.8	5 1	13 5.57	+11 44.0	1.612	2.508	13.2	20.3
5 11	12 59.14	-3 50.6	1.565	2.458	13.8	21.0	5 11	12 58.72	+10 53.7	1.684	2.513	16.1	20.5
5 21	12 54.57	-3 25.7	1.626	2.437	17.5	21.2	5 21	12 54.38	+9 44.1	1.774	2.518	18.7	20.7
332137	2005 WU ₁₃₅		4 12.2 160°60	0°2/12.5	17		131774	2002 AZ ₁₈		4 12.3 113°36	11°8/31.1	18	
3 12	13 45.92	-11 42.4	2.041	2.896	12.0	21.7	3 12	13 51.32	+23 26.6	1.842	2.682	13.7	19.5
3 22	13 40.19	-11 10.3	1.970	2.900	8.6	21.5	3 22	13 43.91	+25 21.6	1.832	2.708	12.2	19.4
4 1	13 32.74	-10 27.2	1.924	2.904	4.7	21.2	4 1	13 34.65	+26 53.5	1.846	2.733	11.8	19.4
4 11	13 24.34	-9 36.8	1.905	2.907	0.7	20.9	4 11	13 24.59	+27 54.2	1.884	2.757	12.4	19.5
4 21	13 15.85	-8 44.2	1.916	2.910	3.5	21.2	4 21	13 14.80	+28 20.1	1.946	2.780	13.8	19.7
5 1	13 8.18	-7 55.1	1.954	2.913	7.5	21.4	5 1	13 6.31	+28 11.8	2.028	2.802	15.5	19.8
5 11	13 2.05	-7 14.5	2.018	2.915	11.0	21.6	5 11	12 59.81	+27 33.5	2.127	2.824	17.2	20.0
5 21	12 57.92	-6 45.7	2.105	2.917	14.0	21.8	5 21	12 55.65	+26 31.0	2.241	2.844	18.5	20.2
277535	2005 YD ₁₆		4 12.2 115°38	0°5/12.7	17		167278	2003 UZ ₁₆₁		4 12.3 242°90	1°0/11.2	18	R
3 12	13 45.42	-12 11.7	1.890	2.748	12.6	21.5	3 12	13 43.76	-8 23.1	2.098	2.964	11.2	20.5
3 22	13 39.93	-11 42.8	1.822	2.753	9.1	21.3	3 22	13 38.70	-7 35.5	2.019	2.956	7.9	20.2
4 1	13 32.64	-11 1.8	1.779	2.759	5.1	21.1	4 1	13 32.00	-6 38.8	1.964	2.948	4.2	20.0
4 11	13 24.33	-10 12.8	1.762	2.764	0.9	20.8	4 11	13 24.32	-5 37.6	1.938	2.939	1.0	19.7
4 21	13 15.94	-9 21.0	1.774	2.769	3.6	21.0	4 21	13 16.49	-4 37.7	1.941	2.931	4.1	19.9
5 1	13 8.44	-8 32.4	1.813	2.774	7.8	21.3	5 1	13 9.35	-3 44.6	1.971	2.922	7.9	20.2
5 11	13 2.57	-7 52.4	1.877	2.779	11.4	21.5	5 11	13 3.63	-3 3.1	2.026	2.913	11.4	20.4
5 21	12 58.82	-7 24.5	1.963	2.784	14.6	21.7	5 21	12 59.80	-2 36.0	2.103	2.904	14.4	20.5
499700	2011 AH		4 12.2 34°52	9°2/20.5	17		450508	2006 AS ₁₉		4 12.3 165°54	2°5/10.2	18	
3 12	13 47.36	-33 21.5	1.678	2.447	17.9	20.7	3 12	13 49.94	-4 27.0	1.789	2.658	12.7	21.8
3 22	13 41.96	-34 0.3	1.604	2.450	15.2	20.5	3 22	13 43.18	-3 36.9	1.725	2.664	8.9	21.6
4 1	13 34.01	-34 9.8	1.548	2.453	12.5	20.3	4 1	13 34.44	-2 40.7	1.687	2.670	4.9	21.4
4 11	13 24.51	-33 47.5	1.515	2.457	10.1	20.2	4 11	13 24.60	-1 44.7	1.677	2.674	2.5	21.2
4 21	13 14.73	-32 54.8	1.505	2.461	9.2	20.2	4 21	13 14.71	-0 55.0	1.695	2.678	5.6	21.4
5 1	13 6.06	-31 37.9	1.519	2.465	10.3	20.2	5 1	13 5.82	-0 17.5	1.740	2.681	9.6	21.7
5 11	12 59.60	-30 7.3	1.557	2.469	12.7	20.4	5 11	12 58.76	+0 4.3	1.810	2.683	13.2	21.9
5 21	12 55.96	-28 33.6	1.617	2.474	15.5	20.6	5 21	12 54.01	+0 9.0	1.899	2.684	16.3	22.1
303838	2005 SS ₁₆₂		4 12.2 191°87	0°4/11.7	18		16778	1996 WU ₁		4 12.3 98°07	4°7/7.4	18	
3 12	13 41.23	-10 30.5	2.877	3.729	8.9	21.7	3 12	13 44.17	+4 30.7	2.222	3.098	10.2	18.4
3 22	13 36.50	-9 36.4	2.797	3.728	6.3	21.5	3 22	13 38.78	+5 21.5	2.167	3.104	7.5	18.3
4 1	13 30.63	-8 34.1	2.745	3.726	3.4	21.3	4 1	13 31.94	+6 9.7	2.137	3.109	5.2	18.1
4 11	13 24.11	-7 27.2	2.722	3.724	0.4	21.0	4 11	13 24.32	+6 49.7	2.135	3.114	4.8	18.1
4 21	13 17.53	-6 20.1	2.730	3.721	2.9	21.2	4 21	13 16.69	+7 17.1	2.162	3.119	6.8	18.3
5 1	13 11.47	-5 17.3	2.767	3.718	5.9	21.4	5 1	13 9.80	+7 28.8	2.214	3.124	9.5	18.4
5 11	13 6.44	-4 22.7	2.831	3.715	8.6	21.6	5 11	13 4.29	+7 23.6	2.290	3.128	12.1	18.6
5 21	13 2.78	-3 38.9	2.919	3.711	11.0	21.8	5 21	13 0.54	+7 2.3	2.387	3.133	14.4	18.8
176477	2001 XY ₁₆₄		4 12.2 180°38	3°9/7.6	18		69069	2003 AR ₃₇		4 12.3 152°93	6°0/5.5	18	
3 12	13 43.72	+3 36.6	2.573	3.445	9.2	20.4	3 12	13 46.20	+7 30.2				

EPHEMERIDES

4 12.3

4 12.3

2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
321180	2008 <i>WD</i> ₄₉		4 12.3 213°85'	2.6°/14.9	18		218031	2002 <i>AL</i> ₂		4 12.3 153°51'	8.3°/31.5	17	
3 12	13 45.15	-18 35.3	2.135	2.965	12.4	20.6	3 12	13 45.38	+16 46.6	2.387	3.243	10.4	20.9
3 22	13 39.75	-18 23.9	2.052	2.963	9.4	20.4	3 22	13 39.61	+18 48.7	2.353	3.253	8.8	20.8
4 1	13 32.60	-17 56.9	1.994	2.959	6.1	20.2	4 1	13 32.39	+20 39.0	2.347	3.263	8.3	20.8
4 11	13 24.42	-17 16.5	1.962	2.956	3.1	20.0	4 11	13 24.41	+22 9.9	2.368	3.271	8.9	20.8
4 21	13 16.07	-16 26.3	1.959	2.952	3.6	20.1	4 21	13 16.44	+23 16.3	2.416	3.279	10.5	21.0
5 1	13 8.45	-15 31.8	1.984	2.949	6.9	20.2	5 1	13 9.23	+23 55.8	2.487	3.286	12.3	21.1
5 11	13 2.33	-14 39.1	2.035	2.945	10.3	20.4	5 11	13 3.39	+24 9.0	2.579	3.293	14.1	21.2
5 21	12 58.19	-13 53.2	2.108	2.941	13.3	20.6	5 21	12 59.30	+23 58.9	2.686	3.299	15.6	21.4
142875	2002 <i>VW</i> ₃₄		4 12.3 89°66'	6.0°/7.7	18		150752	2001 <i>QE</i> ₁₃₁		4 12.3 182°93'	5.7°/17.9	18	
3 12	13 51.30	+6 36.1	1.759	2.632	12.7	19.9	3 12	13 49.28	-27 34.6	2.244	3.022	13.6	20.8
3 22	13 43.88	+7 22.9	1.725	2.658	9.4	19.7	3 22	13 42.76	-27 52.7	2.158	3.023	11.1	20.7
4 1	13 34.66	+8 3.0	1.716	2.684	6.7	19.6	4 1	13 34.29	-27 50.9	2.095	3.023	8.5	20.5
4 11	13 24.63	+8 30.1	1.734	2.709	6.2	19.6	4 11	13 24.65	-27 28.5	2.059	3.023	6.3	20.4
4 21	13 14.84	+8 39.9	1.780	2.734	8.2	19.8	4 21	13 14.79	-26 47.4	2.049	3.022	5.8	20.3
5 1	13 6.27	+8 30.2	1.851	2.758	11.2	20.0	5 1	13 5.71	-25 52.3	2.068	3.020	7.5	20.4
5 11	12 59.63	+8 1.8	1.945	2.781	14.0	20.3	5 11	12 58.26	-24 50.0	2.113	3.018	10.2	20.6
5 21	12 55.28	+7 16.9	2.059	2.805	16.4	20.5	5 21	12 52.99	-23 47.6	2.181	3.015	12.8	20.7
16041	1999 <i>GM</i> ₁₉		4 12.3 190°24'	0.8°/11.4	18		29319	1994 <i>PS</i> ₁₄		4 12.3 312°32'	3.2°/14.2	18	
3 12	13 45.55	-7 0.8	2.504	3.363	9.9	17.4	3 12	13 47.25	-16 20.9	1.238	2.103	17.5	18.4
3 22	13 39.72	-6 43.8	2.428	3.362	7.0	17.2	3 22	13 42.38	-16 32.0	1.160	2.090	13.2	18.1
4 1	13 32.47	-6 21.4	2.378	3.361	3.7	17.0	4 1	13 34.52	-16 23.0	1.102	2.077	8.3	17.8
4 11	13 24.40	-5 56.8	2.358	3.359	0.8	16.7	4 11	13 24.71	-15 55.0	1.067	2.064	3.8	17.5
4 21	13 16.24	-5 33.3	2.367	3.357	3.5	16.9	4 21	13 14.35	-15 12.8	1.056	2.052	5.2	17.5
5 1	13 8.69	-5 14.3	2.405	3.355	6.8	17.1	5 1	13 5.09	-14 24.4	1.069	2.040	10.4	17.8
5 11	13 2.40	-5 2.9	2.469	3.353	9.7	17.3	5 11	12 58.29	-13 39.6	1.103	2.029	15.5	18.0
5 21	12 57.77	-5 0.8	2.556	3.350	12.3	17.5	5 21	12 54.74	-13 5.9	1.156	2.019	20.0	18.2
37282	2000 <i>YJ</i> ₆₇		4 12.3 241°01'	5.6°/4.8	18		183760	2004 <i>AD</i> ₁₀		4 12.3 144°85'	1.9°/10.5	18	
3 12	13 41.71	+8 34.9	2.499	3.373	9.3	19.0	3 12	13 47.75	-5 36.8	1.926	2.793	12.0	21.1
3 22	13 37.01	+9 52.6	2.438	3.367	7.2	18.9	3 22	13 41.51	-4 48.4	1.865	2.804	8.4	20.9
4 1	13 30.99	+11 6.1	2.404	3.361	5.8	18.8	4 1	13 33.51	-3 53.6	1.830	2.813	4.5	20.7
4 11	13 24.23	+12 9.2	2.398	3.355	6.0	18.8	4 11	13 24.56	-2 57.9	1.823	2.822	2.0	20.5
4 21	13 17.40	+12 57.2	2.419	3.348	7.7	18.9	4 21	13 15.59	-2 7.2	1.844	2.830	4.9	20.7
5 1	13 11.16	+13 26.8	2.466	3.342	10.0	19.0	5 1	13 7.55	-1 26.8	1.894	2.838	8.7	20.9
5 11	13 6.10	+13 36.7	2.536	3.335	12.2	19.2	5 11	13 1.16	-1 0.4	1.968	2.845	12.1	21.2
5 21	13 2.59	+13 27.8	2.625	3.328	14.2	19.3	5 21	12 56.88	-0 49.5	2.062	2.851	15.0	21.4
64532	2001 <i>VB</i> ₁₁₄		4 12.3 72°06'	0.2°/12.1	18		170067	2002 <i>VU</i> ₁₀₈		4 12.3 135°84'	3.2°/15.8	17	
3 12	13 44.83	-9 28.8	2.172	3.032	11.1	19.6	3 12	13 43.89	-21 19.5	2.286	3.104	12.2	20.0
3 22	13 39.31	-9 11.1	2.110	3.043	7.9	19.4	3 22	13 38.75	-21 2.6	2.208	3.108	9.4	19.8
4 1	13 32.25	-8 45.5	2.073	3.054	4.3	19.2	4 1	13 32.01	-20 29.1	2.155	3.112	6.3	19.6
4 11	13 24.38	-8 15.6	2.064	3.066	0.5	18.9	4 11	13 24.39	-19 41.0	2.128	3.116	3.7	19.5
4 21	13 16.48	-7 45.2	2.084	3.077	3.4	19.2	4 21	13 16.68	-18 42.0	2.129	3.120	3.7	19.5
5 1	13 9.35	-7 18.6	2.131	3.089	7.0	19.4	5 1	13 9.69	-17 37.6	2.159	3.123	6.4	19.6
5 11	13 3.66	-6 59.5	2.205	3.100	10.3	19.6	5 11	13 4.10	-16 33.9	2.215	3.127	9.5	19.8
5 21	12 59.79	-6 50.2	2.300	3.111	13.0	19.8	5 21	13 0.36	-15 36.3	2.294	3.130	12.2	20.0
218043	2002 <i>BX</i> ₂₉		4 12.3 160°77'	2.5°/14.5	18		259453	2003 <i>SD</i> ₇₃		4 12.3 191°39'	0.6°/12.8	16	
3 12	13 49.54	-17 10.8	2.239	3.065	12.1	20.0	3 12	13 48.35	-12 49.2	2.049	2.896	12.2	22.1
3 22	13 42.75	-17 19.8	2.162	3.071	9.1	19.8	3 22	13 42.03	-12 19.7	1.969	2.895	8.9	21.9
4 1	13 34.19	-17 15.8	2.110	3.076	5.8	19.6	4 1	13 33.86	-11 37.8	1.915	2.893	5.0	21.6
4 11	13 24.61	-17 0.2	2.087	3.081	2.9	19.4	4 11	13 24.61	-10 47.1	1.889	2.890	1.0	21.3
4 21	13 14.89	-16 35.7	2.093	3.085	3.6	19.5	4 21	13 15.21	-9 52.4	1.892	2.886	3.5	21.5
5 1	13 5.95	-16 6.5	2.128	3.089	6.7	19.7	5 1	13 6.60	-8 59.7	1.923	2.882	7.6	21.8
5 11	12 58.56	-15 37.6	2.189	3.092	10.0	19.9	5 11	12 59.60	-8 14.4	1.981	2.876	11.2	22.0
5 21	12 53.19	-15 13.2	2.274	3.095	12.8	20.1	5 21	12 54.68	-7 40.5	2.060	2.870	14.3	22.2
11306	<i>Åkesson</i>		4 12.3 301°65'	3.1°/9.1	18		276681	<i>Loremaes</i>		4 12.3 209°59'	2.4°/14.3	17	
3 12	13 42.89	-1 46.7	2.049	2.927	10.9	18.2	3 12	13 48.29	-17 0.9	1.820	2.660	13.9	20.9
3 22	13 38.15	-0 57.1	1.971	2.914	7.7	17.9	3 22	13 42.26	-16 51.5	1.738	2.655	10.4	20.7
4 1	13 31.73	-0 3.9	1.918	2.900	4.5	17.7	4 1	13 34.10	-16 25.7	1.681	2.651	6.5	20.4
4 11	13 24.33	+0 47.5	1.892	2.886	3.2	17.6	4 11	13 24.65	-15 45.5	1.649	2.646	2.9	20.2
4 21	13 16.74	+1 31.5	1.895	2.873	5.7	17.7	4 21	13 14.96	-14 55.3	1.646	2.640	3.9	20.3
5 1	13 9.83	+2 3.1	1.924	2.859	9.2	17.9	5 1	13 6.15	-14 1.4	1.670	2.634	7.9	20.5
5 11	13 4.32	+2 19.1	1.977	2.846	12.4	18.1	5 11	12 59.13	-13 10.9	1.719	2.628	11.9	20.7
5 21	13 0.70	+2 18.4	2.050	2.833	15.3	18.3	5 21	12 54.48	-12 29.4	1.789	2.621	15.3	20.9
327844	2006 <i>WL</i> ₁₉₂		4 12.3 58°14'	9.7°/5.2	18		518170	2016 <i>KF</i> ₅		4 12.3 240°62'	5.9°/5.9	17	
3 12	13 49.50	+13 51.1	1.455	2.332	14.6	20.4	3 12	13 45.93	+8 1.0	2.227	3.099	10.4	21.2
3 22	13 42.94	+14 58.9	1.427	2.350	11.7	20.2	3 22	13 40.18	+9 3.0	2.156	3.086	8.0	21.0
4 1	13 34.26	+15 50.9	1.422	2.369	9.9	20.2	4 1	13 32.81	+10 0.7	2.112	3.073	6.2	20.8
4 11	13 24.60	+16 18.7	1.441	2.388	10.1	20.2	4 11	13 24.50	+10 47.8	2.095	3.060	6.2	20.8
4 21	13 15.20	+16 17.6	1.484	2.408	12.0	20.4	4 21	13 16.05	+11 19.1	2.106	3.046	8.1	20.9
5 1	13 7.19	+15 47.2	1.549	2.427	14.6	20.6	5 1	13 8.28	+11 31.2	2.143	3.032	10.7	21.0
5 11	13 1.38	+14 50.6	1.634	2.447	17.3	20.8	5 11	13 1.90	+11 23.1	2.203	3.017	13.3	21.2
5 21	12 58.11	+13 33.2	1.736	2.466	19.5	21.0	5 21	12 57.37	+10 55.9	2.282	3.002	15.6	21.3
154583	2003 <i>JC</i> ₁₂		4 12.3 327°12'	0.4°/11.9	17		351493	2005 <i>QH</i> ₁₂₈		4 12.3 173°07'	0.3°/12.6	17	
3 1													

EPHEMERIDES

4 12.3

4 12.3

2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
302873	2003 <i>HH</i> ₃₅		4 12.3 341°80	3°4/ 9.7	16		406519	2007 <i>VX</i> ₂₁₂		4 12.3 122°54	0°1/12.3	18	
3 12	13 44.18	- 4 57.4	1.180	2.076	15.8	20.7	3 12	13 46.19	-12 29.1	1.617	2.480	14.1	21.4
3 22	13 39.92	- 3 49.9	1.119	2.070	11.2	20.4	3 22	13 40.74	-11 33.3	1.554	2.488	10.1	21.2
4 1	13 33.02	- 2 31.5	1.079	2.065	6.2	20.1	4 1	13 33.22	-10 22.2	1.514	2.496	5.5	20.9
4 11	13 24.54	- 1 11.9	1.063	2.061	3.5	19.9	4 11	13 24.58	- 9 1.7	1.501	2.503	0.7	20.6
4 21	13 15.85	- 0 1.9	1.071	2.057	7.5	20.2	4 21	13 15.89	- 7 39.7	1.516	2.510	4.3	20.9
5 1	13 8.37	+ 0 49.2	1.102	2.054	12.6	20.4	5 1	13 8.25	- 6 24.6	1.557	2.517	8.9	21.2
5 11	13 3.23	+ 1 15.6	1.153	2.051	17.3	20.7	5 11	13 2.51	- 5 23.3	1.623	2.524	12.9	21.4
5 21	13 1.00	+ 1 16.3	1.221	2.049	21.2	20.9	5 21	12 59.15	- 4 39.8	1.709	2.530	16.4	21.7
431459	2007 <i>RV</i> ₂₇₉		4 12.3 226°06	0°0/12.3	18		496368	2013 <i>RF</i> ₄₉		4 12.3 275°61	0°2/12.1	17	
3 12	13 48.26	- 9 7.0	2.345	3.196	10.7	21.0	3 12	13 45.34	-11 6.7	1.719	2.584	13.3	22.0
3 22	13 41.83	- 9 5.5	2.259	3.188	7.7	20.7	3 22	13 40.32	-10 23.3	1.629	2.565	9.6	21.7
4 1	13 33.72	- 8 57.3	2.199	3.179	4.2	20.5	4 1	13 33.14	- 9 25.6	1.563	2.545	5.3	21.4
4 11	13 24.61	- 8 44.7	2.169	3.170	0.5	20.2	4 11	13 24.59	- 8 18.1	1.524	2.526	0.6	21.0
4 21	13 15.30	- 8 30.7	2.168	3.161	3.3	20.4	4 21	13 15.69	- 7 7.7	1.512	2.506	4.4	21.3
5 1	13 6.62	- 8 18.8	2.196	3.151	7.0	20.6	5 1	13 7.55	- 6 1.9	1.527	2.486	9.1	21.5
5 11	12 59.31	- 8 12.2	2.251	3.141	10.3	20.8	5 11	13 1.15	- 5 7.9	1.566	2.466	13.4	21.7
5 21	12 53.87	- 8 13.5	2.328	3.131	13.1	21.0	5 21	12 57.09	- 4 30.2	1.625	2.446	17.1	21.9
11708	1998 <i>HT</i> ₁₉		4 12.3 176°98	0°4/12.6	18		64157	2001 <i>TR</i> ₄₂		4 12.3 64°17	6°7/ 7.5	18	
3 12	13 49.23	-12 44.4	1.520	2.380	15.0	19.2	3 12	13 50.27	+ 8 13.4	1.640	2.517	13.2	18.4
3 22	13 43.10	-12 3.6	1.450	2.383	10.8	19.0	3 22	13 43.44	+ 8 50.2	1.596	2.529	10.0	18.3
4 1	13 34.60	-11 6.4	1.404	2.384	6.0	18.7	4 1	13 34.60	+ 9 18.7	1.575	2.541	7.4	18.1
4 11	13 24.72	- 9 58.0	1.383	2.385	0.9	18.3	4 11	13 24.74	+ 9 32.3	1.581	2.553	6.9	18.1
4 21	13 14.68	- 8 45.9	1.390	2.385	4.4	18.6	4 21	13 15.00	+ 9 26.6	1.613	2.566	9.0	18.3
5 1	13 5.76	- 7 38.5	1.424	2.385	9.4	18.9	5 1	13 6.45	+ 8 59.9	1.670	2.578	12.1	18.5
5 11	12 58.95	- 6 43.5	1.481	2.384	13.8	19.1	5 11	12 59.89	+ 8 13.4	1.749	2.590	15.1	18.7
5 21	12 54.80	- 6 5.4	1.558	2.382	17.5	19.4	5 21	12 55.75	+ 7 9.9	1.846	2.603	17.6	18.9
330084	2005 <i>WA</i> ₇₀		4 12.3 179°92	1°0/13.3	17		13609	Lewicki		4 12.3 237°18	0°7/12.9	18	R
3 12	13 45.78	-14 20.3	2.135	2.980	11.9	21.9	3 12	13 46.18	-13 9.9	1.732	2.590	13.6	18.2
3 22	13 40.13	-13 48.2	2.058	2.981	8.7	21.7	3 22	13 40.80	-12 38.8	1.654	2.585	9.9	18.0
4 1	13 32.80	-13 3.1	2.006	2.982	5.0	21.5	4 1	13 33.33	-11 53.0	1.600	2.579	5.6	17.7
4 11	13 24.51	-12 8.3	1.982	2.982	1.4	21.2	4 11	13 24.62	-10 56.5	1.572	2.573	1.2	17.4
4 21	13 16.11	-11 8.8	1.987	2.982	3.3	21.4	4 21	13 15.69	- 9 55.3	1.572	2.567	3.9	17.6
5 1	13 8.47	-10 10.3	2.020	2.981	7.1	21.6	5 1	13 7.64	- 8 56.3	1.598	2.561	8.4	17.8
5 11	13 2.32	- 9 18.5	2.080	2.980	10.5	21.8	5 11	13 1.38	- 8 6.4	1.649	2.555	12.5	18.1
5 21	12 58.10	- 8 37.3	2.162	2.979	13.5	22.0	5 21	12 57.44	- 7 30.1	1.721	2.548	16.0	18.3
498769	2008 <i>UT</i> ₈₀		4 12.3 175°14	1°1/11.2	17		430036	2013 <i>RN</i> ₆₉		4 12.3 150°83	3°2/ 8.8	17	
3 12	13 46.53	- 6 38.6	2.119	2.983	11.2	21.9	3 12	13 46.49	+ 0 20.9	2.456	3.324	9.7	22.2
3 22	13 40.63	- 6 14.5	2.047	2.984	7.9	21.7	3 22	13 40.33	+ 1 7.0	2.397	3.334	6.9	22.0
4 1	13 33.06	- 5 44.3	2.002	2.985	4.2	21.5	4 1	13 32.80	+ 1 53.6	2.366	3.343	4.2	21.9
4 11	13 24.54	- 5 11.9	1.985	2.986	1.1	21.2	4 11	13 24.55	+ 2 36.0	2.363	3.352	3.3	21.8
4 21	13 15.93	- 4 41.5	1.996	2.986	4.1	21.4	4 21	13 16.30	+ 3 10.1	2.390	3.361	5.3	22.0
5 1	13 8.07	- 4 17.5	2.036	2.986	7.8	21.7	5 1	13 8.76	+ 3 32.4	2.445	3.368	8.1	22.1
5 11	13 1.70	- 4 3.3	2.101	2.986	11.1	21.9	5 11	13 2.54	+ 3 41.2	2.526	3.375	10.7	22.3
5 21	12 57.26	- 4 0.8	2.187	2.986	14.0	22.1	5 21	12 57.99	+ 3 36.2	2.628	3.381	13.0	22.5
47960	2000 <i>RS</i> ₅₄		4 12.3 309°23	9°0/17.4	18		508562	2016 <i>VU</i>		4 12.3 201°16	7°4/21.9	18	
3 12	13 48.48	-26 46.8	1.329	2.148	19.1	18.0	3 12	13 44.76	-36 41.0	2.562	3.280	13.6	20.9
3 22	13 43.58	-27 53.2	1.238	2.127	16.0	17.8	3 22	13 39.49	-36 49.0	2.471	3.278	11.8	20.8
4 1	13 35.41	-28 34.7	1.167	2.106	12.5	17.5	4 1	13 32.51	-36 33.8	2.401	3.277	9.8	20.6
4 11	13 24.87	-28 46.2	1.116	2.085	9.7	17.3	4 11	13 24.52	-35 54.4	2.354	3.275	8.2	20.5
4 21	13 13.41	-28 26.3	1.089	2.064	9.3	17.2	4 21	13 16.39	-34 52.4	2.334	3.274	7.4	20.5
5 1	13 2.84	-27 39.5	1.085	2.044	11.8	17.2	5 1	13 8.98	-33 32.1	2.339	3.272	7.9	20.5
5 11	12 54.80	-26 36.3	1.101	2.025	15.7	17.4	5 11	13 3.07	-32 0.3	2.371	3.270	9.5	20.6
5 21	12 50.29	-25 29.0	1.136	2.007	19.7	17.6	5 21	12 59.11	-30 24.5	2.428	3.268	11.5	20.7
250886	2005 <i>UA</i> ₅₁₆		4 12.3 281°07	4°5/ 6.6	18		301329	2009 <i>BL</i> ₁₇₆		4 12.3 254°83	3°2/15.3	17	
3 12	13 41.24	+ 3 14.7	2.343	3.222	9.7	20.8	3 12	13 46.02	-19 28.2	2.226	3.050	12.2	21.2
3 22	13 36.81	+ 4 31.9	2.272	3.211	7.1	20.6	3 22	13 40.39	-19 38.9	2.143	3.047	9.4	21.0
4 1	13 30.96	+ 5 49.2	2.228	3.200	4.9	20.5	4 1	13 33.01	-19 35.2	2.083	3.044	6.3	20.8
4 11	13 24.30	+ 7 0.5	2.211	3.189	4.8	20.5	4 11	13 24.59	-19 18.0	2.051	3.040	3.6	20.6
4 21	13 17.52	+ 8 0.0	2.223	3.178	6.8	20.6	4 21	13 15.97	-18 50.0	2.047	3.037	3.9	20.6
5 1	13 11.34	+ 8 43.2	2.262	3.166	9.5	20.7	5 1	13 8.03	-18 15.3	2.070	3.034	6.7	20.8
5 11	13 6.37	+ 9 7.8	2.324	3.155	12.2	20.9	5 11	13 1.54	-17 39.3	2.120	3.031	9.9	21.0
5 21	13 3.02	+ 9 13.5	2.405	3.144	14.5	21.0	5 21	12 57.02	-17 6.9	2.193	3.027	12.8	21.2
135605	2002 <i>JO</i> ₁₈		4 12.3 285°45	1°3/11.0	18		302293	2001 <i>YZ</i> ₅₄		4 12.3 222°77	3°7/15.3	17	
3 12	13 42.90	- 8 45.1	1.862	2.733	12.2	20.1	3 12	13 48.37	-20 27.3	1.663	2.495	15.3	21.0
3 22	13 38.34	- 7 43.7	1.780	2.720	8.6	19.8	3 22	13 42.57	-20 14.7	1.579	2.488	11.8	20.8
4 1	13 31.94	- 6 30.7	1.724	2.708	4.6	19.5	4 1	13 34.41	-19 40.4	1.517	2.481	7.8	20.5
4 11	13 24.44	- 5 11.8	1.694	2.695	1.3	19.3	4 11	13 24.77	-18 46.0	1.481	2.473	4.3	20.3
4 21	13 16.73	- 3 54.2	1.693	2.683	4.7	19.5	4 21	13 14.83	-17 36.4	1.472	2.465	4.6	20.3
5 1	13 9.77	- 2 45.2	1.719	2.671	8.8	19.7	5 1	13 5.84	-16 19.3	1.489	2.456	8.5	20.5
5 11	13 4.35	- 1 50.6	1.769	2.658	12.7	19.9	5 11	12 58.83	-15 4.1	1.531	2.447	12.7	20.7
5 21	13 1.00	- 1 13.8	1.839	2.646	15.9	20.1	5 21	12 54.42	-13 58.4	1.595	2.437	16.4	20.9
266695	2009 <i>PS</i> ₁₇		4 12.3 123°36	9°8/30.5	16		514314	2016 <i>CJ</i> ₂₈₄		4 12.3 205°28	6°1/		

EPHEMERIDES

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4 12.3

2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
488962	2005 <i>UP</i> ₂₅₂		4 12.3 157°48		0°9/13.2 17		73802	1995 <i>QC</i> ₄		4 12.3 245°01		4°1/15.4 18	
3 12	13 47.43	-13 30.6	2.275	3.117	11.4	22.8	3 12	13 49.91	-20 7.7	1.805	2.631	14.6	19.6
3 22	13 41.19	-13 10.5	2.202	3.124	8.3	22.6	3 22	13 43.65	-20 24.7	1.714	2.618	11.3	19.4
4 1	13 33.36	-12 39.4	2.155	3.131	4.8	22.4	4 1	13 35.04	-20 23.9	1.646	2.606	7.7	19.1
4 11	13 24.64	-12 0.2	2.137	3.138	1.3	22.1	4 11	13 24.89	-20 5.5	1.604	2.593	4.6	18.9
4 21	13 15.85	-11 16.9	2.148	3.143	3.1	22.3	4 21	13 14.31	-19 31.8	1.589	2.579	4.9	18.9
5 1	13 7.82	-10 34.3	2.189	3.148	6.7	22.5	5 1	13 4.54	-18 48.3	1.602	2.565	8.3	19.0
5 11	13 1.23	-9 57.0	2.255	3.153	10.0	22.7	5 11	12 56.62	-18 2.2	1.639	2.551	12.2	19.2
5 21	12 56.53	-9 28.5	2.345	3.157	12.8	22.9	5 21	12 51.24	-17 20.4	1.698	2.536	15.7	19.4
87576	2000 <i>RY</i> ₁₄		4 12.3 16°81		3°3/15.9 18		245212	2004 <i>VF</i> ₇₂		4 12.3 205°84		1°6/13.7 17	
3 12	13 43.13	-21 22.8	2.209	3.030	12.4	19.1	3 12	13 47.53	-15 57.7	1.728	2.576	14.1	20.8
3 22	13 38.31	-21 6.5	2.129	3.030	9.6	18.9	3 22	13 41.79	-15 21.5	1.649	2.572	10.5	20.6
4 1	13 31.86	-20 33.2	2.073	3.031	6.5	18.7	4 1	13 33.91	-14 27.3	1.593	2.567	6.2	20.3
4 11	13 24.47	-19 44.5	2.043	3.031	3.8	18.5	4 11	13 24.74	-13 18.9	1.563	2.563	2.0	20.1
4 21	13 16.97	-18 44.5	2.041	3.032	3.8	18.5	4 21	13 15.37	-12 2.5	1.561	2.557	3.9	20.2
5 1	13 10.18	-17 38.7	2.067	3.032	6.6	18.7	5 1	13 6.91	-10 46.1	1.587	2.551	8.3	20.4
5 11	13 4.81	-16 33.5	2.119	3.033	9.7	18.9	5 11	13 0.31	-9 37.8	1.638	2.545	12.5	20.6
5 21	13 1.32	-15 34.5	2.194	3.034	12.6	19.1	5 21	12 56.11	-8 43.1	1.710	2.538	16.1	20.9
161527	2004 <i>TG</i> ₁₂₄		4 12.3 104°53		0°5/11.9 18		14904	1993 <i>FM</i> ₁₄		4 12.3 92°55		1°7/11.2 18	
3 12	13 46.94	-9 13.9	2.010	2.869	11.9	20.7	3 12	13 50.99	-6 6.5	1.362	2.239	15.4	18.7
3 22	13 40.90	-8 44.7	1.952	2.886	8.4	20.5	3 22	13 44.43	-5 45.0	1.307	2.249	10.9	18.4
4 1	13 33.19	-8 6.9	1.920	2.902	4.5	20.3	4 1	13 35.36	-5 15.5	1.274	2.258	5.8	18.2
4 11	13 24.62	-7 25.0	1.915	2.917	0.6	20.0	4 11	13 24.91	-4 43.9	1.267	2.268	1.7	17.9
4 21	13 16.08	-6 43.5	1.940	2.933	3.8	20.3	4 21	13 14.43	-4 16.4	1.286	2.277	5.6	18.2
5 1	13 8.43	-6 7.6	1.992	2.948	7.6	20.6	5 1	13 5.27	-3 58.9	1.330	2.286	10.5	18.5
5 11	13 2.37	-5 41.2	2.070	2.962	11.0	20.8	5 11	12 58.44	-3 55.5	1.397	2.295	14.8	18.8
5 21	12 58.32	-5 26.6	2.170	2.976	13.8	21.0	5 21	12 54.45	-4 7.7	1.483	2.304	18.4	19.0
43349	2000 <i>SK</i> ₁₆₀		4 12.3 229°09		3°3/15.2 18		12596	Shukla		4 12.3 273°33		1°8/13.7 18	
3 12	13 49.38	-19 55.2	2.011	2.832	13.5	19.7	3 12	13 47.57	-15 14.7	1.623	2.476	14.6	18.6
3 22	13 43.04	-19 49.2	1.915	2.819	10.4	19.4	3 22	13 42.14	-14 59.6	1.530	2.456	10.9	18.4
4 1	13 34.60	-19 25.6	1.843	2.805	6.9	19.2	4 1	13 34.28	-14 27.2	1.460	2.435	6.6	18.1
4 11	13 24.81	-18 45.4	1.798	2.790	3.8	19.0	4 11	13 24.82	-13 39.9	1.415	2.415	2.3	17.7
4 21	13 14.68	-17 52.0	1.782	2.774	4.2	18.9	4 21	13 14.87	-12 42.8	1.398	2.394	4.2	17.8
5 1	13 5.27	-16 51.1	1.794	2.757	7.6	19.1	5 1	13 5.72	-11 43.2	1.406	2.372	9.0	18.0
5 11	12 57.53	-15 50.2	1.832	2.740	11.3	19.3	5 11	12 58.47	-10 49.1	1.439	2.351	13.6	18.2
5 21	12 52.07	-14 55.5	1.892	2.721	14.7	19.5	5 21	12 53.85	-10 7.1	1.492	2.329	17.6	18.4
417616	2006 <i>WB</i> ₈₃		4 12.3 168°35		2°0/10.4 16		224227	2005 <i>SJ</i> ₆₁		4 12.3 134°73		0°1/12.3 17	
3 12	13 48.64	-4 15.6	2.097	2.961	11.3	22.1	3 12	13 47.66	-10 15.3	1.944	2.801	12.3	21.3
3 22	13 42.12	-3 40.9	2.029	2.966	7.9	21.9	3 22	13 41.55	-9 52.7	1.878	2.810	8.8	21.1
4 1	13 33.89	-3 1.7	1.988	2.970	4.3	21.6	4 1	13 33.63	-9 20.5	1.837	2.818	4.8	20.9
4 11	13 24.72	-2 22.6	1.975	2.973	2.1	21.5	4 11	13 24.71	-8 42.3	1.823	2.825	0.5	20.6
4 21	13 15.48	-1 48.4	1.991	2.976	4.7	21.7	4 21	13 15.74	-8 3.0	1.838	2.832	3.7	20.8
5 1	13 7.06	-1 23.3	2.036	2.978	8.3	21.9	5 1	13 7.65	-7 27.8	1.882	2.839	7.8	21.1
5 11	13 0.19	-1 10.3	2.106	2.980	11.6	22.1	5 11	13 1.21	-7 1.0	1.950	2.846	11.4	21.3
5 21	12 55.33	-1 10.9	2.198	2.980	14.4	22.3	5 21	12 56.88	-6 45.7	2.040	2.852	14.4	21.5
403267	2008 <i>YW</i> ₁₅₀		4 12.3 191°14		4°8/ 8.2 17		431931	2008 <i>TF</i> ₁₄₀		4 12.3 296°18		4°2/14.7 18	
3 12	13 48.42	+ 0 53.6	1.690	2.569	12.8	21.5	3 12	13 51.58	-17 58.3	1.754	2.587	14.6	20.4
3 22	13 42.29	+ 2 3.7	1.627	2.568	9.2	21.3	3 22	13 45.10	-18 47.0	1.653	2.563	11.3	20.1
4 1	13 34.11	+ 3 15.5	1.589	2.567	5.8	21.1	4 1	13 35.99	-19 22.6	1.576	2.539	7.7	19.9
4 11	13 24.75	+ 4 21.1	1.578	2.565	4.9	21.1	4 11	13 25.04	-19 43.6	1.524	2.514	4.6	19.6
4 21	13 15.28	+ 5 13.1	1.594	2.562	7.6	21.2	4 21	13 13.37	-19 50.5	1.501	2.490	5.2	19.6
5 1	13 6.80	+ 5 45.9	1.636	2.559	11.3	21.4	5 1	13 2.34	-19 46.3	1.504	2.466	8.9	19.7
5 11	13 0.17	+ 5 57.0	1.701	2.556	14.8	21.6	5 11	12 53.16	-19 36.7	1.532	2.442	13.0	19.9
5 21	12 55.89	+ 5 46.7	1.784	2.551	17.8	21.8	5 21	12 46.69	-19 27.9	1.581	2.418	16.7	20.1
192377	1996 <i>EL</i> ₁₁		4 12.3 142°45		0°6/12.9 17		440105	2003 <i>BY</i> ₃₇		4 12.3 72°97		16°1/21.6 18	
3 12	13 46.16	-12 17.2	2.175	3.025	11.5	21.0	3 12	13 59.66	-37 46.4	1.153	1.915	24.8	20.4
3 22	13 40.36	-11 59.2	2.104	3.031	8.3	20.8	3 22	13 52.39	-40 9.3	1.097	1.924	22.0	20.2
4 1	13 32.94	-11 30.8	2.059	3.037	4.7	20.6	4 1	13 40.58	-41 54.7	1.056	1.934	19.2	20.0
4 11	13 24.61	-10 55.2	2.041	3.043	1.0	20.3	4 11	13 25.60	-42 50.8	1.034	1.944	17.0	19.9
4 21	13 16.20	-10 16.5	2.053	3.048	3.2	20.5	4 21	13 9.76	-42 52.6	1.031	1.954	16.1	19.9
5 1	13 8.56	-9 39.3	2.093	3.053	6.9	20.7	5 1	12 55.76	-42 5.3	1.047	1.964	16.8	20.0
5 11	13 2.38	-9 8.3	2.159	3.058	10.3	21.0	5 11	12 45.71	-40 44.0	1.082	1.974	18.7	20.1
5 21	12 58.10	-8 46.5	2.247	3.062	13.1	21.2	5 21	12 40.51	-39 6.9	1.135	1.984	21.2	20.3
288937	2004 <i>SL</i> ₄₂		4 12.3 143°99		2°6/14.5 18		194679	2001 <i>XA</i> ₂₀₂		4 12.3 118°38		4°1/ 9.1 18	
3 12	13 49.67	-17 43.8	1.699	2.538	14.7	21.4	3 12	13 49.54	-0 46.7	1.570	2.449	13.6	20.4
3 22	13 43.25	-17 28.0	1.631	2.547	11.0	21.2	3 22	13 43.06	+ 0 12.2	1.520	2.462	9.6	20.2
4 1	13 34.65	-16 53.9	1.586	2.556	6.9	21.0	4 1	13 34.48	+ 1 13.2	1.495	2.475	5.7	20.0
4 11	13 24.82	-16 4.4	1.568	2.564	3.1	20.7	4 11	13 24.82	+ 2 8.6	1.496	2.488	4.2	19.9
4 21	13 14.89	-15 4.7	1.577	2.571	4.1	20.8	4 21	13 15.22	+ 2 51.6	1.524	2.500	7.1	20.1
5 1	13 6.04	-14 2.1	1.613	2.578	8.1	21.1	5 1	13 6.79	+ 3 17.0	1.578	2.511	10.9	20.4
5 11	12 59.17	-13 4.3	1.674	2.584	12.1	21.3	5 11	13 0.38	+ 3 22.6	1.655	2.522	14.5	20.6
5 21	12 54.79	-12 17.0	1.757	2.590	15.5	21.5	5 21	12 56.43	+ 3 8.8	1.750	2.533	17.5	20.9
326287	1997 <i>UB</i> ₆		4 12.3 177°50		0°7/13.0 17		293374	2007 <i>ES</i> ₂₀		4 12.3 51°87		1°9/10.6 17	

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2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
6616	Plotinos		4 12.3 154°01	0°9/11.5 18			426847	2013 VF ₁₆		4 12.3 219°38	3°8/ 8.4 17		
3 12	13 46.53	- 9 47.8	1.807	2.671	12.8	18.1	3 12	13 46.49	+ 1 2.8	2.247	3.118	10.4	21.7
3 22	13 40.86	- 8 50.6	1.741	2.677	9.1	17.9	3 22	13 40.62	+ 1 55.5	2.171	3.109	7.4	21.5
4 1	13 33.30	- 7 41.9	1.700	2.682	4.8	17.6	4 1	13 33.13	+ 2 49.4	2.123	3.099	4.7	21.3
4 11	13 24.70	- 6 27.4	1.686	2.687	0.9	17.3	4 11	13 24.71	+ 3 38.8	2.102	3.089	3.9	21.2
4 21	13 16.04	- 5 14.2	1.701	2.692	4.4	17.6	4 21	13 16.14	+ 4 18.7	2.111	3.079	6.1	21.3
5 1	13 8.31	- 4 9.4	1.743	2.696	8.6	17.8	5 1	13 8.24	+ 4 44.9	2.147	3.067	9.2	21.5
5 11	13 2.30	- 3 18.5	1.810	2.700	12.4	18.1	5 11	13 1.72	+ 4 55.1	2.207	3.056	12.1	21.7
5 21	12 58.47	- 2 44.4	1.897	2.703	15.5	18.3	5 21	12 57.02	+ 4 48.9	2.289	3.043	14.7	21.8
41526	2000 QW ₂₂₁		4 12.3 131°62	2°0/14.2 18			94460	2001 TC ₁₁₄		4 12.3 155°30	2°5/14.4 18		
3 12	13 49.75	-16 14.6	2.420	3.246	11.3	20.2	3 12	13 49.91	-17 22.5	1.716	2.555	14.6	20.4
3 22	13 42.75	-16 14.7	2.353	3.263	8.4	20.0	3 22	13 43.45	-17 6.7	1.645	2.562	10.9	20.2
4 1	13 34.19	-16 3.2	2.312	3.280	5.2	19.8	4 1	13 34.80	-16 33.1	1.598	2.568	6.8	20.0
4 11	13 24.81	-15 41.8	2.300	3.296	2.3	19.7	4 11	13 24.90	-15 44.4	1.577	2.574	2.9	19.7
4 21	13 15.39	-15 13.5	2.317	3.311	3.1	19.7	4 21	13 14.89	-14 45.8	1.584	2.579	4.0	19.8
5 1	13 6.77	-14 42.3	2.365	3.325	6.2	20.0	5 1	13 5.91	-13 44.4	1.619	2.584	8.1	20.1
5 11	12 59.61	-14 12.7	2.440	3.339	9.2	20.2	5 11	12 58.90	-12 47.8	1.679	2.588	12.1	20.3
5 21	12 54.31	-13 48.3	2.538	3.352	11.8	20.4	5 21	12 54.37	-12 1.8	1.760	2.591	15.5	20.5
501228	2013 VL ₁		4 12.3 184°49	2°4/ 9.8 17			497041	2003 SQ ₁₆₆		4 12.3 190°89	1°0/13.6 18		
3 12	13 46.29	- 2 45.0	2.365	3.232	10.1	21.9	3 12	13 44.52	-15 0.3	2.838	3.670	9.6	22.8
3 22	13 40.35	- 2 1.8	2.294	3.232	7.1	21.7	3 22	13 38.97	-14 25.6	2.752	3.669	7.1	22.6
4 1	13 32.92	- 1 15.3	2.250	3.232	4.0	21.5	4 1	13 32.14	-13 40.2	2.693	3.666	4.1	22.4
4 11	13 24.66	- 0 30.1	2.235	3.231	2.5	21.4	4 11	13 24.59	-12 46.8	2.663	3.663	1.3	22.2
4 21	13 16.32	+ 0 9.4	2.250	3.229	4.8	21.5	4 21	13 16.94	-11 49.1	2.664	3.659	2.6	22.3
5 1	13 8.66	+ 0 39.0	2.292	3.227	7.9	21.7	5 1	13 9.85	-10 51.4	2.695	3.654	5.6	22.5
5 11	13 2.32	+ 0 56.0	2.361	3.224	10.9	21.9	5 11	13 3.86	- 9 58.2	2.754	3.649	8.5	22.7
5 21	12 57.73	+ 0 59.4	2.451	3.221	13.4	22.1	5 21	12 59.36	- 9 12.9	2.837	3.643	10.9	22.9
281650	2008 UP ₃₄₃		4 12.3 224°61	0°6/12.9 17			284436	2007 DR ₉₆		4 12.3 276°64	3°8/18.9 18		
3 12	13 44.37	-13 4.8	2.130	2.982	11.7	21.6	3 12	13 41.14	-29 18.1	4.437	5.183	7.9	20.1
3 22	13 39.21	-12 31.2	2.049	2.977	8.5	21.4	3 22	13 36.36	-29 38.8	4.340	5.178	6.5	20.0
4 1	13 32.39	-11 45.5	1.994	2.972	4.8	21.2	4 1	13 30.67	-29 48.9	4.267	5.172	5.2	19.8
4 11	13 24.60	-10 51.1	1.966	2.967	1.0	20.9	4 11	13 24.42	-29 48.3	4.222	5.167	4.1	19.8
4 21	13 16.66	- 9 53.0	1.966	2.962	3.3	21.1	4 21	13 18.05	-29 37.8	4.205	5.161	3.8	19.7
5 1	13 9.43	- 8 56.8	1.995	2.956	7.2	21.3	5 1	13 11.98	-29 19.1	4.217	5.156	4.5	19.8
5 11	13 3.62	- 8 8.0	2.050	2.950	10.7	21.5	5 11	13 6.64	-28 54.8	4.257	5.151	5.8	19.9
5 21	12 59.71	- 7 30.5	2.127	2.945	13.7	21.7	5 21	13 2.32	-28 27.5	4.322	5.145	7.2	20.0
428755	2008 SH ₇₂		4 12.3 229°49	1°6/13.9 17			246307	2007 TV ₁₄₇		4 12.3 242°77	2°0/10.7 16		
3 12	13 44.54	-16 0.6	2.068	2.911	12.3	21.6	3 12	13 48.28	- 6 8.4	1.734	2.605	13.0	21.6
3 22	13 39.40	-15 31.4	1.985	2.906	9.1	21.4	3 22	13 42.38	- 5 20.8	1.651	2.590	9.2	21.4
4 1	13 32.52	-14 47.3	1.927	2.901	5.5	21.2	4 1	13 34.31	- 4 24.0	1.592	2.575	5.0	21.1
4 11	13 24.62	-13 51.5	1.897	2.895	2.0	20.9	4 11	13 24.87	- 3 23.9	1.560	2.560	2.0	20.8
4 21	13 16.55	-12 48.8	1.894	2.890	3.3	21.0	4 21	13 15.12	- 2 27.3	1.556	2.543	5.4	21.0
5 1	13 9.21	-11 45.2	1.920	2.884	7.1	21.2	5 1	13 6.19	- 1 40.8	1.579	2.527	9.8	21.2
5 11	13 3.36	-10 47.1	1.971	2.878	10.7	21.4	5 11	12 59.04	- 1 9.7	1.626	2.509	13.9	21.4
5 21	12 59.50	- 9 59.2	2.045	2.872	13.8	21.6	5 21	12 54.27	- 0 56.5	1.692	2.491	17.4	21.6
507563	2013 AV ₄₅		4 12.3 107°01	2°7/15.3 17			174501	2003 BZ ₄₃		4 12.3 121°69	4°7/ 6.9 17		
3 12	13 43.92	-19 17.5	2.569	3.390	10.9	21.6	3 12	13 43.85	+ 5 16.0	2.384	3.258	9.7	20.3
3 22	13 38.68	-19 15.4	2.491	3.395	8.3	21.4	3 22	13 38.55	+ 6 14.6	2.331	3.266	7.2	20.1
4 1	13 32.01	-19 0.3	2.439	3.400	5.5	21.2	4 1	13 31.91	+ 7 10.2	2.305	3.274	5.1	20.0
4 11	13 24.56	-18 33.9	2.415	3.405	3.0	21.1	4 11	13 24.57	+ 7 57.4	2.308	3.282	4.9	20.0
4 21	13 17.00	-17 58.9	2.419	3.410	3.3	21.1	4 21	13 17.22	+ 8 31.7	2.338	3.289	6.7	20.1
5 1	13 10.07	-17 19.3	2.452	3.415	5.8	21.3	5 1	13 10.58	+ 8 50.1	2.395	3.297	9.2	20.3
5 11	13 4.38	-16 39.6	2.511	3.420	8.6	21.5	5 11	13 5.21	+ 8 51.7	2.476	3.304	11.6	20.5
5 21	13 0.34	-16 4.0	2.595	3.425	11.1	21.6	5 21	13 1.48	+ 8 36.9	2.577	3.311	13.7	20.6
140893	2001 VF ₃₂		4 12.3 55°62	0°1/12.2 18			281623	2008 UF ₂₆₉		4 12.3 325°81	3°5/ 9.5 17		
3 12	13 44.14	-10 3.3	2.078	2.939	11.5	19.5	3 12	13 46.36	- 0 32.3	1.799	2.678	12.1	20.3
3 22	13 38.96	- 9 39.2	2.016	2.949	8.2	19.3	3 22	13 40.80	+ 0 0.7	1.731	2.673	8.6	20.1
4 1	13 32.20	- 9 6.3	1.978	2.960	4.4	19.1	4 1	13 33.33	+ 0 35.4	1.688	2.669	5.1	19.9
4 11	13 24.58	- 8 28.4	1.968	2.970	0.5	18.8	4 11	13 24.74	+ 1 6.0	1.672	2.666	3.6	19.8
4 21	13 16.93	- 7 49.9	1.987	2.981	3.5	19.1	4 21	13 16.03	+ 1 27.4	1.683	2.662	6.2	19.9
5 1	13 10.07	- 7 15.5	2.033	2.992	7.2	19.3	5 1	13 8.17	+ 1 35.4	1.720	2.658	9.9	20.1
5 11	13 4.67	- 6 49.4	2.105	3.003	10.5	19.6	5 11	13 2.01	+ 1 27.7	1.781	2.655	13.4	20.3
5 21	13 1.15	- 6 34.1	2.198	3.014	13.4	19.8	5 21	12 58.02	+ 1 4.1	1.862	2.652	16.4	20.5
57410	2001 RD ₁₂₆		4 12.3 146°71	1°7/13.4 18			286089	2001 TG ₂₇		4 12.3 252°53	1°6/14.1 18		
3 12	13 53.35	-13 5.4	1.546	2.398	15.2	19.7	3 12	13 42.71	-16 36.4	2.229	3.069	11.6	20.3
3 22	13 46.10	-13 19.1	1.478	2.404	11.2	19.4	3 22	13 38.00	-16 1.0	2.148	3.066	8.6	20.1
4 1	13 36.33	-13 19.5	1.433	2.410	6.6	19.2	4 1	13 31.72	-15 11.1	2.091	3.064	5.2	19.9
4 11	13 25.08	-13 8.7	1.415	2.415	2.1	18.9	4 11	13 24.56	-14 10.0	2.062	3.061	2.0	19.6
4 21	13 13.65	-12 50.2	1.424	2.420	4.3	19.1	4 21	13 17.27	-13 2.3	2.062	3.058	3.1	19.7
5 1	13 3.38	-12 29.8	1.460	2.424	9.0	19.3	5 1	13 10.65	-11 54.0	2.090	3.055	6.6	19.9
5 11	12 55.33	-12 13.3	1.521	2.428	13.3	19.6	5 11	13 5.40	-10 50.9	2.145	3.052	9.9	20.1
5 21	12 50.10	-12 5.4	1.601	2.431	16.9	19.8	5 21	13 1.93	- 9 57.8	2.222	3.049	12.9	20.3
213628	2002 QQ ₆₅		4 12.3 232°34	3°3/ 9.3 17			392154	2009 HG ₆₇		4 12.3 280°18	0°6/12.8 17		
3 12	13 46.11	- 3 12.7	1.754	2.632	12								

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2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
229863	2009 <i>TC</i> ₂₀		4 12.3 117°46'	3°5'/16.1	17		469804	2005 <i>SU</i> ₆₅		4 12.3 237°98'	1°6'/14.3	17	
3 12	13 43.95	-23 1.2	1.872	2.692	14.3	20.0	3 12	13 43.85	-16 28.9	2.875	3.703	9.7	22.2
3 22	13 39.12	-22 12.7	1.794	2.696	11.1	19.8	3 22	13 38.59	-16 13.0	2.778	3.689	7.2	22.0
4 1	13 32.41	-21 0.9	1.740	2.699	7.5	19.6	4 1	13 32.01	-15 46.4	2.706	3.674	4.5	21.8
4 11	13 24.64	-19 29.0	1.712	2.702	4.2	19.4	4 11	13 24.62	-15 10.7	2.663	3.659	1.9	21.6
4 21	13 16.80	-17 43.4	1.712	2.705	4.1	19.4	4 21	13 17.05	-14 28.9	2.649	3.644	2.7	21.6
5 1	13 9.86	-15 53.1	1.740	2.708	7.4	19.6	5 1	13 9.96	-13 44.6	2.666	3.628	5.5	21.8
5 11	13 4.61	-14 7.4	1.794	2.711	11.0	19.8	5 11	13 3.92	-13 2.1	2.709	3.611	8.3	21.9
5 21	13 1.53	-12 33.8	1.870	2.713	14.3	20.0	5 21	12 59.36	-12 25.0	2.778	3.594	10.9	22.1
351532	2005 <i>SA</i> ₁₈₈		4 12.3 258°39'	0°4'/11.9	16		12093	Chrimatthews		4 12.3 273°90'	0°9'/11.5	18	
3 12	13 43.13	- 9 31.7	2.535	3.391	9.9	21.8	3 12	13 45.32	- 9 57.5	1.520	2.394	14.3	18.7
3 22	13 38.17	- 8 58.8	2.444	3.377	7.0	21.6	3 22	13 40.38	- 9 0.6	1.450	2.390	10.2	18.5
4 1	13 31.80	- 8 17.9	2.380	3.362	3.8	21.4	4 1	13 33.23	- 7 49.5	1.403	2.387	5.5	18.2
4 11	13 24.57	- 7 32.1	2.345	3.347	0.5	21.1	4 11	13 24.77	- 6 30.9	1.382	2.384	1.0	17.8
4 21	13 17.17	- 6 45.7	2.339	3.331	3.2	21.3	4 21	13 16.14	- 5 12.8	1.388	2.381	5.0	18.1
5 1	13 10.30	- 6 2.8	2.361	3.315	6.6	21.5	5 1	13 8.51	- 4 4.1	1.420	2.378	9.8	18.4
5 11	13 4.58	- 5 27.7	2.410	3.300	9.7	21.6	5 11	13 2.81	- 3 11.5	1.475	2.374	14.1	18.6
5 21	13 0.45	- 5 2.9	2.482	3.283	12.4	21.8	5 21	12 59.60	- 2 38.7	1.549	2.371	17.7	18.9
198368	2004 <i>VV</i> ₁₈		4 12.3 180°50'	0°7'/11.7	17		229550	2005 <i>YP</i> ₁₆₂		4 12.3 180°56'	0°8'/11.5	17	
3 12	13 46.43	- 8 24.1	2.144	3.004	11.3	21.1	3 12	13 45.68	- 8 41.6	2.081	2.943	11.5	21.5
3 22	13 40.62	- 7 56.6	2.071	3.005	8.0	20.9	3 22	13 40.13	- 8 0.1	2.009	2.944	8.1	21.3
4 1	13 33.15	- 7 21.4	2.023	3.005	4.3	20.7	4 1	13 32.90	- 7 9.8	1.962	2.944	4.3	21.1
4 11	13 24.73	- 6 42.2	2.003	3.005	0.7	20.4	4 11	13 24.73	- 6 15.2	1.943	2.945	0.9	20.8
4 21	13 16.21	- 6 3.6	2.013	3.005	3.8	20.7	4 21	13 16.46	- 5 21.7	1.953	2.944	4.0	21.1
5 1	13 8.43	- 5 30.2	2.051	3.004	7.5	20.9	5 1	13 8.94	- 4 34.5	1.991	2.944	7.8	21.3
5 11	13 2.11	- 5 6.0	2.114	3.003	10.9	21.1	5 11	13 2.91	- 3 58.3	2.054	2.943	11.2	21.5
5 21	12 57.70	- 4 53.5	2.199	3.002	13.8	21.3	5 21	12 58.81	- 3 35.5	2.139	2.941	14.1	21.7
33748	1999 <i>PP</i> ₄		4 12.3 245°09'	0°5'/11.8	18		209355	2004 <i>DJ</i> ₃₉		4 12.3 119°63'	0°4'/11.9	17	
3 12	13 44.26	- 8 16.2	2.490	3.348	10.0	17.8	3 12	13 44.45	- 9 26.4	2.205	3.064	11.0	20.7
3 22	13 38.95	- 7 56.4	2.408	3.341	7.1	17.5	3 22	13 39.15	- 8 55.2	2.136	3.070	7.8	20.5
4 1	13 32.21	- 7 30.2	2.352	3.334	3.8	17.3	4 1	13 32.33	- 8 15.8	2.094	3.075	4.2	20.3
4 11	13 24.63	- 7 0.5	2.325	3.327	0.6	17.1	4 11	13 24.66	- 7 31.9	2.079	3.081	0.5	20.0
4 21	13 16.90	- 6 31.0	2.327	3.319	3.3	17.3	4 21	13 16.93	- 6 48.1	2.093	3.086	3.5	20.3
5 1	13 9.76	- 6 5.4	2.358	3.311	6.7	17.5	5 1	13 9.92	- 6 9.1	2.136	3.091	7.1	20.5
5 11	13 3.82	- 5 47.0	2.415	3.304	9.7	17.6	5 11	13 4.31	- 5 38.9	2.204	3.096	10.4	20.7
5 21	12 59.52	- 5 38.1	2.494	3.296	12.4	17.8	5 21	13 0.48	- 5 20.0	2.294	3.101	13.1	20.9
47640	2000 <i>CA</i> ₃₀		4 12.3 137°73'	0°7'/11.6	18		35359	1997 <i>SO</i> ₃₃		4 12.3 151°47'	0°4'/12.0	18	
3 12	13 44.40	- 8 54.1	2.114	2.977	11.3	19.5	3 12	13 49.83	- 9 38.1	1.670	2.533	13.8	19.1
3 22	13 39.17	- 8 14.4	2.045	2.981	8.0	19.3	3 22	13 43.37	- 9 11.5	1.605	2.539	9.8	18.9
4 1	13 32.35	- 7 26.2	2.002	2.985	4.3	19.1	4 1	13 34.77	- 8 34.0	1.563	2.545	5.3	18.6
4 11	13 24.64	- 6 33.8	1.987	2.988	0.8	18.8	4 11	13 24.96	- 7 50.4	1.549	2.551	0.6	18.3
4 21	13 16.86	- 5 42.3	2.000	2.992	3.8	19.0	4 21	13 15.05	- 7 6.3	1.562	2.556	4.3	18.6
5 1	13 9.84	- 4 57.0	2.042	2.995	7.5	19.3	5 1	13 6.19	- 6 28.0	1.602	2.560	8.9	18.9
5 11	13 4.25	- 4 22.1	2.108	2.999	10.9	19.5	5 11	12 59.27	- 6 0.5	1.667	2.564	12.9	19.1
5 21	13 0.51	- 4 0.1	2.196	3.002	13.7	19.7	5 21	12 54.81	- 5 46.9	1.752	2.567	16.3	19.3
286375	2001 <i>XW</i> ₂₂₆		4 12.3 171°70'	2°2'/ 9.9	17		390263	2012 <i>XM</i> ₁₃₅		4 12.3 133°84'	3°6'/ 8.2	18	
3 12	13 44.94	- 2 15.9	2.591	3.456	9.3	21.2	3 12	13 44.17	+ 2 14.8	2.525	3.397	9.3	21.6
3 22	13 39.30	- 1 46.1	2.521	3.458	6.6	21.0	3 22	13 38.74	+ 3 2.0	2.468	3.405	6.7	21.4
4 1	13 32.33	- 1 14.1	2.479	3.460	3.7	20.8	4 1	13 32.02	+ 3 48.4	2.438	3.413	4.3	21.3
4 11	13 24.64	- 0 43.8	2.466	3.462	2.2	20.7	4 11	13 24.63	+ 4 29.2	2.437	3.421	3.7	21.3
4 21	13 16.89	- 0 18.6	2.483	3.463	4.3	20.9	4 21	13 17.22	+ 5 0.6	2.464	3.429	5.6	21.4
5 1	13 9.75	- 0 1.7	2.528	3.464	7.2	21.0	5 1	13 10.48	+ 5 19.4	2.520	3.436	8.2	21.6
5 11	13 3.80	+ 0 4.6	2.599	3.465	9.9	21.2	5 11	13 4.95	+ 5 24.1	2.600	3.443	10.7	21.7
5 21	12 59.42	- 0 0.5	2.692	3.465	12.3	21.4	5 21	13 0.99	+ 5 14.7	2.701	3.450	12.8	21.9
341141	2007 <i>PR</i> ₆		4 12.3 302°97'	10°7'/18.9	18		267440	2002 <i>CK</i> ₂₁₂		4 12.3 137°35'	0°5'/12.8	17	
3 12	13 55.04	-34 35.2	1.927	2.665	16.9	19.9	3 12	13 46.83	-12 11.6	2.033	2.885	12.1	21.3
3 22	13 47.88	-36 20.1	1.834	2.652	14.8	19.8	3 22	13 40.96	-11 47.7	1.965	2.893	8.7	21.1
4 1	13 37.71	-37 43.3	1.761	2.639	12.7	19.6	4 1	13 33.35	-11 12.8	1.922	2.901	4.9	20.8
4 11	13 25.34	-38 38.5	1.713	2.627	11.1	19.5	4 11	13 24.79	-10 30.3	1.907	2.908	0.9	20.6
4 21	13 12.06	-39 2.2	1.689	2.614	10.7	19.4	4 21	13 16.16	- 9 44.9	1.920	2.915	3.4	20.8
5 1	12 59.42	-38 55.7	1.689	2.602	11.7	19.4	5 1	13 8.37	- 9 2.0	1.961	2.922	7.3	21.0
5 11	12 48.89	-38 25.6	1.713	2.590	13.7	19.5	5 11	13 2.15	- 8 26.3	2.028	2.928	10.8	21.2
5 21	12 41.43	-37 41.3	1.758	2.578	16.0	19.6	5 21	12 57.94	- 8 1.4	2.117	2.934	13.8	21.5
501614	2014 <i>RP</i> ₄₁		4 12.3 217°91'	3°6'/ 9.0	17		374088	2004 <i>RK</i> ₂₁₀		4 12.3 202°23'	2°7'/15.5	17	
3 12	13 46.93	- 2 51.8	1.706	2.584	12.7	21.9	3 12	13 45.54	-20 55.4	2.512	3.324	11.4	22.4
3 22	13 41.33	- 1 36.1	1.635	2.577	9.0	21.6	3 22	13 39.92	-20 24.4	2.420	3.319	8.7	22.2
4 1	13 33.68	- 0 13.8	1.588	2.570	5.2	21.4	4 1	13 32.77	-19 37.4	2.354	3.313	5.8	22.0
4 11	13 24.81	+ 1 7.3	1.569	2.563	3.7	21.3	4 11	13 24.73	-18 36.3	2.316	3.307	3.1	21.8
4 21	13 15.77	+ 2 19.1	1.578	2.555	6.7	21.4	4 21	13 16.55	-17 25.0	2.307	3.300	3.3	21.8
5 1	13 7.62	+ 3 14.4	1.613	2.546	10.7	21.6	5 1	13 9.00	-16 9.0	2.329	3.292	6.1	22.0
5 11	13 1.25	+ 3 49.0	1.671	2.537	14.5	21.9	5 11	13 2.76	-14 54.5	2.377	3.283	9.2	22.2
5 21	12 57.19	+ 4 1.7	1.748	2.528	17.6	22.0	5 21	12 58.26	-13 46.6	2.450	3.274	11.9	22.3
147920	2006 <i>UK</i> ₂₂₃		4 12.3 108°86'	0°5'/11.8									

EPHEMERIDES

4 12.3

4 12.4

2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
28751	2000 <i>GT</i> ₁₆₇		4 12.3 248°91	1°0/13.2	17		303329	2004 <i>TH</i> ₁₁₉		4 12.4 159°55	3°5/9.3	18	
3 12	13 46.50	-13 41.6	1.828	2.681	13.2	19.8	3 12	13 48.76	-2 21.9	1.761	2.635	12.6	21.8
3 22	13 41.06	-13 17.2	1.743	2.671	9.7	19.6	3 22	13 42.48	-1 16.8	1.701	2.642	8.9	21.6
4 1	13 33.57	-12 38.4	1.683	2.661	5.6	19.3	4 1	13 34.25	-0 7.3	1.667	2.648	5.1	21.4
4 11	13 24.84	-11 48.6	1.650	2.651	1.4	19.0	4 11	13 24.96	+0 59.4	1.660	2.653	3.5	21.3
4 21	13 15.84	-10 53.0	1.644	2.640	3.7	19.1	4 21	13 15.63	+1 56.3	1.681	2.658	6.4	21.4
5 1	13 7.63	-9 58.1	1.666	2.629	8.1	19.4	5 1	13 7.29	+2 37.7	1.729	2.662	10.1	21.7
5 11	13 1.12	-9 10.4	1.712	2.618	12.1	19.6	5 11	13 0.75	+3 0.4	1.800	2.665	13.7	21.9
5 21	12 56.86	-8 34.6	1.780	2.607	15.6	19.8	5 21	12 56.47	+3 3.7	1.891	2.668	16.6	22.1
208371	2001 <i>SA</i> ₃₀		4 12.3 218°26	0°0/12.3	18		384094	2008 <i>WE</i> ₅		4 12.4 203°08	0°2/12.6	17	
3 12	13 44.50	-10 23.4	2.421	3.274	10.4	21.0	3 12	13 44.56	-12 8.8	2.154	3.007	11.5	22.0
3 22	13 39.17	-9 59.1	2.339	3.269	7.4	20.8	3 22	13 39.36	-11 30.2	2.075	3.005	8.3	22.0
4 1	13 32.36	-9 26.5	2.284	3.264	4.1	20.5	4 1	13 32.53	-10 40.2	2.022	3.002	4.6	21.5
4 11	13 24.70	-8 48.5	2.257	3.259	0.5	20.2	4 11	13 24.76	-9 42.7	1.998	2.999	0.7	21.2
4 21	13 16.90	-8 9.2	2.259	3.253	3.2	20.4	4 21	13 16.87	-8 42.6	2.001	2.996	3.4	21.4
5 1	13 9.70	-7 32.7	2.291	3.247	6.6	20.7	5 1	13 9.68	-7 45.8	2.034	2.993	7.2	21.6
5 11	13 3.77	-7 3.1	2.348	3.241	9.8	20.8	5 11	13 3.90	-6 57.3	2.092	2.989	10.6	21.9
5 21	12 59.52	-6 43.0	2.428	3.235	12.5	21.0	5 21	12 59.99	-6 20.8	2.172	2.985	13.6	22.0
219798	2002 <i>AW</i> ₁₃₅		4 12.3 105°31	1°6/10.9	17		239989	2001 <i>SS</i> ₇		4 12.4 143°82	1°4/13.4	18	
3 12	13 46.23	-6 48.0	1.868	2.737	12.2	21.0	3 12	13 51.28	-13 47.3	1.600	2.451	14.8	21.1
3 22	13 40.56	-6 0.4	1.810	2.749	8.6	20.8	3 22	13 44.55	-13 37.1	1.534	2.460	10.9	20.9
4 1	13 33.13	-5 5.4	1.778	2.762	4.6	20.6	4 1	13 35.50	-13 12.1	1.491	2.468	6.3	20.6
4 11	13 24.79	-4 8.5	1.774	2.774	1.6	20.4	4 11	13 25.13	-12 35.4	1.475	2.475	1.8	20.3
4 21	13 16.45	-3 15.8	1.798	2.786	4.6	20.6	4 21	13 14.64	-11 52.3	1.486	2.482	4.1	20.5
5 1	13 9.03	-2 32.8	1.849	2.798	8.5	20.9	5 1	13 5.28	-11 9.5	1.524	2.488	8.7	20.8
5 11	13 3.27	-2 3.3	1.924	2.809	12.0	21.1	5 11	12 58.01	-10 33.5	1.587	2.493	12.8	21.0
5 21	12 59.58	-1 49.4	2.021	2.821	14.9	21.3	5 21	12 53.37	-10 8.8	1.670	2.498	16.4	21.3
192085	2006 <i>BY</i> ₁₆₃		4 12.3 201°78	3°6/8.8	17		89671	2001 <i>YA</i> ₂₄		4 12.4 319°51	3°8/9.8	18	
3 12	13 44.80	-1 9.2	1.949	2.826	11.4	20.2	3 12	13 47.55	-0 46.1	1.497	2.382	13.8	19.5
3 22	13 39.58	-0 7.0	1.883	2.825	8.1	20.0	3 22	13 42.11	-0 19.5	1.424	2.369	9.9	19.2
4 1	13 32.65	+0 58.3	1.843	2.823	4.8	19.8	4 1	13 34.28	+0 9.3	1.374	2.356	5.8	18.9
4 11	13 24.75	+2 0.4	1.830	2.822	3.7	19.7	4 11	13 24.99	+0 33.8	1.349	2.344	3.8	18.8
4 21	13 16.76	+2 52.8	1.846	2.820	6.2	19.9	4 21	13 15.41	+0 48.2	1.351	2.333	6.9	18.9
5 1	13 9.56	+3 30.7	1.888	2.818	9.6	20.1	5 1	13 6.78	+0 47.5	1.377	2.322	11.2	19.1
5 11	13 3.89	+3 50.8	1.954	2.816	12.9	20.3	5 11	13 0.15	+0 29.2	1.425	2.311	15.4	19.3
5 21	13 0.20	+3 52.7	2.039	2.814	15.6	20.4	5 21	12 56.12	-0 6.7	1.492	2.301	18.9	19.5
14044	1995 <i>VS</i> ₁		4 12.3 182°59	1°9/10.8	18		38551	1999 <i>VD</i> ₅₄		4 12.4 278°77	0°1/12.4	17	
3 12	13 49.15	-5 7.3	1.894	2.760	12.2	18.5	3 12	13 43.26	-10 46.3	2.392	3.248	10.4	19.6
3 22	13 42.73	-4 35.6	1.823	2.761	8.6	18.3	3 22	13 38.39	-10 20.1	2.302	3.232	7.5	19.4
4 1	13 34.40	-3 58.2	1.779	2.761	4.7	18.1	4 1	13 32.01	-9 44.8	2.237	3.217	4.1	19.2
4 11	13 24.97	-3 19.7	1.762	2.761	1.9	17.9	4 11	13 24.71	-9 3.5	2.200	3.202	0.5	18.8
4 21	13 15.41	-2 45.5	1.773	2.760	4.9	18.1	4 21	13 17.21	-8 20.2	2.192	3.187	3.2	19.0
5 1	13 6.73	-2 20.3	1.812	2.759	8.8	18.3	5 1	13 10.27	-7 39.4	2.213	3.171	6.7	19.2
5 11	12 59.75	-2 7.7	1.876	2.757	12.5	18.5	5 11	13 4.54	-7 5.4	2.260	3.156	10.0	19.4
5 21	12 54.96	-2 9.3	1.961	2.755	15.5	18.7	5 21	13 0.50	-6 41.3	2.329	3.140	12.8	19.6
57013	2000 <i>TD</i> ₃₉		4 12.3 277°27	0°1/12.6	18		109708	2001 <i>RL</i> ₄₄		4 12.4 139°61	5°1/6.7	18	
3 12	13 39.17	-10 2.4	4.405	5.250	6.2	19.1	3 12	13 45.54	+3 46.6	2.087	2.963	10.8	20.0
3 22	13 34.90	-9 56.9	4.320	5.246	4.4	19.0	3 22	13 39.93	+5 13.8	2.037	2.974	7.9	19.9
4 1	13 29.87	-9 47.4	4.263	5.242	2.4	18.8	4 1	13 32.77	+6 39.4	2.014	2.984	5.6	19.7
4 11	13 24.42	-9 35.3	4.236	5.238	0.4	18.6	4 11	13 24.80	+7 56.0	2.019	2.994	5.4	19.7
4 21	13 18.90	-9 22.3	4.239	5.233	1.8	18.8	4 21	13 16.85	+8 57.4	2.052	3.004	7.5	19.9
5 1	13 13.68	-9 10.2	4.273	5.229	3.8	18.9	5 1	13 9.72	+9 39.4	2.112	3.012	10.3	20.1
5 11	13 9.10	-9 0.6	4.335	5.225	5.7	19.0	5 11	13 4.06	+10 0.3	2.195	3.021	13.0	20.3
5 21	13 5.40	-8 55.1	4.421	5.221	7.4	19.2	5 21	13 0.28	+10 1.0	2.297	3.028	15.2	20.5
241830	2001 <i>SK</i> ₂₃₃		4 12.3 146°30	1°4/10.8	18		141461	2002 <i>CU</i> ₁₁₉		4 12.4 65°79	0°2/12.5	17	
3 12	13 43.96	-5 59.7	2.449	3.312	9.9	20.7	3 12	13 43.17	-11 20.7	2.258	3.114	10.9	20.2
3 22	13 38.69	-5 21.3	2.381	3.318	6.9	20.5	3 22	13 38.27	-10 50.4	2.188	3.118	7.8	20.0
4 1	13 32.05	-4 37.7	2.340	3.323	3.7	20.3	4 1	13 31.90	-10 10.7	2.143	3.123	4.3	19.8
4 11	13 24.68	-3 52.9	2.328	3.328	1.4	20.1	4 11	13 24.70	-9 24.9	2.126	3.128	0.6	19.5
4 21	13 17.26	-3 11.2	2.346	3.333	3.9	20.3	4 21	13 17.44	-8 37.6	2.139	3.133	3.2	19.7
5 1	13 10.48	-2 36.5	2.391	3.337	7.0	20.5	5 1	13 10.86	-7 53.5	2.179	3.138	6.8	20.0
5 11	13 4.95	-2 12.1	2.463	3.341	10.0	20.7	5 11	13 5.61	-7 17.0	2.245	3.143	10.0	20.2
5 21	13 1.03	-1 59.5	2.557	3.345	12.5	20.9	5 21	13 2.10	-6 51.1	2.333	3.148	12.7	20.4
385165	2013 <i>VM</i>		4 12.3 220°76	0°4/12.8	18		499399	2010 <i>BA</i> ₅₅		4 12.4 204°37	1°7/10.4	17	
3 12	13 47.81	-11 47.4	2.438	3.282	10.7	21.7	3 12	13 46.33	-5 27.5	2.474	3.334	9.9	24.0
3 22	13 41.58	-11 27.7	2.346	3.270	7.7	21.5	3 22	13 40.43	-4 39.1	2.393	3.328	7.0	23.8
4 1	13 33.73	-10 58.5	2.280	3.258	4.3	21.2	4 1	13 33.07	-3 44.9	2.339	3.321	3.8	23.6
4 11	13 24.90	-10 22.5	2.243	3.245	0.8	20.9	4 11	13 24.85	-2 49.3	2.315	3.313	1.7	23.4
4 21	13 15.84	-9 43.1	2.236	3.231	3.1	21.1	4 21	13 16.49	-1 57.1	2.320	3.305	4.2	23.6
5 1	13 7.37	-9 4.9	2.259	3.216	6.7	21.3	5 1	13 8.75	-1 12.7	2.355	3.295	7.5	23.8
5 11	13 0.20	-8 32.2	2.309	3.201	10.0	21.5	5 11	13 2.26	-0 39.7	2.416	3.285	10.5	24.0
5 21	12 54.83	-8 8.2	2.381	3.184	12.9	21.7	5 21	12 57.46	-0 20.1	2.499	3.274	13.1	24.1
209621	2005 <i>AU</i> ₂₂		4 12.4 73°16	1°0/13.0	18		456168	2006 <i>HS</i> ₄		4 12.4 48°69	2°1/10.7	16	
3 12	13 50.31	-12 50.5	1.389	2.252	16.0	20.3	3						

EPHEMERIDES

4 12.4

4 12.4

2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
425761	2011 <i>CB</i> ₁₈		4 12.4	41°07'	3°6'/9.6	18	408759	1997 <i>CL</i> ₂₃		4 12.4	119°54'	1°3'/13.4	18
3 12	13 45.59	- 2 41.2	1.368	2.257	14.5	20.5	3 12	13 49.35	-14 8.6	1.742	2.592	13.9	21.9
3 22	13 40.48	- 1 45.2	1.327	2.274	10.2	20.3	3 22	13 42.97	-13 47.8	1.681	2.606	10.1	21.7
4 1	13 33.22	- 0 45.3	1.308	2.292	5.8	20.0	4 1	13 34.57	-13 12.6	1.643	2.619	5.9	21.4
4 11	13 24.86	+ 0 10.4	1.315	2.311	3.7	20.0	4 11	13 25.06	-12 26.8	1.632	2.632	1.7	21.2
4 21	13 16.62	+ 0 54.4	1.348	2.330	6.8	20.2	4 21	13 15.53	-11 35.6	1.649	2.645	3.7	21.3
5 1	13 9.63	+ 1 21.1	1.405	2.350	11.0	20.5	5 1	13 7.05	-10 45.7	1.693	2.656	8.0	21.6
5 11	13 4.72	+ 1 27.7	1.483	2.370	14.8	20.8	5 11	13 0.47	-10 3.1	1.763	2.668	11.8	21.9
5 21	13 2.29	+ 1 14.7	1.580	2.391	17.9	21.0	5 21	12 56.24	- 9 32.0	1.854	2.679	15.1	22.1
117201	2004 <i>RB</i> ₁₈₃		4 12.4	61°93'	6°1'/16.9	18	430305	2013 <i>WX</i> ₁₀₆		4 12.4	210°28'	2°6'/9.2	18
3 12	13 51.17	-24 11.8	1.719	2.529	15.9	19.1	3 12	13 46.04	- 1 50.6	2.728	3.590	9.0	22.6
3 22	13 44.52	-24 58.8	1.656	2.543	12.7	18.9	3 22	13 40.14	- 0 56.3	2.646	3.581	6.4	22.4
4 1	13 35.52	-25 24.9	1.615	2.558	9.3	18.7	4 1	13 32.89	+ 0 1.1	2.591	3.571	3.7	22.2
4 11	13 25.16	-25 28.9	1.598	2.573	6.6	18.6	4 11	13 24.87	+ 0 57.1	2.567	3.560	2.6	22.1
4 21	13 14.65	-25 12.8	1.608	2.588	6.3	18.6	4 21	13 16.71	+ 1 47.3	2.574	3.548	4.7	22.2
5 1	13 5.22	-24 41.6	1.645	2.603	8.6	18.7	5 1	13 9.09	+ 2 27.7	2.609	3.535	7.5	22.4
5 11	12 57.90	-24 3.0	1.705	2.618	11.8	19.0	5 11	13 2.59	+ 2 55.6	2.671	3.521	10.2	22.5
5 21	12 53.21	-23 24.3	1.788	2.633	14.7	19.2	5 21	12 57.63	+ 3 9.7	2.755	3.506	12.5	22.7
170196	2003 <i>OM</i> ₈		4 12.4	235°20'	0°5'/12.8	16	153125	2000 <i>SG</i> ₁₁₁		4 12.4	260°57'	1°1'/11.2	18
3 12	13 49.22	-11 55.7	1.783	2.637	13.4	20.7	3 12	13 45.75	- 8 15.3	2.044	2.907	11.6	20.5
3 22	13 43.10	-11 34.4	1.696	2.626	9.8	20.5	3 22	13 40.43	- 7 27.4	1.951	2.887	8.3	20.2
4 1	13 34.79	-11 0.2	1.634	2.613	5.5	20.2	4 1	13 33.26	- 6 29.4	1.883	2.866	4.5	20.0
4 11	13 25.09	-10 16.5	1.599	2.600	1.0	19.8	4 11	13 24.94	- 5 26.0	1.843	2.844	1.1	19.7
4 21	13 15.06	- 9 28.4	1.591	2.586	4.0	20.0	4 21	13 16.30	- 4 22.9	1.832	2.822	4.3	19.9
5 1	13 5.84	- 8 42.3	1.612	2.572	8.6	20.3	5 1	13 8.30	- 3 26.5	1.849	2.799	8.4	20.1
5 11	12 58.40	- 8 4.3	1.657	2.557	12.7	20.5	5 11	13 1.75	- 2 42.0	1.891	2.776	12.2	20.2
5 21	12 53.36	- 7 38.7	1.723	2.542	16.3	20.7	5 21	12 57.21	- 2 12.8	1.954	2.753	15.4	20.4
119826	2002 <i>BX</i> ₉		4 12.4	191°18'	2°4'/14.7	18	473044	2015 <i>HW</i> ₈₀		4 12.4	228°13'	1°6'/14.3	17
3 12	13 48.98	-17 44.6	2.502	3.322	11.2	20.3	3 12	13 43.23	-17 5.5	2.519	3.351	10.7	21.8
3 22	13 42.39	-17 46.0	2.415	3.320	8.4	20.1	3 22	13 38.31	-16 30.6	2.429	3.343	8.0	21.6
4 1	13 34.18	-17 35.1	2.354	3.318	5.4	19.9	4 1	13 31.96	-15 42.2	2.365	3.335	4.9	21.4
4 11	13 25.01	-17 13.0	2.321	3.314	2.7	19.7	4 11	13 24.76	-14 43.1	2.328	3.326	2.0	21.2
4 21	13 15.65	-16 42.4	2.318	3.311	3.3	19.7	4 21	13 17.43	-13 37.2	2.322	3.317	2.9	21.2
5 1	13 6.93	-16 7.3	2.345	3.306	6.2	19.9	5 1	13 10.67	-12 29.8	2.344	3.308	6.1	21.4
5 11	12 59.56	-15 32.3	2.399	3.301	9.3	20.1	5 11	13 5.12	-11 26.4	2.394	3.298	9.2	21.6
5 21	12 54.02	-15 1.7	2.477	3.295	12.0	20.3	5 21	13 1.20	-10 31.3	2.467	3.288	11.9	21.8
506673	2006 <i>SR</i> ₃₄₈		4 12.4	160°40'	0°2'/12.2	17	105225	2000 <i>PF</i> ₁		4 12.4	106°84'	10°9'/29.4	18
3 12	13 42.43	-11 23.5	2.573	3.425	9.9	22.5	3 12	13 46.83	+23 25.0	2.066	2.908	12.4	18.8
3 22	13 37.61	-10 31.0	2.499	3.428	7.0	22.3	3 22	13 40.88	+25 28.8	2.054	2.928	11.2	18.8
4 1	13 31.49	- 9 29.0	2.452	3.432	3.8	22.1	4 1	13 33.29	+27 12.2	2.067	2.948	10.9	18.8
4 11	13 24.68	- 8 21.6	2.433	3.435	0.4	21.8	4 11	13 24.91	+28 27.6	2.104	2.967	11.7	18.9
4 21	13 17.81	- 7 13.5	2.445	3.438	3.0	22.0	4 21	13 16.66	+29 11.0	2.164	2.986	13.0	19.0
5 1	13 11.55	- 6 9.7	2.486	3.441	6.3	22.2	5 1	13 9.41	+29 21.9	2.244	3.005	14.6	19.2
5 11	13 6.44	- 5 14.6	2.553	3.443	9.2	22.4	5 11	13 3.81	+29 3.5	2.342	3.022	16.1	19.3
5 21	13 2.86	- 4 31.1	2.644	3.445	11.8	22.6	5 21	13 0.22	+28 20.4	2.454	3.040	17.4	19.5
179737	2002 <i>RE</i> ₁₁₅		4 12.4	179°87'	2°9'/14.9	17	211465	2003 <i>CV</i> ₁₃		4 12.4	50°07'	1°6'/10.6	18
3 12	13 48.30	-18 51.7	1.926	2.755	13.6	21.1	3 12	13 41.67	- 8 58.4	1.894	2.765	12.0	20.1
3 22	13 42.26	-18 41.3	1.847	2.757	10.3	20.9	3 22	13 37.32	- 7 28.9	1.841	2.782	8.3	19.9
4 1	13 34.23	-18 13.6	1.792	2.758	6.7	20.7	4 1	13 31.40	- 5 49.4	1.815	2.799	4.4	19.7
4 11	13 25.03	-17 30.6	1.764	2.758	3.4	20.5	4 11	13 24.69	- 4 7.3	1.817	2.817	1.6	19.6
4 21	13 15.64	-16 36.6	1.764	2.758	3.9	20.5	4 21	13 18.02	- 2 30.4	1.847	2.835	4.6	19.8
5 1	13 7.12	-15 37.7	1.792	2.757	7.5	20.7	5 1	13 12.22	- 1 6.2	1.905	2.852	8.4	20.1
5 11	13 0.33	-14 41.0	1.845	2.756	11.1	20.9	5 11	13 7.91	+ 0 0.5	1.987	2.871	11.8	20.3
5 21	12 55.78	-13 52.1	1.921	2.754	14.4	21.1	5 21	13 5.47	+ 0 47.3	2.091	2.889	14.5	20.5
38978	2000 <i>UA</i> ₂		4 12.4	250°83'	1°7'/10.8	18	390321	2013 <i>AL</i> ₁₇₀		4 12.4	237°04'	4°5'/6.3	18
3 12	13 46.65	- 5 46.5	2.003	2.870	11.6	19.6	3 12	13 41.69	+ 4 6.1	2.584	3.460	9.0	21.3
3 22	13 41.02	- 5 11.4	1.919	2.857	8.2	19.4	3 22	13 37.12	+ 5 26.9	2.515	3.451	6.6	21.1
4 1	13 33.55	- 4 29.5	1.861	2.844	4.5	19.1	4 1	13 31.26	+ 6 47.2	2.474	3.443	4.8	21.0
4 11	13 24.95	- 3 45.5	1.830	2.830	1.7	18.9	4 11	13 24.68	+ 8 1.1	2.461	3.434	4.7	20.9
4 21	13 16.10	- 3 4.5	1.828	2.816	4.7	19.1	4 21	13 18.00	+ 9 3.3	2.477	3.425	6.6	21.0
5 1	13 7.96	- 2 31.6	1.853	2.801	8.6	19.3	5 1	13 11.86	+ 9 49.9	2.520	3.416	9.0	21.2
5 11	13 1.34	- 2 11.0	1.904	2.787	12.2	19.5	5 11	13 6.83	+10 18.7	2.587	3.407	11.4	21.3
5 21	12 56.75	- 2 4.7	1.975	2.772	15.3	19.6	5 21	13 3.28	+10 29.5	2.674	3.397	13.5	21.5
96850	1999 <i>RR</i> ₂₂₅		4 12.4	106°18'	0°4'/11.9	18	174003	2001 <i>XF</i> ₂₄₉		4 12.4	186°78'	0°0'/12.4	17
3 12	13 45.81	- 9 49.2	2.016	2.876	11.9	20.1	3 12	13 43.53	-10 37.8	2.778	3.627	9.3	21.5
3 22	13 40.22	- 9 10.9	1.955	2.889	8.4	19.9	3 22	13 38.35	-10 8.4	2.698	3.626	6.6	21.4
4 1	13 32.98	- 8 23.4	1.920	2.902	4.5	19.7	4 1	13 31.91	- 9 31.4	2.646	3.626	3.6	21.2
4 11	13 24.86	- 7 31.0	1.913	2.915	0.6	19.4	4 11	13 24.77	- 8 49.7	2.623	3.624	0.4	20.9
4 21	13 16.74	- 6 39.1	1.934	2.927	3.7	19.7	4 21	13 17.54	- 8 6.8	2.629	3.623	2.8	21.1
5 1	13 9.47	- 5 53.1	1.983	2.939	7.6	20.0	5 1	13 10.86	- 7 26.7	2.665	3.621	5.9	21.3
5 11	13 3.75	- 5 17.3	2.058	2.951	11.0	20.2	5 11	13 5.26	- 6 52.7	2.728	3.619	8.7	21.5
5 21	12 59.98	- 4 54.5	2.154	2.962	13.8	20.4	5 21	13 1.12	- 6 27.6	2.815	3.616	11.1	21.6
343464	2010 <i>EN</i> ₆₁		4 12.4										

EPHEMERIDES

4 12.4

4 12.4

2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
181337	2006 QW ₁₂₆		4 12.4 218°11	1°9/10.6	17		352348	2007 VB ₁₀₈		4 12.4 175°59	1°7/14.4	17	
3 12	13 47.70	- 5 48.2	1.907	2.775	12.1	21.3	3 12	13 43.99	-17 14.4	2.504	3.334	10.8	21.8
3 22	13 41.81	- 5 2.0	1.829	2.767	8.6	21.1	3 22	13 38.83	-16 45.3	2.423	3.336	8.1	21.6
4 1	13 34.00	- 4 8.4	1.777	2.760	4.7	20.9	4 1	13 32.25	-16 3.2	2.368	3.337	5.0	21.4
4 11	13 25.04	- 3 12.6	1.752	2.751	1.9	20.6	4 11	13 24.87	-15 10.6	2.341	3.338	2.1	21.2
4 21	13 15.89	- 2 20.6	1.755	2.742	5.0	20.8	4 21	13 17.40	-14 11.5	2.344	3.339	2.9	21.3
5 1	13 7.53	- 1 38.2	1.787	2.733	9.0	21.0	5 1	13 10.55	-13 10.8	2.375	3.339	6.0	21.5
5 11	13 0.79	- 1 9.9	1.842	2.723	12.7	21.3	5 11	13 4.95	-12 13.8	2.434	3.339	9.0	21.7
5 21	12 56.20	- 0 57.7	1.919	2.712	15.8	21.4	5 21	13 1.00	-11 24.6	2.516	3.339	11.7	21.8
269648	1992 QE ₃		4 12.4 240°19	0°7/13.1	17		72200	2000 YQ ₁₃₂		4 12.4 54°66	9°4/21.4	18	
3 12	13 46.78	-13 9.2	2.217	3.062	11.5	21.5	3 12	13 49.52	-34 46.4	1.771	2.524	17.7	18.7
3 22	13 41.06	-12 40.4	2.122	3.046	8.4	21.2	3 22	13 43.53	-35 36.5	1.709	2.541	15.1	18.5
4 1	13 33.58	-11 59.4	2.052	3.029	4.8	21.0	4 1	13 35.10	-35 57.8	1.666	2.558	12.5	18.4
4 11	13 25.00	-11 9.3	2.011	3.012	1.1	20.7	4 11	13 25.23	-35 48.0	1.645	2.576	10.4	18.3
4 21	13 16.15	-10 14.4	1.999	2.994	3.3	20.8	4 21	13 15.22	-35 8.4	1.648	2.593	9.4	18.3
5 1	13 7.91	- 9 20.2	2.015	2.975	7.2	21.0	5 1	13 6.37	-34 4.8	1.675	2.611	10.2	18.4
5 11	13 1.07	- 8 32.3	2.058	2.956	10.8	21.2	5 11	12 59.71	-32 46.7	1.726	2.630	12.2	18.5
5 21	12 56.16	- 7 54.7	2.124	2.936	13.9	21.4	5 21	12 55.80	-31 24.0	1.798	2.648	14.5	18.7
501426	2013 YQ ₁₄₁		4 12.4 201°30	2°4/14.9	17		379871	2012 HW ₃₃		4 12.4 130°16	10°9/ 8.2	17	
3 12	13 45.77	-18 39.1	2.293	3.119	11.9	21.8	3 12	14 4.97	+14 51.5	1.182	2.045	18.2	20.6
3 22	13 40.25	-18 21.2	2.208	3.116	9.0	21.6	3 22	13 54.72	+15 14.6	1.136	2.054	14.6	20.4
4 1	13 33.08	-17 48.4	2.147	3.112	5.8	21.4	4 1	13 41.19	+15 16.9	1.111	2.062	11.6	20.2
4 11	13 24.94	-17 2.6	2.114	3.108	2.9	21.2	4 11	13 25.98	+14 48.8	1.111	2.070	11.0	20.2
4 21	13 16.64	-16 7.8	2.110	3.104	3.4	21.2	4 21	13 11.02	+13 46.9	1.135	2.077	13.1	20.3
5 1	13 9.02	-15 9.1	2.135	3.099	6.5	21.4	5 1	12 58.10	+12 13.7	1.184	2.084	16.5	20.5
5 11	13 2.79	-14 12.5	2.186	3.094	9.8	21.6	5 11	12 48.44	+10 16.3	1.253	2.091	20.1	20.8
5 21	12 58.43	-13 22.7	2.260	3.088	12.7	21.8	5 21	12 42.48	+ 8 3.1	1.340	2.097	23.1	21.0
189773	2002 CN ₁₂₃		4 12.4 102°01	7°5/18.9	17		344672	2003 ST ₁₆₀		4 12.4 215°82	1°1/13.4	18	
3 12	13 49.16	-29 44.1	1.880	2.659	15.9	20.1	3 12	13 47.57	-13 18.6	2.386	3.226	11.0	21.4
3 22	13 43.20	-30 24.9	1.801	2.660	13.3	19.9	3 22	13 41.49	-13 12.0	2.299	3.219	8.0	21.2
4 1	13 34.92	-30 42.3	1.742	2.661	10.5	19.7	4 1	13 33.78	-12 55.4	2.237	3.212	4.7	21.0
4 11	13 25.18	-30 34.1	1.708	2.662	8.2	19.6	4 11	13 25.08	-12 30.8	2.204	3.204	1.4	20.7
4 21	13 15.13	-30 1.6	1.698	2.663	7.6	19.5	4 21	13 16.18	-12 1.5	2.200	3.195	3.0	20.8
5 1	13 6.00	-29 9.6	1.715	2.664	9.1	19.6	5 1	13 7.89	-11 31.4	2.225	3.186	6.5	21.1
5 11	12 58.80	-28 6.4	1.756	2.665	11.7	19.8	5 11	13 0.94	-11 4.9	2.277	3.176	9.8	21.2
5 21	12 54.16	-27 0.3	1.819	2.666	14.4	19.9	5 21	12 55.81	-10 45.3	2.353	3.166	12.7	21.4
255769	2006 RW ₅₈		4 12.4 4°63	1°4/11.4	17		140759	2001 UB ₁₁₉		4 12.4 125°30	0°3/12.0	18	
3 12	13 43.36	- 8 38.7	1.187	2.077	16.1	19.4	3 12	13 43.52	-10 10.7	2.529	3.383	10.0	20.5
3 22	13 39.44	- 7 54.2	1.128	2.077	11.5	19.2	3 22	13 38.39	- 9 30.0	2.463	3.393	7.1	20.3
4 1	13 32.94	- 6 55.7	1.091	2.077	6.2	18.9	4 1	13 31.97	- 8 41.3	2.423	3.404	3.8	20.1
4 11	13 24.94	- 5 50.9	1.077	2.078	1.4	18.5	4 11	13 24.85	- 7 48.4	2.412	3.414	0.5	19.9
4 21	13 16.79	- 4 48.8	1.087	2.081	5.7	18.8	4 21	13 17.70	- 6 55.5	2.431	3.424	3.1	20.1
5 1	13 9.85	- 3 58.7	1.121	2.084	11.1	19.1	5 1	13 11.20	- 6 7.1	2.479	3.434	6.3	20.3
5 11	13 5.20	- 3 27.1	1.175	2.088	15.8	19.4	5 11	13 5.91	- 5 27.1	2.553	3.443	9.3	20.5
5 21	13 3.37	- 3 16.8	1.247	2.094	19.8	19.7	5 21	13 2.18	- 4 57.8	2.651	3.452	11.7	20.7
413322	2003 WD ₄		4 12.4 187°02	2°2/10.3	16		445830	2012 CL ₁₉		4 12.4 92°97	3°2/10.8	15	
3 12	13 49.22	- 4 3.7	2.120	2.983	11.2	22.3	3 12	14 12.65	- 7 51.3	0.839	1.711	23.0	24.1
3 22	13 42.67	- 3 22.3	2.047	2.983	7.9	22.1	3 22	13 59.67	- 6 14.0	0.824	1.763	15.9	23.9
4 1	13 34.39	- 2 36.0	2.000	2.982	4.4	21.9	4 1	13 43.39	- 4 25.3	0.830	1.813	8.3	23.7
4 11	13 25.12	- 1 49.8	1.983	2.980	2.2	21.7	4 11	13 26.18	- 2 40.6	0.861	1.861	3.2	23.5
4 21	13 15.73	- 1 8.7	1.994	2.978	4.9	21.9	4 21	13 10.44	- 1 14.0	0.918	1.905	8.1	24.0
5 1	13 7.12	- 0 37.3	2.034	2.974	8.5	22.1	5 1	12 57.98	- 0 15.0	0.998	1.947	14.0	24.4
5 11	13 0.04	- 0 19.0	2.100	2.970	11.8	22.3	5 11	12 49.65	+ 0 14.2	1.100	1.986	18.9	24.9
5 21	12 54.96	- 0 15.1	2.187	2.965	14.6	22.5	5 21	12 45.41	+ 0 16.2	1.217	2.022	22.5	25.2
183561	2003 KC ₃₂		4 12.4 311°27	2°4/ 9.7	17		437511	2013 YC ₈₃		4 12.4 270°98	3°4/15.7	17	
3 12	13 41.17	- 5 1.3	2.074	2.951	10.9	20.2	3 12	13 44.72	-20 45.8	2.105	2.928	12.9	21.0
3 22	13 37.08	- 3 53.1	1.993	2.936	7.6	20.0	3 22	13 39.71	-20 36.5	2.017	2.920	10.0	20.8
4 1	13 31.40	- 2 37.3	1.938	2.921	4.2	19.7	4 1	13 32.89	-20 9.8	1.953	2.912	6.7	20.6
4 11	13 24.76	- 1 19.9	1.910	2.907	2.5	19.6	4 11	13 24.98	-19 27.3	1.915	2.905	3.9	20.4
4 21	13 17.94	- 0 7.4	1.910	2.893	5.2	19.7	4 21	13 16.85	-18 32.5	1.905	2.897	4.0	20.4
5 1	13 11.75	+ 0 53.9	1.938	2.879	8.8	19.9	5 1	13 9.42	-17 31.1	1.922	2.889	7.0	20.5
5 11	13 6.89	+ 1 39.5	1.990	2.865	12.1	20.1	5 11	13 3.48	-16 29.7	1.966	2.880	10.3	20.7
5 21	13 3.84	+ 2 7.2	2.062	2.852	15.0	20.3	5 21	12 59.55	-15 34.2	2.032	2.872	13.4	20.9
106172	2000 UF		4 12.4 280°48	3°0/15.7	18		233223	2005 YS ₂₆		4 12.4 133°73	11°1/24.5	17	
3 12	13 43.11	-20 48.0	2.287	3.108	12.0	19.4	3 12	13 50.52	-42 20.7	2.054	2.739	17.5	20.4
3 22	13 38.43	-20 28.7	2.196	3.099	9.3	19.2	3 22	13 44.37	-43 13.4	1.974	2.743	15.7	20.2
4 1	13 32.12	-19 52.8	2.129	3.089	6.2	19.0	4 1	13 35.66	-43 36.8	1.912	2.747	13.8	20.1
4 11	13 24.85	-19 2.1	2.089	3.079	3.5	18.8	4 11	13 25.34	-43 26.8	1.870	2.750	12.1	20.0
4 21	13 17.39	-18 0.2	2.078	3.070	3.6	18.8	4 21	13 14.68	-42 42.9	1.850	2.753	11.2	19.9
5 1	13 10.55	-16 52.6	2.094	3.060	6.5	18.9	5 1	13 5.07	-41 29.3	1.854	2.757	11.4	19.9
5 11	13 5.06	-15 45.7	2.137	3.051	9.7	19.1	5 11	12 57.62	-39 54.5	1.881	2.760	12.6	20.0
5 21	13 1.39	-14 45.0	2.203	3.041	12.6	19.3	5 21	12 52.99	-38 8.8	1.930	2.763	14.3	20.1
477201	2009 HH ₆₇		4 12.4 1°63	2°6/15.2	17		162982	2001 RM ₅₀		4 12.4 112°00	1°5/14.1	18	
3 12	13 39.83	-20 24.3											

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2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
304009	2006 CQ ₂₇	4 12.4 246°26	2°2/14.0	16			428311	2007 FY ₄₉	4 12.4 15°69	3°6/15.7	17		
3 12	13 50.02	-16 2.6	1.668	2.512	14.7	21.4	3 12	13 41.86	-21 33.9	1.410	2.256	16.8	19.9
3 22	13 43.96	-15 52.2	1.576	2.497	11.0	21.2	3 22	13 38.17	-20 50.5	1.343	2.260	12.9	19.7
4 1	13 35.45	-15 24.6	1.508	2.481	6.8	20.9	4 1	13 32.20	-19 39.8	1.298	2.265	8.4	19.4
4 11	13 25.33	-14 41.6	1.466	2.464	2.7	20.6	4 11	13 24.94	-18 6.1	1.276	2.270	4.4	19.2
4 21	13 14.75	-13 48.0	1.451	2.447	4.2	20.6	4 21	13 17.57	-16 17.9	1.280	2.276	4.5	19.2
5 1	13 4.99	-12 50.7	1.463	2.429	8.8	20.9	5 1	13 11.29	-14 26.3	1.310	2.283	8.6	19.5
5 11	12 57.17	-11 57.6	1.500	2.410	13.2	21.1	5 11	13 7.06	-12 42.9	1.363	2.291	13.0	19.7
5 21	12 51.98	-11 15.2	1.558	2.391	17.1	21.3	5 21	13 5.37	-11 16.1	1.437	2.299	16.8	20.0
332870	2010 XP ₁	4 12.4 25°47	2°0/10.8	18			503250	2015 KO ₁₅	4 12.4 232°49	4°0/7.4	18		
3 12	13 42.97	-7 55.7	1.220	2.111	15.8	19.6	3 12	13 42.46	+2 28.0	2.436	3.312	9.5	21.4
3 22	13 38.97	-6 52.2	1.172	2.121	11.1	19.4	3 22	13 37.75	+3 33.2	2.370	3.308	6.9	21.2
4 1	13 32.59	-5 36.3	1.146	2.132	5.9	19.1	4 1	13 31.69	+4 38.5	2.330	3.304	4.6	21.0
4 11	13 24.94	-4 17.0	1.144	2.144	2.0	18.9	4 11	13 24.87	+5 38.2	2.319	3.300	4.2	21.0
4 21	13 17.30	-3 4.2	1.166	2.157	6.0	19.2	4 21	13 17.98	+6 27.4	2.336	3.296	6.2	21.1
5 1	13 10.92	-2 6.7	1.212	2.171	10.9	19.5	5 1	13 11.68	+7 2.1	2.381	3.292	8.8	21.3
5 11	13 6.72	-1 30.3	1.280	2.186	15.3	19.8	5 11	13 6.57	+7 20.3	2.449	3.288	11.4	21.4
5 21	13 5.14	-1 16.6	1.365	2.202	18.9	20.1	5 21	13 3.03	+7 21.8	2.538	3.283	13.6	21.6
287668	2003 OQ ₈	4 12.4 235°95	1°5/11.1	16			165435	2000 YO ₇₇	4 12.4 109°42	0°4/12.7	18		
3 12	13 49.21	-6 59.1	1.880	2.743	12.4	21.3	3 12	13 49.50	-12 9.6	1.641	2.499	14.2	20.6
3 22	13 43.04	-6 20.3	1.793	2.729	8.9	21.0	3 22	13 43.18	-11 39.4	1.584	2.515	10.2	20.4
4 1	13 34.78	-5 32.6	1.731	2.713	4.8	20.8	4 1	13 34.78	-10 55.9	1.550	2.530	5.7	20.1
4 11	13 25.24	-4 41.0	1.697	2.697	1.5	20.5	4 11	13 25.26	-10 3.7	1.543	2.545	0.9	19.8
4 21	13 15.38	-3 51.2	1.691	2.681	4.8	20.7	4 21	13 15.76	-9 9.1	1.564	2.559	4.0	20.1
5 1	13 6.26	-3 9.2	1.714	2.663	9.1	20.9	5 1	13 7.37	-8 18.9	1.612	2.573	8.5	20.4
5 11	12 58.82	-2 40.0	1.761	2.645	13.0	21.1	5 11	13 0.95	-7 38.9	1.684	2.587	12.5	20.6
5 21	12 53.62	-2 26.3	1.828	2.626	16.4	21.3	5 21	12 56.96	-7 12.8	1.777	2.600	15.8	20.9
248465	2005 UT ₆₉	4 12.4 243°63	3°7/16.4	17			303837	2005 SF ₁₆₂	4 12.4 269°12	0°1/12.3	16		
3 12	13 44.89	-22 34.2	2.578	3.382	11.3	20.5	3 12	13 42.70	-11 7.0	2.430	3.285	10.3	21.6
3 22	13 39.59	-22 38.6	2.485	3.374	8.9	20.3	3 22	13 38.04	-10 23.3	2.338	3.268	7.4	21.4
4 1	13 32.75	-22 28.3	2.417	3.366	6.3	20.1	4 1	13 31.92	-9 29.4	2.271	3.252	4.1	21.1
4 11	13 24.98	-22 3.8	2.376	3.357	4.1	20.0	4 11	13 24.92	-8 29.0	2.233	3.235	0.5	20.8
4 21	13 16.99	-21 27.4	2.363	3.348	4.0	20.0	4 21	13 17.72	-7 26.6	2.224	3.218	3.2	21.0
5 1	13 9.57	-20 43.0	2.378	3.340	6.1	20.1	5 1	13 11.06	-6 27.4	2.244	3.201	6.8	21.2
5 11	13 3.40	-19 55.7	2.421	3.331	8.9	20.2	5 11	13 5.59	-5 36.5	2.291	3.184	10.0	21.4
5 21	12 58.93	-19 10.4	2.487	3.321	11.4	20.4	5 21	13 1.75	-4 57.0	2.359	3.166	12.8	21.5
301479	2009 DF ₁₃₂	4 12.4 325°32	2°7/9.4	17			33427	1999 DZ ₂	4 12.4 94°54	2°9/10.4	18		
3 12	13 42.30	-3 56.8	2.091	2.967	10.8	20.8	3 12	13 51.02	-3 22.7	1.427	2.306	14.7	18.4
3 22	13 37.80	-2 48.4	2.022	2.965	7.6	20.6	3 22	13 44.45	-2 49.1	1.375	2.318	10.4	18.2
4 1	13 31.76	-1 34.3	1.980	2.963	4.3	20.4	4 1	13 35.54	-2 10.7	1.347	2.330	5.8	17.9
4 11	13 24.85	-0 20.6	1.966	2.961	2.7	20.3	4 11	13 25.37	-1 34.3	1.344	2.342	3.0	17.8
4 21	13 17.84	+0 46.3	1.980	2.960	5.3	20.5	4 21	13 15.22	-1 6.1	1.367	2.353	6.2	18.0
5 1	13 11.53	+1 41.0	2.021	2.958	8.7	20.7	5 1	13 6.34	-0 51.5	1.417	2.365	10.7	18.3
5 11	13 6.59	+2 19.6	2.087	2.957	11.8	20.9	5 11	12 59.68	-0 53.3	1.488	2.376	14.7	18.6
5 21	13 3.44	+2 40.6	2.173	2.955	14.6	21.1	5 21	12 55.71	-1 12.0	1.579	2.387	18.1	18.8
213082	1999 TG ₁₃₈	4 12.4 236°43	0°6/12.9	17			221191	2005 UF ₄₈	4 12.4 228°99	2°1/10.4	18		
3 12	13 48.36	-12 40.7	1.939	2.789	12.7	21.5	3 12	13 46.89	-5 0.1	2.073	2.939	11.3	21.3
3 22	13 42.42	-12 11.4	1.848	2.775	9.3	21.3	3 22	13 41.18	-4 14.5	1.991	2.929	8.0	21.1
4 1	13 34.45	-11 28.9	1.782	2.760	5.3	21.0	4 1	13 33.70	-3 22.6	1.936	2.918	4.4	20.8
4 11	13 25.20	-10 36.4	1.743	2.745	1.0	20.7	4 11	13 25.15	-2 29.4	1.908	2.907	2.1	20.7
4 21	13 15.64	-9 39.2	1.733	2.728	3.7	20.8	4 21	13 16.40	-1 40.3	1.910	2.895	4.9	20.8
5 1	13 6.80	-8 43.5	1.751	2.711	8.0	21.0	5 1	13 8.35	-1 0.7	1.939	2.882	8.6	21.0
5 11	12 59.58	-7 55.5	1.795	2.693	12.0	21.2	5 11	13 1.77	-0 34.4	1.993	2.869	12.1	21.2
5 21	12 54.56	-7 19.7	1.860	2.675	15.5	21.4	5 21	12 57.16	-0 23.4	2.069	2.856	15.0	21.4
290700	2005 UR ₃₈₂	4 12.4 115°11	4°0/9.2	18			101613	1999 CX ₈	4 12.4 94°49	1°3/11.3	18		
3 12	13 50.70	-1 46.9	1.525	2.402	14.0	21.1	3 12	13 49.30	-7 1.5	1.823	2.688	12.7	19.9
3 22	13 44.00	-0 38.9	1.479	2.421	9.9	20.9	3 22	13 42.77	-6 26.9	1.775	2.711	8.9	19.7
4 1	13 35.17	+0 32.3	1.457	2.438	5.8	20.7	4 1	13 34.45	-5 45.3	1.751	2.734	4.7	19.5
4 11	13 25.27	+1 38.5	1.463	2.456	4.1	20.6	4 11	13 25.23	-5 1.8	1.755	2.756	1.3	19.3
4 21	13 15.47	+2 32.1	1.495	2.472	7.0	20.9	4 21	13 16.11	-4 21.7	1.788	2.778	4.4	19.6
5 1	13 6.93	+3 7.3	1.553	2.488	11.0	21.1	5 1	13 8.05	-3 50.0	1.848	2.799	8.4	19.8
5 11	13 0.48	+3 21.7	1.634	2.503	14.6	21.4	5 11	13 1.76	-3 30.4	1.933	2.820	11.9	20.1
5 21	12 56.54	+3 15.6	1.734	2.517	17.7	21.6	5 21	12 57.66	-3 24.4	2.039	2.841	14.7	20.3
125698	2001 XT ₉₃	4 12.4 80°42	2°5/10.9	18			225533	2000 SL ₂₀	4 12.4 146°64	4°6/17.5	17		
3 12	13 51.21	-4 12.2	1.367	2.246	15.2	20.1	3 12	13 46.84	-25 52.0	2.208	3.001	13.4	20.5
3 22	13 44.78	-3 52.2	1.308	2.251	10.8	19.8	3 22	13 41.10	-25 40.5	2.130	3.009	10.7	20.3
4 1	13 35.80	-3 26.5	1.271	2.255	5.9	19.6	4 1	13 33.61	-25 8.7	2.076	3.016	7.8	20.1
4 11	13 25.37	-3 1.2	1.260	2.260	2.5	19.3	4 11	13 25.14	-24 17.7	2.047	3.023	5.3	20.0
4 21	13 14.83	-2 42.1	1.275	2.264	6.0	19.6	4 21	13 16.57	-23 11.0	2.047	3.030	4.8	20.0
5 1	13 5.53	-2 34.6	1.315	2.268	10.8	19.9	5 1	13 8.82	-21 54.7	2.074	3.036	6.9	20.1
5 11	12 58.54	-2 42.1	1.378	2.273	15.2	20.1	5 11	13 2.64	-20 36.0	2.129	3.041	9.7	20.3
5 21	12 54.40	-3 5.4	1.459	2.277	18.8	20.4	5 21	12 58.48	-19 21.6	2.207	3.047	12.5	20.5
382814	2003 UD ₃₃₄	4 12.4 231°07	0°3/12.7	17			393011	2012 XB ₁₄₁	4 12.4 76°26	2°6/9.9	17		
3 12	13 44.42	-12 27.1	2.000	2.856	12.1	21.7	3 12	13 45.91	-1 43.5	2.200			

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2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
18637	Liverdun		4 12.4 255°92	1°5/10.8	18		372939	2011 <i>BF</i> ₆₁		4 12.4 241°54	8°9/3.9	17	
3 12	13 44.09	- 8 19.7	2.074	2.940	11.4	19.5	3 12	13 48.47	+14 27.8	1.836	2.703	12.5	20.5
3 22	13 39.23	- 7 10.1	1.986	2.924	8.0	19.3	3 22	13 42.42	+15 44.0	1.780	2.695	10.3	20.4
4 1	13 32.66	- 5 49.5	1.924	2.908	4.3	19.0	4 1	13 34.40	+16 48.7	1.748	2.687	9.0	20.3
4 11	13 25.04	- 4 23.4	1.891	2.891	1.5	18.8	4 11	13 25.27	+17 33.7	1.742	2.679	9.4	20.3
4 21	13 17.19	- 2 58.8	1.886	2.874	4.5	19.0	4 21	13 16.04	+17 53.2	1.761	2.671	11.3	20.4
5 1	13 9.99	- 1 42.6	1.909	2.857	8.4	19.2	5 1	13 7.73	+17 44.6	1.803	2.663	13.8	20.5
5 11	13 4.19	- 0 40.5	1.958	2.839	12.0	19.4	5 11	13 1.18	+17 9.0	1.866	2.654	16.3	20.7
5 21	13 0.30	+ 0 4.1	2.028	2.821	15.1	19.5	5 21	12 56.87	+16 10.0	1.946	2.645	18.6	20.8
402890	2007 <i>SR</i> ₂		4 12.4 180°55	0°5/12.9	17		131289	2001 <i>FD</i> ₁₀₇		4 12.4 250°92	0°6/11.9	18	
3 12	13 49.22	-12 37.1	1.926	2.775	12.8	22.6	3 12	13 46.40	- 8 31.7	2.012	2.874	11.8	19.7
3 22	13 42.90	-12 5.1	1.850	2.777	9.3	22.4	3 22	13 40.87	- 8 9.9	1.934	2.869	8.4	19.5
4 1	13 34.65	-11 20.2	1.800	2.778	5.2	22.1	4 1	13 33.55	- 7 39.9	1.881	2.863	4.6	19.3
4 11	13 25.29	-10 26.3	1.777	2.778	1.0	21.8	4 11	13 25.17	- 7 5.5	1.856	2.857	0.7	18.9
4 21	13 15.77	- 9 28.8	1.783	2.778	3.6	22.0	4 21	13 16.60	- 6 31.1	1.859	2.852	3.9	19.2
5 1	13 7.12	- 8 34.0	1.817	2.776	7.9	22.3	5 1	13 8.77	- 6 1.6	1.889	2.846	7.8	19.4
5 11	13 0.16	- 7 47.7	1.877	2.774	11.6	22.5	5 11	13 2.46	- 5 41.2	1.945	2.840	11.5	19.6
5 21	12 55.40	- 7 13.8	1.958	2.771	14.9	22.7	5 21	12 58.16	- 5 32.6	2.022	2.834	14.5	19.8
17987	1999 <i>JQ</i> ₆₂		4 12.4 265°34	4°8/7.1	18		383622	2007 <i>PJ</i> ₉		4 12.4 165°62	4°9/17.8	17	
3 12	13 44.11	+ 4 42.9	2.241	3.117	10.2	18.9	3 12	13 45.68	-26 22.0	2.281	3.070	13.1	21.5
3 22	13 39.03	+ 5 39.7	2.174	3.110	7.5	18.7	3 22	13 40.31	-26 19.7	2.198	3.072	10.5	21.3
4 1	13 32.45	+ 6 34.5	2.134	3.104	5.3	18.5	4 1	13 33.22	-25 57.9	2.138	3.074	7.8	21.1
4 11	13 25.01	+ 7 21.5	2.122	3.098	5.0	18.5	4 11	13 25.13	-25 17.0	2.104	3.076	5.5	21.0
4 21	13 17.46	+ 7 55.6	2.137	3.092	7.0	18.6	4 21	13 16.88	-24 20.0	2.097	3.077	5.0	21.0
5 1	13 10.58	+ 8 13.4	2.179	3.086	9.7	18.8	5 1	13 9.38	-23 12.2	2.119	3.079	6.9	21.1
5 11	13 5.03	+ 8 13.4	2.244	3.079	12.4	18.9	5 11	13 3.36	-22 0.4	2.166	3.080	9.6	21.3
5 21	13 1.22	+ 7 55.9	2.328	3.073	14.7	19.1	5 21	12 59.29	-20 51.1	2.238	3.080	12.3	21.4
135150	2001 <i>QC</i> ₂₁₈		4 12.4 116°75	0°7/11.6	18 R		272831	2006 <i>AE</i> ₁₀₁		4 12.4 204°30	2°2/14.4	17	
3 12	13 44.52	- 8 37.0	2.528	3.384	9.9	20.2	3 12	13 46.86	-16 51.4	2.032	2.869	12.7	21.7
3 22	13 39.09	- 7 58.2	2.467	3.399	7.0	20.0	3 22	13 41.24	-16 40.8	1.951	2.867	9.5	21.5
4 1	13 32.38	- 7 12.7	2.433	3.415	3.7	19.8	4 1	13 33.77	-16 15.5	1.895	2.865	5.9	21.2
4 11	13 24.99	- 6 24.4	2.428	3.430	0.7	19.6	4 11	13 25.20	-15 37.7	1.865	2.862	2.6	21.0
4 21	13 17.61	- 5 37.3	2.453	3.444	3.3	19.9	4 21	13 16.44	-14 51.3	1.864	2.859	3.5	21.1
5 1	13 10.90	- 4 55.7	2.507	3.459	6.5	20.1	5 1	13 8.45	-14 1.9	1.890	2.856	7.1	21.3
5 11	13 5.42	- 4 23.0	2.588	3.472	9.3	20.3	5 11	13 2.02	-13 15.5	1.943	2.852	10.7	21.5
5 21	13 1.51	- 4 1.1	2.691	3.486	11.7	20.5	5 21	12 57.66	-12 36.9	2.017	2.848	13.8	21.7
34716	Guzzo		4 12.4 191°91	1°1/13.4	18		156447	2002 <i>AM</i> ₁₇₇		4 12.4 69°11	0°8/13.1	18	
3 12	13 47.06	-14 5.0	1.935	2.784	12.8	19.9	3 12	13 46.88	-12 44.8	1.712	2.571	13.7	20.1
3 22	13 41.40	-13 37.8	1.858	2.783	9.4	19.7	3 22	13 41.34	-12 24.6	1.650	2.581	9.9	19.9
4 1	13 33.84	-12 56.9	1.805	2.782	5.4	19.4	4 1	13 33.82	-11 51.5	1.612	2.591	5.6	19.7
4 11	13 25.19	-12 5.5	1.779	2.780	1.5	19.2	4 11	13 25.20	-11 9.1	1.600	2.601	1.3	19.4
4 21	13 16.37	-11 8.9	1.782	2.778	3.5	19.3	4 21	13 16.53	-10 23.0	1.616	2.612	3.7	19.6
5 1	13 8.37	-10 13.2	1.812	2.775	7.6	19.6	5 1	13 8.83	- 9 39.2	1.658	2.622	8.0	19.9
5 11	13 1.99	- 9 24.5	1.868	2.773	11.3	19.8	5 11	13 2.95	- 9 3.6	1.725	2.632	11.9	20.1
5 21	12 57.75	- 8 47.1	1.946	2.769	14.6	20.0	5 21	12 59.36	- 8 39.9	1.812	2.643	15.2	20.3
423820	2006 <i>KY</i> ₄₃		4 12.4 46°77	5°7/6.9	17		347994	2003 <i>SL</i> ₁₆₅		4 12.4 220°04	0°2/12.1	18	
3 12	13 44.35	+ 3 57.1	1.746	2.630	12.1	20.5	3 12	13 44.08	-12 34.1	2.582	3.427	10.1	21.3
3 22	13 39.42	+ 5 13.7	1.696	2.638	8.9	20.4	3 22	13 38.92	-11 16.3	2.491	3.417	7.2	21.1
4 1	13 32.70	+ 6 28.1	1.672	2.645	6.2	20.2	4 1	13 32.38	- 9 46.0	2.427	3.406	3.9	20.8
4 11	13 25.04	+ 7 32.2	1.675	2.653	5.9	20.2	4 11	13 25.03	- 8 7.9	2.393	3.395	0.5	20.5
4 21	13 17.37	+ 8 19.4	1.703	2.660	8.2	20.4	4 21	13 17.56	- 6 28.0	2.391	3.383	3.2	20.8
5 1	13 10.63	+ 8 45.4	1.757	2.669	11.4	20.6	5 1	13 10.65	- 4 52.6	2.419	3.370	6.6	21.0
5 11	13 5.56	+ 8 48.8	1.832	2.677	14.4	20.8	5 11	13 4.90	- 3 27.4	2.475	3.357	9.8	21.1
5 21	13 2.56	+ 8 30.9	1.926	2.685	16.9	21.0	5 21	13 0.74	- 2 16.3	2.554	3.343	12.4	21.3
296361	2009 <i>FQ</i> ₂₅		4 12.4 35°64	1°8/10.3	18		371011	2005 <i>TV</i> ₁₉₅		4 12.4 124°95	1°2/11.3	17	
3 12	13 41.30	- 7 53.1	1.944	2.817	11.6	20.0	3 12	13 46.64	- 7 48.2	1.879	2.745	12.3	21.9
3 22	13 37.16	- 6 28.4	1.883	2.824	8.1	19.8	3 22	13 41.01	- 7 4.3	1.816	2.754	8.7	21.7
4 1	13 31.44	- 4 54.2	1.847	2.832	4.3	19.6	4 1	13 33.58	- 6 12.0	1.779	2.762	4.6	21.5
4 11	13 24.88	- 3 17.4	1.840	2.840	1.8	19.4	4 11	13 25.18	- 5 16.4	1.769	2.770	1.2	21.2
4 21	13 18.29	- 1 45.6	1.861	2.848	4.8	19.6	4 21	13 16.73	- 4 23.4	1.787	2.777	4.4	21.5
5 1	13 12.49	- 0 26.0	1.910	2.856	8.5	19.9	5 1	13 9.17	- 3 38.8	1.832	2.784	8.4	21.7
5 11	13 8.12	+ 0 36.6	1.983	2.865	11.9	20.1	5 11	13 3.25	- 3 6.8	1.902	2.791	11.9	21.9
5 21	13 5.60	+ 1 19.7	2.077	2.874	14.7	20.3	5 21	12 59.41	- 2 49.8	1.993	2.798	14.9	22.2
114014	2002 <i>UL</i> ₄₀		4 12.4 127°23	3°7/8.2	17		53099	1998 <i>YW</i> ₂₉		4 12.4 96°37	0°3/12.2	18	
3 12	13 43.55	+ 0 18.5	2.259	3.135	10.1	19.9	3 12	13 50.38	- 8 29.3	1.705	2.568	13.5	18.5
3 22	13 38.56	+ 1 27.1	2.202	3.142	7.2	19.7	3 22	13 43.86	- 8 26.1	1.641	2.576	9.6	18.3
4 1	13 32.14	+ 2 37.1	2.171	3.148	4.5	19.6	4 1	13 35.23	- 8 14.6	1.601	2.583	5.3	18.0
4 11	13 24.97	+ 3 42.2	2.168	3.155	3.8	19.5	4 11	13 25.40	- 7 58.4	1.588	2.590	0.7	17.7
4 21	13 17.78	+ 4 37.3	2.194	3.161	5.9	19.7	4 21	13 15.48	- 7 41.6	1.603	2.597	4.1	18.0
5 1	13 11.29	+ 5 18.0	2.247	3.168	8.8	19.9	5 1	13 6.57	- 7 28.8	1.645	2.604	8.6	18.2
5 11	13 6.10	+ 5 41.9	2.325	3.174	11.6	20.0	5 11	12 59.56	- 7 24.2	1.712	2.611	12.5	18.5
5 21	13 2.60	+ 5 48.6	2.423	3.179	13.9	20.2	5 21	12 54.97	- 7 30.2	1.799	2.618	15.7	18.7
119848	2002 <i>CJ</i> ₅₅		4 12.4 18°17	0°0/12.4	17		410650	2008 <i>SQ</i> ₁		4 12.4 84°95	2°2/15.3	18	

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2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
229596	2006 BX ₂₁₉		4 12.4 234°30	2°5/ 9.9 18			348003	2003 SR ₂₄₆		4 12.4 234°85	0°3/12.7 16		
3 12	13 47.06	- 3 15.9	2.236	3.103	10.6	21.1	3 12	13 49.46	-11 37.1	1.885	2.738	12.9	21.7
3 22	13 41.24	- 2 29.6	2.151	3.088	7.5	20.9	3 22	13 43.30	-11 13.7	1.796	2.724	9.4	21.5
4 1	13 33.75	- 1 38.6	2.092	3.073	4.3	20.6	4 1	13 35.03	-10 38.1	1.731	2.710	5.3	21.2
4 11	13 25.24	- 0 47.7	2.062	3.058	2.5	20.5	4 11	13 25.43	- 9 53.6	1.694	2.695	0.9	20.8
4 21	13 16.50	- 0 2.1	2.061	3.042	5.0	20.6	4 21	13 15.50	- 9 5.2	1.685	2.680	3.8	21.0
5 1	13 8.39	+ 0 33.5	2.088	3.025	8.5	20.8	5 1	13 6.31	- 8 18.9	1.704	2.664	8.3	21.3
5 11	13 1.65	+ 0 55.5	2.140	3.007	11.7	21.0	5 11	12 58.80	- 7 40.7	1.749	2.647	12.3	21.5
5 21	12 56.75	+ 1 2.6	2.214	2.989	14.5	21.1	5 21	12 53.57	- 7 14.6	1.814	2.629	15.8	21.7
374545	2006 BA ₈₃		4 12.4 87°87	2°1/10.5 18			57719	2001 UE ₁₃₂		4 12.4 68°92	0°9/11.5 18		
3 12	13 45.58	- 5 50.6	1.822	2.695	12.3	21.0	3 12	13 43.99	- 8 7.3	2.139	3.004	11.1	19.2
3 22	13 40.26	- 4 56.3	1.765	2.706	8.6	20.8	3 22	13 38.95	- 7 28.4	2.079	3.016	7.8	19.0
4 1	13 33.17	- 3 55.2	1.734	2.717	4.7	20.6	4 1	13 32.41	- 6 42.3	2.045	3.028	4.2	18.8
4 11	13 25.15	- 2 53.4	1.729	2.728	2.1	20.4	4 11	13 25.07	- 5 53.2	2.039	3.041	1.0	18.6
4 21	13 17.12	- 1 57.1	1.753	2.739	5.0	20.6	4 21	13 17.72	- 5 6.1	2.062	3.053	3.8	18.8
5 1	13 10.00	- 1 12.1	1.803	2.750	8.9	20.9	5 1	13 11.13	- 4 25.8	2.112	3.066	7.3	19.1
5 11	13 4.53	- 0 42.3	1.877	2.761	12.3	21.1	5 11	13 5.94	- 3 56.0	2.188	3.078	10.5	19.3
5 21	13 1.12	- 0 29.2	1.972	2.772	15.3	21.3	5 21	13 2.54	- 3 38.8	2.286	3.091	13.2	19.5
44582	1999 JE ₁₀		4 12.4 263°64	4°3/ 7.5 18			136026	2002 VY ₉₆		4 12.4 234°53	2°0/14.3 18		
3 12	13 43.05	+ 2 15.6	2.215	3.093	10.2	18.8	3 12	13 47.24	-15 49.6	2.333	3.166	11.4	20.1
3 22	13 38.32	+ 3 24.6	2.148	3.087	7.4	18.6	3 22	13 41.39	-15 53.3	2.244	3.158	8.5	19.9
4 1	13 32.09	+ 4 33.9	2.107	3.081	5.0	18.5	4 1	13 33.85	-15 45.4	2.181	3.150	5.3	19.7
4 11	13 25.02	+ 5 37.4	2.094	3.076	4.5	18.4	4 11	13 25.28	-15 27.4	2.146	3.142	2.3	19.5
4 21	13 17.84	+ 6 29.5	2.108	3.070	6.6	18.6	4 21	13 16.47	-15 2.1	2.139	3.134	3.2	19.6
5 1	13 11.31	+ 7 5.7	2.150	3.064	9.5	18.7	5 1	13 8.29	-14 33.5	2.162	3.125	6.5	19.7
5 11	13 6.08	+ 7 23.8	2.215	3.057	12.3	18.9	5 11	13 1.46	-14 6.0	2.211	3.116	9.8	19.9
5 21	13 2.58	+ 7 23.5	2.300	3.051	14.7	19.1	5 21	12 56.49	-13 43.8	2.283	3.107	12.7	20.1
368210	2001 RK ₁₀		4 12.4 185°54	0°5/12.9 17			160787	2000 SE ₃₆₁		4 12.4 121°59	0°8/13.2 18		
3 12	13 47.80	-12 19.3	2.324	3.168	11.1	22.7	3 12	13 50.33	-13 47.0	1.829	2.676	13.5	20.9
3 22	13 41.67	-11 53.2	2.244	3.168	8.0	22.5	3 22	13 43.62	-13 12.8	1.771	2.695	9.8	20.7
4 1	13 33.92	-11 16.8	2.190	3.168	4.5	22.3	4 1	13 35.01	-12 24.9	1.738	2.714	5.6	20.5
4 11	13 25.26	-10 33.0	2.165	3.166	0.9	22.0	4 11	13 25.41	-11 27.4	1.732	2.733	1.3	20.3
4 21	13 16.45	- 9 46.2	2.170	3.164	3.1	22.2	4 21	13 15.86	-10 26.3	1.755	2.750	3.6	20.5
5 1	13 8.34	- 9 1.1	2.203	3.162	6.8	22.4	5 1	13 7.35	- 9 28.1	1.806	2.767	7.8	20.7
5 11	13 1.61	- 8 22.3	2.264	3.158	10.1	22.6	5 11	13 0.69	- 8 38.9	1.882	2.782	11.5	21.0
5 21	12 56.72	- 7 53.2	2.347	3.154	12.9	22.8	5 21	12 56.29	- 8 2.4	1.981	2.798	14.6	21.2
77335	2001 FU ₉₆		4 12.4 15°37	4°8/ 8.8 18			517692	2015 DQ ₂₃₂		4 12.4 140°22	1°8/10.5 17		
3 12	13 46.73	+ 0 0.4	1.395	2.284	14.3	19.1	3 12	13 44.62	- 6 14.7	2.166	3.033	10.9	21.7
3 22	13 41.56	+ 1 0.9	1.338	2.285	10.2	18.9	3 22	13 39.41	- 5 17.9	2.101	3.039	7.6	21.5
4 1	13 34.07	+ 2 3.7	1.305	2.286	6.3	18.7	4 1	13 32.68	- 4 14.6	2.063	3.046	4.1	21.3
4 11	13 25.28	+ 3 0.0	1.297	2.288	5.0	18.6	4 11	13 25.12	- 3 9.9	2.053	3.052	1.8	21.1
4 21	13 16.39	+ 3 42.0	1.315	2.290	7.9	18.8	4 21	13 17.51	- 2 9.4	2.072	3.058	4.4	21.3
5 1	13 8.63	+ 4 3.7	1.356	2.293	12.1	19.0	5 1	13 10.65	- 1 18.4	2.118	3.063	7.9	21.5
5 11	13 2.96	+ 4 2.7	1.419	2.296	16.0	19.2	5 11	13 5.17	- 0 40.7	2.190	3.068	11.1	21.7
5 21	12 59.88	+ 3 39.8	1.499	2.299	19.2	19.5	5 21	13 1.49	- 0 18.1	2.284	3.073	13.7	21.9
315416	2007 VK ₂₃₃		4 12.4 120°41	1°6/11.2 18			114834	2003 OB ₂₃		4 12.4 204°63	2°1/14.1 16		
3 12	13 49.77	- 6 46.4	1.723	2.590	13.2	21.4	3 12	13 50.66	-15 31.1	1.824	2.664	13.8	20.1
3 22	13 43.30	- 6 8.0	1.666	2.604	9.3	21.2	3 22	13 44.18	-15 31.1	1.742	2.661	10.3	19.9
4 1	13 34.86	- 5 22.1	1.635	2.618	5.0	21.0	4 1	13 35.52	-15 16.6	1.685	2.657	6.3	19.6
4 11	13 25.37	- 4 34.0	1.630	2.631	1.6	20.8	4 11	13 25.51	-14 49.5	1.654	2.652	2.5	19.4
4 21	13 15.89	- 3 49.7	1.654	2.644	4.8	21.0	4 21	13 15.22	-14 13.5	1.652	2.647	3.8	19.5
5 1	13 7.47	- 3 14.8	1.705	2.656	9.0	21.3	5 1	13 5.79	-13 34.4	1.677	2.641	8.0	19.7
5 11	13 0.92	- 2 53.3	1.780	2.668	12.7	21.5	5 11	12 58.19	-12 58.3	1.727	2.635	11.9	19.9
5 21	12 56.68	- 2 46.9	1.876	2.679	15.8	21.8	5 21	12 52.99	-12 30.3	1.799	2.628	15.4	20.1
17382	1981 EH ₁₁		4 12.4 239°52	4°9/16.5 18			260774	2005 NF ₈		4 12.4 180°44	0°8/11.7 17		
3 12	13 50.24	-23 34.9	2.189	2.988	13.3	18.3	3 12	13 46.86	- 9 14.6	2.056	2.915	11.7	21.6
3 22	13 43.81	-24 2.8	2.092	2.975	10.6	18.0	3 22	13 41.14	- 8 30.0	1.983	2.916	8.3	21.4
4 1	13 35.30	-24 13.8	2.019	2.962	7.7	17.8	4 1	13 33.69	- 7 35.8	1.935	2.917	4.5	21.2
4 11	13 25.46	-24 7.4	1.972	2.949	5.3	17.7	4 11	13 25.26	- 6 36.7	1.916	2.917	0.8	20.9
4 21	13 15.21	-23 44.6	1.953	2.935	5.2	17.6	4 21	13 16.72	- 5 38.2	1.925	2.917	3.9	21.1
5 1	13 5.59	-23 9.5	1.963	2.920	7.5	17.7	5 1	13 8.96	- 4 46.0	1.963	2.916	7.8	21.3
5 11	12 57.55	-22 28.0	1.998	2.905	10.6	17.9	5 11	13 2.70	- 4 4.9	2.026	2.915	11.3	21.6
5 21	12 51.69	-21 46.3	2.057	2.890	13.5	18.1	5 21	12 58.43	- 3 37.8	2.111	2.913	14.3	21.8
340677	2006 RD ₆₅		4 12.4 130°65	1°4/13.9 18			98473	2000 UD ₉₆		4 12.4 187°24	2°2/14.4 18		
3 12	13 45.77	-15 3.9	2.601	3.435	10.4	21.3	3 12	13 50.18	-16 53.5	1.974	2.806	13.2	19.7
3 22	13 40.06	-14 53.7	2.530	3.445	7.6	21.1	3 22	13 43.67	-16 41.4	1.893	2.806	9.9	19.5
4 1	13 32.97	-14 33.3	2.485	3.456	4.6	21.0	4 1	13 35.16	-16 13.8	1.836	2.805	6.1	19.2
4 11	13 25.14	-14 4.7	2.468	3.466	1.7	20.8	4 11	13 25.46	-15 33.0	1.807	2.804	2.7	19.0
4 21	13 17.25	-13 31.2	2.481	3.476	2.7	20.9	4 21	13 15.56	-14 43.2	1.807	2.801	3.6	19.1
5 1	13 10.01	-12 56.5	2.523	3.485	5.8	21.1	5 1	13 6.49	-13 50.2	1.835	2.798	7.4	19.3
5 11	13 3.99	-12 24.6	2.592	3.494	8.7	21.3	5 11	12 59.12	-13 0.4	1.889	2.794	11.2	19.5
5 21	12 59.60	-11 58.8	2.685	3.503	11.2	21.5	5 21	12 53.99	-12 19.2	1.965	2.790	14.4	19.7
106574	2000 WH ₉₄		4 12.4 159°29	0°1/12.5 18 R			498333	2007 VH ₂₃₂		4 12.4 151°95	0°5/11.9 17		
3 12	13 49.47	-11 20.2	1.907</										

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2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
93213	2000 SA ₁₂₈		4 12.4	7°75	4°3/ 9.6	18	413829	2006 RK ₅₈		4 12.4	352°07	0°9/13.1	17
3 12	13 50.07	+ 3 28.0	1.812	2.686	12.3	17.7	3 12	13 45.99	-12 5.4	1.253	2.130	16.4	20.2
3 22	13 43.52	+ 3 28.7	1.750	2.688	8.9	17.5	3 22	13 41.45	-11 58.6	1.186	2.125	12.0	19.9
4 1	13 35.02	+ 3 25.5	1.713	2.690	5.7	17.3	4 1	13 34.24	-11 36.1	1.140	2.121	6.9	19.6
4 11	13 25.44	+ 3 14.1	1.703	2.692	4.3	17.2	4 11	13 25.38	-11 1.9	1.117	2.118	1.5	19.3
4 21	13 15.78	+ 2 51.3	1.721	2.695	6.5	17.3	4 21	13 16.22	-10 22.2	1.119	2.116	4.6	19.5
5 1	13 7.08	+ 2 15.4	1.765	2.699	9.9	17.5	5 1	13 8.21	-9 44.7	1.145	2.115	10.1	19.8
5 11	13 0.16	+ 1 26.2	1.834	2.703	13.2	17.7	5 11	13 2.50	-9 16.9	1.192	2.114	14.9	20.0
5 21	12 55.50	+ 0 25.1	1.923	2.708	16.1	18.0	5 21	12 59.73	-9 3.5	1.258	2.115	19.0	20.3
210060	2006 PV ₃₇		4 12.4	293°24	0°9/11.8	17	6712	Hornstein		4 12.4	341°06	0°8/12.9	18
3 12	13 47.36	- 8 46.4	1.450	2.325	14.7	20.8	3 12	13 45.13	-12 31.9	1.268	2.144	16.3	17.1
3 22	13 42.32	- 8 17.2	1.365	2.305	10.6	20.5	3 22	13 40.84	-12 11.1	1.197	2.137	11.9	16.9
4 1	13 34.72	- 7 35.4	1.301	2.285	5.8	20.1	4 1	13 33.91	-11 32.9	1.148	2.130	6.8	16.6
4 11	13 25.43	- 6 46.0	1.263	2.265	1.0	19.7	4 11	13 25.34	-10 42.0	1.122	2.124	1.4	16.2
4 21	13 15.65	- 5 55.9	1.251	2.245	5.1	20.0	4 21	13 16.45	- 9 45.6	1.122	2.119	4.7	16.4
5 1	13 6.72	- 5 12.7	1.264	2.225	10.4	20.2	5 1	13 8.65	- 8 52.5	1.145	2.114	10.1	16.7
5 11	12 59.83	- 4 43.2	1.300	2.205	15.2	20.4	5 11	13 3.12	- 8 10.9	1.189	2.110	15.0	16.9
5 21	12 55.69	- 4 31.4	1.354	2.185	19.3	20.6	5 21	13 0.48	- 7 46.0	1.253	2.107	19.2	17.2
179532	2002 CL ₂₀₁		4 12.4	353°81	0°2/12.7	17	292033	2006 QO ₁₆₈		4 12.4	215°04	4°0/ 8.4	16
3 12	13 43.96	-11 11.0	2.309	3.163	10.8	20.7	3 12	13 47.40	+ 0 2.9	2.061	2.933	11.1	21.7
3 22	13 38.97	-10 49.4	2.233	3.163	7.7	20.5	3 22	13 41.56	+ 1 12.8	1.986	2.925	8.0	21.5
4 1	13 32.47	-10 18.7	2.183	3.163	4.3	20.3	4 1	13 33.96	+ 2 25.6	1.938	2.916	5.0	21.3
4 11	13 25.11	- 9 42.1	2.161	3.162	0.7	20.0	4 11	13 25.33	+ 3 34.7	1.918	2.906	4.1	21.2
4 21	13 17.64	- 9 3.6	2.167	3.162	3.1	20.2	4 21	13 16.52	+ 4 33.5	1.927	2.895	6.5	21.3
5 1	13 10.82	- 8 27.4	2.202	3.162	6.6	20.4	5 1	13 8.44	+ 5 16.9	1.963	2.884	9.8	21.5
5 11	13 5.29	- 7 57.8	2.263	3.162	9.9	20.6	5 11	13 1.85	+ 5 41.6	2.023	2.872	13.0	21.7
5 21	13 1.49	- 7 37.6	2.346	3.162	12.6	20.8	5 21	12 57.24	+ 5 47.2	2.103	2.859	15.8	21.9
348883	2006 SF ₂₄₅		4 12.4	202°17	2°5/ 9.2	17	501273	2013 WZ ₃₃		4 12.5	160°05	1°9/10.6	17
3 12	13 42.35	- 3 59.5	2.463	3.333	9.6	21.7	3 12	13 46.59	- 4 39.2	2.097	2.965	11.2	21.9
3 22	13 37.71	- 2 43.0	2.391	3.331	6.7	21.5	3 22	13 40.89	- 4 4.4	2.030	2.968	7.9	21.7
4 1	13 31.74	- 1 21.2	2.346	3.328	3.8	21.3	4 1	13 33.54	- 3 24.8	1.988	2.970	4.3	21.4
4 11	13 25.02	+ 0 0.4	2.331	3.325	2.5	21.2	4 11	13 25.27	- 2 45.0	1.974	2.973	1.9	21.3
4 21	13 18.21	+ 1 16.1	2.345	3.322	4.8	21.4	4 21	13 16.92	- 2 9.6	1.989	2.975	4.6	21.5
5 1	13 12.00	+ 2 20.6	2.387	3.318	7.8	21.5	5 1	13 9.33	- 1 43.1	2.031	2.977	8.1	21.7
5 11	13 6.95	+ 3 10.3	2.455	3.315	10.7	21.7	5 11	13 3.20	- 1 28.6	2.099	2.979	11.4	21.9
5 21	13 3.45	+ 3 43.6	2.544	3.311	13.1	21.9	5 21	12 58.99	- 1 27.5	2.188	2.980	14.2	22.1
506917	2008 EK ₁₁		4 12.4	319°42	0°3/12.1	17	491285	2011 VY ₅		4 12.5	264°37	6°9/ 6.5	17
3 12	13 46.27	- 8 12.9	2.244	3.103	10.9	21.1	3 12	13 47.62	+ 3 43.4	1.456	2.343	13.9	21.0
3 22	13 40.66	- 8 9.3	2.166	3.098	7.8	20.9	3 22	13 42.37	+ 5 20.4	1.384	2.327	10.4	20.7
4 1	13 33.43	- 7 59.5	2.113	3.094	4.2	20.7	4 1	13 34.67	+ 6 59.0	1.337	2.310	7.5	20.5
4 11	13 25.24	- 7 46.1	2.088	3.090	0.6	20.4	4 11	13 25.44	+ 8 28.3	1.315	2.293	7.3	20.4
4 21	13 16.89	- 7 32.4	2.093	3.086	3.4	20.6	4 21	13 15.86	+ 9 37.7	1.319	2.275	10.2	20.5
5 1	13 9.20	- 7 21.9	2.125	3.082	7.1	20.8	5 1	13 7.24	+10 19.9	1.346	2.257	14.1	20.7
5 11	13 2.87	- 7 17.8	2.183	3.079	10.4	21.0	5 11	13 0.64	+10 31.9	1.393	2.239	18.0	20.9
5 21	12 58.37	- 7 22.2	2.264	3.075	13.2	21.2	5 21	12 56.70	+10 14.9	1.457	2.221	21.3	21.1
420526	2012 FM ₆₃		4 12.4	24°17	0°4/12.1	17	216065	2006 QM ₁₃		4 12.5	277°13	1°8/13.9	17
3 12	13 46.76	- 9 33.7	1.431	2.306	14.9	21.1	3 12	13 46.73	-15 41.5	1.548	2.404	15.1	20.7
3 22	13 41.61	- 9 9.6	1.369	2.309	10.6	20.9	3 22	13 41.65	-15 17.5	1.471	2.397	11.2	20.4
4 1	13 34.14	- 8 33.6	1.330	2.314	5.8	20.6	4 1	13 34.23	-14 35.0	1.415	2.391	6.7	20.2
4 11	13 25.34	- 7 50.9	1.316	2.318	0.7	20.2	4 11	13 25.38	-13 37.5	1.385	2.385	2.3	19.9
4 21	13 16.41	- 7 8.0	1.328	2.323	4.6	20.5	4 21	13 16.25	-12 31.0	1.382	2.379	4.1	20.0
5 1	13 8.59	- 6 31.7	1.366	2.328	9.5	20.8	5 1	13 8.07	-11 23.7	1.405	2.372	8.8	20.2
5 11	13 2.84	- 6 7.6	1.426	2.334	13.9	21.1	5 11	13 1.87	-10 24.1	1.451	2.366	13.2	20.4
5 21	12 59.68	- 5 58.9	1.505	2.341	17.5	21.4	5 21	12 58.25	- 9 37.9	1.518	2.360	17.0	20.7
24947	Hausdorff		4 12.4	192°02	0°2/12.7	18	19311	1996 VF ₃		4 12.5	99°50	2°3/10.8	18
3 12	13 45.16	-11 43.7	2.297	3.148	11.0	19.1	3 12	13 52.63	- 4 5.7	1.649	2.518	13.6	17.7
3 22	13 39.83	-11 12.8	2.219	3.147	7.9	18.9	3 22	13 45.31	- 3 38.5	1.602	2.540	9.6	17.5
4 1	13 32.95	-10 32.0	2.166	3.145	4.4	18.7	4 1	13 35.95	- 3 7.0	1.580	2.562	5.2	17.3
4 11	13 25.19	- 9 44.4	2.142	3.144	0.7	18.4	4 11	13 25.58	- 2 36.4	1.585	2.584	2.3	17.1
4 21	13 17.30	- 8 54.6	2.147	3.142	3.2	18.6	4 21	13 15.33	- 2 12.0	1.618	2.605	5.3	17.4
5 1	13 10.07	- 8 7.4	2.180	3.139	6.8	18.8	5 1	13 6.31	- 1 58.2	1.679	2.626	9.4	17.6
5 11	13 4.18	- 7 27.5	2.240	3.137	10.1	19.0	5 11	12 59.31	- 1 57.7	1.763	2.645	13.1	17.9
5 21	13 0.05	- 6 58.0	2.322	3.134	12.9	19.2	5 21	12 54.77	- 2 11.2	1.867	2.665	16.1	18.2
49219	1998 SR ₁₂₄		4 12.4	69°81	0°9/11.7	18	138528	2000 OX ₂₁		4 12.5	282°23	6°0/18.0	18
3 12	13 46.60	- 9 0.4	1.601	2.472	13.8	18.8	3 12	13 47.12	-27 28.6	2.234	3.016	13.5	19.6
3 22	13 41.34	- 8 19.0	1.534	2.473	9.8	18.5	3 22	13 41.61	-27 58.4	2.137	3.003	11.2	19.4
4 1	13 33.95	- 7 26.1	1.490	2.473	5.3	18.3	4 1	13 34.13	-28 9.5	2.063	2.989	8.6	19.2
4 11	13 25.32	- 6 27.6	1.472	2.474	1.0	18.0	4 11	13 25.38	-28 0.5	2.014	2.976	6.5	19.1
4 21	13 16.56	- 5 30.2	1.482	2.475	4.7	18.2	4 21	13 16.25	-27 32.6	1.991	2.963	6.1	19.0
5 1	13 8.76	- 4 41.0	1.518	2.475	9.3	18.5	5 1	13 7.74	-26 49.4	1.996	2.949	7.7	19.1
5 11	13 2.84	- 4 5.5	1.577	2.476	13.4	18.7	5 11	13 0.75	-25 57.3	2.026	2.936	10.3	19.2
5 21	12 59.31	- 3 46.7	1.656	2.477	16.8	19.0	5 21	12 55.87	-25 2.9	2.079	2.922	13.1	19.4
285247	1998 BG ₄₆		4 12.4	202°52	2°3/15.1	18	175559	2006 SX ₃₅₆		4 12.5	247°31	2°5/ 9.9	17
3 12	13 44.27	-18 58.5	2.493	3.316									

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2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
410546	2008 <i>FB</i> ₁₀₁		4 12.5 53°58'	3°2/ 9.4	18		11341	Babbage		4 12.5 68°08'	4°5/ 9.3	18	
3 12	13 43.60	- 6 11.8	1.464	2.349	14.0	20.5	3 12	13 49.38	+ 0 10.9	1.436	2.320	14.3	16.9
3 22	13 39.19	- 4 26.2	1.413	2.360	9.8	20.3	3 22	13 43.39	+ 0 56.4	1.382	2.326	10.2	16.7
4 1	13 32.73	- 2 30.4	1.386	2.371	5.4	20.0	4 1	13 35.10	+ 1 43.0	1.351	2.332	6.2	16.5
4 11	13 25.18	- 0 34.7	1.385	2.382	3.3	19.9	4 11	13 25.52	+ 2 23.0	1.346	2.338	4.6	16.4
4 21	13 17.65	+ 1 10.1	1.412	2.393	6.7	20.1	4 21	13 15.91	+ 2 49.9	1.366	2.344	7.5	16.6
5 1	13 11.20	+ 2 35.0	1.463	2.405	10.9	20.4	5 1	13 7.47	+ 2 58.6	1.412	2.350	11.6	16.8
5 11	13 6.64	+ 3 34.6	1.537	2.417	14.8	20.7	5 11	13 1.17	+ 2 47.4	1.479	2.356	15.4	17.1
5 21	13 4.40	+ 4 8.0	1.630	2.429	18.0	20.9	5 21	12 57.48	+ 2 17.0	1.565	2.363	18.6	17.3
1273	Helma		4 12.5 231°93'	3°3/15.2	18		155417	1996 <i>RC</i> ₇		4 12.5 169°20'	1°8/14.2	17	
3 12	13 48.84	-19 28.9	1.870	2.698	14.0	17.2	3 12	13 48.61	-16 0.4	2.285	3.116	11.7	21.4
3 22	13 42.96	-19 22.5	1.780	2.688	10.8	17.0	3 22	13 42.33	-15 52.9	2.207	3.120	8.7	21.2
4 1	13 34.91	-18 57.8	1.714	2.677	7.1	16.7	4 1	13 34.36	-15 32.8	2.154	3.124	5.3	21.0
4 11	13 25.49	-18 16.2	1.673	2.666	3.8	16.5	4 11	13 25.43	-15 2.4	2.130	3.127	2.2	20.8
4 21	13 15.74	-17 21.5	1.661	2.654	4.2	16.5	4 21	13 16.37	-14 25.0	2.135	3.129	3.2	20.8
5 1	13 6.77	-16 19.9	1.676	2.642	7.8	16.7	5 1	13 8.04	-13 45.2	2.168	3.131	6.5	21.1
5 11	12 59.55	-15 19.1	1.716	2.629	11.7	16.9	5 11	13 1.15	-13 7.9	2.229	3.132	9.8	21.3
5 21	12 54.69	-14 25.7	1.779	2.616	15.2	17.1	5 21	12 56.18	-12 37.3	2.313	3.133	12.6	21.4
65908	1998 <i>FQ</i>		4 12.5 263°26'	1°8/10.7	18		140346	2001 <i>TO</i> ₁₄		4 12.5 221°72'	2°5/14.9	18	
3 12	13 45.68	- 6 13.7	2.029	2.896	11.5	20.1	3 12	13 46.85	-17 38.5	2.367	3.194	11.5	19.9
3 22	13 40.48	- 5 24.1	1.939	2.878	8.1	19.9	3 22	13 41.11	-17 45.2	2.282	3.190	8.7	19.7
4 1	13 33.46	- 4 26.1	1.876	2.859	4.4	19.6	4 1	13 33.73	-17 39.4	2.222	3.186	5.6	19.5
4 11	13 25.30	- 3 25.0	1.840	2.840	1.8	19.4	4 11	13 25.36	-17 22.4	2.189	3.182	2.9	19.3
4 21	13 16.87	- 2 26.6	1.833	2.820	4.8	19.6	4 21	13 16.78	-16 56.7	2.185	3.178	3.4	19.3
5 1	13 9.08	- 1 37.0	1.853	2.800	8.7	19.8	5 1	13 8.83	-16 26.2	2.210	3.173	6.4	19.5
5 11	13 2.73	- 1 0.7	1.898	2.779	12.3	19.9	5 11	13 2.23	-15 55.7	2.261	3.169	9.5	19.7
5 21	12 58.37	- 0 40.6	1.964	2.759	15.5	20.1	5 21	12 57.47	-15 29.2	2.335	3.164	12.3	19.9
20694	1999 <i>VT</i> ₈₂		4 12.5 65°47'	1°1/13.4	18		295136	2008 <i>FV</i> ₃₁		4 12.5 118°19'	1°2/13.9	17	
3 12	13 47.73	-13 0.8	1.755	2.610	13.6	18.7	3 12	13 44.63	-15 0.6	2.649	3.484	10.2	21.9
3 22	13 41.95	-12 52.3	1.695	2.623	9.9	18.5	3 22	13 39.26	-14 42.1	2.580	3.497	7.5	21.7
4 1	13 34.21	-12 31.3	1.658	2.635	5.7	18.3	4 1	13 32.58	-14 13.3	2.537	3.510	4.4	21.5
4 11	13 25.39	-12 1.0	1.647	2.648	1.5	18.0	4 11	13 25.20	-13 36.7	2.523	3.522	1.6	21.3
4 21	13 16.52	-11 26.0	1.664	2.661	3.6	18.2	4 21	13 17.79	-12 55.7	2.538	3.534	2.6	21.4
5 1	13 8.63	-10 51.9	1.709	2.673	7.8	18.5	5 1	13 11.01	-12 14.3	2.583	3.546	5.6	21.7
5 11	13 2.53	-10 24.1	1.778	2.686	11.6	18.7	5 11	13 5.41	-11 36.5	2.655	3.557	8.5	21.9
5 21	12 58.71	-10 6.2	1.868	2.699	14.8	18.9	5 21	13 1.37	-11 5.6	2.750	3.568	10.9	22.0
286188	2001 <i>UZ</i> ₅₆		4 12.5 259°98'	0°8/13.0	16		7746	1987 <i>RC</i> ₁		4 12.5 288°93'	0°1/12.3	18	
3 12	13 50.24	-12 18.7	1.523	2.383	15.0	21.2	3 12	13 43.86	-10 9.9	2.283	3.140	10.8	17.1
3 22	13 44.34	-12 6.0	1.436	2.368	11.0	20.9	3 22	13 39.03	- 9 44.5	2.193	3.125	7.7	16.8
4 1	13 35.84	-11 38.5	1.372	2.351	6.3	20.6	4 1	13 32.61	- 9 10.1	2.129	3.110	4.3	16.6
4 11	13 25.63	-10 59.6	1.334	2.335	1.4	20.3	4 11	13 25.22	- 8 29.9	2.093	3.095	0.5	16.3
4 21	13 14.93	-10 14.4	1.322	2.318	4.4	20.4	4 21	13 17.62	- 7 48.2	2.086	3.080	3.3	16.5
5 1	13 5.10	- 9 30.2	1.336	2.300	9.6	20.7	5 1	13 10.58	- 7 9.6	2.106	3.065	7.0	16.7
5 11	12 57.34	- 8 54.3	1.374	2.283	14.3	20.9	5 11	13 4.82	- 6 38.4	2.153	3.050	10.4	16.8
5 21	12 52.35	- 8 31.6	1.432	2.265	18.4	21.1	5 21	13 0.81	- 6 17.7	2.221	3.034	13.3	17.0
313076	2000 <i>SU</i> ₂₅₂		4 12.5 227°81'	1°0/11.4	18		64826	2001 <i>XF</i> ₂₄₄		4 12.5 358°52'	2°2/10.5	18	
3 12	13 45.74	- 6 19.3	2.793	3.648	9.1	21.4	3 12	13 45.09	- 3 45.9	1.899	2.774	11.8	19.1
3 22	13 40.06	- 6 0.1	2.706	3.638	6.4	21.2	3 22	13 40.01	- 3 19.1	1.831	2.772	8.3	18.9
4 1	13 33.05	- 5 36.2	2.645	3.627	3.5	20.9	4 1	13 33.16	- 2 48.1	1.788	2.772	4.6	18.7
4 11	13 25.25	- 5 10.5	2.614	3.615	1.0	20.7	4 11	13 25.29	- 2 17.8	1.773	2.771	2.2	18.5
4 21	13 17.29	- 4 46.2	2.614	3.603	3.3	20.9	4 21	13 17.30	- 1 52.7	1.784	2.771	5.0	18.7
5 1	13 9.82	- 4 26.5	2.643	3.591	6.3	21.1	5 1	13 10.11	- 1 37.4	1.823	2.771	8.7	18.9
5 11	13 3.44	- 4 14.0	2.698	3.578	9.2	21.2	5 11	13 4.46	- 1 34.7	1.886	2.772	12.2	19.1
5 21	12 58.55	- 4 10.6	2.777	3.565	11.6	21.4	5 21	13 0.84	- 1 45.7	1.969	2.773	15.1	19.3
435031	2006 <i>VQ</i> ₁₂₄		4 12.5 230°43'	1°4/10.9	18		37028	2000 <i>UR</i> ₆		4 12.5 215°34'	0°1/12.6	18	
3 12	13 44.68	- 5 35.0	2.607	3.469	9.5	21.8	3 12	13 44.04	-10 59.9	2.795	3.642	9.3	20.3
3 22	13 39.37	- 5 5.0	2.525	3.460	6.7	21.6	3 22	13 38.86	-10 33.6	2.709	3.636	6.7	20.1
4 1	13 32.69	- 4 30.1	2.468	3.451	3.6	21.4	4 1	13 32.40	- 9 59.5	2.650	3.628	3.7	19.9
4 11	13 25.20	- 3 54.0	2.441	3.441	1.4	21.2	4 11	13 25.19	- 9 20.3	2.619	3.621	0.5	19.6
4 21	13 17.57	- 3 20.3	2.444	3.431	3.7	21.4	4 21	13 17.85	- 8 39.4	2.619	3.613	2.7	19.8
5 1	13 10.47	- 2 52.7	2.475	3.421	6.8	21.5	5 1	13 11.02	- 8 0.5	2.648	3.605	5.9	20.0
5 11	13 4.52	- 2 34.3	2.533	3.411	9.7	21.7	5 11	13 5.25	- 7 27.3	2.704	3.596	8.7	20.1
5 21	13 0.12	- 2 26.7	2.613	3.400	12.3	21.9	5 21	13 0.95	- 7 2.5	2.784	3.587	11.2	20.3
235416	2003 <i>YO</i> ₁₉		4 12.5 126°56'	0°1/12.6	17		521259	2015 <i>HK</i> ₁₉₂		4 12.5 172°26'	0°8/13.6	17	
3 12	13 45.27	-11 23.1	2.185	3.039	11.3	21.0	3 12	13 42.47	-14 55.1	2.730	3.569	9.8	21.6
3 22	13 39.92	-10 50.6	2.117	3.046	8.1	20.8	3 22	13 37.74	-14 10.8	2.651	3.570	7.2	21.4
4 1	13 33.00	-10 8.2	2.074	3.053	4.5	20.6	4 1	13 31.77	-13 15.5	2.598	3.572	4.2	21.2
4 11	13 25.23	- 9 19.5	2.059	3.060	0.6	20.3	4 11	13 25.11	-12 12.3	2.573	3.573	1.2	21.0
4 21	13 17.40	- 8 29.3	2.072	3.067	3.3	20.5	4 21	13 18.38	-11 5.4	2.579	3.574	2.6	21.1
5 1	13 10.31	- 7 42.7	2.115	3.074	7.0	20.8	5 1	13 12.20	- 9 59.6	2.614	3.575	5.7	21.3
5 11	13 4.62	- 7 4.1	2.183	3.080	10.3	21.0	5 11	13 7.12	- 8 59.5	2.676	3.576	8.5	21.5
5 21	13 0.76	- 6 36.7	2.273	3.086	13.1	21.2	5 21	13 3.51	- 8 8.6	2.763	3.576	11.0	21.7
306497	1999 <i>UC</i> ₁₇		4 12.5 303°25'	0°1/12.6	16		2025	Nortia		4 12.5 297°82'	2°9/15.3	18	
3 12	13 43.46	-1											

EPHEMERIDES

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2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
334727	2003 <i>KL</i> ₁₇		4 12.5 331°51	4°5/ 9.2	17		423750	2006 <i>CA</i> ₄₆		4 12.5 49°73	3°0/15.2	17	
3 12	13 44.03	- 0 57.5	1.346	2.239	14.4	19.8	3 12	13 45.66	-19 4.1	1.750	2.589	14.4	21.5
3 22	13 39.96	- 0 7.8	1.272	2.221	10.3	19.5	3 22	13 40.63	-18 47.7	1.679	2.593	10.9	21.3
4 1	13 33.44	+ 0 46.5	1.221	2.204	6.2	19.2	4 1	13 33.58	-18 12.3	1.631	2.598	7.0	21.1
4 11	13 25.36	+ 1 37.1	1.194	2.188	4.6	19.1	4 11	13 25.37	-17 20.7	1.609	2.603	3.5	20.8
4 21	13 16.92	+ 2 15.7	1.191	2.172	7.8	19.2	4 21	13 17.03	-16 17.9	1.613	2.608	4.0	20.9
5 1	13 9.42	+ 2 35.4	1.212	2.158	12.4	19.4	5 1	13 9.61	-15 11.1	1.644	2.613	7.7	21.1
5 11	13 3.96	+ 2 32.4	1.254	2.144	16.7	19.6	5 11	13 3.97	-14 7.9	1.700	2.618	11.5	21.3
5 21	13 1.19	+ 2 6.5	1.312	2.132	20.4	19.8	5 21	13 0.61	-13 14.5	1.778	2.624	14.8	21.6
39106	2000 <i>WE</i> ₂₃		4 12.5 234°90	2°3/ 9.9	18		278853	2008 <i>TG</i> ₁₇		4 12.5 253°16	0°3/12.7	17	
3 12	13 46.46	- 3 38.8	2.385	3.250	10.1	20.2	3 12	13 46.67	-11 20.4	2.081	2.934	11.8	21.4
3 22	13 40.79	- 2 47.0	2.297	3.234	7.2	20.0	3 22	13 41.17	-11 0.0	1.993	2.922	8.6	21.2
4 1	13 33.55	- 1 50.0	2.236	3.217	4.0	19.8	4 1	13 33.85	-10 29.0	1.930	2.909	4.8	21.0
4 11	13 25.36	- 0 52.7	2.203	3.200	2.4	19.6	4 11	13 25.42	- 9 50.6	1.895	2.896	0.8	20.6
4 21	13 16.95	- 0 0.1	2.201	3.181	4.8	19.7	4 21	13 16.72	- 9 9.1	1.888	2.883	3.5	20.8
5 1	13 9.11	+ 0 43.0	2.227	3.163	8.1	19.9	5 1	13 8.69	- 8 29.7	1.909	2.870	7.5	21.0
5 11	13 2.53	+ 1 13.0	2.278	3.143	11.2	20.1	5 11	13 2.12	- 7 57.3	1.956	2.856	11.2	21.2
5 21	12 57.67	+ 1 28.2	2.352	3.123	13.9	20.2	5 21	12 57.54	- 7 35.5	2.025	2.842	14.3	21.4
470018	2006 <i>RK</i> ₄₆		4 12.5 165°33	0°5/12.9	17		127107	2002 <i>GK</i> ₉₁		4 12.5 137°85	0°0/12.5	17	
3 12	13 46.67	-11 8.3	2.324	3.173	10.9	21.6	3 12	13 45.83	-11 21.6	1.990	2.847	12.1	20.1
3 22	13 40.92	-11 3.2	2.248	3.174	7.9	21.4	3 22	13 40.48	-10 44.4	1.921	2.852	8.7	19.9
4 1	13 33.59	-10 49.8	2.197	3.175	4.4	21.2	4 1	13 33.40	- 9 56.2	1.877	2.857	4.8	19.7
4 11	13 25.36	-10 30.5	2.175	3.176	0.9	20.9	4 11	13 25.35	- 9 1.0	1.860	2.861	0.6	19.3
4 21	13 17.00	-10 8.5	2.182	3.177	3.0	21.1	4 21	13 17.21	- 8 4.3	1.871	2.866	3.6	19.6
5 1	13 9.30	- 9 47.5	2.218	3.178	6.6	21.3	5 1	13 9.88	- 7 12.0	1.911	2.870	7.5	19.8
5 11	13 2.95	- 9 31.4	2.279	3.178	9.8	21.5	5 11	13 4.09	- 6 29.2	1.975	2.874	11.1	20.1
5 21	12 58.39	- 9 22.8	2.364	3.179	12.6	21.7	5 21	13 0.29	- 5 59.2	2.062	2.878	14.1	20.3
208987	2003 <i>AV</i> ₂₁		4 12.5 152°30	4°5/ 7.6	18		155754	2000 <i>SB</i> ₁₁₈		4 12.5 127°08	0°4/12.1	18	
3 12	13 45.43	+ 4 43.0	2.388	3.259	9.8	20.1	3 12	13 49.09	- 8 41.8	2.139	2.993	11.5	20.5
3 22	13 39.90	+ 5 31.1	2.329	3.263	7.2	19.9	3 22	13 42.62	- 8 24.5	2.076	3.007	8.2	20.3
4 1	13 32.96	+ 6 16.7	2.297	3.266	5.0	19.8	4 1	13 34.50	- 7 59.8	2.039	3.019	4.4	20.1
4 11	13 25.27	+ 6 54.5	2.293	3.270	4.6	19.8	4 11	13 25.49	- 7 31.3	2.030	3.032	0.6	19.9
4 21	13 17.55	+ 7 20.5	2.317	3.273	6.4	19.9	4 21	13 16.46	- 7 2.8	2.051	3.044	3.6	20.1
5 1	13 10.50	+ 7 31.8	2.368	3.276	9.0	20.1	5 1	13 8.25	- 6 38.6	2.100	3.055	7.3	20.4
5 11	13 4.75	+ 7 27.2	2.444	3.279	11.5	20.2	5 11	13 1.58	- 6 22.3	2.175	3.066	10.6	20.6
5 21	13 0.66	+ 7 7.1	2.540	3.281	13.7	20.4	5 21	12 56.87	- 6 16.0	2.273	3.076	13.4	20.8
279286	2009 <i>WY</i> ₇₅		4 12.5 59°08	4°9/ 8.6	18		313788	2003 <i>YX</i> ₉₀		4 12.5 128°28	8°1/ 4.8	18	
3 12	13 47.78	+ 2 23.1	1.639	2.521	12.9	20.3	3 12	13 50.31	+12 47.5	1.918	2.783	12.2	20.5
3 22	13 41.91	+ 3 12.5	1.597	2.538	9.3	20.2	3 22	13 43.51	+14 6.4	1.882	2.799	9.7	20.3
4 1	13 34.14	+ 3 59.8	1.579	2.556	6.0	20.0	4 1	13 34.96	+15 14.3	1.871	2.814	8.2	20.3
4 11	13 25.42	+ 4 38.3	1.587	2.573	5.0	20.0	4 11	13 25.55	+16 3.6	1.886	2.829	8.4	20.3
4 21	13 16.79	+ 5 2.3	1.622	2.591	7.4	20.2	4 21	13 16.25	+16 29.3	1.928	2.843	10.2	20.4
5 1	13 9.27	+ 5 8.3	1.682	2.609	10.8	20.4	5 1	13 7.99	+16 29.6	1.994	2.857	12.5	20.6
5 11	13 3.61	+ 4 55.4	1.765	2.628	14.0	20.6	5 11	13 1.49	+16 5.8	2.082	2.869	14.9	20.8
5 21	13 0.20	+ 4 24.9	1.867	2.646	16.7	20.9	5 21	12 57.14	+15 21.1	2.187	2.881	16.9	21.0
373407	1997 <i>AQ</i> ₃		4 12.5 195°77	5°4/ 6.2	17		419619	2010 <i>RC</i> ₁₈₂		4 12.5 227°45	4°2/ 8.3	16	
3 12	13 46.31	+ 6 56.4	2.355	3.225	10.0	21.2	3 12	13 47.33	- 0 9.5	1.935	2.809	11.6	22.2
3 22	13 40.59	+ 8 5.2	2.293	3.222	7.6	21.0	3 22	13 41.67	+ 1 7.6	1.859	2.798	8.3	22.0
4 1	13 33.38	+ 9 10.6	2.257	3.219	5.7	20.9	4 1	13 34.13	+ 2 28.5	1.808	2.786	5.2	21.7
4 11	13 25.34	+10 6.4	2.249	3.215	5.7	20.9	4 11	13 25.47	+ 3 45.9	1.786	2.773	4.4	21.7
4 21	13 17.22	+10 47.6	2.270	3.211	7.5	21.0	4 21	13 16.59	+ 4 52.5	1.792	2.760	6.9	21.8
5 1	13 9.77	+11 10.7	2.317	3.206	10.0	21.1	5 1	13 8.46	+ 5 42.3	1.825	2.746	10.4	22.0
5 11	13 3.64	+11 14.7	2.387	3.200	12.4	21.3	5 11	13 1.89	+ 6 11.7	1.881	2.731	13.8	22.1
5 21	12 59.23	+11 0.3	2.478	3.194	14.6	21.4	5 21	12 57.40	+ 6 20.1	1.956	2.716	16.7	22.3
230831	2004 <i>PV</i> ₃₈		4 12.5 141°21	1°2/11.0	16		159912	2004 <i>VL</i> ₅₀		4 12.5 272°29	2°5/10.1	18	
3 12	13 45.84	- 7 31.6	2.461	3.319	10.1	21.5	3 12	13 45.47	- 4 12.4	1.867	2.742	12.0	19.8
3 22	13 40.13	- 6 36.1	2.399	3.332	7.1	21.3	3 22	13 40.38	- 3 23.6	1.793	2.734	8.5	19.5
4 1	13 33.07	- 5 33.9	2.363	3.345	3.8	21.1	4 1	13 33.43	- 2 28.7	1.744	2.727	4.7	19.3
4 11	13 25.29	- 4 29.6	2.357	3.358	1.2	21.0	4 11	13 25.38	- 1 33.5	1.721	2.719	2.6	19.1
4 21	13 17.52	- 3 28.3	2.382	3.369	3.7	21.2	4 21	13 17.15	- 0 44.1	1.727	2.711	5.4	19.3
5 1	13 10.44	- 2 34.5	2.435	3.380	7.0	21.4	5 1	13 9.69	- 0 6.2	1.759	2.703	9.3	19.5
5 11	13 4.64	- 1 52.0	2.515	3.391	9.9	21.6	5 11	13 3.80	+ 0 16.3	1.815	2.695	12.9	19.7
5 21	13 0.48	- 1 22.8	2.617	3.400	12.3	21.8	5 21	12 59.99	+ 0 21.9	1.891	2.688	15.9	19.9
69655	1998 <i>FD</i> ₁₀₆		4 12.5 300°51	3°7/14.9	18		506018	2015 <i>HE</i> ₈₄		4 12.5 253°39	1°9/10.6	17	
3 12	13 49.02	-17 56.8	1.457	2.305	16.3	19.4	3 12	13 46.01	- 3 59.1	2.307	3.173	10.3	21.5
3 22	13 43.59	-18 14.1	1.377	2.295	12.5	19.1	3 22	13 40.49	- 3 32.8	2.226	3.163	7.3	21.3
4 1	13 35.49	-18 12.5	1.317	2.286	8.1	18.9	4 1	13 33.40	- 3 2.5	2.171	3.153	4.1	21.0
4 11	13 25.65	-17 52.8	1.282	2.276	4.3	18.6	4 11	13 25.38	- 2 32.2	2.145	3.143	1.9	20.9
4 21	13 15.35	-17 18.3	1.273	2.267	4.9	18.6	4 21	13 17.18	- 2 5.9	2.147	3.133	4.3	21.0
5 1	13 6.02	-16 35.7	1.289	2.258	9.2	18.8	5 1	13 9.59	- 1 47.4	2.178	3.122	7.7	21.2
5 11	12 58.87	-15 53.2	1.327	2.249	13.7	19.1	5 11	13 3.30	- 1 39.6	2.234	3.111	10.9	21.4
5 21	12 54.61	-15 18.2	1.386	2.240	17.7	19.3	5 21	12 58.78	- 1 43.9	2.311	3.100	13.6	21.6
480164	2015 <i>FK</i> ₃₀₀		4 12.5 289°05	6°5/ 4.9	16		213188	2000 <i>SM</i> ₂₄₈		4 12.5 198			

EPHEMERIDES

4 12.5

4 12.5

2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
470884	2009 BC ₅₅		4 12.5 112°11'	4.3/16.6	17		477998	2011 SH ₁₃₇		4 12.5 274°15'	2.4/14.7	17	
3 12	13 46.99	-22 41.6	2.173	2.982	13.0	21.4	3 12	13 46.39	-16 55.8	2.270	3.102	11.8	20.9
3 22	13 41.37	-22 55.4	2.094	2.985	10.3	21.2	3 22	13 40.87	-17 2.0	2.187	3.099	8.9	20.7
4 1	13 33.95	-22 52.4	2.038	2.987	7.3	21.1	4 1	13 33.66	-16 55.9	2.128	3.095	5.6	20.4
4 11	13 25.46	-22 32.9	2.008	2.989	4.8	20.9	4 11	13 25.44	-16 38.7	2.097	3.092	2.7	20.2
4 21	13 16.77	-21 59.5	2.005	2.991	4.6	20.9	4 21	13 17.03	-16 13.2	2.094	3.088	3.4	20.3
5 1	13 8.82	-21 16.6	2.031	2.993	6.9	21.0	5 1	13 9.26	-15 43.5	2.120	3.085	6.5	20.5
5 11	13 2.40	-20 30.4	2.082	2.995	9.9	21.2	5 11	13 2.87	-15 14.4	2.172	3.081	9.7	20.7
5 21	12 58.01	-19 46.5	2.157	2.997	12.7	21.4	5 21	12 58.37	-14 49.9	2.247	3.078	12.6	20.8
507344	2011 UC ₁₉₅		4 12.5 188°50'	0.7/11.6	17		489037	2005 XY ₃₂		4 12.5 148°80'	2.8/14.8	18	
3 12	13 45.56	- 7 4.8	2.941	3.793	8.8	22.2	3 12	13 48.95	-18 42.0	1.502	2.345	16.1	21.4
3 22	13 39.86	- 6 47.5	2.862	3.792	6.2	22.1	3 22	13 43.26	-18 14.5	1.432	2.350	12.1	21.2
4 1	13 32.94	- 6 25.6	2.810	3.791	3.3	21.9	4 1	13 35.16	-17 24.8	1.385	2.355	7.7	20.9
4 11	13 25.32	- 6 1.7	2.788	3.789	0.7	21.6	4 11	13 25.65	-16 16.4	1.362	2.359	3.5	20.7
4 21	13 17.60	- 5 38.6	2.796	3.787	3.0	21.8	4 21	13 15.99	-14 55.9	1.366	2.362	4.3	20.7
5 1	13 10.40	- 5 19.3	2.834	3.784	5.9	22.0	5 1	13 7.45	-13 32.7	1.397	2.366	8.7	21.0
5 11	13 4.24	- 5 6.4	2.900	3.781	8.5	22.2	5 11	13 1.05	-12 16.4	1.452	2.369	13.1	21.2
5 21	12 59.50	- 5 1.6	2.989	3.778	10.8	22.3	5 21	12 57.33	-11 14.0	1.527	2.371	16.9	21.5
54486	2000 OO ₂₉		4 12.5 238°88'	3.4/16.3	18		68509	2001 UA ₁₃₅		4 12.5 295°00'	1.3/13.5	18	
3 12	13 44.47	-22 12.5	2.441	3.250	11.8	19.4	3 12	13 46.65	-13 49.9	1.657	2.514	14.1	19.5
3 22	13 39.45	-21 59.7	2.349	3.242	9.2	19.2	3 22	13 41.58	-13 36.0	1.573	2.502	10.4	19.2
4 1	13 32.85	-21 30.6	2.281	3.234	6.3	19.0	4 1	13 34.27	-13 7.1	1.512	2.490	6.1	19.0
4 11	13 25.32	-20 46.6	2.241	3.226	3.9	18.9	4 11	13 25.55	-12 26.2	1.478	2.478	1.8	18.6
4 21	13 17.59	-19 50.7	2.228	3.218	3.8	18.8	4 21	13 16.49	-11 38.4	1.469	2.466	3.9	18.8
5 1	13 10.47	-18 47.9	2.245	3.209	6.2	19.0	5 1	13 8.24	-10 50.3	1.488	2.454	8.5	19.0
5 11	13 4.64	-17 44.0	2.288	3.200	9.2	19.1	5 11	13 1.83	-10 8.8	1.530	2.443	12.8	19.2
5 21	13 0.57	-16 44.5	2.355	3.192	11.9	19.3	5 21	12 57.86	- 9 38.9	1.593	2.431	16.6	19.4
188471	2004 LS ₁₃		4 12.5 358°19'	4.0/ 9.4	18		369729	2012 DL ₈₉		4 12.5 325°23'	0.1/12.6	17	
3 12	13 43.78	- 2 53.4	1.315	2.209	14.7	18.9	3 12	13 45.22	-11 18.3	1.354	2.231	15.5	20.8
3 22	13 39.66	- 1 49.1	1.256	2.206	10.4	18.7	3 22	13 40.87	-10 50.7	1.279	2.219	11.3	20.5
4 1	13 33.20	- 0 38.2	1.220	2.204	6.0	18.4	4 1	13 34.00	-10 7.4	1.225	2.207	6.3	20.1
4 11	13 25.37	+ 0 30.3	1.208	2.203	4.1	18.3	4 11	13 25.52	- 9 13.3	1.195	2.197	0.9	19.7
4 21	13 17.38	+ 1 27.3	1.221	2.203	7.4	18.5	4 21	13 16.69	- 8 15.5	1.190	2.186	4.7	20.0
5 1	13 10.49	+ 2 5.3	1.257	2.204	11.9	18.7	5 1	13 8.84	- 7 22.7	1.210	2.177	10.0	20.3
5 11	13 5.67	+ 2 20.4	1.314	2.205	16.1	19.0	5 11	13 3.10	- 6 42.4	1.252	2.168	14.9	20.5
5 21	13 3.45	+ 2 12.1	1.389	2.208	19.6	19.2	5 21	13 0.13	- 6 19.4	1.313	2.160	18.9	20.7
147973	1995 FC ₂		4 12.5 350°15'	0.7/11.9	17		510439	2011 UU ₄₀₀		4 12.5 193°23'	6.8/31.6	18	
3 12	13 46.94	- 8 55.4	1.608	2.478	13.8	20.6	3 12	13 45.21	+22 30.5	3.567	4.392	8.0	22.4
3 22	13 41.65	- 8 28.5	1.539	2.477	9.8	20.3	3 22	13 39.45	+23 29.4	3.520	4.389	7.1	22.4
4 1	13 34.21	- 7 51.1	1.493	2.476	5.4	20.1	4 1	13 32.66	+24 17.8	3.501	4.385	6.8	22.3
4 11	13 25.50	- 7 8.1	1.474	2.475	0.8	19.7	4 11	13 25.32	+24 51.5	3.508	4.381	7.2	22.4
4 21	13 16.62	- 6 25.3	1.481	2.475	4.5	20.0	4 21	13 17.95	+25 8.1	3.541	4.376	8.1	22.4
5 1	13 8.68	- 5 49.1	1.514	2.474	9.1	20.3	5 1	13 11.07	+25 6.5	3.599	4.371	9.4	22.5
5 11	13 2.61	- 5 24.7	1.571	2.474	13.2	20.5	5 11	13 5.15	+24 47.4	3.678	4.365	10.6	22.6
5 21	12 58.95	- 5 14.9	1.648	2.474	16.7	20.7	5 21	13 0.49	+24 12.4	3.775	4.358	11.7	22.7
459550	2013 GT ₄₃		4 12.5 316°84'	1.9/11.1	17		255723	2006 QK ₁₂₄		4 12.5 229°55'	0.8/13.2	17	
3 12	13 44.56	- 7 43.0	1.206	2.095	16.0	21.0	3 12	13 48.58	-13 24.7	1.960	2.807	12.7	22.0
3 22	13 40.69	- 6 56.3	1.126	2.075	11.5	20.6	3 22	13 42.67	-12 56.7	1.870	2.795	9.3	21.7
4 1	13 34.03	- 5 54.8	1.068	2.054	6.3	20.3	4 1	13 34.77	-12 15.0	1.806	2.783	5.4	21.4
4 11	13 25.52	- 4 45.6	1.034	2.034	1.9	19.9	4 11	13 25.62	-11 23.0	1.769	2.770	1.3	21.1
4 21	13 16.47	- 3 38.2	1.023	2.015	6.3	20.2	4 21	13 16.18	-10 25.5	1.760	2.756	3.6	21.3
5 1	13 8.39	- 2 42.7	1.035	1.997	12.0	20.4	5 1	13 7.46	- 9 28.9	1.780	2.741	7.8	21.5
5 11	13 2.60	- 2 7.3	1.068	1.979	17.2	20.6	5 11	13 0.35	- 8 39.4	1.825	2.726	11.7	21.7
5 21	12 59.84	- 1 55.7	1.118	1.963	21.7	20.9	5 21	12 55.42	- 8 1.5	1.893	2.711	15.1	21.9
466177	2012 JS ₆₀		4 12.5 32°83'	6.1/ 8.6	16		499492	2010 MZ ₆₄		4 12.5 240°09'	2.1/14.2	17	
3 12	13 48.24	+ 3 15.9	1.218	2.112	15.5	20.5	3 12	13 49.47	-15 48.5	1.753	2.597	14.1	22.1
3 22	13 42.73	+ 4 1.2	1.179	2.125	11.3	20.3	3 22	13 43.54	-15 42.6	1.667	2.587	10.6	21.8
4 1	13 34.78	+ 4 42.6	1.162	2.140	7.4	20.1	4 1	13 35.34	-15 21.0	1.604	2.576	6.5	21.6
4 11	13 25.57	+ 5 11.5	1.169	2.156	6.3	20.1	4 11	13 25.70	-14 45.7	1.567	2.565	2.6	21.3
4 21	13 16.48	+ 5 21.4	1.200	2.173	9.0	20.3	4 21	13 15.71	-14 1.0	1.558	2.554	3.9	21.4
5 1	13 8.82	+ 5 9.0	1.254	2.190	12.9	20.6	5 1	13 6.54	-13 13.0	1.576	2.542	8.2	21.6
5 11	13 3.50	+ 4 34.4	1.329	2.208	16.7	20.8	5 11	12 59.19	-12 28.6	1.619	2.530	12.4	21.8
5 21	13 0.94	+ 3 40.4	1.421	2.227	19.8	21.1	5 21	12 54.30	-11 53.6	1.684	2.518	16.0	22.0
89955	2002 JA ₁₁₉		4 12.5 127°10'	6.0/ 5.6	18		404118	2013 AF ₄₀		4 12.5 327°37'	2.7/10.7	16	
3 12	13 46.22	+ 8 13.3	2.227	3.098	10.4	19.5	3 12	13 45.06	- 6 9.6	1.108	2.004	16.6	20.5
3 22	13 40.48	+ 9 34.6	2.184	3.112	8.0	19.3	3 22	13 41.13	- 5 19.9	1.039	1.990	11.9	20.2
4 1	13 33.30	+10 50.3	2.169	3.127	6.3	19.2	4 1	13 34.28	- 4 17.5	0.991	1.978	6.5	19.9
4 11	13 25.37	+11 53.5	2.181	3.140	6.3	19.3	4 11	13 25.58	- 3 10.7	0.966	1.966	2.8	19.6
4 21	13 17.49	+12 39.4	2.221	3.153	8.1	19.4	4 21	13 16.46	- 2 9.7	0.964	1.955	7.0	19.8
5 1	13 10.41	+13 4.8	2.287	3.166	10.5	19.6	5 1	13 8.49	- 1 24.5	0.985	1.945	12.7	20.1
5 11	13 4.74	+13 9.4	2.375	3.178	12.8	19.7	5 11	13 2.99	- 1 2.1	1.025	1.936	17.8	20.3
5 21	13 0.85	+12 54.6	2.482	3.190	14.8	19.9	5 21	13 0.63	- 1 4.5	1.082	1.928	22.2	20.6
14370	1988 VR ₂		4 12.5 76°38'	6.3/ 6.6	18		151047	2001 UB ₂₂₀		4 12.5 195°62'	1.1/11.9	17	
3 12	13 48.47	+ 8 51.0	2.										

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2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
352458	2008 <i>AU</i> ₈₄		4 12.5 106°62	3°0/15.5	18		37427	2001 <i>YJ</i> ₈₂		4 12.5 210°54	1°0/13.3	18	
3 12	13 46.72	-19 14.9	2.327	3.148	11.9	21.0	3 12	13 50.52	-13 30.2	1.856	2.702	13.4	19.6
3 22	13 41.04	-19 22.8	2.251	3.154	9.1	20.9	3 22	13 44.13	-13 9.3	1.772	2.696	9.8	19.3
4 1	13 33.74	-19 16.9	2.200	3.160	6.0	20.7	4 1	13 35.61	-12 34.5	1.712	2.688	5.7	19.1
4 11	13 25.49	-18 58.6	2.176	3.166	3.4	20.5	4 11	13 25.78	-11 49.1	1.680	2.680	1.5	18.8
4 21	13 17.12	-18 30.3	2.180	3.171	3.6	20.5	4 21	13 15.67	-10 57.7	1.676	2.672	3.7	18.9
5 1	13 9.43	-17 56.3	2.213	3.177	6.3	20.7	5 1	13 6.38	-10 6.9	1.700	2.662	8.1	19.1
5 11	13 3.15	-17 21.6	2.272	3.182	9.3	20.9	5 11	12 58.85	-9 22.8	1.750	2.651	12.1	19.4
5 21	12 58.71	-16 50.5	2.354	3.188	12.0	21.1	5 21	12 53.65	-8 50.0	1.821	2.640	15.6	19.6
503930	2003 <i>NA</i> ₁₁		4 12.5 287°68	7°5/19.4	17		214463	2005 <i>SK</i> ₁₃₈		4 12.5 287°81	0°6/11.9	17	
3 12	13 46.87	-30 37.3	1.902	2.678	15.8	21.5	3 12	13 44.22	-8 44.1	2.240	3.101	10.8	21.1
3 22	13 41.80	-31 0.7	1.808	2.665	13.3	21.3	3 22	13 39.33	-8 16.2	2.154	3.088	7.7	20.9
4 1	13 34.45	-30 59.3	1.735	2.653	10.6	21.1	4 1	13 32.85	-7 40.3	2.094	3.076	4.2	20.6
4 11	13 25.62	-30 31.3	1.685	2.640	8.3	20.9	4 11	13 25.41	-7 0.0	2.062	3.064	0.7	20.3
4 21	13 16.37	-29 37.8	1.661	2.628	7.5	20.8	4 21	13 17.76	-6 19.6	2.059	3.051	3.6	20.5
5 1	13 7.91	-28 24.3	1.662	2.615	9.0	20.9	5 1	13 10.71	-5 43.7	2.083	3.039	7.3	20.7
5 11	13 1.28	-26 59.4	1.688	2.603	11.7	21.0	5 11	13 4.96	-5 16.4	2.133	3.027	10.6	20.9
5 21	12 57.12	-25 32.3	1.736	2.591	14.7	21.2	5 21	13 0.99	-5 0.5	2.205	3.015	13.5	21.1
81872	2000 <i>LO</i> ₄		4 12.5 245°05	5°9/5.1	18		22793	1999 <i>NW</i> ₁		4 12.5 266°61	15°1/23.9	18	R
3 12	13 44.00	+8 49.4	2.393	3.265	9.8	19.1	3 12	13 57.36	-47 17.4	1.926	2.569	19.6	19.0
3 22	13 39.03	+10 5.9	2.327	3.254	7.6	18.9	3 22	13 50.54	-49 0.8	1.824	2.547	18.3	18.8
4 1	13 32.61	+11 18.2	2.287	3.243	6.1	18.8	4 1	13 39.96	-50 15.5	1.738	2.525	16.9	18.6
4 11	13 25.35	+12 19.8	2.275	3.232	6.3	18.8	4 11	13 26.45	-50 52.8	1.670	2.501	15.7	18.5
4 21	13 17.97	+13 5.6	2.290	3.220	8.0	18.9	4 21	13 11.59	-50 46.7	1.622	2.477	15.1	18.4
5 1	13 11.19	+13 32.1	2.332	3.209	10.4	19.0	5 1	12 57.47	-49 57.1	1.594	2.453	15.3	18.3
5 11	13 5.64	+13 38.0	2.395	3.196	12.8	19.2	5 11	12 46.03	-48 31.3	1.587	2.428	16.3	18.3
5 21	13 1.74	+13 24.3	2.478	3.184	14.8	19.3	5 21	12 38.49	-46 41.3	1.598	2.403	18.0	18.4
174213	2002 <i>QO</i> ₁₀₄		4 12.5 264°99	0°4/12.9	17		388398	2006 <i>VS</i> ₃₃		4 12.5 118°87	1°3/11.0	17	
3 12	13 47.19	-12 19.0	1.596	2.459	14.3	20.8	3 12	13 45.04	-5 44.2	2.609	3.469	9.5	21.9
3 22	13 41.96	-11 48.7	1.519	2.452	10.4	20.5	3 22	13 39.56	-5 14.3	2.547	3.482	6.7	21.7
4 1	13 34.48	-11 3.6	1.465	2.446	5.9	20.2	4 1	13 32.82	-4 39.9	2.512	3.494	3.6	21.6
4 11	13 25.62	-10 8.0	1.437	2.439	1.0	19.9	4 11	13 25.40	-4 4.8	2.506	3.506	1.3	21.4
4 21	13 16.49	-9 8.2	1.436	2.432	4.1	20.1	4 21	13 17.97	-3 32.5	2.530	3.518	3.5	21.6
5 1	13 8.28	-8 11.8	1.461	2.425	8.9	20.4	5 1	13 11.17	-3 6.5	2.583	3.529	6.6	21.8
5 11	13 1.96	-7 25.7	1.510	2.419	13.3	20.6	5 11	13 5.55	-2 49.4	2.662	3.541	9.3	22.0
5 21	12 58.13	-6 54.4	1.580	2.412	17.0	20.8	5 21	13 1.47	-2 42.7	2.763	3.551	11.6	22.2
229770	2008 <i>JX</i> ₃₀		4 12.5 222°87	1°7/10.7	18		49635	1999 <i>GA</i> ₄₇		4 12.5 189°18	0°6/11.9	18	
3 12	13 46.58	-6 9.7	2.355	3.215	10.4	21.9	3 12	13 46.87	-7 53.1	2.408	3.263	10.3	18.4
3 22	13 40.92	-5 17.0	2.268	3.203	7.3	21.6	3 22	13 41.05	-7 38.6	2.331	3.263	7.4	18.2
4 1	13 33.68	-4 17.2	2.209	3.191	4.0	21.4	4 1	13 33.73	-7 18.1	2.281	3.262	4.0	18.0
4 11	13 25.51	-3 15.0	2.178	3.177	1.7	21.2	4 11	13 25.53	-6 54.4	2.259	3.261	0.7	17.8
4 21	13 17.13	-2 15.5	2.178	3.163	4.3	21.4	4 21	13 17.21	-6 31.2	2.267	3.260	3.3	18.0
5 1	13 9.35	-1 24.0	2.206	3.149	7.7	21.6	5 1	13 9.53	-6 11.8	2.304	3.258	6.8	18.2
5 11	13 2.86	-0 44.4	2.260	3.133	10.9	21.7	5 11	13 3.13	-5 59.6	2.367	3.256	9.9	18.4
5 21	12 58.12	-0 19.2	2.336	3.117	13.7	21.9	5 21	12 58.46	-5 56.6	2.453	3.254	12.6	18.6
127247	2002 <i>JF</i> ₃₄		4 12.5 324°22	3°1/10.0	17		522654	2016 <i>GK</i> ₂₆₃		4 12.5 275°16	3°7/8.6	17	
3 12	13 45.43	-2 51.0	1.593	2.476	13.2	19.2	3 12	13 43.70	-3 12.4	1.824	2.703	11.9	21.2
3 22	13 40.68	-2 12.4	1.518	2.463	9.4	19.0	3 22	13 39.23	-1 37.7	1.745	2.689	8.5	20.9
4 1	13 33.77	-1 28.7	1.467	2.451	5.4	18.7	4 1	13 32.90	+0 5.3	1.693	2.675	5.0	20.7
4 11	13 25.53	-0 46.2	1.442	2.438	3.2	18.5	4 11	13 25.43	+1 48.4	1.668	2.660	3.8	20.6
4 21	13 17.01	-0 11.5	1.443	2.427	6.2	18.7	4 21	13 17.74	+3 22.7	1.671	2.645	6.7	20.7
5 1	13 9.35	+0 9.9	1.469	2.416	10.5	18.9	5 1	13 10.78	+4 40.4	1.700	2.630	10.5	20.9
5 11	13 3.49	+0 14.0	1.517	2.406	14.4	19.1	5 11	13 5.36	+5 36.3	1.753	2.615	14.1	21.1
5 21	13 0.00	-0 0.0	1.585	2.396	17.9	19.3	5 21	13 2.01	+6 8.6	1.825	2.600	17.2	21.3
218791	2005 <i>YE</i> ₁₈₄		4 12.5 300°33	3°5/8.3	17		334632	2002 <i>VC</i> ₁₀₅		4 12.5 169°60	2°0/14.1	18	
3 12	13 41.96	+0 31.5	2.432	3.308	9.5	19.9	3 12	13 52.08	-16 8.1	1.787	2.624	14.2	22.0
3 22	13 37.55	+1 30.4	2.360	3.300	6.8	19.7	3 22	13 45.23	-15 51.7	1.713	2.629	10.6	21.7
4 1	13 31.79	+2 30.8	2.314	3.292	4.3	19.5	4 1	13 36.19	-15 19.0	1.662	2.634	6.4	21.5
4 11	13 25.25	+3 27.4	2.297	3.284	3.6	19.4	4 11	13 25.88	-14 32.8	1.639	2.637	2.5	21.2
4 21	13 18.60	+4 15.4	2.308	3.277	5.6	19.5	4 21	13 15.39	-13 38.1	1.645	2.640	3.8	21.3
5 1	13 12.51	+4 50.7	2.347	3.269	8.4	19.7	5 1	13 5.90	-12 41.5	1.678	2.642	8.0	21.6
5 11	13 7.58	+5 10.8	2.409	3.262	11.1	19.9	5 11	12 58.31	-11 50.1	1.737	2.643	12.0	21.8
5 21	13 4.20	+5 15.0	2.493	3.254	13.4	20.0	5 21	12 53.18	-11 9.1	1.817	2.642	15.4	22.1
375669	2009 <i>FA</i> ₃₂		4 12.5 264°67	0°2/12.8	18		198580	2004 <i>YV</i> ₁₁		4 12.5 330°23	2°7/10.1	18	
3 12	13 40.76	-10 0.8	4.536	5.377	6.1	20.7	3 12	13 45.51	-3 21.2	1.841	2.717	12.0	19.8
3 22	13 36.20	-10 0.8	4.448	5.372	4.4	20.6	3 22	13 40.42	-2 37.2	1.773	2.715	8.5	19.6
4 1	13 30.88	-9 57.1	4.389	5.366	2.4	20.4	4 1	13 33.49	-1 48.6	1.730	2.712	4.8	19.4
4 11	13 25.13	-9 50.8	4.359	5.361	0.4	20.2	4 11	13 25.51	-1 0.9	1.713	2.710	2.8	19.2
4 21	13 19.30	-9 43.5	4.361	5.355	1.7	20.4	4 21	13 17.39	-0 19.9	1.724	2.708	5.5	19.4
5 1	13 13.76	-9 36.7	4.393	5.349	3.7	20.5	5 1	13 10.09	+0 9.1	1.762	2.706	9.3	19.6
5 11	13 8.83	-9 32.2	4.453	5.344	5.6	20.6	5 11	13 4.38	+0 22.8	1.823	2.704	12.8	19.8
5 21	13 4.78	-9 31.2	4.539	5.338	7.2	20.8	5 21	13 0.75	+0 20.1	1.905	2.702	15.8	20.0
372910	2011 <i>AB</i> ₇₀		4 12.5 174°04	1°2/13.6	17		276851	2004 <i>RU</i> ₈₆		4 12.5 154°52	1°5/13.9	17	
3 12	13 49.14	-13 42											

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2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
72159	2000 <i>YY</i> ₁₀₁		4 12.5 83°20	3°1/ 9.8 18			39751	1997 <i>CX</i> ₂		4 12.5 169°99	1°6/13.9 18		
3 12	13 46.18	- 5 16.6	1.475	2.357	14.1	19.1	3 12	13 47.83	-14 44.2	1.992	2.836	12.7	18.6
3 22	13 41.15	- 3 58.0	1.418	2.363	9.9	18.9	3 22	13 42.06	-14 38.6	1.916	2.837	9.4	18.4
4 1	13 33.96	- 2 30.6	1.386	2.370	5.5	18.6	4 1	13 34.42	-14 20.3	1.864	2.838	5.6	18.2
4 11	13 25.58	- 1 3.0	1.379	2.376	3.1	18.5	4 11	13 25.68	-13 51.5	1.840	2.839	2.0	17.9
4 21	13 17.14	+ 0 15.4	1.399	2.383	6.4	18.7	4 21	13 16.77	-13 16.1	1.843	2.839	3.4	18.0
5 1	13 9.79	+ 1 16.7	1.445	2.390	10.8	19.0	5 1	13 8.64	-12 39.1	1.875	2.840	7.2	18.3
5 11	13 4.41	+ 1 56.2	1.512	2.396	14.8	19.2	5 11	13 2.12	-12 6.0	1.932	2.840	10.8	18.5
5 21	13 1.46	+ 2 12.8	1.599	2.403	18.1	19.5	5 21	12 57.69	-11 40.9	2.011	2.840	14.0	18.7
289601	2005 <i>GJ</i> ₁₀		4 12.5 331°21	1°3/11.6 17			505025	2011 <i>QN</i> ₆₀		4 12.5 306°00	4°5/16.9 17		
3 12	13 45.42	- 8 2.3	1.250	2.136	15.8	20.3	3 12	13 45.79	-23 28.5	2.122	2.930	13.3	20.5
3 22	13 41.18	- 7 32.8	1.177	2.124	11.3	20.0	3 22	13 40.69	-23 40.0	2.035	2.924	10.6	20.3
4 1	13 34.27	- 6 50.7	1.126	2.112	6.2	19.7	4 1	13 33.71	-23 33.6	1.970	2.917	7.6	20.1
4 11	13 25.65	- 6 2.2	1.099	2.101	1.4	19.3	4 11	13 25.59	-23 9.5	1.931	2.911	5.1	20.0
4 21	13 16.65	- 5 15.0	1.096	2.090	5.6	19.6	4 21	13 17.21	-22 30.2	1.920	2.905	4.8	19.9
5 1	13 8.69	- 4 37.3	1.117	2.081	11.1	19.8	5 1	13 9.51	-21 40.5	1.935	2.899	7.1	20.1
5 11	13 2.98	- 4 15.8	1.159	2.072	16.0	20.1	5 11	13 3.33	-20 46.9	1.977	2.893	10.2	20.2
5 21	13 0.17	- 4 13.7	1.218	2.064	20.2	20.3	5 21	12 59.21	-19 55.4	2.041	2.887	13.1	20.4
418327	2008 <i>FP</i> ₁₂₈		4 12.5 152°34	3°2/10.3 16			236111	Wolfgangbüttner		4 12.5 206°15	1°8/13.8 17		
3 12	13 51.94	- 0 44.1	1.767	2.637	12.8	20.8	3 12	13 52.40	-14 42.3	1.690	2.534	14.5	21.5
3 22	13 45.03	- 0 30.2	1.702	2.640	9.1	20.6	3 22	13 45.70	-14 35.9	1.608	2.530	10.8	21.2
4 1	13 36.04	- 0 15.5	1.662	2.642	5.3	20.3	4 1	13 36.59	-14 14.4	1.550	2.524	6.5	21.0
4 11	13 25.87	- 0 4.6	1.649	2.644	3.2	20.2	4 11	13 25.99	-13 39.9	1.519	2.518	2.2	20.7
4 21	13 15.58	- 0 2.0	1.664	2.646	5.8	20.4	4 21	13 15.06	-12 57.0	1.515	2.511	4.0	20.8
5 1	13 6.27	- 0 10.8	1.706	2.648	9.7	20.6	5 1	13 5.06	-12 12.1	1.539	2.503	8.6	21.0
5 11	12 58.82	- 0 32.8	1.772	2.649	13.3	20.8	5 11	12 57.03	-11 32.0	1.588	2.495	12.8	21.2
5 21	12 53.73	- 1 8.0	1.859	2.651	16.3	21.0	5 21	12 51.61	-11 2.2	1.658	2.486	16.5	21.5
154531	2003 <i>FD</i> ₁₁₇		4 12.5 297°12	4°1/ 9.5 18			305714	2009 <i>BL</i> ₁₈₂		4 12.5 128°90	0°3/12.2 18		
3 12	13 49.08	+ 0 39.5	1.674	2.552	12.9	19.4	3 12	13 50.20	-10 16.5	1.657	2.518	14.0	22.0
3 22	13 43.27	+ 1 7.7	1.595	2.535	9.4	19.2	3 22	13 43.86	- 9 42.0	1.596	2.530	10.0	21.8
4 1	13 35.23	+ 1 36.5	1.539	2.519	5.7	18.9	4 1	13 35.41	- 8 55.9	1.560	2.541	5.4	21.5
4 11	13 25.78	+ 2 0.1	1.510	2.502	4.2	18.8	4 11	13 25.82	- 8 3.1	1.550	2.552	0.7	21.2
4 21	13 15.99	+ 2 12.8	1.508	2.486	6.9	18.9	4 21	13 16.17	- 7 10.1	1.568	2.562	4.2	21.5
5 1	13 7.02	+ 2 10.3	1.531	2.469	10.9	19.1	5 1	13 7.60	- 6 23.3	1.613	2.572	8.7	21.8
5 11	12 59.87	+ 1 50.3	1.578	2.453	14.7	19.3	5 11	13 0.97	- 5 48.2	1.682	2.581	12.7	22.0
5 21	12 55.15	+ 1 13.0	1.643	2.437	18.1	19.4	5 21	12 56.76	- 5 27.8	1.772	2.589	16.0	22.3
382382	2013 <i>TA</i> ₁₂₂		4 12.5 237°82	0°9/13.4 17			300111	2006 <i>UN</i> ₃₂₉		4 12.5 211°11	1°3/13.8 18		
3 12	13 45.34	-14 13.5	1.937	2.788	12.7	21.3	3 12	13 47.04	-13 52.3	2.625	3.460	10.2	20.8
3 22	13 40.32	-13 36.9	1.857	2.783	9.3	21.1	3 22	13 41.17	-13 53.3	2.539	3.456	7.5	20.7
4 1	13 33.47	-12 45.8	1.802	2.779	5.4	20.8	4 1	13 33.83	-13 45.3	2.479	3.451	4.5	20.5
4 11	13 25.53	-11 44.1	1.773	2.774	1.4	20.5	4 11	13 25.62	-13 29.8	2.447	3.446	1.6	20.2
4 21	13 17.41	-10 37.2	1.773	2.769	3.4	20.7	4 21	13 17.22	-13 9.4	2.445	3.441	2.8	20.3
5 1	13 10.05	- 9 31.8	1.800	2.764	7.5	20.9	5 1	13 9.39	-12 47.5	2.473	3.435	5.9	20.5
5 11	13 4.25	- 8 34.4	1.853	2.759	11.3	21.1	5 11	13 2.75	-12 27.7	2.528	3.429	8.9	20.7
5 21	13 0.52	- 7 49.5	1.927	2.754	14.6	21.3	5 21	12 57.74	-12 13.0	2.607	3.423	11.5	20.9
116173	2003 <i>XF</i> ₃		4 12.5 135°88	0°5/11.9 18			211266	2002 <i>RE</i> ₆₆		4 12.5 137°53	13°0/19.4 18		
3 12	13 45.19	- 9 35.0	2.333	3.189	10.6	20.8	3 12	14 3.45	-33 32.5	1.292	2.061	22.3	20.8
3 22	13 39.83	- 8 52.4	2.266	3.198	7.5	20.6	3 22	13 54.99	-35 33.7	1.227	2.069	19.2	20.6
4 1	13 33.04	- 8 1.4	2.226	3.207	4.1	20.4	4 1	13 42.36	-37 3.5	1.181	2.078	16.1	20.4
4 11	13 25.47	- 7 6.3	2.214	3.216	0.6	20.2	4 11	13 26.83	-37 52.1	1.155	2.086	13.7	20.3
4 21	13 17.85	- 6 11.8	2.232	3.224	3.4	20.4	4 21	13 10.47	-37 55.4	1.152	2.093	13.0	20.3
5 1	13 10.94	- 5 22.7	2.278	3.232	6.8	20.6	5 1	12 55.69	-37 18.1	1.171	2.100	14.3	20.4
5 11	13 5.33	- 4 43.1	2.351	3.240	10.0	20.9	5 11	12 44.39	-36 13.6	1.212	2.106	16.9	20.5
5 21	13 1.43	- 4 15.4	2.446	3.247	12.6	21.0	5 21	12 37.52	-34 57.4	1.271	2.111	19.8	20.7
8302	Kazukin		4 12.5 195°97	2°9/10.1 18			522710	2016 <i>LS</i> ₆₀		4 12.5 207°20	0°8/11.4 17		
3 12	13 49.91	- 3 23.5	1.805	2.675	12.6	18.8	3 12	13 42.67	- 9 20.7	2.658	3.514	9.5	22.3
3 22	13 43.61	- 2 35.5	1.734	2.673	8.9	18.5	3 22	13 37.99	- 8 19.6	2.578	3.510	6.7	22.1
4 1	13 35.28	- 1 42.1	1.688	2.670	5.0	18.3	4 1	13 32.04	- 7 10.1	2.524	3.506	3.6	21.9
4 11	13 25.78	- 0 49.6	1.670	2.667	2.9	18.1	4 11	13 25.37	- 5 56.5	2.500	3.501	0.8	21.6
4 21	13 16.11	- 0 4.0	1.680	2.663	5.7	18.3	4 21	13 18.60	- 4 43.5	2.505	3.496	3.3	21.8
5 1	13 7.32	+ 0 29.0	1.717	2.658	9.7	18.5	5 1	13 12.37	- 3 36.4	2.541	3.490	6.5	22.0
5 11	13 0.28	+ 0 45.9	1.778	2.652	13.4	18.7	5 11	13 7.22	- 2 39.3	2.603	3.485	9.4	22.2
5 21	12 55.52	+ 0 45.5	1.859	2.646	16.5	18.9	5 21	13 3.55	- 1 54.8	2.688	3.479	11.9	22.4
224517	2005 <i>WG</i> ₇₁		4 12.5 187°87	1°0/11.4 17			266343	2007 <i>DT</i> ₈₉		4 12.5 150°48	1°9/10.8 17		
3 12	13 47.73	- 7 21.6	2.373	3.229	10.5	21.5	3 12	13 46.09	- 6 30.7	1.779	2.651	12.6	21.1
3 22	13 41.68	- 6 47.3	2.296	3.228	7.4	21.3	3 22	13 40.88	- 5 38.1	1.713	2.653	8.9	20.9
4 1	13 34.09	- 6 6.4	2.245	3.227	4.0	21.1	4 1	13 33.78	- 4 37.1	1.671	2.654	4.8	20.6
4 11	13 25.62	- 5 22.6	2.224	3.225	1.1	20.8	4 11	13 25.61	- 3 33.9	1.656	2.655	1.9	20.4
4 21	13 17.02	- 4 40.3	2.232	3.222	3.7	21.0	4 21	13 17.32	- 2 35.0	1.669	2.657	5.0	20.7
5 1	13 9.09	- 4 3.9	2.270	3.219	7.2	21.2	5 1	13 9.90	- 1 46.7	1.708	2.658	9.1	20.9
5 11	13 2.48	- 3 37.0	2.334	3.215	10.3	21.4	5 11	13 4.15	- 1 13.5	1.772	2.659	12.8	21.1
5 21	12 57.63	- 3 21.7	2.420	3.210	13.0	21.6	5 21	13 0.56	- 0 57.6	1.855	2.660	15.9	21.3
421318	2013 <i>TW</i> ₅₈		4 12.5 148°26	2°1/14.8 17			37751	1997 <i>CH</i> ₁		4 12.5 339°68	2°9/1		

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2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
19454	Henrymarr		4 12.5 160°58	3:7/ 9.1	18		522822	2016 NY ₈₁		4 12.5 348°18	1°6/11.0	17	
3 12	13 48.27	- 1 50.2	1.760	2.636	12.5	18.5	3 12	13 45.04	- 5 55.2	2.019	2.888	11.4	21.1
3 22	13 42.40	- 0 39.7	1.700	2.641	8.9	18.3	3 22	13 40.00	- 5 21.7	1.948	2.887	8.1	20.9
4 1	13 34.59	+ 0 35.0	1.665	2.645	5.3	18.1	4 1	13 33.27	- 4 41.9	1.903	2.886	4.4	20.7
4 11	13 25.72	+ 1 46.2	1.657	2.650	3.8	18.0	4 11	13 25.58	- 4 0.6	1.885	2.885	1.6	20.5
4 21	13 16.78	+ 2 46.9	1.678	2.653	6.6	18.1	4 21	13 17.76	- 3 22.6	1.895	2.884	4.4	20.7
5 1	13 8.78	+ 3 31.1	1.724	2.656	10.3	18.4	5 1	13 10.68	- 2 52.7	1.933	2.884	8.1	20.9
5 11	13 2.53	+ 3 55.7	1.794	2.659	13.7	18.6	5 11	13 5.06	- 2 34.4	1.995	2.883	11.5	21.1
5 21	12 58.50	+ 4 0.0	1.884	2.661	16.7	18.8	5 21	13 1.36	- 2 29.7	2.078	2.883	14.4	21.3
162063	1997 EH ₂₉		4 12.5 205°92	5°5/ 9.1	17		37231	2000 WW ₁₄₈		4 12.5 46°43	8°2/ 5.2	18	
3 12	14 15.48	- 5 38.5	1.175	2.023	19.4	21.8	3 12	13 46.11	+ 6 39.7	1.395	2.286	14.2	18.0
3 22	14 3.52	- 3 7.7	1.090	2.018	14.1	21.4	3 22	13 41.23	+ 8 32.8	1.348	2.288	10.8	17.8
4 1	13 47.05	- 0 11.6	1.030	2.008	8.3	21.1	4 1	13 34.09	+ 10 21.3	1.325	2.290	8.5	17.7
4 11	13 27.47	+ 2 53.3	1.001	1.993	5.7	20.9	4 11	13 25.69	+ 11 53.0	1.326	2.293	8.7	17.7
4 21	13 7.04	+ 5 44.9	1.004	1.974	10.7	21.1	4 21	13 17.24	+ 12 58.3	1.352	2.296	11.3	17.9
5 1	12 48.28	+ 8 3.0	1.035	1.949	17.2	21.3	5 1	13 9.92	+ 13 31.9	1.401	2.298	14.7	18.1
5 11	12 33.17	+ 9 37.6	1.090	1.920	23.0	21.6	5 11	13 4.64	+ 13 33.4	1.469	2.301	17.9	18.3
5 21	12 22.60	+ 10 29.3	1.161	1.885	27.7	21.8	5 21	13 1.90	+ 13 5.9	1.553	2.304	20.7	18.5
401083	2011 UV ₁₁₉		4 12.5 289°46	2°3/10.9	16		162150	1998 YF ₂₀		4 12.5 212°44	0°3/12.3	18	
3 12	13 48.37	- 6 7.4	1.320	2.202	15.4	21.4	3 12	13 45.56	- 9 54.6	2.416	3.269	10.4	21.2
3 22	13 43.22	- 5 25.9	1.246	2.191	11.0	21.1	3 22	13 40.19	- 9 25.2	2.334	3.264	7.4	20.9
4 1	13 35.39	- 4 33.8	1.194	2.179	6.0	20.8	4 1	13 33.33	- 8 47.6	2.278	3.258	4.1	20.7
4 11	13 25.86	- 3 38.0	1.167	2.167	2.3	20.5	4 11	13 25.59	- 8 4.9	2.251	3.253	0.5	20.4
4 21	13 15.94	- 2 46.8	1.166	2.156	6.2	20.7	4 21	13 17.71	- 7 21.4	2.253	3.246	3.2	20.6
5 1	13 7.07	- 2 8.2	1.188	2.144	11.4	20.9	5 1	13 10.42	- 6 41.4	2.284	3.240	6.7	20.9
5 11	13 0.42	- 1 48.0	1.233	2.133	16.2	21.2	5 11	13 4.38	- 6 8.9	2.341	3.233	9.9	21.0
5 21	12 56.67	- 1 48.7	1.295	2.122	20.2	21.4	5 21	13 0.03	- 5 46.8	2.421	3.226	12.6	21.2
294619	2008 AG ₃₁		4 12.5 159°85	3°3/16.4	18		286179	2001 UP ₄₄		4 12.5 253°98	0°3/12.8	17	
3 12	13 44.64	- 22 14.8	2.523	3.330	11.5	20.8	3 12	13 43.36	- 12 57.9	2.362	3.211	10.8	20.7
3 22	13 39.52	- 22 1.4	2.441	3.333	8.9	20.7	3 22	13 38.70	- 12 7.8	2.272	3.199	7.8	20.5
4 1	13 32.93	- 21 32.3	2.383	3.335	6.2	20.5	4 1	13 32.54	- 11 5.5	2.208	3.186	4.4	20.2
4 11	13 25.50	- 20 49.2	2.353	3.338	3.8	20.3	4 11	13 25.50	- 9 54.9	2.172	3.174	0.7	19.9
4 21	13 17.96	- 19 55.3	2.351	3.340	3.6	20.3	4 21	13 18.27	- 8 41.0	2.166	3.161	3.1	20.1
5 1	13 11.05	- 18 55.1	2.378	3.342	5.9	20.5	5 1	13 11.61	- 7 29.8	2.189	3.149	6.7	20.3
5 11	13 5.40	- 17 54.4	2.432	3.344	8.7	20.6	5 11	13 6.20	- 6 26.6	2.238	3.136	10.0	20.5
5 21	13 1.45	- 16 58.0	2.510	3.346	11.3	20.8	5 21	13 2.46	- 5 35.4	2.310	3.122	12.9	20.6
370141	2001 XP ₁₃		4 12.5 76°53	5°1/17.2	18		4267	Basner		4 12.5 245°05	0°9/13.3	18	
3 12	13 49.73	- 24 31.5	1.761	2.569	15.6	21.0	3 12	13 48.81	- 13 52.5	1.794	2.643	13.6	18.3
3 22	13 43.51	- 24 35.3	1.705	2.594	12.3	20.9	3 22	13 43.10	- 13 22.6	1.702	2.628	10.0	18.0
4 1	13 35.21	- 24 16.5	1.671	2.618	8.8	20.7	4 1	13 35.19	- 12 37.2	1.635	2.612	5.8	17.7
4 11	13 25.81	- 23 36.5	1.663	2.642	5.8	20.6	4 11	13 25.87	- 11 39.6	1.595	2.595	1.5	17.4
4 21	13 16.45	- 22 39.6	1.681	2.666	5.3	20.6	4 21	13 16.18	- 10 35.4	1.582	2.578	3.8	17.5
5 1	13 8.22	- 21 32.9	1.726	2.690	7.8	20.8	5 1	13 7.24	- 9 31.6	1.597	2.560	8.4	17.7
5 11	13 1.96	- 20 24.8	1.796	2.713	11.0	21.0	5 11	13 0.03	- 8 35.5	1.637	2.542	12.6	17.9
5 21	12 58.12	- 19 22.4	1.889	2.737	14.0	21.3	5 21	12 55.19	- 7 52.5	1.698	2.523	16.3	18.1
215584	2003 GF ₃₆		4 12.5 2°75	9°4/ 1.6	17		4921	Volonté		4 12.5 186°14	1°5/13.9	18	
3 12	13 41.92	+ 14 45.1	1.788	2.666	12.2	18.8	3 12	13 48.01	- 15 48.8	1.915	2.756	13.2	17.9
3 22	13 37.91	+ 16 33.6	1.747	2.665	10.3	18.7	3 22	13 42.26	- 15 14.6	1.837	2.757	9.8	17.7
4 1	13 32.13	+ 18 10.0	1.730	2.666	9.4	18.6	4 1	13 34.58	- 14 24.5	1.783	2.756	5.8	17.4
4 11	13 25.41	+ 19 25.1	1.738	2.666	10.1	18.7	4 11	13 25.78	- 13 22.0	1.756	2.755	1.9	17.2
4 21	13 18.63	+ 20 12.5	1.770	2.668	11.9	18.8	4 21	13 16.80	- 12 12.6	1.757	2.753	3.5	17.3
5 1	13 12.71	+ 20 29.4	1.824	2.670	14.3	18.9	5 1	13 8.66	- 11 3.1	1.787	2.751	7.6	17.5
5 11	13 8.37	+ 20 16.6	1.896	2.672	16.5	19.1	5 11	13 2.18	- 10 0.6	1.842	2.749	11.4	17.7
5 21	13 6.04	+ 19 37.6	1.984	2.676	18.5	19.3	5 21	12 57.88	- 9 10.0	1.920	2.745	14.7	17.9
219680	2001 WS ₁₄		4 12.5 80°23	0°9/13.3	17		412515	2014 MM ₅		4 12.5 204°76	0°1/12.6	17	
3 12	13 47.19	- 13 20.5	1.717	2.573	13.8	20.9	3 12	13 49.81	- 11 37.9	1.986	2.836	12.5	21.9
3 22	13 41.72	- 12 55.5	1.654	2.583	10.0	20.7	3 22	13 43.52	- 11 2.1	1.903	2.830	9.0	21.7
4 1	13 34.27	- 12 16.6	1.614	2.592	5.7	20.5	4 1	13 35.29	- 10 14.2	1.845	2.824	5.0	21.4
4 11	13 25.70	- 11 27.8	1.600	2.601	1.4	20.2	4 11	13 25.88	- 9 18.0	1.815	2.817	0.7	21.1
4 21	13 17.05	- 10 34.8	1.614	2.610	3.7	20.4	4 21	13 16.24	- 8 19.0	1.814	2.808	3.7	21.3
5 1	13 9.38	- 9 44.2	1.655	2.620	8.0	20.6	5 1	13 7.37	- 7 23.2	1.842	2.799	7.9	21.5
5 11	13 3.50	- 9 1.9	1.720	2.629	11.9	20.9	5 11	13 0.13	- 6 36.6	1.895	2.789	11.7	21.7
5 21	12 59.90	- 8 32.1	1.807	2.638	15.2	21.1	5 21	12 55.03	- 6 2.9	1.970	2.778	15.0	21.9
50702	2000 EU ₁₃₀		4 12.5 237°27	1°4/11.2	18		489599	2007 TN ₁₆₅		4 12.5 90°90	2°2/15.4	18	
3 12	13 45.50	- 6 36.8	2.167	3.031	11.0	18.5	3 12	13 45.20	- 20 13.1	2.457	3.274	11.5	21.1
3 22	13 40.26	- 6 1.4	2.089	3.026	7.8	18.3	3 22	13 39.76	- 19 28.7	2.398	3.300	8.6	21.0
4 1	13 33.40	- 5 19.3	2.038	3.020	4.2	18.0	4 1	13 32.98	- 18 29.3	2.364	3.326	5.5	20.8
4 11	13 25.59	- 4 34.8	2.014	3.015	1.4	17.8	4 11	13 25.54	- 17 18.2	2.358	3.352	2.7	20.7
4 21	13 17.62	- 3 52.6	2.019	3.009	4.1	18.0	4 21	13 18.17	- 16 0.1	2.383	3.377	3.0	20.7
5 1	13 10.32	- 3 17.6	2.052	3.003	7.7	18.2	5 1	13 11.56	- 14 40.9	2.436	3.401	5.8	21.0
5 11	13 4.39	- 2 53.4	2.110	2.996	11.1	18.4	5 11	13 6.28	- 13 26.3	2.518	3.426	8.6	21.2
5 21	13 0.29	- 2 42.2	2.190	2.990	13.9	18.6	5 21	13 2.68	- 12 20.7	2.623	3.450	11.2	21.4
173313	1999 VY ₃₉		4 12.5 166°65	1°0/11.7	18		173967	2001 XE ₇₈		4 12.5 86°65	1°5/10.9	17	
3 12													

EPHEMERIDES

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2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
38661	2000 OC ₄₉		4 12.5 208°52	2°9/ 9.8 17			364728	2007 VG ₁₀₉		4 12.6 314°85	4°1/ 9.9 17		
3 12	13 49.20	- 3 12.7	1.990	2.857	11.7	20.1	3 12	13 49.21	- 1 0.8	1.319	2.206	15.1	21.0
3 22	13 43.03	- 2 13.4	1.913	2.850	8.3	19.9	3 22	13 43.83	- 0 29.3	1.247	2.193	10.9	20.7
4 1	13 34.99	- 1 8.5	1.862	2.843	4.8	19.6	4 1	13 35.77	+ 0 5.3	1.199	2.181	6.4	20.4
4 11	13 25.85	- 0 4.1	1.839	2.834	3.0	19.5	4 11	13 26.00	+ 0 35.6	1.174	2.170	4.2	20.2
4 21	13 16.51	+ 0 53.3	1.845	2.825	5.6	19.6	4 21	13 15.87	+ 0 54.5	1.175	2.159	7.4	20.4
5 1	13 7.93	+ 1 38.3	1.879	2.814	9.3	19.8	5 1	13 6.79	+ 0 56.4	1.200	2.148	12.2	20.6
5 11	13 0.92	+ 2 6.9	1.938	2.803	12.8	20.0	5 11	12 59.96	+ 0 38.2	1.245	2.138	16.7	20.8
5 21	12 56.00	+ 2 17.7	2.017	2.791	15.8	20.2	5 21	12 56.03	+ 0 0.2	1.309	2.128	20.5	21.0
259084	2002 VC ₃₅		4 12.5 129°48	4°0/16.8 18			61928	2000 RP ₄		4 12.6 209°45	2°2/10.3 18		
3 12	13 48.82	-23 44.7	2.089	2.892	13.7	20.3	3 12	13 48.99	- 2 40.9	2.557	3.415	9.7	19.9
3 22	13 42.68	-23 28.1	2.019	2.907	10.7	20.1	3 22	13 42.56	- 2 11.8	2.474	3.407	6.9	19.7
4 1	13 34.73	-22 51.7	1.972	2.921	7.5	19.9	4 1	13 34.64	- 1 39.9	2.419	3.399	3.9	19.5
4 11	13 25.80	-21 57.1	1.952	2.935	4.7	19.8	4 11	13 25.83	- 1 8.9	2.393	3.389	2.2	19.4
4 21	13 16.83	-20 48.7	1.960	2.948	4.4	19.8	4 21	13 16.86	- 0 42.6	2.398	3.379	4.3	19.5
5 1	13 8.76	-19 33.0	1.997	2.961	6.9	20.0	5 1	13 8.47	- 0 24.4	2.431	3.368	7.4	19.7
5 11	13 2.35	-18 17.3	2.060	2.973	10.0	20.2	5 11	13 1.32	- 0 16.8	2.492	3.357	10.3	19.9
5 21	12 58.05	-17 8.0	2.147	2.984	12.9	20.4	5 21	12 55.85	- 0 21.0	2.575	3.344	12.9	20.0
3240	Laocoon		4 12.5 266°12	0°5/13.6 18 R			20743	2000 AR ₆		4 12.6 281°48	7°0/19.2 18		
3 12	13 38.12	-13 9.5	4.551	5.386	6.2	17.6	3 12	13 50.07	-31 17.1	2.476	3.224	13.3	17.5
3 22	13 34.42	-12 52.0	4.458	5.377	4.5	17.5	3 22	13 43.78	-32 11.7	2.384	3.219	11.3	17.3
4 1	13 29.99	-12 29.0	4.394	5.368	2.6	17.3	4 1	13 35.51	-32 48.1	2.316	3.214	9.2	17.2
4 11	13 25.16	-12 2.2	4.359	5.359	0.8	17.2	4 11	13 25.97	-33 4.0	2.272	3.209	7.5	17.1
4 21	13 20.26	-11 33.2	4.354	5.349	1.6	17.2	4 21	13 16.03	-32 59.2	2.255	3.204	7.0	17.0
5 1	13 15.63	-11 4.3	4.379	5.340	3.6	17.4	5 1	13 6.69	-32 36.4	2.265	3.199	8.0	17.1
5 11	13 11.58	-10 37.5	4.433	5.331	5.4	17.5	5 11	12 58.82	-32 0.8	2.301	3.194	10.0	17.2
5 21	13 8.38	-10 14.6	4.511	5.321	7.1	17.6	5 21	12 53.03	-31 18.6	2.360	3.189	12.1	17.3
521289	2015 JO ₁₅		4 12.5 284°30	2°6/ 9.5 18			207014	2004 UQ ₈		4 12.6 208°22	0°7/13.1 16		
3 12	13 42.41	- 3 43.2	2.259	3.132	10.2	21.5	3 12	13 51.86	-11 54.2	1.725	2.578	13.9	20.9
3 22	13 38.02	- 2 36.3	2.184	3.125	7.2	21.3	3 22	13 45.27	-11 46.9	1.646	2.573	10.2	20.7
4 1	13 32.16	- 1 24.0	2.136	3.118	4.1	21.1	4 1	13 36.39	-11 27.4	1.590	2.568	5.8	20.4
4 11	13 25.46	- 0 12.0	2.116	3.111	2.7	21.0	4 11	13 26.09	-10 58.7	1.561	2.563	1.3	20.1
4 21	13 18.63	+ 0 54.1	2.124	3.104	5.0	21.1	4 21	13 15.49	-10 25.2	1.561	2.557	3.9	20.3
5 1	13 12.41	+ 1 48.8	2.160	3.096	8.3	21.3	5 1	13 5.79	- 9 52.7	1.588	2.550	8.5	20.5
5 11	13 7.44	+ 2 28.5	2.221	3.089	11.3	21.5	5 11	12 57.98	- 9 26.8	1.639	2.543	12.7	20.8
5 21	13 4.13	+ 2 51.5	2.303	3.082	13.9	21.7	5 21	12 52.69	- 9 11.7	1.712	2.535	16.3	21.0
300909	Kentthompson		4 12.5 133°35	2°2/ 9.9 18			203800	2002 TA ₁₁₀		4 12.6 193°95	5°6/ 6.2 18		
3 12	13 43.06	- 4 16.5	2.464	3.332	9.7	20.9	3 12	13 46.30	+ 8 35.0	2.413	3.281	9.9	20.3
3 22	13 38.31	- 3 16.9	2.399	3.338	6.8	20.7	3 22	13 40.65	+ 9 32.3	2.353	3.279	7.6	20.2
4 1	13 32.25	- 2 12.8	2.361	3.343	3.8	20.5	4 1	13 33.56	+10 24.5	2.319	3.277	5.9	20.1
4 11	13 25.47	- 1 9.1	2.352	3.348	2.2	20.4	4 11	13 25.68	+11 6.1	2.313	3.275	5.9	20.1
4 21	13 18.65	- 0 10.8	2.372	3.353	4.4	20.6	4 21	13 17.73	+11 32.7	2.335	3.272	7.5	20.2
5 1	13 12.45	+ 0 37.8	2.421	3.358	7.4	20.8	5 1	13 10.45	+11 41.7	2.383	3.269	9.9	20.3
5 11	13 7.42	+ 1 13.3	2.495	3.363	10.2	21.0	5 11	13 4.45	+11 32.4	2.455	3.266	12.2	20.5
5 21	13 3.95	+ 1 34.5	2.590	3.368	12.6	21.2	5 21	13 0.13	+11 5.8	2.546	3.262	14.3	20.6
407689	2011 UO ₈₄		4 12.5 115°53	0°4/12.3 18			190298	1995 WW ₃₃		4 12.6 101°91	0°6/12.0 18		
3 12	13 51.98	- 9 0.9	1.558	2.421	14.5	20.8	3 12	13 48.31	-11 6.1	1.365	2.237	15.7	20.7
3 22	13 45.29	- 8 48.3	1.497	2.432	10.4	20.6	3 22	13 42.89	-10 7.5	1.307	2.246	11.2	20.4
4 1	13 36.31	- 8 25.7	1.460	2.442	5.7	20.3	4 1	13 35.06	- 8 52.9	1.272	2.255	6.1	20.2
4 11	13 26.03	- 7 57.4	1.449	2.451	0.8	20.0	4 11	13 25.90	- 7 29.7	1.262	2.263	0.9	19.8
4 21	13 15.68	- 7 28.6	1.466	2.461	4.4	20.3	4 21	13 16.67	- 6 7.1	1.278	2.272	4.9	20.1
5 1	13 6.47	- 7 4.9	1.510	2.470	9.1	20.6	5 1	13 8.65	- 4 54.7	1.319	2.280	10.0	20.4
5 11	12 59.35	- 6 51.2	1.577	2.478	13.2	20.8	5 11	13 2.83	- 3 59.7	1.384	2.288	14.5	20.7
5 21	12 54.84	- 6 50.2	1.665	2.487	16.7	21.1	5 21	12 59.70	- 3 25.5	1.467	2.296	18.2	21.0
505765	2015 BV ₁₈₉		4 12.6 307°56	8°5/18.9 17			68791	2002 FR ₃₀		4 12.6 286°79	3°5/ 9.1 18		
3 12	13 49.48	-30 1.7	1.743	2.524	16.8	20.5	3 12	13 45.76	+ 1 28.6	2.344	3.214	10.0	19.4
3 22	13 43.99	-30 57.1	1.654	2.513	14.2	20.3	3 22	13 40.33	+ 1 59.5	2.273	3.210	7.2	19.2
4 1	13 35.89	-31 28.7	1.586	2.503	11.4	20.1	4 1	13 33.42	+ 2 30.1	2.229	3.206	4.5	19.1
4 11	13 26.02	-31 33.1	1.540	2.492	9.2	19.9	4 11	13 25.67	+ 2 55.9	2.213	3.201	3.5	19.0
4 21	13 15.60	-31 10.1	1.519	2.482	8.5	19.9	4 21	13 17.81	+ 3 13.0	2.225	3.197	5.5	19.1
5 1	13 5.99	-30 23.9	1.523	2.472	10.0	19.9	5 1	13 10.58	+ 3 18.4	2.265	3.192	8.4	19.3
5 11	12 58.42	-29 22.9	1.550	2.462	12.8	20.1	5 11	13 4.64	+ 3 10.4	2.329	3.188	11.2	19.4
5 21	12 53.64	-28 16.5	1.599	2.453	15.8	20.2	5 21	13 0.40	+ 2 48.9	2.415	3.184	13.6	19.6
411613	2011 SZ ₈₄		4 12.6 55°69	1°8/11.1 18			170102	2002 XM ₇₄		4 12.6 68°92	4°2/16.9 18		
3 12	13 45.54	- 9 35.3	1.290	2.171	15.7	20.4	3 12	13 45.54	-23 27.6	2.140	2.949	13.2	19.7
3 22	13 40.95	- 8 12.0	1.237	2.181	11.1	20.1	3 22	13 40.44	-23 25.9	2.063	2.953	10.4	19.5
4 1	13 33.98	- 6 33.4	1.206	2.191	5.9	19.9	4 1	13 33.58	-23 5.7	2.009	2.957	7.4	19.3
4 11	13 25.73	- 4 48.9	1.201	2.202	1.8	19.6	4 11	13 25.70	-22 28.1	1.980	2.962	4.8	19.2
4 21	13 17.46	- 3 9.9	1.221	2.213	5.8	19.9	4 21	13 17.68	-21 36.6	1.979	2.966	4.5	19.1
5 1	13 10.41	- 1 46.7	1.267	2.223	10.8	20.2	5 1	13 10.41	-20 36.4	2.006	2.971	6.8	19.3
5 11	13 5.54	- 0 46.3	1.334	2.235	15.2	20.5	5 11	13 4.66	-19 34.3	2.059	2.975	9.8	19.5
5 21	13 3.29	- 0 11.1	1.420	2.246	18.8	20.8	5 21	13 0.90	-18 36.2	2.135	2.980	12.7	19.7
502750	2015 DR ₄₈		4 12.6 196°26	3°8/ 8.7 17			338278	2002 TQ ₃₂₇		4 12.6 202°79	0°4/		

EPHEMERIDES

4 12.6

4 12.6

2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
214216	2005 <i>ES</i> ₈₄		4 12.6 59°07'	1.3°/11.6	18		76812	2000 <i>QQ</i> ₈₄		4 12.6 192°01'	3.1°/19.1	18	
3 12	13 49.06	- 7 54.0	1.335	2.213	15.6	20.6	3 12	13 39.18	-28 34.4	4.995	5.744	7.0	19.9
3 22	13 43.38	- 7 20.2	1.285	2.227	11.0	20.4	3 22	13 35.19	-28 35.6	4.900	5.743	5.7	19.8
4 1	13 35.30	- 6 36.1	1.257	2.241	5.9	20.1	4 1	13 30.45	-28 27.2	4.831	5.742	4.5	19.7
4 11	13 25.93	- 5 47.9	1.254	2.255	1.4	19.8	4 11	13 25.29	-28 9.5	4.788	5.741	3.4	19.6
4 21	13 16.57	- 5 3.1	1.277	2.270	5.2	20.1	4 21	13 20.06	-27 43.8	4.775	5.739	3.1	19.6
5 1	13 8.50	- 4 28.4	1.325	2.285	10.1	20.5	5 1	13 15.11	-27 11.8	4.790	5.738	3.8	19.6
5 11	13 2.67	- 4 8.9	1.396	2.300	14.4	20.7	5 11	13 10.77	-26 35.8	4.834	5.736	4.9	19.7
5 21	12 59.55	- 4 6.6	1.485	2.315	18.0	21.0	5 21	13 7.30	-25 58.4	4.904	5.734	6.3	19.8
174531	2003 <i>EW</i> ₂₇		4 12.6 340°48'	4.4°/ 7.7	18		304376	2006 <i>SF</i> ₃₈₁		4 12.6 270°09'	0.7°/11.9	17	
3 12	13 40.81	- 0 41.8	1.807	2.695	11.6	18.7	3 12	13 45.26	- 8 26.5	2.197	3.058	11.0	21.6
3 22	13 37.19	+ 0 50.7	1.739	2.685	8.3	18.5	3 22	13 40.17	- 7 58.6	2.114	3.048	7.8	21.4
4 1	13 31.83	+ 2 27.9	1.697	2.677	5.3	18.3	4 1	13 33.43	- 7 22.9	2.056	3.038	4.3	21.2
4 11	13 25.47	+ 4 1.3	1.682	2.669	4.6	18.3	4 11	13 25.71	- 6 42.9	2.026	3.028	0.8	20.9
4 21	13 18.95	+ 5 22.7	1.693	2.662	7.2	18.4	4 21	13 17.79	- 6 3.1	2.025	3.017	3.7	21.1
5 1	13 13.16	+ 6 25.4	1.730	2.655	10.7	18.6	5 1	13 10.49	- 5 28.3	2.051	3.007	7.4	21.3
5 11	13 8.85	+ 7 5.5	1.790	2.649	14.0	18.8	5 11	13 4.54	- 5 2.4	2.103	2.996	10.8	21.5
5 21	13 6.50	+ 7 22.2	1.868	2.644	16.8	19.0	5 21	13 0.40	- 4 48.2	2.177	2.986	13.7	21.7
374132	2004 <i>TQ</i> ₁₁₆		4 12.6 109°77'	4.7°/17.6	18		360270	2000 <i>SL</i> ₂₁₈		4 12.6 270°61'	5.1°/ 8.9	17	
3 12	13 46.34	-25 44.5	2.021	2.820	14.2	20.2	3 12	13 51.90	+ 2 7.7	1.601	2.477	13.5	20.1
3 22	13 41.05	-25 25.5	1.947	2.830	11.3	20.0	3 22	13 45.56	+ 2 52.1	1.515	2.454	10.0	19.8
4 1	13 33.91	-24 44.5	1.896	2.839	8.1	19.8	4 1	13 36.70	+ 3 37.2	1.453	2.430	6.5	19.5
4 11	13 25.75	-23 42.9	1.870	2.848	5.4	19.7	4 11	13 26.19	+ 4 15.6	1.418	2.406	5.3	19.4
4 21	13 17.51	-22 25.2	1.872	2.858	4.9	19.7	4 21	13 15.18	+ 4 40.2	1.409	2.381	8.0	19.5
5 1	13 10.14	-20 58.3	1.902	2.866	7.1	19.8	5 1	13 4.97	+ 4 45.7	1.426	2.356	12.2	19.7
5 11	13 4.43	-19 30.4	1.957	2.875	10.2	20.0	5 11	12 56.70	+ 4 29.5	1.465	2.330	16.3	19.8
5 21	13 0.84	-18 8.8	2.037	2.884	13.1	20.2	5 21	12 51.08	+ 3 52.1	1.523	2.304	19.8	20.0
363039	1999 <i>TE</i> ₅₀		4 12.6 212°93'	1.4°/11.2	16		437562	2014 <i>AM</i> ₄		4 12.6 5°70'	3.2°/ 9.7	17	
3 12	13 47.45	- 8 18.2	1.916	2.779	12.2	21.5	3 12	13 45.60	- 1 18.7	1.887	2.765	11.7	20.6
3 22	13 41.88	- 7 17.3	1.837	2.773	8.7	21.2	3 22	13 40.49	- 0 40.3	1.823	2.765	8.3	20.4
4 1	13 34.42	- 6 5.7	1.783	2.766	4.7	21.0	4 1	13 33.61	+ 0 0.4	1.784	2.765	4.9	20.2
4 11	13 25.83	- 4 49.1	1.757	2.758	1.4	20.7	4 11	13 25.73	+ 0 37.8	1.772	2.766	3.3	20.1
4 21	13 17.05	- 3 34.4	1.760	2.749	4.6	20.9	4 21	13 17.75	+ 1 6.9	1.787	2.767	5.8	20.2
5 1	13 9.03	- 2 28.5	1.791	2.740	8.7	21.1	5 1	13 10.58	+ 1 23.2	1.829	2.768	9.3	20.4
5 11	13 2.61	- 1 37.0	1.846	2.731	12.5	21.4	5 11	13 4.96	+ 1 24.4	1.894	2.770	12.6	20.6
5 21	12 58.29	- 1 2.8	1.923	2.721	15.7	21.5	5 21	13 1.37	+ 1 9.9	1.980	2.772	15.5	20.8
246556	2008 <i>SO</i> ₁₀₂		4 12.6 36°14'	0.1°/12.5	17		78859	2003 <i>QW</i> ₇₆		4 12.6 197°81'	1.3°/13.9	18	
3 12	13 45.02	-11 22.7	1.890	2.751	12.5	20.3	3 12	13 46.50	-14 59.7	2.244	3.084	11.6	20.0
3 22	13 40.12	-10 43.8	1.819	2.752	9.0	20.1	3 22	13 41.01	-14 39.3	2.163	3.081	8.6	19.8
4 1	13 33.42	- 9 53.0	1.772	2.753	5.0	19.9	4 1	13 33.88	-14 6.6	2.106	3.079	5.1	19.6
4 11	13 25.69	- 8 54.8	1.753	2.754	0.7	19.5	4 11	13 25.78	-13 24.1	2.077	3.076	1.8	19.3
4 21	13 17.84	- 7 55.0	1.761	2.756	3.7	19.8	4 21	13 17.51	-12 35.8	2.077	3.073	3.1	19.4
5 1	13 10.78	- 6 59.9	1.796	2.757	7.8	20.0	5 1	13 9.92	-11 46.7	2.106	3.070	6.6	19.7
5 11	13 5.29	- 6 15.0	1.857	2.759	11.5	20.3	5 11	13 3.71	-11 2.2	2.161	3.066	10.0	19.9
5 21	13 1.85	- 5 43.8	1.938	2.760	14.7	20.5	5 21	12 59.36	-10 26.2	2.239	3.062	12.9	20.0
382895	2004 <i>QS</i> ₆		4 12.6 269°06'	2.6°/10.1	17		336721	2010 <i>CM</i> ₁₅₉		4 12.6 92°93'	4.5°/16.6	17	
3 12	13 47.71	- 3 38.1	2.020	2.889	11.5	21.8	3 12	13 49.19	-22 36.5	2.070	2.879	13.6	21.2
3 22	13 42.14	- 2 50.6	1.925	2.863	8.2	21.6	3 22	13 43.08	-22 57.7	1.999	2.889	10.7	21.0
4 1	13 34.64	- 1 56.8	1.855	2.837	4.7	21.3	4 1	13 35.06	-23 1.5	1.951	2.900	7.6	20.8
4 11	13 25.88	- 1 2.0	1.813	2.810	2.7	21.1	4 11	13 25.94	-22 48.2	1.929	2.910	5.0	20.7
4 21	13 16.75	- 0 12.2	1.800	2.783	5.4	21.2	4 21	13 16.67	-22 20.3	1.935	2.920	4.8	20.7
5 1	13 8.20	+ 0 26.9	1.814	2.755	9.3	21.4	5 1	13 8.24	-21 42.5	1.969	2.930	7.2	20.8
5 11	13 1.10	+ 0 51.1	1.853	2.726	13.0	21.6	5 11	13 1.46	-21 0.9	2.028	2.940	10.2	21.0
5 21	12 56.06	+ 0 58.4	1.913	2.697	16.2	21.7	5 21	12 56.84	-20 21.2	2.110	2.950	13.0	21.2
199881	2007 <i>ER</i> ₂₁₃		4 12.6 235°18'	1.2°/11.5	17		521318	2015 <i>KC</i> ₁₇₁		4 12.6 264°10'	5.0°/ 6.6	17	
3 12	13 48.98	- 9 41.7	1.685	2.549	13.6	20.7	3 12	13 43.77	+ 5 48.3	2.366	3.240	9.8	21.8
3 22	13 43.29	- 8 38.6	1.599	2.535	9.8	20.5	3 22	13 38.94	+ 6 51.9	2.299	3.233	7.3	21.6
4 1	13 35.34	- 7 20.9	1.538	2.520	5.3	20.2	4 1	13 32.68	+ 7 53.0	2.259	3.225	5.4	21.5
4 11	13 25.98	- 5 54.8	1.503	2.505	1.2	19.9	4 11	13 25.62	+ 8 45.8	2.247	3.218	5.3	21.4
4 21	13 16.27	- 4 28.3	1.497	2.488	4.9	20.1	4 21	13 18.43	+ 9 25.4	2.262	3.210	7.1	21.5
5 1	13 7.38	- 3 10.2	1.518	2.471	9.7	20.3	5 1	13 11.86	+ 9 48.3	2.304	3.203	9.6	21.7
5 11	13 0.31	- 2 7.8	1.563	2.454	14.0	20.5	5 11	13 6.52	+ 9 52.9	2.369	3.195	12.1	21.8
5 21	12 55.68	- 1 25.2	1.629	2.435	17.7	20.7	5 21	13 2.81	+ 9 39.7	2.454	3.187	14.3	22.0
325428	2009 <i>OL</i> ₁₃		4 12.6 37°25'	3.7°/15.4	17		120849	1998 <i>OJ</i> ₃		4 12.6 123°01'	0.8°/13.4	17	
3 12	13 48.15	-19 14.3	1.569	2.409	15.7	20.1	3 12	13 45.63	-13 48.9	1.976	2.827	12.5	20.4
3 22	13 42.77	-19 18.7	1.499	2.412	12.0	19.9	3 22	13 40.50	-13 15.4	1.904	2.830	9.1	20.2
4 1	13 35.05	-19 3.4	1.450	2.416	7.9	19.7	4 1	13 33.62	-12 28.6	1.857	2.834	5.2	19.9
4 11	13 25.93	-18 29.8	1.427	2.419	4.3	19.5	4 11	13 25.75	-11 32.4	1.837	2.838	1.3	19.7
4 21	13 16.59	-17 42.5	1.429	2.423	4.6	19.5	4 21	13 17.76	-10 32.0	1.845	2.841	3.3	19.8
5 1	13 8.28	-16 48.3	1.458	2.427	8.4	19.7	5 1	13 10.56	- 9 33.6	1.881	2.844	7.3	20.1
5 11	13 1.99	-15 55.5	1.510	2.431	12.4	20.0	5 11	13 4.91	- 8 43.0	1.942	2.848	10.9	20.3
5 21	12 58.30	-15 10.8	1.583	2.435	16.0	20.2	5 21	13 1.25	- 8 4.2	2.025	2.851	14.0	20.5
431633	2007 <i>XQ</i> ₁		4 12.6 124°86'	6.5°/ 5.9	17		349911	2009 <i>HT</i> ₇₉					

EPHEMERIDES

4 12.6

4 12.6

2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
502693	2015 DH_8		4 12.6 105°09	0°6/13.1	17		315285	2007 TG_{125}		4 12.6 174°16	1°4/11.4	18	
3 12	13 46.84	-12 41.5	1.826	2.681	13.1	21.3	3 12	13 50.12	-7 10.9	1.947	2.807	12.2	21.7
3 22	13 41.47	-12 13.7	1.757	2.686	9.5	21.1	3 22	13 43.70	-6 32.1	1.876	2.810	8.7	21.5
4 1	13 34.19	-11 33.1	1.712	2.691	5.4	20.9	4 1	13 35.39	-5 45.3	1.831	2.813	4.7	21.3
4 11	13 25.83	-10 43.5	1.694	2.696	1.1	20.6	4 11	13 26.02	-4 55.5	1.814	2.815	1.4	21.0
4 21	13 17.35	-9 50.5	1.704	2.700	3.6	20.8	4 21	13 16.53	-4 8.1	1.826	2.816	4.4	21.2
5 1	13 9.75	-9 0.2	1.742	2.705	7.8	21.0	5 1	13 7.88	-3 28.6	1.867	2.817	8.4	21.5
5 11	13 3.83	-8 18.4	1.804	2.709	11.6	21.3	5 11	13 0.90	-3 1.2	1.932	2.816	12.0	21.7
5 21	13 0.07	-7 48.9	1.887	2.714	14.8	21.5	5 21	12 56.05	-2 48.1	2.019	2.815	15.0	21.9
122193	2000 LJ_1		4 12.6 282°16	2°6/10.4	17		15994	1998 YO_8		4 12.6 9°56	3°7/9.8	18	
3 12	13 47.69	-6 21.2	1.476	2.355	14.3	19.1	3 12	13 46.53	-4 9.3	1.242	2.132	15.6	17.1
3 22	13 42.75	-5 15.9	1.385	2.327	10.3	18.8	3 22	13 41.86	-3 0.3	1.184	2.133	11.0	16.8
4 1	13 35.25	-3 57.1	1.316	2.300	5.7	18.5	4 1	13 34.63	-1 42.5	1.149	2.133	6.2	16.5
4 11	13 26.02	-2 32.0	1.273	2.272	2.7	18.2	4 11	13 25.92	-0 25.5	1.138	2.134	3.8	16.4
4 21	13 16.20	-1 10.0	1.256	2.244	6.4	18.3	4 21	13 17.06	+0 40.7	1.151	2.136	7.4	16.6
5 1	13 7.14	-0 0.7	1.265	2.215	11.6	18.5	5 1	13 9.41	+1 27.5	1.189	2.138	12.2	16.9
5 11	13 0.03	+0 48.2	1.296	2.186	16.3	18.7	5 11	13 4.01	+1 50.4	1.247	2.140	16.6	17.1
5 21	12 55.63	+1 13.1	1.345	2.157	20.5	18.9	5 21	13 1.41	+1 48.6	1.322	2.143	20.3	17.4
165307	2000 UC_{25}		4 12.6 152°25	1°9/10.9	18		410219	2007 RM_{310}		4 12.6 216°98	5°2/7.9	17	
3 12	13 49.41	-6 23.7	1.819	2.685	12.7	20.9	3 12	13 49.00	+2 5.2	1.755	2.632	12.5	20.9
3 22	13 43.22	-5 31.6	1.756	2.694	8.9	20.7	3 22	13 43.11	+3 20.0	1.687	2.625	9.1	20.6
4 1	13 35.12	-4 31.6	1.719	2.701	4.8	20.4	4 1	13 35.16	+4 36.0	1.643	2.618	6.1	20.4
4 11	13 25.96	-3 29.8	1.709	2.708	1.9	20.3	4 11	13 26.00	+5 45.1	1.626	2.610	5.4	20.4
4 21	13 16.74	-2 32.5	1.727	2.715	4.9	20.5	4 21	13 16.64	+6 39.8	1.637	2.601	7.9	20.5
5 1	13 8.47	-1 45.8	1.773	2.720	9.0	20.7	5 1	13 8.15	+7 14.5	1.674	2.592	11.5	20.7
5 11	13 1.93	-1 13.9	1.843	2.725	12.6	21.0	5 11	13 1.41	+7 26.6	1.733	2.582	14.9	20.9
5 21	12 57.60	-0 58.8	1.934	2.730	15.7	21.2	5 21	12 56.95	+7 16.6	1.811	2.571	17.8	21.1
291905	2006 QU_9		4 12.6 174°01	3°9/6.8	18		214645	2006 SA_{62}		4 12.6 181°35	0°9/13.6	18	
3 12	13 42.97	+2 18.9	2.762	3.633	8.7	21.0	3 12	13 47.21	-13 2.8	2.793	3.628	9.7	21.5
3 22	13 38.18	+3 49.8	2.700	3.635	6.3	20.8	3 22	13 41.24	-12 59.0	2.711	3.629	7.1	21.3
4 1	13 32.19	+5 21.2	2.666	3.637	4.3	20.7	4 1	13 33.92	-12 47.0	2.655	3.629	4.1	21.1
4 11	13 25.56	+6 47.2	2.662	3.639	4.1	20.7	4 11	13 25.82	-12 28.6	2.629	3.629	1.2	20.9
4 21	13 18.87	+8 2.7	2.688	3.640	5.9	20.8	4 21	13 17.59	-12 6.4	2.633	3.629	2.6	21.0
5 1	13 12.71	+9 3.4	2.742	3.641	8.3	21.0	5 1	13 9.90	-11 43.5	2.667	3.628	5.6	21.2
5 11	13 7.61	+9 47.1	2.821	3.641	10.6	21.1	5 11	13 3.35	-11 23.4	2.729	3.626	8.4	21.4
5 21	13 3.91	+10 13.2	2.921	3.641	12.5	21.3	5 21	12 58.34	-11 8.8	2.814	3.624	10.9	21.5
216432	2009 CT_{37}		4 12.6 150°70	2°2/14.9	17		185878	2000 OD_{22}		4 12.6 218°49	8°7/31.1	18	
3 12	13 46.92	-17 27.0	2.512	3.336	11.0	21.0	3 12	13 46.21	+17 14.1	2.316	3.171	10.7	20.1
3 22	13 41.16	-17 23.9	2.435	3.342	8.3	20.8	3 22	13 40.79	+19 15.9	2.263	3.162	9.2	20.0
4 1	13 33.90	-17 8.7	2.383	3.348	5.3	20.6	4 1	13 33.76	+21 7.4	2.238	3.151	8.7	19.9
4 11	13 25.80	-16 43.1	2.359	3.353	2.6	20.5	4 11	13 25.80	+22 40.1	2.239	3.141	9.5	20.0
4 21	13 17.58	-16 10.1	2.365	3.358	3.0	20.5	4 21	13 17.68	+23 48.1	2.266	3.129	11.1	20.0
5 1	13 10.01	-15 33.5	2.399	3.363	5.9	20.7	5 1	13 10.22	+24 28.0	2.317	3.117	13.1	20.2
5 11	13 3.71	-14 58.0	2.461	3.367	8.9	20.9	5 11	13 4.12	+24 40.1	2.387	3.104	15.0	20.3
5 21	12 59.13	-14 27.3	2.546	3.372	11.5	21.1	5 21	12 59.82	+24 26.9	2.473	3.091	16.7	20.4
455203	2001 DA_{54}		4 12.6 30°44	1°0/13.2	18		159781	2003 OH_{19}		4 12.6 273°49	2°6/9.8	18	R
3 12	13 47.91	-12 15.6	1.207	2.083	17.0	21.0	3 12	13 44.16	-5 24.7	1.921	2.794	11.7	20.2
3 22	13 42.89	-12 7.8	1.154	2.092	12.4	20.8	3 22	13 39.59	-4 7.7	1.838	2.779	8.3	19.9
4 1	13 35.19	-11 43.8	1.121	2.102	7.1	20.5	4 1	13 33.21	-2 41.4	1.781	2.764	4.6	19.7
4 11	13 25.99	-11 8.4	1.112	2.113	1.6	20.2	4 11	13 25.73	-1 12.6	1.751	2.748	2.7	19.5
4 21	13 16.69	-10 28.1	1.127	2.125	4.6	20.4	4 21	13 18.01	+0 11.2	1.750	2.732	5.6	19.6
5 1	13 8.73	-9 50.8	1.167	2.137	9.9	20.7	5 1	13 10.97	+1 22.5	1.776	2.717	9.4	19.8
5 11	13 3.18	-9 23.7	1.228	2.150	14.6	21.0	5 11	13 5.41	+2 16.1	1.826	2.701	13.1	20.0
5 21	13 0.55	-9 10.9	1.308	2.163	18.5	21.3	5 21	13 1.84	+2 49.6	1.896	2.684	16.2	20.2
422551	2014 TC_{33}		4 12.6 73°92	18°2/21.9	17		177823	2005 NB_{13}		4 12.6 204°21	5°2/6.2	18	
3 12	13 56.57	+45 3.1	1.774	2.504	18.4	20.2	3 12	13 44.11	+7 0.6	2.484	3.356	9.5	20.7
3 22	13 48.43	+46 38.2	1.789	2.524	18.2	20.2	3 22	13 39.11	+8 6.9	2.423	3.353	7.2	20.6
4 1	13 37.85	+47 33.1	1.820	2.544	18.4	20.3	4 1	13 32.76	+9 9.8	2.388	3.351	5.5	20.5
4 11	13 26.30	+47 42.4	1.866	2.565	18.9	20.4	4 11	13 25.67	+10 3.6	2.382	3.348	5.4	20.5
4 21	13 15.31	+47 6.5	1.927	2.585	19.6	20.5	4 21	13 18.49	+10 43.6	2.404	3.345	7.1	20.6
5 1	13 6.19	+45 49.6	2.001	2.605	20.3	20.6	5 1	13 11.92	+11 6.7	2.452	3.341	9.5	20.7
5 11	12 59.74	+43 59.5	2.086	2.625	21.0	20.7	5 11	13 6.54	+11 11.7	2.523	3.338	11.8	20.8
5 21	12 56.19	+41 44.4	2.180	2.644	21.6	20.9	5 21	13 2.74	+10 59.3	2.614	3.334	13.8	21.0
366452	2002 AX_{65}		4 12.6 149°53	4°9/18.2	17		213733	2002 VB_{136}		4 12.6 117°15	0°2/12.4	17	
3 12	13 49.37	-27 30.5	2.470	3.242	12.7	22.3	3 12	13 46.64	-9 47.6	2.349	3.201	10.7	21.2
3 22	13 42.99	-27 31.8	2.391	3.254	10.3	22.1	3 22	13 40.93	-9 26.7	2.284	3.213	7.6	21.0
4 1	13 34.94	-27 14.2	2.336	3.264	7.7	22.0	4 1	13 33.76	-8 58.1	2.244	3.224	4.2	20.8
4 11	13 25.95	-26 38.0	2.308	3.274	5.5	21.8	4 11	13 25.80	-8 25.1	2.233	3.235	0.5	20.5
4 21	13 16.86	-25 45.9	2.308	3.283	5.0	21.8	4 21	13 17.79	-7 51.5	2.252	3.246	3.1	20.7
5 1	13 8.52	-24 42.6	2.336	3.291	6.6	21.9	5 1	13 10.49	-7 21.4	2.299	3.256	6.6	21.0
5 11	13 1.67	-23 34.5	2.392	3.299	9.1	22.1	5 11	13 4.52	-6 58.3	2.373	3.267	9.7	21.2
5 21	12 56.73	-22 27.8	2.472	3.306	11.5	22.3	5 21	13 0.29	-6 44.6	2.469	3.277	12.3	21.4
52482	1995 UV_{25}		4 12.6 153°10	0°8/11.9	18		8897	Defelice		4 12.6 236°97	0°5/12.1	18	
3 12	13 52.25	-8 44.5	1.691	2.551	13.8	20.0	3 12	13 47.24	-10 52.7	1.77			

EPHEMERIDES

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2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
32746	1981 <i>EW</i> ₂		4 12.6 316°28	8°4/18.7	18		383953	2008 <i>TV</i>		4 12.6 202°39	0°4/13.0	17	
3 12	13 49.55	-29 20.9	1.696	2.484	17.0	18.7	3 12	13 46.04	-12 39.4	2.342	3.188	11.0	22.2
3 22	13 44.11	-30 17.8	1.610	2.474	14.3	18.5	3 22	13 40.64	-12 3.2	2.259	3.184	7.9	21.9
4 1	13 36.03	-30 51.1	1.543	2.464	11.4	18.3	4 1	13 33.69	-11 15.9	2.202	3.180	4.5	21.7
4 11	13 26.17	-30 57.3	1.500	2.455	9.1	18.1	4 11	13 25.83	-10 21.0	2.173	3.175	0.9	21.4
4 21	13 15.74	-30 36.3	1.480	2.445	8.4	18.1	4 21	13 17.81	-9 23.0	2.174	3.169	3.0	21.6
5 1	13 6.15	-29 52.3	1.486	2.437	10.0	18.1	5 1	13 10.43	-8 27.2	2.204	3.164	6.7	21.8
5 11	12 58.63	-28 53.8	1.515	2.428	12.9	18.3	5 11	13 4.35	-7 38.5	2.260	3.157	10.0	22.0
5 21	12 53.95	-27 50.4	1.564	2.420	16.0	18.5	5 21	13 0.03	-7 0.4	2.339	3.150	12.8	22.2
129903	1999 <i>TO</i> ₆₄		4 12.6 251°88	0°7/13.2	18		151719	2003 <i>BN</i> ₅₆		4 12.6 314°08	10°0/20.6	17	
3 12	13 46.73	-12 43.5	1.970	2.822	12.4	20.4	3 12	13 49.44	-33 47.9	1.662	2.426	18.2	19.9
3 22	13 41.42	-12 21.7	1.887	2.815	9.1	20.1	3 22	13 44.18	-34 46.1	1.577	2.418	15.7	19.7
4 1	13 34.23	-11 47.6	1.829	2.806	5.2	19.9	4 1	13 36.12	-35 16.4	1.511	2.411	13.1	19.5
4 11	13 25.90	-11 4.5	1.797	2.798	1.2	19.6	4 11	13 26.20	-35 14.6	1.467	2.403	10.9	19.3
4 21	13 17.33	-10 17.1	1.794	2.790	3.4	19.7	4 21	13 15.72	-34 40.2	1.445	2.396	10.0	19.2
5 1	13 9.47	-9 31.0	1.818	2.781	7.5	20.0	5 1	13 6.17	-33 37.6	1.447	2.389	11.1	19.3
5 11	13 3.16	-8 51.7	1.867	2.772	11.3	20.2	5 11	12 58.85	-32 16.6	1.472	2.382	13.4	19.4
5 21	12 58.93	-8 23.2	1.939	2.763	14.6	20.4	5 21	12 54.53	-30 48.3	1.518	2.376	16.3	19.6
202478	2006 <i>BD</i> ₂		4 12.6 56°60	2°8/14.5	18		498588	2008 <i>QN</i> ₃₀		4 12.6 157°50	3°5/16.6	17	
3 12	13 49.56	-16 40.5	1.257	2.116	17.6	20.3	3 12	13 47.70	-22 47.4	2.523	3.322	11.7	22.0
3 22	13 44.07	-16 34.6	1.200	2.127	13.1	20.1	3 22	13 41.75	-22 39.5	2.443	3.330	9.2	21.9
4 1	13 35.87	-16 7.6	1.164	2.138	8.1	19.8	4 1	13 34.27	-22 15.9	2.388	3.337	6.4	21.7
4 11	13 26.12	-15 22.8	1.152	2.149	3.4	19.6	4 11	13 25.91	-21 37.6	2.360	3.343	4.0	21.6
4 21	13 16.27	-14 26.8	1.164	2.161	4.6	19.7	4 21	13 17.44	-20 47.8	2.362	3.349	3.8	21.5
5 1	13 7.77	-13 28.6	1.201	2.173	9.5	20.0	5 1	13 9.65	-19 50.9	2.392	3.354	6.1	21.7
5 11	13 1.72	-12 37.3	1.261	2.185	14.1	20.3	5 11	13 3.21	-18 52.7	2.450	3.359	8.8	21.9
5 21	12 58.65	-11 59.2	1.340	2.197	18.1	20.6	5 21	12 58.54	-17 58.1	2.532	3.363	11.4	22.1
96782	1999 <i>RM</i> ₉₅		4 12.6 13°42	2°0/14.1	18		506720	2006 <i>UF</i> ₂₂₇		4 12.6 196°84	0°8/13.7	18	
3 12	13 50.01	-13 52.3	2.061	2.902	12.4	17.9	3 12	13 44.18	-14 27.8	3.088	3.920	9.0	22.5
3 22	13 43.67	-14 24.1	1.985	2.904	9.2	17.7	3 22	13 39.02	-13 57.3	3.000	3.916	6.6	22.3
4 1	13 35.44	-14 46.0	1.935	2.906	5.7	17.5	4 1	13 32.69	-13 17.5	2.939	3.912	3.9	22.2
4 11	13 26.07	-14 58.9	1.911	2.909	2.4	17.3	4 11	13 25.69	-12 30.8	2.907	3.907	1.2	21.9
4 21	13 16.47	-15 4.5	1.917	2.912	3.5	17.4	4 21	13 18.58	-11 40.3	2.906	3.902	2.3	22.0
5 1	13 7.64	-15 6.0	1.951	2.915	7.0	17.6	5 1	13 11.94	-10 49.9	2.935	3.896	5.2	22.2
5 11	13 0.38	-15 7.2	2.011	2.919	10.5	17.8	5 11	13 6.29	-10 3.3	2.992	3.890	7.8	22.4
5 21	12 55.24	-15 11.7	2.093	2.923	13.5	18.0	5 21	13 1.97	-9 23.6	3.074	3.883	10.1	22.5
133090	2003 <i>MS</i> ₉		4 12.6 222°87	0°4/12.9	17		143234	2002 <i>YT</i> ₂₀		4 12.6 84°51	0°4/12.9	18	
3 12	13 49.52	-12 41.5	2.322	3.162	11.2	20.9	3 12	13 48.20	-12 11.2	1.657	2.516	14.0	20.0
3 22	13 43.22	-12 4.9	2.226	3.148	8.2	20.7	3 22	13 42.51	-11 39.2	1.599	2.531	10.1	19.8
4 1	13 35.17	-11 16.6	2.156	3.132	4.7	20.4	4 1	13 34.79	-10 54.0	1.566	2.545	5.6	19.6
4 11	13 26.03	-10 19.5	2.115	3.116	0.9	20.1	4 11	13 25.98	-10 0.4	1.558	2.560	1.0	19.3
4 21	13 16.63	-9 18.4	2.104	3.098	3.2	20.3	4 21	13 17.16	-9 4.5	1.579	2.575	3.8	19.5
5 1	13 7.82	-8 18.7	2.123	3.080	7.0	20.5	5 1	13 9.38	-8 13.2	1.626	2.589	8.3	19.8
5 11	13 0.38	-7 26.0	2.168	3.060	10.6	20.7	5 11	13 3.48	-7 32.2	1.697	2.603	12.2	20.1
5 21	12 54.83	-6 44.1	2.238	3.039	13.6	20.8	5 21	12 59.90	-7 5.0	1.790	2.617	15.5	20.3
423511	2005 <i>UX</i> ₂₅		4 12.6 201°49	0°4/12.2	17		12407	<i>Riccardi</i>		4 12.6 174°79	2°5/10.2	18	
3 12	13 48.40	-9 18.9	2.280	3.132	11.0	22.6	3 12	13 47.69	-5 14.4	1.831	2.701	12.4	18.7
3 22	13 42.35	-8 50.7	2.198	3.127	7.9	22.3	3 22	13 42.06	-4 8.6	1.764	2.704	8.7	18.5
4 1	13 34.64	-8 14.1	2.142	3.122	4.3	22.1	4 1	13 34.54	-2 55.2	1.723	2.705	4.8	18.3
4 11	13 25.96	-7 32.6	2.115	3.117	0.6	21.8	4 11	13 25.96	-1 41.0	1.709	2.707	2.5	18.1
4 21	13 17.10	-6 50.6	2.118	3.110	3.5	22.0	4 21	13 17.27	-0 33.0	1.724	2.707	5.4	18.3
5 1	13 8.90	-6 12.6	2.149	3.104	7.2	22.2	5 1	13 9.44	+0 22.2	1.765	2.708	9.4	18.5
5 11	13 2.08	-5 43.0	2.207	3.096	10.5	22.4	5 11	13 3.28	+1 0.4	1.831	2.707	12.9	18.7
5 21	12 57.10	-5 24.2	2.287	3.088	13.4	22.6	5 21	12 59.26	+1 19.8	1.917	2.707	16.0	18.9
217870	2001 <i>QB</i> ₁₉₁		4 12.6 153°63	12°7/28.0	18		429865	2012 <i>SX</i> ₁₁		4 12.6 262°98	0°3/12.3	17	
3 12	13 59.14	-50 31.7	2.383	2.973	17.3	20.7	3 12	13 45.27	-10 13.6	2.028	2.888	11.8	21.8
3 22	13 51.09	-51 53.4	2.305	2.981	16.1	20.6	3 22	13 40.29	-9 38.1	1.949	2.882	8.5	21.5
4 1	13 39.95	-52 46.3	2.243	2.988	14.8	20.5	4 1	13 33.58	-8 52.3	1.895	2.877	4.6	21.3
4 11	13 26.73	-53 4.9	2.200	2.995	13.6	20.4	4 11	13 25.84	-8 0.4	1.869	2.871	0.6	21.0
4 21	13 12.92	-52 46.9	2.177	3.001	12.9	20.3	4 21	13 17.93	-7 7.4	1.871	2.866	3.6	21.2
5 1	13 0.20	-51 54.4	2.175	3.007	12.8	20.3	5 1	13 10.71	-6 19.1	1.901	2.860	7.6	21.4
5 11	12 49.96	-50 34.6	2.195	3.012	13.3	20.4	5 11	13 4.96	-5 40.4	1.956	2.854	11.2	21.6
5 21	12 42.99	-48 57.3	2.236	3.016	14.3	20.5	5 21	13 1.15	-5 14.6	2.033	2.849	14.3	21.8
94838	2001 <i>XU</i> ₁₉₄		4 12.6 320°64	3°8/9.2	18		385084	2012 <i>UY</i> ₁₅₉		4 12.6 146°88	4°0/7.8	17	
3 12	13 44.57	-2 21.6	1.590	2.475	13.1	19.1	3 12	13 44.80	+2 42.8	2.438	3.309	9.6	21.4
3 22	13 40.13	-1 14.6	1.521	2.466	9.3	18.9	3 22	13 39.59	+3 43.0	2.380	3.316	7.0	21.2
4 1	13 33.60	-0 1.6	1.475	2.457	5.5	18.6	4 1	13 33.03	+4 42.4	2.349	3.322	4.7	21.1
4 11	13 25.82	+1 9.5	1.455	2.449	3.9	18.5	4 11	13 25.76	+5 35.6	2.346	3.327	4.2	21.0
4 21	13 17.83	+2 10.6	1.461	2.441	6.9	18.7	4 21	13 18.44	+6 18.1	2.372	3.332	6.0	21.2
5 1	13 10.70	+2 54.9	1.493	2.433	10.9	18.9	5 1	13 11.77	+6 46.3	2.425	3.337	8.6	21.3
5 11	13 5.33	+3 18.2	1.547	2.425	14.8	19.1	5 11	13 6.34	+6 58.6	2.503	3.342	11.1	21.5
5 21	13 2.28	+3 19.6	1.619	2.418	18.1	19.3	5 21	13 2.50	+6 55.0	2.601	3.346	13.3	21.7
276974	2004 <i>VY</i> ₅₃		4 12.6 193°59	3°6/8.7	18		334844	2003 <i>UV</i> ₃		4 12.6 176°38	0°7/11.9	17	
3 12	13 47.50</												

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4 12.6

2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
18948	Hinkle		4 12.6 189°83	0°6/13.1	18		429662	2011 GR ₆₀		4 12.6 85°99	1°2/13.5	17	
3 12	13 47.64	-12 30.2	2.094	2.942	12.0	19.7	3 12	13 51.96	-12 0.3	1.831	2.680	13.4	20.9
3 22	13 41.93	-12 6.1	2.016	2.941	8.7	19.5	3 22	13 45.14	-12 15.9	1.767	2.692	9.8	20.7
4 1	13 34.46	-11 30.6	1.963	2.940	5.0	19.2	4 1	13 36.27	-12 21.3	1.727	2.703	5.7	20.5
4 11	13 25.97	-10 47.1	1.937	2.939	1.0	18.9	4 11	13 26.24	-12 18.3	1.714	2.715	1.6	20.2
4 21	13 17.31	-10 0.0	1.941	2.937	3.3	19.1	4 21	13 16.11	-12 10.1	1.730	2.726	3.6	20.4
5 1	13 9.39	-9 14.7	1.973	2.934	7.2	19.3	5 1	13 6.94	-12 0.7	1.774	2.737	7.7	20.7
5 11	13 2.96	-8 36.1	2.031	2.932	10.7	19.6	5 11	12 59.61	-11 54.6	1.843	2.749	11.4	20.9
5 21	12 58.50	-8 8.1	2.111	2.929	13.8	19.7	5 21	12 54.61	-11 55.0	1.934	2.760	14.6	21.2
129411	2154 T ₋₃		4 12.6 160°61	2°0/14.2	18		469203	2016 GF ₁₉₃		4 12.6 302°45	2°8/9.7	17	
3 12	13 51.90	-15 51.6	1.753	2.592	14.3	20.9	3 12	13 43.31	-6 20.0	1.686	2.565	12.8	20.8
3 22	13 45.24	-15 42.0	1.681	2.599	10.7	20.7	3 22	13 39.15	-4 45.4	1.612	2.556	9.0	20.6
4 1	13 36.38	-15 16.7	1.633	2.604	6.5	20.4	4 1	13 33.05	-2 59.1	1.564	2.548	5.0	20.3
4 11	13 26.24	-14 38.2	1.611	2.609	2.5	20.2	4 11	13 25.81	-1 9.7	1.543	2.540	2.9	20.2
4 21	13 15.93	-13 51.1	1.618	2.613	3.8	20.3	4 21	13 18.37	+0 33.3	1.549	2.532	6.1	20.3
5 1	13 6.61	-13 1.9	1.652	2.617	8.0	20.5	5 1	13 11.74	+2 0.9	1.582	2.524	10.3	20.6
5 11	12 59.21	-12 17.2	1.711	2.620	12.0	20.8	5 11	13 6.75	+3 7.0	1.638	2.516	14.1	20.8
5 21	12 54.27	-11 42.4	1.792	2.622	15.4	21.0	5 21	13 3.93	+3 48.9	1.713	2.509	17.4	21.0
172354	2002 WY ₇		4 12.6 102°63	0°5/12.0	18		439811	2015 KC ₁₆		4 12.6 70°65	0°8/11.7	17	
3 12	13 45.49	-9 19.6	2.268	3.125	10.8	20.7	3 12	13 42.38	-10 20.2	2.277	3.137	10.7	20.8
3 22	13 40.16	-8 43.4	2.206	3.138	7.7	20.6	3 22	13 38.02	-9 11.3	2.206	3.139	7.6	20.6
4 1	13 33.37	-7 59.4	2.170	3.152	4.2	20.3	4 1	13 32.25	-7 52.1	2.160	3.142	4.1	20.4
4 11	13 25.81	-7 11.4	2.163	3.165	0.7	20.1	4 11	13 25.69	-6 27.9	2.143	3.145	0.8	20.2
4 21	13 18.22	-6 24.2	2.184	3.177	3.4	20.3	4 21	13 19.05	-5 4.5	2.156	3.147	3.6	20.4
5 1	13 11.36	-5 42.2	2.234	3.190	6.9	20.6	5 1	13 13.06	-3 48.3	2.197	3.150	7.1	20.6
5 11	13 5.85	-5 9.4	2.310	3.202	10.0	20.8	5 11	13 8.33	-2 44.1	2.264	3.153	10.3	20.8
5 21	13 2.07	-4 48.2	2.409	3.214	12.6	21.0	5 21	13 5.24	-1 55.0	2.354	3.156	13.0	21.0
496972	2002 QU ₃₂		4 12.6 246°25	1°3/11.5	17		427423	2000 SO ₁₁		4 12.6 295°67	2°6/14.2	17	
3 12	13 48.25	-7 57.4	1.807	2.672	12.8	22.0	3 12	13 52.02	-14 41.1	1.703	2.547	14.4	20.8
3 22	13 42.67	-7 16.3	1.723	2.659	9.1	21.7	3 22	13 45.90	-15 9.7	1.597	2.517	11.0	20.5
4 1	13 35.01	-6 25.1	1.663	2.646	5.0	21.4	4 1	13 37.12	-15 26.5	1.514	2.486	6.9	20.2
4 11	13 26.06	-5 28.8	1.631	2.632	1.3	21.1	4 11	13 26.43	-15 31.5	1.457	2.454	3.0	19.9
4 21	13 16.81	-4 33.6	1.626	2.617	4.6	21.3	4 21	13 14.94	-15 26.3	1.428	2.423	4.4	19.9
5 1	13 8.31	-3 45.9	1.649	2.603	9.0	21.6	5 1	13 3.98	-15 15.0	1.426	2.391	8.9	20.1
5 11	13 1.49	-3 11.1	1.696	2.588	13.0	21.8	5 11	12 54.83	-15 3.3	1.448	2.360	13.5	20.2
5 21	12 56.92	-2 52.2	1.764	2.572	16.4	22.0	5 21	12 48.36	-14 56.6	1.491	2.328	17.5	20.4
506579	2005 UQ ₄₆₁		4 12.6 3°01	0°6/11.9	17		35910	1999 JZ ₉₃		4 12.6 355°97	5°3/8.6	18	
3 12	13 42.85	-9 42.2	2.253	3.114	10.7	21.5	3 12	13 45.82	-0 47.1	1.227	2.122	15.3	18.6
3 22	13 38.39	-8 58.3	2.180	3.114	7.6	21.3	3 22	13 41.41	+0 31.0	1.170	2.120	11.0	18.4
4 1	13 32.46	-8 5.4	2.132	3.114	4.1	21.1	4 1	13 34.46	+1 53.8	1.136	2.118	6.8	18.1
4 11	13 25.69	-7 7.7	2.112	3.114	0.7	20.8	4 11	13 26.01	+3 10.7	1.126	2.117	5.5	18.0
4 21	13 18.82	-6 10.3	2.121	3.114	3.4	21.0	4 21	13 17.40	+4 11.4	1.140	2.116	8.7	18.2
5 1	13 12.59	-5 18.3	2.158	3.115	7.0	21.3	5 1	13 9.97	+4 48.1	1.177	2.116	13.2	18.5
5 11	13 7.64	-4 36.2	2.221	3.115	10.2	21.5	5 11	13 4.78	+4 57.7	1.233	2.117	17.4	18.7
5 21	13 4.37	-4 6.6	2.306	3.116	13.0	21.6	5 21	13 2.37	+4 40.8	1.307	2.118	21.0	18.9
380916	2006 EL ₇₃		4 12.6 80°94	0°0/12.6	17		31809	1999 NS ₃₆		4 12.6 120°42	5°9/19.3	18	
3 12	13 47.52	-10 17.6	1.888	2.747	12.6	21.5	3 12	13 48.25	-30 3.9	2.574	3.331	12.6	18.2
3 22	13 41.96	-10 1.0	1.817	2.749	9.0	21.3	3 22	13 42.30	-30 32.5	2.495	3.339	10.5	18.1
4 1	13 34.52	-9 34.6	1.771	2.751	5.0	21.1	4 1	13 34.67	-30 42.6	2.438	3.347	8.3	17.9
4 11	13 25.99	-9 2.0	1.751	2.753	0.7	20.7	4 11	13 26.04	-30 33.7	2.406	3.355	6.5	17.8
4 21	13 17.31	-8 27.7	1.760	2.755	3.6	21.0	4 21	13 17.24	-30 6.9	2.402	3.363	6.0	17.8
5 1	13 9.45	-7 56.8	1.796	2.757	7.8	21.2	5 1	13 9.10	-29 25.9	2.425	3.370	7.0	17.9
5 11	13 3.22	-7 33.9	1.857	2.759	11.5	21.5	5 11	13 2.37	-28 36.1	2.475	3.377	9.0	18.0
5 21	12 59.11	-7 22.1	1.939	2.761	14.7	21.7	5 21	12 57.52	-27 43.4	2.549	3.384	11.2	18.2
371172	2005 YL ₄₈		4 12.6 194°74	3°4/9.1	18		89448	2001 WF ₉₀		4 12.6 357°96	2°2/11.3	18	
3 12	13 46.83	+0 36.1	2.185	3.055	10.7	21.3	3 12	13 52.29	-3 4.4	1.591	2.463	13.8	19.0
3 22	13 41.23	+0 19.6	2.116	3.053	7.6	21.1	3 22	13 45.66	-3 7.7	1.523	2.462	9.9	18.7
4 1	13 34.03	+1 17.7	2.072	3.051	4.6	20.9	4 1	13 36.69	-3 8.3	1.479	2.461	5.5	18.5
4 11	13 25.92	+2 12.4	2.058	3.048	3.5	20.8	4 11	13 26.34	-3 10.4	1.462	2.461	2.2	18.2
4 21	13 17.69	+2 58.5	2.072	3.045	5.7	21.0	4 21	13 15.78	-3 17.8	1.471	2.461	5.3	18.4
5 1	13 10.16	+3 31.4	2.113	3.041	8.9	21.1	5 1	13 6.24	-3 33.8	1.508	2.461	9.7	18.7
5 11	13 4.02	+3 48.6	2.179	3.037	11.9	21.3	5 11	12 58.73	-4 0.8	1.568	2.461	13.8	18.9
5 21	12 59.72	+3 49.3	2.266	3.032	14.5	21.5	5 21	12 53.79	-4 39.2	1.649	2.462	17.2	19.2
112330	2002 NC ₁		4 12.6 279°83	1°7/11.3	18		178702	2000 SY ₁₀₀		4 12.6 210°11	3°7/16.9	18	
3 12	13 48.10	-7 29.2	1.633	2.504	13.6	20.5	3 12	13 48.02	-23 35.5	2.964	3.751	10.5	21.0
3 22	13 42.88	-6 44.0	1.540	2.479	9.8	20.2	3 22	13 41.95	-23 53.1	2.869	3.744	8.3	20.8
4 1	13 35.30	-5 47.0	1.470	2.453	5.4	19.9	4 1	13 34.43	-23 57.6	2.798	3.738	6.0	20.7
4 11	13 26.13	-4 43.8	1.426	2.427	1.7	19.6	4 11	13 26.02	-23 49.1	2.755	3.730	4.1	20.5
4 21	13 16.45	-3 41.5	1.409	2.400	5.3	19.8	4 21	13 17.38	-23 29.0	2.742	3.723	4.0	20.5
5 1	13 7.47	-2 47.9	1.419	2.373	10.1	20.0	5 1	13 9.22	-23 0.2	2.758	3.715	5.7	20.6
5 11	13 0.29	-2 9.5	1.452	2.346	14.6	20.2	5 11	13 2.18	-22 26.8	2.802	3.706	8.0	20.7
5 21	12 55.60	-1 49.9	1.504	2.318	18.5	20.4	5 21	12 56.71	-21 52.9	2.871	3.697	10.3	20.9
441563	2008 UK		4 12.6 164°69	0°5/11.7	18		333940	1999 VG ₁₂₄		4 12.6 297°65	1°1/13.5	17	
3 12	13 40.44	-7 52.8	4.034	4.885	6.6	22.1	3 12	13 45.56	-14 5.0	1.757	2.612	13.6	20

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2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
425975	2011 <i>HS</i> ₆₃		4 12.6 51°50	1°0/11.7	17		49643	1999 <i>JH</i> ₃₁		4 12.6 86°62	1°8/14.7	18	
3 12	13 45.75	- 9 7.5	1.624	2.496	13.6	20.9	3 12	13 44.24	-17 48.7	2.192	3.026	12.0	18.5
3 22	13 40.80	- 8 20.4	1.570	2.509	9.6	20.7	3 22	13 39.42	-17 10.7	2.122	3.036	9.0	18.4
4 1	13 33.89	- 7 22.6	1.538	2.522	5.2	20.5	4 1	13 33.06	-16 17.5	2.077	3.046	5.6	18.2
4 11	13 25.94	- 6 20.1	1.534	2.535	1.1	20.2	4 11	13 25.85	-15 12.4	2.059	3.056	2.3	18.0
4 21	13 17.96	- 5 20.0	1.556	2.549	4.5	20.5	4 21	13 18.58	-14 0.7	2.070	3.066	3.0	18.0
5 1	13 11.00	- 4 28.9	1.604	2.563	8.8	20.8	5 1	13 12.06	-12 48.2	2.109	3.075	6.4	18.3
5 11	13 5.83	- 3 52.0	1.677	2.577	12.6	21.0	5 11	13 6.93	-11 41.2	2.174	3.085	9.7	18.5
5 21	13 2.89	- 3 31.6	1.769	2.591	15.9	21.3	5 21	13 3.60	-10 44.2	2.263	3.095	12.5	18.7
504362	2007 <i>UH</i> ₉₀		4 12.6 206°05	0°3/12.9	17		29808	Yousouliman		4 12.6 75°13	1°8/14.1	18	
3 12	13 45.47	-12 3.6	2.443	3.290	10.5	22.2	3 12	13 49.21	-15 12.2	1.635	2.485	14.7	19.1
3 22	13 40.22	-11 34.8	2.361	3.286	7.6	22.0	3 22	13 43.33	-15 1.6	1.577	2.501	10.8	18.9
4 1	13 33.49	-10 56.2	2.304	3.282	4.3	21.8	4 1	13 35.33	-14 35.4	1.542	2.516	6.5	18.6
4 11	13 25.90	-10 11.0	2.276	3.277	0.8	21.5	4 11	13 26.17	-13 56.9	1.532	2.531	2.3	18.4
4 21	13 18.16	- 9 23.1	2.277	3.273	2.9	21.7	4 21	13 16.97	-13 11.3	1.550	2.547	3.8	18.5
5 1	13 11.01	- 8 37.2	2.308	3.267	6.4	21.9	5 1	13 8.85	-12 25.1	1.595	2.562	8.0	18.8
5 11	13 5.10	- 7 57.6	2.364	3.262	9.6	22.1	5 11	13 2.67	-11 44.9	1.664	2.577	11.9	19.1
5 21	13 0.86	- 7 27.5	2.444	3.256	12.3	22.2	5 21	12 58.92	-11 15.2	1.754	2.592	15.3	19.3
159092	2004 <i>TS</i> ₂₉₄		4 12.6 240°64	0°9/11.8	17		32113	2000 <i>KP</i> ₇₃		4 12.6 269°63	1°2/13.9	18	
3 12	13 46.18	- 8 52.0	1.971	2.833	12.0	21.1	3 12	13 43.72	-15 43.3	2.244	3.085	11.5	19.0
3 22	13 41.00	- 8 11.6	1.892	2.827	8.5	20.8	3 22	13 39.14	-15 3.9	2.155	3.075	8.5	18.8
4 1	13 34.03	- 7 21.4	1.838	2.820	4.6	20.6	4 1	13 32.97	-14 10.4	2.091	3.065	5.1	18.6
4 11	13 25.98	- 6 26.2	1.812	2.814	0.9	20.3	4 11	13 25.85	-13 5.8	2.055	3.055	1.7	18.3
4 21	13 17.73	- 5 31.4	1.814	2.807	4.0	20.5	4 21	13 18.54	-11 55.2	2.048	3.045	3.0	18.4
5 1	13 10.21	- 4 42.9	1.844	2.800	8.1	20.7	5 1	13 11.84	-10 44.4	2.069	3.034	6.6	18.6
5 11	13 4.20	- 4 5.7	1.899	2.792	11.7	20.9	5 11	13 6.45	- 9 39.5	2.117	3.024	10.1	18.8
5 21	13 0.20	- 3 42.7	1.975	2.785	14.9	21.1	5 21	13 2.83	- 8 45.0	2.187	3.013	13.1	19.0
476375	2008 <i>CK</i> ₃₆		4 12.6 336°55	2°5/14.9	16		64614	2001 <i>XW</i> ₂₆		4 12.6 154°22	1°6/11.3	18	
3 12	13 44.00	-17 35.5	1.959	2.800	13.0	20.8	3 12	13 51.18	- 6 36.1	1.713	2.578	13.4	19.3
3 22	13 39.57	-17 28.8	1.875	2.791	9.8	20.5	3 22	13 44.67	- 6 0.7	1.649	2.585	9.5	19.1
4 1	13 33.29	-17 6.7	1.815	2.783	6.3	20.3	4 1	13 36.07	- 5 17.6	1.609	2.591	5.1	18.8
4 11	13 25.88	-16 31.1	1.780	2.775	3.0	20.1	4 11	13 26.28	- 4 32.0	1.597	2.597	1.6	18.6
4 21	13 18.22	-15 45.8	1.773	2.768	3.6	20.1	4 21	13 16.40	- 3 49.7	1.612	2.602	4.8	18.8
5 1	13 11.26	-14 56.5	1.792	2.761	7.1	20.3	5 1	13 7.52	- 3 16.7	1.655	2.607	9.1	19.1
5 11	13 5.82	-14 9.2	1.837	2.755	10.7	20.5	5 11	13 0.51	- 2 56.9	1.722	2.611	13.0	19.3
5 21	13 2.41	-13 29.3	1.904	2.749	14.0	20.7	5 21	12 55.88	- 2 52.4	1.810	2.614	16.2	19.6
496445	2014 <i>OJ</i> ₂₃₂		4 12.6 140°51	1°6/14.1	18		253170	2002 <i>WJ</i> ₁₉		4 12.6 64°96	2°4/14.8	18	
3 12	13 50.03	-15 55.8	2.028	2.863	12.8	22.6	3 12	13 46.58	-18 42.6	1.526	2.372	15.7	20.5
3 22	13 43.61	-15 31.0	1.961	2.877	9.5	22.4	3 22	13 41.55	-17 59.2	1.469	2.389	11.8	20.2
4 1	13 35.38	-14 51.8	1.918	2.889	5.7	22.2	4 1	13 34.37	-16 54.2	1.435	2.406	7.3	20.0
4 11	13 26.16	-14 1.5	1.903	2.901	2.1	22.0	4 11	13 26.04	-15 32.5	1.425	2.423	3.1	19.8
4 21	13 16.89	-13 4.7	1.917	2.912	3.3	22.1	4 21	13 17.73	-14 1.8	1.443	2.440	3.9	19.9
5 1	13 8.50	-12 7.5	1.959	2.923	7.1	22.3	5 1	13 10.55	-12 31.8	1.487	2.457	8.2	20.2
5 11	13 1.76	-11 15.8	2.028	2.932	10.6	22.5	5 11	13 5.37	-11 11.3	1.555	2.474	12.3	20.5
5 21	12 57.13	-10 34.1	2.119	2.941	13.6	22.8	5 21	13 2.62	-10 6.3	1.645	2.491	15.8	20.7
331061	2009 <i>WY</i> ₁₃		4 12.6 239°89	1°5/11.2	17		513019	2017 <i>UX</i> ₅₀		4 12.6 92°58	0°2/12.4	17	
3 12	13 46.54	- 7 21.1	1.940	2.806	12.0	21.8	3 12	13 45.76	- 8 50.0	2.558	3.411	9.9	21.3
3 22	13 41.30	- 6 32.9	1.860	2.797	8.5	21.6	3 22	13 40.30	- 8 39.5	2.488	3.418	7.0	21.0
4 1	13 34.21	- 5 35.6	1.805	2.788	4.6	21.3	4 1	13 33.49	- 8 23.0	2.444	3.424	3.9	21.2
4 11	13 26.01	- 4 34.6	1.778	2.778	1.5	21.1	4 11	13 25.92	- 8 3.0	2.429	3.431	0.5	20.7
4 21	13 17.59	- 3 35.7	1.779	2.769	4.5	21.3	4 21	13 18.27	- 7 42.6	2.443	3.437	2.9	20.9
5 1	13 9.89	- 2 45.2	1.807	2.759	8.5	21.5	5 1	13 11.23	- 7 25.1	2.487	3.444	6.2	21.1
5 11	13 3.73	- 2 7.9	1.861	2.748	12.2	21.7	5 11	13 5.39	- 7 13.5	2.556	3.450	9.1	21.3
5 21	12 59.61	- 1 46.4	1.935	2.738	15.4	21.9	5 21	13 1.13	- 7 9.8	2.649	3.456	11.6	21.5
214177	2005 <i>CK</i> ₆₈		4 12.6 84°17	1°0/11.8	18		23377	3035 <i>T</i> ₋₂		4 12.6 142°15	1°3/11.4	18	
3 12	13 49.40	- 9 6.4	1.472	2.343	14.8	20.6	3 12	13 49.31	- 7 52.6	1.898	2.759	12.4	19.8
3 22	13 43.51	- 8 21.9	1.421	2.359	10.5	20.4	3 22	13 43.14	- 7 4.2	1.836	2.770	8.8	19.6
4 1	13 35.42	- 7 26.1	1.393	2.376	5.7	20.2	4 1	13 35.14	- 6 7.2	1.799	2.781	4.7	19.4
4 11	13 26.16	- 6 25.3	1.391	2.393	1.1	19.9	4 11	13 26.16	- 5 6.9	1.790	2.791	1.3	19.2
4 21	13 16.93	- 5 27.0	1.416	2.409	4.8	20.2	4 21	13 17.13	- 4 9.5	1.810	2.800	4.4	19.4
5 1	13 8.91	- 4 38.4	1.467	2.425	9.5	20.5	5 1	13 9.01	- 3 20.7	1.858	2.809	8.4	19.7
5 11	13 2.96	- 4 4.7	1.541	2.441	13.6	20.8	5 11	13 2.57	- 2 45.0	1.931	2.817	11.9	19.9
5 21	12 59.54	- 3 48.4	1.634	2.457	16.9	21.0	5 21	12 58.25	- 2 24.7	2.025	2.824	14.9	20.1
522816	2016 <i>NF</i> ₈₁		4 12.6 241°64	5°0/ 6.7	18		283286	2011 <i>HL</i> ₆₇		4 12.6 330°00	7°0/ 5.7	17	
3 12	13 43.86	+ 5 24.2	2.360	3.234	9.8	21.5	3 12	13 43.61	+ 5 54.3	1.624	2.513	12.6	19.9
3 22	13 39.05	+ 6 30.5	2.297	3.231	7.3	21.3	3 22	13 39.43	+ 7 27.5	1.563	2.503	9.6	19.7
4 1	13 32.82	+ 7 34.6	2.260	3.227	5.3	21.2	4 1	13 33.25	+ 8 58.3	1.526	2.494	7.3	19.5
4 11	13 25.80	+ 8 30.4	2.251	3.223	5.2	21.1	4 11	13 25.90	+10 17.0	1.515	2.485	7.4	19.5
4 21	13 18.69	+ 9 13.2	2.270	3.219	7.0	21.2	4 21	13 18.37	+11 15.4	1.529	2.477	9.8	19.6
5 1	13 12.20	+ 9 39.2	2.315	3.215	9.5	21.4	5 1	13 11.70	+11 47.9	1.567	2.470	13.1	19.8
5 11	13 6.93	+ 9 47.0	2.383	3.210	12.0	21.5	5 11	13 6.73	+11 52.7	1.625	2.462	16.2	20.0
5 21	13 3.30	+ 9 36.9	2.472	3.206	14.2	21.7	5 21	13 3.99	+11 31.6	1.700	2.456	19.0	20.2
351585	2005 <i>UL</i> ₄₅₅		4 12.6 202°91	4°3/17.8	17		392105	2009 <i>DD</i> ₁₄₂		4 12.6 32°72	0°1/12.5		

EPHEMERIDES

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2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
13708	1998 <i>QU</i> ₉		4 12.6 153°42	4°0/15.3	18		300202	2006 <i>WE</i> ₁₀₉		4 12.6 211°58	0°0/12.6	18	
3 12	13 52.23	-18 48.2	1.418	2.260	17.0	17.7	3 12	13 44.52	-10 44.1	2.774	3.622	9.4	21.9
3 22	13 46.04	-19 3.2	1.348	2.262	13.0	17.5	3 22	13 39.43	-10 14.4	2.689	3.616	6.7	21.7
4 1	13 37.09	-18 57.7	1.298	2.264	8.6	17.2	4 1	13 33.04	-9 36.8	2.631	3.610	3.7	21.5
4 11	13 26.46	-18 32.5	1.273	2.266	4.6	17.0	4 11	13 25.91	-8 54.3	2.601	3.603	0.5	21.3
4 21	13 15.52	-17 51.6	1.274	2.268	5.0	17.0	4 21	13 18.64	-8 10.4	2.602	3.596	2.7	21.4
5 1	13 5.72	-17 2.3	1.301	2.269	9.2	17.3	5 1	13 11.87	-7 29.0	2.632	3.589	5.9	21.6
5 11	12 58.28	-16 13.7	1.350	2.271	13.6	17.5	5 11	13 6.17	-6 53.8	2.689	3.581	8.7	21.8
5 21	12 53.81	-15 33.1	1.420	2.272	17.5	17.8	5 21	13 1.93	-6 27.3	2.769	3.573	11.2	22.0
155082	2005 <i>SF</i> ₁₃₁		4 12.6 184°88	4°1/16.4	17		383956	2008 <i>TA</i> ₇		4 12.6 188°78	0°4/12.2	18	
3 12	13 50.72	-22 26.8	2.284	3.085	12.7	20.7	3 12	13 46.23	-10 10.5	2.459	3.309	10.3	22.2
3 22	13 44.20	-22 41.1	2.199	3.086	10.0	20.5	3 22	13 40.74	-9 30.4	2.380	3.309	7.4	22.0
4 1	13 35.81	-22 39.1	2.137	3.085	7.1	20.3	4 1	13 33.79	-8 41.6	2.327	3.307	4.0	21.8
4 11	13 26.29	-22 21.2	2.103	3.084	4.6	20.2	4 11	13 26.02	-7 47.7	2.303	3.305	0.6	21.5
4 21	13 16.53	-21 49.5	2.097	3.083	4.4	20.1	4 21	13 18.11	-6 53.2	2.309	3.303	3.2	21.7
5 1	13 7.47	-21 8.2	2.120	3.081	6.8	20.3	5 1	13 10.83	-6 2.9	2.345	3.299	6.6	21.9
5 11	12 59.93	-20 23.4	2.170	3.078	9.8	20.5	5 11	13 4.78	-5 20.9	2.406	3.296	9.7	22.1
5 21	12 54.43	-19 40.4	2.243	3.075	12.6	20.6	5 21	13 0.40	-4 50.1	2.491	3.292	12.4	22.3
45762	2000 <i>KK</i> ₇₆		4 12.6 211°61	3°4/ 9.2	18		462187	2007 <i>TX</i> ₄₅₀		4 12.6 121°81	2°0/10.9	18	
3 12	13 47.55	- 1 11.4	2.041	2.912	11.3	19.4	3 12	13 49.99	- 6 0.4	1.714	2.582	13.2	21.7
3 22	13 41.91	- 0 14.3	1.969	2.907	8.0	19.2	3 22	13 43.74	- 5 11.7	1.658	2.596	9.3	21.5
4 1	13 34.52	+ 0 46.0	1.922	2.901	4.8	18.9	4 1	13 35.53	- 4 15.7	1.627	2.610	5.1	21.3
4 11	13 26.11	+ 1 43.5	1.903	2.895	3.5	18.8	4 11	13 26.26	- 3 18.7	1.623	2.623	2.0	21.1
4 21	13 17.53	+ 2 32.4	1.913	2.888	5.9	19.0	4 21	13 16.98	- 2 27.0	1.647	2.635	5.1	21.3
5 1	13 9.69	+ 3 7.7	1.950	2.881	9.3	19.2	5 1	13 8.74	- 1 46.6	1.699	2.647	9.2	21.6
5 11	13 3.33	+ 3 26.4	2.011	2.873	12.6	19.4	5 11	13 2.34	- 1 21.3	1.774	2.659	12.9	21.8
5 21	12 58.93	+ 3 27.6	2.092	2.865	15.4	19.5	5 21	12 58.24	- 1 12.7	1.869	2.670	15.9	22.1
434470	2005 <i>QF</i> ₉₂		4 12.6 211°47	2°4/ 9.1	16		384919	2012 <i>TV</i> ₇₁		4 12.6 276°04	1°5/11.1	17	
3 12	13 42.96	- 2 9.6	2.974	3.839	8.3	22.1	3 12	13 45.17	- 6 34.3	2.049	2.916	11.4	20.8
3 22	13 38.21	- 1 6.3	2.896	3.832	5.9	21.9	3 22	13 40.22	- 5 52.5	1.976	2.913	8.0	20.6
4 1	13 32.33	+ 0 0.2	2.845	3.825	3.5	21.7	4 1	13 33.59	- 5 3.5	1.928	2.911	4.4	20.3
4 11	13 25.79	+ 1 5.5	2.825	3.817	2.5	21.6	4 11	13 25.99	- 4 12.2	1.908	2.908	1.5	20.1
4 21	13 19.14	+ 2 5.3	2.835	3.808	4.3	21.8	4 21	13 18.26	- 3 23.9	1.916	2.905	4.3	20.3
5 1	13 12.96	+ 2 55.8	2.873	3.800	6.9	21.9	5 1	13 11.23	- 2 43.7	1.951	2.902	8.0	20.5
5 11	13 7.74	+ 3 34.1	2.938	3.790	9.3	22.1	5 11	13 5.62	- 2 15.7	2.012	2.899	11.5	20.7
5 21	13 3.82	+ 3 59.0	3.026	3.781	11.4	22.2	5 21	13 1.91	- 2 2.0	2.093	2.897	14.4	20.9
113235	2002 <i>RX</i> ₁₂₄		4 12.6 141°53	3°9/ 8.6	18		336430	2008 <i>UJ</i> ₂₄₅		4 12.6 245°27	2°3/14.8	17	
3 12	13 47.58	+ 3 0.1	2.369	3.237	10.0	19.8	3 12	13 46.84	-17 14.9	2.059	2.894	12.7	21.3
3 22	13 41.62	+ 3 39.5	2.311	3.245	7.3	19.6	3 22	13 41.53	-17 6.3	1.975	2.889	9.6	21.1
4 1	13 34.22	+ 4 17.2	2.279	3.252	4.8	19.5	4 1	13 34.38	-16 43.1	1.916	2.884	6.0	20.9
4 11	13 26.05	+ 4 48.5	2.275	3.259	4.0	19.4	4 11	13 26.12	-16 7.1	1.883	2.878	2.8	20.7
4 21	13 17.86	+ 5 9.6	2.301	3.266	5.9	19.5	4 21	13 17.62	-15 22.2	1.878	2.873	3.5	20.7
5 1	13 10.37	+ 5 17.6	2.354	3.272	8.6	19.7	5 1	13 9.83	-14 33.6	1.901	2.867	7.0	20.9
5 11	13 4.21	+ 5 11.2	2.432	3.278	11.2	19.9	5 11	13 3.56	-13 47.3	1.950	2.862	10.5	21.1
5 21	12 59.77	+ 4 50.6	2.531	3.284	13.5	20.1	5 21	12 59.31	-13 8.2	2.021	2.856	13.7	21.3
105457	2000 <i>QG</i> ₁₉₈		4 12.6 203°03	4°0/ 7.6	18		370953	2005 <i>SS</i> ₆₀		4 12.6 266°68	0°1/12.7	17	
3 12	13 43.85	+ 2 33.4	2.501	3.373	9.4	20.3	3 12	13 48.58	-10 32.5	1.793	2.652	13.1	21.8
3 22	13 39.00	+ 3 38.9	2.434	3.371	6.8	20.1	3 22	13 43.03	-10 13.5	1.706	2.638	9.5	21.5
4 1	13 32.80	+ 4 44.4	2.395	3.368	4.6	19.9	4 1	13 35.33	- 9 43.2	1.643	2.623	5.4	21.2
4 11	13 25.86	+ 5 44.3	2.384	3.365	4.2	19.9	4 11	13 26.27	- 9 5.3	1.606	2.608	0.8	20.8
4 21	13 18.82	+ 6 33.8	2.402	3.362	6.0	20.0	4 21	13 16.85	- 8 24.4	1.598	2.593	3.9	21.0
5 1	13 12.37	+ 7 9.2	2.447	3.358	8.6	20.2	5 1	13 8.16	- 7 46.7	1.616	2.577	8.5	21.3
5 11	13 7.07	+ 7 28.3	2.517	3.354	11.1	20.3	5 11	13 1.16	- 7 17.6	1.659	2.562	12.6	21.5
5 21	13 3.32	+ 7 31.0	2.607	3.350	13.3	20.5	5 21	12 56.47	- 7 0.9	1.723	2.546	16.2	21.7
268542	2006 <i>AU</i> ₄₈		4 12.6 58°09	1°6/11.3	17		359701	2011 <i>SS</i> ₂₂₈		4 12.6 317°76	4°8/15.5	15	
3 12	13 46.92	- 6 47.5	1.732	2.603	12.9	21.1	3 12	13 46.75	-19 8.8	1.141	2.003	18.8	20.4
3 22	13 41.64	- 6 9.6	1.668	2.607	9.1	20.9	3 22	13 42.86	-19 30.0	1.058	1.983	14.7	20.0
4 1	13 34.42	- 5 23.8	1.628	2.612	5.0	20.7	4 1	13 35.75	-19 27.1	0.994	1.964	9.9	19.7
4 11	13 26.10	- 4 35.4	1.616	2.616	1.6	20.4	4 11	13 26.38	-18 59.5	0.952	1.945	5.6	19.4
4 21	13 17.67	- 3 50.5	1.630	2.621	4.7	20.7	4 21	13 16.22	-18 10.7	0.932	1.927	5.9	19.3
5 1	13 10.14	- 3 14.7	1.671	2.625	8.9	20.9	5 1	13 7.06	-17 9.3	0.935	1.910	10.8	19.5
5 11	13 4.34	- 2 52.3	1.736	2.630	12.6	21.1	5 11	13 0.47	-16 7.1	0.958	1.894	16.2	19.8
5 21	13 0.74	- 2 45.3	1.822	2.635	15.8	21.4	5 21	12 57.35	-15 14.4	0.999	1.879	21.0	20.0
159192	2005 <i>UT</i> ₁₅₆		4 12.6 81°58	1°9/11.5	18		437111	2012 <i>UK</i> ₁₁₉		4 12.6 146°09	1°7/14.7	17	
3 12	13 51.99	- 6 0.3	1.297	2.175	15.9	19.9	3 12	13 44.28	-17 29.0	2.382	3.213	11.3	21.2
3 22	13 45.78	- 5 38.5	1.238	2.180	11.3	19.7	3 22	13 39.42	-16 54.5	2.305	3.217	8.4	21.0
4 1	13 36.89	- 5 8.5	1.202	2.186	6.2	19.4	4 1	13 33.09	-16 6.0	2.252	3.221	5.2	20.8
4 11	13 26.46	- 4 36.2	1.190	2.191	1.9	19.1	4 11	13 25.94	-15 6.4	2.227	3.224	2.2	20.6
4 21	13 15.88	- 4 8.2	1.204	2.196	5.7	19.4	4 21	13 18.69	-14 0.3	2.231	3.227	2.9	20.7
5 1	13 6.59	- 3 50.8	1.243	2.202	10.8	19.7	5 1	13 12.09	-12 53.0	2.265	3.230	6.1	20.9
5 11	12 59.68	- 3 48.4	1.304	2.207	15.4	19.9	5 11	13 6.77	-11 50.1	2.325	3.233	9.2	21.1
5 21	12 55.72	- 4 2.4	1.384	2.212	19.1	20.2	5 21	13 3.15	-10 56.0	2.408	3.236	12.0	21.3
387908	2004 <i>XE</i> ₄₉		4 12.6 149°74	2°8/ 9.3	17		122384	2000 <i>QU</i> ₇₁		4 12.6 280°16	3°5/15.		

EPHEMERIDES

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2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
153512	2001 SB ₃		4 12.6 101°90		0°6/12.2 18		409388	2005 EL ₃₄		4 12.7 34°38		2°7/10.5 18	
3 12	13 51.10	- 8 14.3	1.853	2.712	12.8	20.3	3 12	13 45.23	- 6 55.2	1.211	2.101	15.9	20.3
3 22	13 44.44	- 8 0.2	1.796	2.729	9.1	20.1	3 22	13 40.96	- 5 40.9	1.162	2.110	11.2	20.0
4 1	13 35.90	- 7 38.4	1.764	2.745	5.0	19.8	4 1	13 34.23	- 4 14.9	1.135	2.120	6.1	19.8
4 11	13 26.35	- 7 12.7	1.760	2.762	0.8	19.6	4 11	13 26.15	- 2 47.0	1.132	2.131	2.7	19.6
4 21	13 16.80	- 6 47.6	1.784	2.777	3.9	19.8	4 21	13 18.05	- 1 27.8	1.154	2.143	6.5	19.9
5 1	13 8.23	- 6 27.5	1.836	2.793	8.0	20.1	5 1	13 11.22	- 0 26.5	1.199	2.155	11.4	20.2
5 11	13 1.43	- 6 16.3	1.913	2.808	11.6	20.4	5 11	13 6.61	+ 0 11.3	1.266	2.168	15.8	20.5
5 21	12 56.85	- 6 16.0	2.012	2.823	14.6	20.6	5 21	13 4.69	+ 0 24.5	1.351	2.181	19.4	20.7
429272	2010 CA ₆₇		4 12.6 147°32		1°9/14.5 17		309306	2007 RE ₂₆₉		4 12.7 130°20		1°2/11.6 18	
3 12	13 46.94	-16 23.3	2.093	2.930	12.4	21.3	3 12	13 50.01	- 8 3.0	1.773	2.635	13.1	21.8
3 22	13 41.51	-16 9.3	2.018	2.934	9.3	21.1	3 22	13 43.77	- 7 19.0	1.713	2.648	9.3	21.6
4 1	13 34.32	-15 41.4	1.966	2.937	5.7	20.9	4 1	13 35.59	- 6 25.9	1.678	2.660	5.0	21.4
4 11	13 26.13	-15 2.1	1.942	2.940	2.4	20.6	4 11	13 26.35	- 5 29.3	1.671	2.672	1.3	21.1
4 21	13 17.80	-14 15.3	1.946	2.942	3.2	20.7	4 21	13 17.09	- 4 35.3	1.692	2.683	4.5	21.4
5 1	13 10.21	-13 26.5	1.979	2.945	6.8	20.9	5 1	13 8.81	- 3 50.1	1.741	2.694	8.6	21.6
5 11	13 4.12	-12 41.3	2.037	2.947	10.2	21.1	5 11	13 2.33	- 3 18.1	1.814	2.704	12.4	21.9
5 21	13 0.00	-12 4.2	2.118	2.949	13.3	21.3	5 21	12 58.09	- 3 1.6	1.908	2.713	15.5	22.1
351511	2005 RR ₄₄		4 12.6 258°95		3°6/16.7 16		109686	2001 RF ₃₁		4 12.7 106°58		0°3/12.4 18	
3 12	13 45.11	-22 53.0	2.534	3.337	11.6	20.7	3 12	13 45.59	- 9 59.0	2.206	3.063	11.1	19.7
3 22	13 40.12	-22 47.0	2.436	3.324	9.1	20.6	3 22	13 40.40	- 9 28.1	2.138	3.069	7.9	19.5
4 1	13 33.57	-22 25.1	2.361	3.310	6.4	20.4	4 1	13 33.67	- 8 48.5	2.096	3.076	4.3	19.3
4 11	13 26.04	-21 48.3	2.314	3.297	4.1	20.2	4 11	13 26.08	- 8 4.1	2.081	3.083	0.6	19.0
4 21	13 18.27	-20 59.1	2.295	3.283	3.9	20.1	4 21	13 18.41	- 7 19.3	2.095	3.089	3.3	19.3
5 1	13 11.04	-20 1.9	2.305	3.269	6.1	20.3	5 1	13 11.45	- 6 38.8	2.138	3.096	6.9	19.5
5 11	13 5.04	-19 2.2	2.341	3.255	9.0	20.4	5 11	13 5.86	- 6 6.9	2.206	3.102	10.2	19.7
5 21	13 0.76	-18 5.4	2.402	3.240	11.7	20.6	5 21	13 2.05	- 5 46.1	2.296	3.108	13.0	19.9
458997	2011 WC ₁₃₄		4 12.6 234°87		3°6/ 9.8 17		36474	2000 QN ₂₈		4 12.7 243°90		0°2/12.8 18	
3 12	13 51.11	- 1 42.8	1.695	2.567	13.1	21.7	3 12	13 48.07	-11 3.0	1.891	2.747	12.7	19.6
3 22	13 44.86	- 0 57.0	1.617	2.556	9.4	21.4	3 22	13 42.52	-10 43.0	1.810	2.740	9.2	19.4
4 1	13 36.36	- 0 7.0	1.563	2.544	5.5	21.1	4 1	13 35.00	-10 11.9	1.754	2.733	5.2	19.1
4 11	13 26.45	+ 0 40.7	1.537	2.531	3.6	21.0	4 11	13 26.29	- 9 33.3	1.725	2.726	0.8	18.8
4 21	13 16.24	+ 1 19.6	1.538	2.518	6.5	21.1	4 21	13 17.32	- 8 52.0	1.723	2.719	3.6	19.0
5 1	13 6.88	+ 1 44.0	1.566	2.504	10.6	21.3	5 1	13 9.11	- 8 13.4	1.750	2.711	7.9	19.2
5 11	12 59.35	+ 1 50.4	1.616	2.490	14.5	21.5	5 11	13 2.52	- 7 42.8	1.801	2.703	11.8	19.5
5 21	12 54.27	+ 1 38.0	1.687	2.475	17.9	21.7	5 21	12 58.10	- 7 23.8	1.873	2.696	15.1	19.7
311227	2005 AJ ₈₀		4 12.6 81°65		1°7/11.4 18		49628	1999 GV ₁₆		4 12.7 265°52		4°9/ 7.7 18	
3 12	13 50.05	- 6 59.7	1.445	2.320	14.8	21.2	3 12	13 46.29	+ 4 39.4	2.170	3.043	10.6	17.5
3 22	13 44.07	- 6 19.5	1.394	2.335	10.5	20.9	3 22	13 40.94	+ 5 28.3	2.102	3.037	7.8	17.3
4 1	13 35.81	- 5 30.4	1.366	2.349	5.7	20.7	4 1	13 34.00	+ 6 14.8	2.061	3.031	5.5	17.1
4 11	13 26.35	- 4 38.7	1.364	2.364	1.7	20.5	4 11	13 26.14	+ 6 53.2	2.047	3.025	5.0	17.1
4 21	13 16.91	- 3 51.7	1.388	2.379	5.2	20.7	4 21	13 18.15	+ 7 18.9	2.061	3.019	7.0	17.2
5 1	13 8.67	- 3 15.7	1.438	2.394	9.9	21.0	5 1	13 10.85	+ 7 28.4	2.101	3.013	9.8	17.3
5 11	13 2.56	- 2 55.3	1.511	2.408	14.0	21.3	5 11	13 4.92	+ 7 20.4	2.165	3.007	12.5	17.5
5 21	12 59.02	- 2 52.2	1.604	2.423	17.3	21.6	5 21	13 0.82	+ 6 55.4	2.249	3.001	15.0	17.7
329065	2011 AS ₇₆		4 12.6 69°20		1°2/11.0 17		119804	2002 AZ ₁₃₉		4 12.7 75°15		4°8/ 8.6 18	
3 12	13 42.59	- 5 38.0	2.919	3.780	8.6	21.4	3 12	13 47.88	+ 1 15.2	1.660	2.541	12.9	20.0
3 22	13 37.90	- 5 6.6	2.862	3.797	6.0	21.3	3 22	13 42.26	+ 2 18.0	1.614	2.555	9.2	19.8
4 1	13 32.14	- 4 31.5	2.832	3.814	3.2	21.1	4 1	13 34.74	+ 3 20.6	1.592	2.570	5.9	19.6
4 11	13 25.83	- 3 56.0	2.831	3.831	1.2	21.0	4 11	13 26.23	+ 4 15.4	1.597	2.584	4.9	19.6
4 21	13 19.51	- 3 23.2	2.860	3.848	3.2	21.1	4 21	13 17.76	+ 4 56.0	1.628	2.598	7.3	19.8
5 1	13 13.73	- 2 56.3	2.918	3.865	5.9	21.3	5 1	13 10.32	+ 5 18.0	1.685	2.613	10.8	20.0
5 11	13 8.95	- 2 37.6	3.002	3.882	8.3	21.5	5 11	13 4.69	+ 5 19.7	1.765	2.627	14.0	20.2
5 21	13 5.49	- 2 28.3	3.110	3.899	10.4	21.7	5 21	13 1.29	+ 5 2.0	1.863	2.642	16.8	20.5
2009	Voloshina		4 12.6 71°74		1°4/11.2 18		100253	1994 SB ₂		4 12.7 254°63		0°7/11.8 17	
3 12	13 45.37	- 6 34.9	2.128	2.994	11.1	15.9	3 12	13 45.06	- 8 11.2	2.655	3.510	9.5	20.9
3 22	13 40.20	- 5 56.7	2.071	3.008	7.8	15.7	3 22	13 39.95	- 7 39.8	2.561	3.492	6.8	20.7
4 1	13 33.52	- 5 12.5	2.039	3.022	4.2	15.5	4 1	13 33.43	- 7 1.5	2.493	3.474	3.7	20.4
4 11	13 26.03	- 4 26.8	2.035	3.036	1.4	15.3	4 11	13 26.06	- 6 19.6	2.454	3.455	0.8	20.2
4 21	13 18.52	- 3 44.4	2.060	3.050	4.0	15.6	4 21	13 18.48	- 5 37.9	2.445	3.436	3.2	20.3
5 1	13 11.79	- 3 9.9	2.113	3.064	7.5	15.8	5 1	13 11.36	- 5 0.3	2.465	3.417	6.5	20.5
5 11	13 6.45	- 2 46.5	2.190	3.078	10.7	16.0	5 11	13 5.33	- 4 30.4	2.511	3.397	9.5	20.7
5 21	13 2.91	- 2 36.1	2.290	3.091	13.3	16.2	5 21	13 0.83	- 4 10.8	2.581	3.377	12.1	20.8
434430	2005 NQ ₆		4 12.6 245°21		4°2/ 7.4 17		426758	2013 TP ₉₄		4 12.7 249°46		2°8/14.9 17	
3 12	13 44.32	+ 3 24.0	2.505	3.377	9.4	21.6	3 12	13 49.23	-17 38.0	1.915	2.748	13.6	21.1
3 22	13 39.40	+ 4 27.0	2.430	3.365	6.9	21.4	3 22	13 43.47	-17 41.2	1.826	2.738	10.3	20.9
4 1	13 33.10	+ 5 29.6	2.382	3.353	4.8	21.2	4 1	13 35.60	-17 29.0	1.761	2.727	6.6	20.6
4 11	13 25.98	+ 6 26.6	2.362	3.340	4.4	21.2	4 11	13 26.39	-17 2.6	1.722	2.716	3.3	20.4
4 21	13 18.72	+ 7 12.9	2.371	3.328	6.3	21.3	4 21	13 16.83	-16 25.2	1.710	2.705	3.9	20.4
5 1	13 11.99	+ 7 44.7	2.407	3.315	8.9	21.4	5 1	13 7.99	-15 42.1	1.727	2.693	7.6	20.6
5 11	13 6.42	+ 8 0.0	2.467	3.302	11.4	21.6	5 11	13 0.81	-14 59.9	1.769	2.682	11.4	20.8
5 21	13 2.41	+ 7 58.5	2.548	3.288	13.7	21.7	5 21	12 55.90	-14 24.1	1.832	2.670	14.8	21.0
271232	2003 UZ ₁₃		4 12.7 308°80		2°9/15.6 17		326965	2004 JL ₁₈		4 12.7 289°78		6°8/ 7.9 17	
3 12	13 43.71	-20 36.6	1.782	2.616									

EPHEMERIDES

4 12.7

4 12.7

2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
451010	2008 <i>UR</i> ₇₆		4 12.7 110°14	1°5/13.9	18		123083	2000 <i>SL</i> ₃₁₉		4 12.7 166°11	5°0/18.3	17	
3 12	13 51.29	-15 24.2	1.561	2.409	15.3	22.2	3 12	13 48.61	-27 21.1	2.379	3.156	13.0	19.9
3 22	13 44.91	-14 54.9	1.504	2.427	11.3	22.0	3 22	13 42.67	-27 20.7	2.296	3.161	10.5	19.8
4 1	13 36.29	-14 8.2	1.469	2.444	6.6	21.8	4 1	13 35.00	-27 0.7	2.236	3.165	7.9	19.6
4 11	13 26.47	-13 8.5	1.461	2.460	2.1	21.5	4 11	13 26.33	-26 21.6	2.201	3.169	5.7	19.5
4 21	13 16.64	-12 2.5	1.480	2.476	3.9	21.7	4 21	13 17.49	-25 25.9	2.195	3.172	5.1	19.4
5 1	13 8.00	-10 58.1	1.526	2.492	8.4	22.0	5 1	13 9.39	-24 18.7	2.217	3.175	6.8	19.5
5 11	13 1.45	-10 2.7	1.596	2.507	12.5	22.3	5 11	13 2.76	-23 6.7	2.266	3.177	9.3	19.7
5 21	12 57.46	-9 21.1	1.687	2.521	16.0	22.5	5 21	12 58.09	-21 56.2	2.339	3.178	11.9	19.9
470051	2006 <i>SS</i> ₁₈₃		4 12.7 68°49	0°7/11.9	17		86506	2000 <i>DR</i> ₄₃		4 12.7 160°89	2°1/10.9	18	
3 12	13 43.64	-10 0.2	2.141	3.001	11.2	21.4	3 12	13 50.57	-6 33.9	1.635	2.504	13.7	20.1
3 22	13 39.00	-9 3.3	2.080	3.014	7.9	21.2	3 22	13 44.38	-5 36.0	1.572	2.510	9.7	19.9
4 1	13 32.89	-7 56.9	2.044	3.026	4.3	21.0	4 1	13 36.03	-4 28.9	1.533	2.515	5.3	19.7
4 11	13 25.98	-6 46.1	2.037	3.038	0.8	20.8	4 11	13 26.48	-3 19.4	1.520	2.520	2.1	19.5
4 21	13 19.05	-5 36.6	2.058	3.051	3.6	21.0	4 21	13 16.81	-2 15.0	1.536	2.524	5.4	19.7
5 1	13 12.85	-4 34.3	2.108	3.063	7.2	21.3	5 1	13 8.18	-1 22.8	1.579	2.527	9.7	19.9
5 11	13 8.01	-3 43.6	2.183	3.076	10.4	21.5	5 11	13 1.46	-0 47.5	1.645	2.530	13.7	20.2
5 21	13 4.92	-3 7.3	2.280	3.088	13.2	21.7	5 21	12 57.17	-0 31.1	1.731	2.532	17.0	20.4
175645	2007 <i>VG</i> ₂₆₃		4 12.7 340°16	1°4/11.8	17		125462	2001 <i>WY</i> ₇		4 12.7 130°71	0°8/11.9	18	
3 12	13 49.81	-6 43.1	1.349	2.227	15.4	19.6	3 12	13 49.40	-10 22.4	1.605	2.468	14.2	19.9
3 22	13 44.32	-6 29.5	1.281	2.223	11.0	19.4	3 22	13 43.53	-9 23.1	1.544	2.479	10.1	19.7
4 1	13 36.21	-6 7.3	1.236	2.219	6.1	19.1	4 1	13 35.55	-8 10.6	1.508	2.490	5.5	19.4
4 11	13 26.50	-5 41.5	1.215	2.216	1.5	18.7	4 11	13 26.40	-6 51.6	1.499	2.500	1.0	19.1
4 21	13 16.49	-5 18.1	1.220	2.213	5.3	19.0	4 21	13 17.21	-5 33.9	1.517	2.510	4.5	19.4
5 1	13 7.59	-5 3.2	1.249	2.211	10.4	19.3	5 1	13 9.09	-4 25.5	1.562	2.519	9.1	19.7
5 11	13 0.90	-5 1.5	1.301	2.209	15.0	19.5	5 11	13 2.90	-3 32.6	1.632	2.528	13.2	19.9
5 21	12 57.06	-5 15.1	1.372	2.207	18.9	19.8	5 21	12 59.12	-2 58.3	1.721	2.536	16.5	20.2
35938	1999 <i>JQ</i> ₁₂₅		4 12.7 358°16	5°1/9.0	18		297388	2000 <i>QM</i> ₆₁		4 12.7 229°10	3°8/7.2	16	
3 12	13 46.47	-0 49.4	1.193	2.088	15.7	18.0	3 12	13 43.45	+2 29.9	2.837	3.706	8.5	21.4
3 22	13 42.02	+0 16.8	1.137	2.086	11.2	17.8	3 22	13 38.69	+3 47.5	2.760	3.694	6.2	21.2
4 1	13 34.94	+1 27.2	1.102	2.085	6.9	17.5	4 1	13 32.70	+5 6.0	2.710	3.681	4.3	21.1
4 11	13 26.31	+2 31.8	1.091	2.084	5.3	17.4	4 11	13 26.00	+6 20.1	2.690	3.668	4.0	21.0
4 21	13 17.50	+3 20.8	1.105	2.084	8.5	17.6	4 21	13 19.16	+7 24.9	2.700	3.655	5.7	21.1
5 1	13 9.90	+3 47.0	1.140	2.084	13.1	17.8	5 1	13 12.79	+8 16.5	2.738	3.641	8.1	21.3
5 11	13 4.60	+3 47.4	1.196	2.086	17.4	18.1	5 11	13 7.41	+8 52.3	2.801	3.626	10.5	21.4
5 21	13 2.16	+3 22.7	1.269	2.088	21.1	18.3	5 21	13 3.42	+9 11.6	2.885	3.611	12.5	21.5
512499	2016 <i>RE</i> ₄		4 12.7 235°14	6°3/4.7	17		119061	2001 <i>KP</i> ₄₂		4 12.7 275°93	5°7/8.0	17	
3 12	13 45.37	+12 1.3	2.590	3.452	9.5	21.7	3 12	13 48.66	+0 14.8	1.399	2.285	14.4	19.2
3 22	13 40.11	+13 4.2	2.526	3.443	7.6	21.5	3 22	13 43.61	+1 42.5	1.318	2.262	10.6	18.9
4 1	13 33.49	+14 0.3	2.489	3.434	6.4	21.4	4 1	13 35.93	+3 17.1	1.261	2.239	6.9	18.7
4 11	13 26.09	+14 44.3	2.480	3.425	6.6	21.4	4 11	13 26.52	+4 48.0	1.228	2.216	5.9	18.5
4 21	13 18.58	+15 11.8	2.498	3.415	8.1	21.5	4 21	13 16.58	+6 4.4	1.222	2.192	9.2	18.7
5 1	13 11.66	+15 20.4	2.542	3.405	10.1	21.6	5 1	13 7.51	+6 57.0	1.239	2.168	13.7	18.8
5 11	13 5.90	+15 9.7	2.608	3.395	12.2	21.8	5 11	13 0.49	+7 21.0	1.277	2.143	18.1	19.0
5 21	13 1.72	+14 40.9	2.694	3.384	14.1	21.9	5 21	12 56.27	+7 16.0	1.331	2.118	21.8	19.2
238021	2002 <i>UF</i> ₇₂		4 12.7 65°30	1°3/11.6	17		8776	Campestris		4 12.7 306°35	2°4/14.5	18	
3 12	13 48.92	-5 28.7	2.018	2.882	11.7	20.3	3 12	13 46.39	-16 23.1	1.664	2.514	14.5	17.7
3 22	13 42.89	-5 20.0	1.952	2.888	8.3	20.1	3 22	13 41.77	-16 17.5	1.570	2.492	11.0	17.4
4 1	13 35.11	-5 6.6	1.911	2.893	4.5	19.9	4 1	13 34.83	-15 54.9	1.498	2.470	6.9	17.2
4 11	13 26.33	-4 52.1	1.898	2.899	1.4	19.7	4 11	13 26.36	-15 17.1	1.451	2.449	3.0	16.9
4 21	13 17.45	-4 40.1	1.914	2.904	4.1	19.9	4 21	13 17.38	-14 28.1	1.431	2.428	4.0	16.9
5 1	13 9.37	-4 34.3	1.957	2.910	7.8	20.1	5 1	13 9.11	-13 34.7	1.437	2.407	8.4	17.1
5 11	13 2.85	-4 37.5	2.025	2.916	11.3	20.4	5 11	13 2.61	-12 44.4	1.467	2.386	12.8	17.3
5 21	12 58.33	-4 51.1	2.116	2.922	14.1	20.6	5 21	12 58.59	-12 3.7	1.517	2.366	16.7	17.5
393169	2013 <i>CS</i> ₄₁		4 12.7 292°53	1°1/11.7	16		284306	2006 <i>QO</i> ₅		4 12.7 205°40	2°2/14.8	17	
3 12	13 49.25	-5 15.3	2.296	3.154	10.7	20.7	3 12	13 47.77	-16 53.0	2.384	3.212	11.4	20.5
3 22	13 43.11	-5 18.8	2.209	3.141	7.6	20.5	3 22	13 42.03	-16 56.0	2.300	3.209	8.6	20.3
4 1	13 35.26	-5 18.8	2.147	3.128	4.2	20.2	4 1	13 34.66	-16 47.1	2.240	3.206	5.5	20.1
4 11	13 26.36	-5 17.8	2.115	3.116	1.1	20.0	4 11	13 26.30	-16 27.6	2.208	3.203	2.6	19.9
4 21	13 17.20	-5 18.8	2.111	3.103	3.7	20.1	4 21	13 17.75	-16 0.2	2.206	3.200	3.2	20.0
5 1	13 8.63	-5 24.4	2.137	3.090	7.3	20.3	5 1	13 9.81	-15 28.8	2.232	3.196	6.2	20.1
5 11	13 1.40	-5 37.2	2.189	3.077	10.6	20.5	5 11	13 3.20	-14 58.2	2.285	3.193	9.4	20.3
5 21	12 56.02	-5 58.6	2.263	3.064	13.5	20.7	5 21	12 58.39	-14 32.2	2.361	3.189	12.2	20.5
402222	2005 <i>CZ</i> ₆₄		4 12.7 123°46	2°3/10.7	18		125739	2001 <i>XH</i> ₁₁₆		4 12.7 214°15	1°0/13.5	18	
3 12	13 50.36	-5 10.6	1.730	2.598	13.1	21.8	3 12	13 51.42	-13 20.9	1.817	2.664	13.6	19.9
3 22	13 44.03	-4 19.3	1.675	2.613	9.2	21.6	3 22	13 45.07	-13 4.1	1.733	2.657	10.0	19.7
4 1	13 35.74	-3 21.5	1.645	2.628	5.1	21.4	4 1	13 36.51	-12 33.6	1.673	2.649	5.8	19.4
4 11	13 26.42	-2 23.7	1.643	2.641	2.4	21.2	4 11	13 26.59	-11 52.4	1.640	2.640	1.5	19.1
4 21	13 17.10	-1 32.3	1.668	2.654	5.3	21.5	4 21	13 16.35	-11 5.2	1.635	2.631	3.7	19.2
5 1	13 8.81	-0 53.0	1.721	2.667	9.3	21.7	5 1	13 6.92	-10 18.2	1.658	2.621	8.2	19.5
5 11	13 2.36	-0 29.5	1.798	2.679	12.9	22.0	5 11	12 59.27	-9 37.8	1.706	2.610	12.3	19.7
5 21	12 58.18	-0 22.9	1.895	2.690	15.9	22.2	5 21	12 54.00	-9 8.4	1.776	2.599	15.8	19.9
19432	1998 <i>FL</i> ₇₁		4 12.7 58°02	1°8/13.9	18		245713	2006 <i>CY</i> ₃₃		4 12.7 116°97	1°3/11.3	17	
3 12	13 51.03	-13 51.7	1.402	2.261									

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2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
173253	1999 RQ ₉₃		4 12.7 211°27	0°8/11.9	16		426947	2013 YB ₂₂		4 12.7 248°26	5°5/8.0	18	
3 12	13 49.96	- 8 45.3	2.036	2.891	12.0	21.2	3 12	13 50.10	+ 5 52.1	1.971	2.841	11.6	20.9
3 22	13 43.77	- 8 11.1	1.953	2.884	8.6	20.9	3 22	13 43.86	+ 6 31.6	1.900	2.832	8.7	20.6
4 1	13 35.69	- 7 27.6	1.896	2.876	4.7	20.7	4 1	13 35.74	+ 7 7.1	1.855	2.824	6.2	20.5
4 11	13 26.47	- 6 39.1	1.866	2.868	0.9	20.4	4 11	13 26.50	+ 7 32.6	1.838	2.815	5.6	20.4
4 21	13 17.01	- 5 50.5	1.866	2.858	3.9	20.6	4 21	13 17.09	+ 7 43.4	1.848	2.806	7.6	20.5
5 1	13 8.27	- 5 7.5	1.894	2.848	8.0	20.8	5 1	13 8.47	+ 7 36.2	1.884	2.797	10.7	20.7
5 11	13 1.07	- 4 34.8	1.948	2.837	11.7	21.0	5 11	13 1.45	+ 7 10.3	1.944	2.787	13.7	20.9
5 21	12 55.95	- 4 15.2	2.023	2.825	14.8	21.2	5 21	12 56.53	+ 6 27.1	2.023	2.778	16.4	21.0
2963	Chen Jiageng		4 12.7 160°73	0°6/12.1	18		338418	2003 BC ₆₀		4 12.7 59°06	4°9/16.7	17	
3 12	13 46.68	- 8 58.0	2.212	3.069	11.1	17.1	3 12	13 51.44	- 22 42.5	2.051	2.856	13.8	19.9
3 22	13 41.23	- 8 29.4	2.140	3.072	7.9	16.9	3 22	13 44.83	- 23 24.0	1.987	2.874	10.9	19.8
4 1	13 34.19	- 7 52.9	2.093	3.074	4.3	16.7	4 1	13 36.27	- 23 48.5	1.947	2.892	7.8	19.6
4 11	13 26.24	- 7 12.2	2.075	3.077	0.7	16.4	4 11	13 26.58	- 23 55.7	1.933	2.910	5.4	19.5
4 21	13 18.18	- 6 31.7	2.085	3.079	3.5	16.7	4 21	13 16.76	- 23 47.2	1.947	2.929	5.1	19.5
5 1	13 10.81	- 5 56.0	2.124	3.081	7.1	16.9	5 1	13 7.83	- 23 27.0	1.988	2.947	7.3	19.7
5 11	13 4.83	- 5 29.1	2.189	3.082	10.4	17.1	5 11	13 0.62	- 23 0.9	2.055	2.966	10.2	19.9
5 21	13 0.65	- 5 13.3	2.276	3.084	13.2	17.3	5 21	12 55.64	- 22 34.4	2.145	2.985	12.8	20.1
301560	2009 HZ ₁₄		4 12.7 323°52	3°2/9.6	17		274334	Kiyivplaniy		4 12.7 237°82	2°0/10.6	18	
3 12	13 45.08	- 1 9.5	2.021	2.897	11.1	20.3	3 12	13 46.29	- 5 45.2	2.180	3.044	10.9	20.9
3 22	13 40.23	- 0 26.8	1.950	2.891	7.9	20.1	3 22	13 41.07	- 4 49.7	2.095	3.032	7.7	20.7
4 1	13 33.70	+ 0 18.5	1.904	2.884	4.7	19.9	4 1	13 34.18	- 3 46.9	2.037	3.019	4.3	20.4
4 11	13 26.18	+ 1 0.8	1.885	2.878	3.3	19.8	4 11	13 26.29	- 2 41.9	2.007	3.006	2.0	20.2
4 21	13 18.50	+ 1 35.1	1.894	2.872	5.6	19.9	4 21	13 18.18	- 1 40.4	2.006	2.992	4.6	20.4
5 1	13 11.52	+ 1 57.0	1.929	2.866	9.0	20.1	5 1	13 10.68	- 0 48.0	2.034	2.978	8.2	20.6
5 11	13 5.97	+ 2 3.7	1.988	2.861	12.2	20.3	5 11	13 4.53	- 0 9.0	2.086	2.963	11.6	20.8
5 21	13 2.30	+ 1 54.5	2.068	2.856	15.0	20.5	5 21	13 0.22	+ 0 14.4	2.160	2.948	14.5	20.9
417167	2005 WH ₅₇		4 12.7 182°64	18°7/5.7	17		395361	2011 RN ₄		4 12.7 195°22	0°2/12.9	17	
3 12	14 18.81	- 62 35.7	1.842	2.331	24.1	23.3	3 12	13 47.42	- 10 14.4	2.401	3.250	10.6	21.2
3 22	14 7.42	- 63 39.0	1.756	2.334	23.1	23.2	3 22	13 41.72	- 10 9.1	2.322	3.249	7.6	21.0
4 1	13 49.94	- 63 59.3	1.679	2.336	21.9	23.0	4 1	13 34.48	- 9 56.4	2.270	3.248	4.3	20.8
4 11	13 28.59	- 63 23.4	1.614	2.336	20.6	22.9	4 11	13 26.34	- 9 38.7	2.246	3.247	0.7	20.5
4 21	13 7.00	- 61 43.5	1.564	2.334	19.5	22.8	4 21	13 18.04	- 9 19.0	2.251	3.246	3.0	20.7
5 1	12 48.82	- 59 1.8	1.532	2.330	18.8	22.7	5 1	13 10.36	- 9 1.0	2.285	3.245	6.4	20.9
5 11	12 36.24	- 55 31.9	1.521	2.324	18.8	22.7	5 11	13 3.97	- 8 48.0	2.346	3.244	9.6	21.1
5 21	12 29.64	- 51 33.0	1.532	2.315	19.6	22.7	5 21	12 59.30	- 8 42.6	2.429	3.242	12.3	21.3
138531	2000 OC ₃₈		4 12.7 166°27	4°7/19.2	18		236137	2005 TN ₁₈₀		4 12.7 71°64	0°5/12.4	18	
3 12	13 46.03	- 29 30.4	2.984	3.739	11.1	20.0	3 12	13 52.84	- 8 38.7	1.283	2.156	16.4	20.2
3 22	13 40.58	- 29 25.7	2.896	3.744	9.1	19.9	3 22	13 46.59	- 8 33.4	1.220	2.159	11.8	19.9
4 1	13 33.78	- 29 3.9	2.832	3.748	7.1	19.8	4 1	13 37.53	- 8 17.2	1.179	2.162	6.5	19.6
4 11	13 26.19	- 28 25.5	2.795	3.752	5.3	19.6	4 11	13 26.80	- 7 54.5	1.163	2.165	0.9	19.3
4 21	13 18.50	- 27 32.7	2.786	3.755	4.7	19.6	4 21	13 15.82	- 7 31.1	1.172	2.168	5.0	19.5
5 1	13 11.39	- 26 29.2	2.806	3.758	5.8	19.7	5 1	13 6.11	- 7 13.4	1.206	2.171	10.4	19.9
5 11	13 5.44	- 25 20.4	2.853	3.760	7.8	19.8	5 11	12 58.84	- 7 6.9	1.263	2.174	15.1	20.1
5 21	13 1.05	- 24 11.3	2.926	3.762	9.9	20.0	5 21	12 54.62	- 7 14.4	1.338	2.177	19.1	20.4
215468	2002 QD ₁₀₃		4 12.7 228°87	3°2/9.6	17		204809	2007 HJ ₂₇		4 12.7 268°89	0°5/13.1	17	
3 12	13 48.56	- 2 29.5	1.961	2.831	11.7	21.7	3 12	13 47.14	- 12 25.7	2.023	2.874	12.2	21.3
3 22	13 42.83	- 1 30.8	1.882	2.820	8.4	21.5	3 22	13 41.91	- 11 59.1	1.927	2.854	8.9	21.0
4 1	13 35.20	- 0 27.0	1.828	2.808	4.9	21.3	4 1	13 34.77	- 11 20.1	1.856	2.834	5.1	20.7
4 11	13 26.42	+ 0 35.8	1.802	2.796	3.3	21.1	4 11	13 26.40	- 10 31.8	1.813	2.814	1.0	20.4
4 21	13 17.41	+ 1 31.1	1.804	2.783	5.9	21.3	4 21	13 17.67	- 9 38.9	1.797	2.793	3.4	20.5
5 1	13 9.10	+ 2 13.3	1.834	2.769	9.5	21.5	5 1	13 9.55	- 8 47.3	1.810	2.772	7.6	20.7
5 11	13 2.34	+ 2 38.5	1.888	2.755	13.0	21.6	5 11	13 2.90	- 8 2.8	1.848	2.751	11.5	20.9
5 21	12 57.66	+ 2 45.5	1.962	2.740	16.1	21.8	5 21	12 58.29	- 7 29.7	1.908	2.730	14.9	21.1
8547	1994 CQ		4 12.7 69°21	1°2/13.6	18		336905	2011 HY ₉		4 12.7 189°25	3°6/9.0	17	
3 12	13 50.37	- 13 48.8	1.380	2.241	16.2	18.2	3 12	13 46.19	- 0 44.6	2.056	2.929	11.1	21.0
3 22	13 44.47	- 13 28.9	1.328	2.259	11.8	18.0	3 22	13 40.97	+ 0 15.0	1.990	2.929	7.9	20.8
4 1	13 36.15	- 12 52.3	1.299	2.277	6.8	17.8	4 1	13 34.09	+ 1 17.1	1.949	2.928	4.8	20.6
4 11	13 26.55	- 12 3.7	1.295	2.295	1.8	17.5	4 11	13 26.28	+ 2 15.7	1.937	2.927	3.7	20.5
4 21	13 16.96	- 11 9.9	1.317	2.314	4.1	17.7	4 21	13 18.36	+ 3 5.0	1.953	2.926	6.0	20.7
5 1	13 8.66	- 10 18.8	1.364	2.332	9.0	18.0	5 1	13 11.17	+ 3 40.3	1.995	2.925	9.2	20.8
5 11	13 2.62	- 9 37.5	1.435	2.350	13.3	18.3	5 11	13 5.42	+ 3 58.7	2.062	2.924	12.3	21.0
5 21	12 59.28	- 9 10.3	1.526	2.369	16.9	18.6	5 21	13 1.55	+ 3 59.6	2.149	2.922	15.0	21.2
376453	2012 HY ₆₃		4 12.7 243°66	1°8/11.1	17		508425	2016 JJ ₃₂		4 12.7 294°43	4°6/8.8	17	
3 12	13 49.00	- 5 31.1	2.009	2.873	11.7	21.6	3 12	13 48.80	+ 0 58.2	1.776	2.652	12.4	20.9
3 22	13 43.15	- 4 59.4	1.924	2.859	8.4	21.4	3 22	13 43.39	+ 1 49.6	1.679	2.618	9.1	20.6
4 1	13 35.39	- 4 21.4	1.864	2.846	4.6	21.1	4 1	13 35.74	+ 2 44.0	1.607	2.584	5.8	20.4
4 11	13 26.46	- 3 41.4	1.832	2.832	1.8	20.9	4 11	13 26.56	+ 3 34.4	1.561	2.549	4.7	20.2
4 21	13 17.24	- 3 4.5	1.829	2.817	4.6	21.1	4 21	13 16.83	+ 4 14.1	1.542	2.514	7.4	20.4
5 1	13 8.70	- 2 35.7	1.853	2.802	8.5	21.3	5 1	13 7.68	+ 4 36.9	1.549	2.479	11.4	20.3
5 11	13 1.67	- 2 18.9	1.903	2.787	12.2	21.5	5 11	13 0.15	+ 4 39.1	1.579	2.443	15.3	20.6
5 21	12 56.71	- 2 16.0	1.973	2.771	15.3	21.6	5 21	12 54.95	+ 4 20.1	1.627	2.408	18.7	20.7
32919	1995 CJ ₁		4 12.7 14°80	3°8/15.3	18		290016	2005 QX ₁₄		4 12.7 174°54	2°8/15.8	18	
3 12	13 43.95	- 1											

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2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
415279	2013 <i>FV</i> ₇		4 12.7 290°06	2°8/10.7	17		505506	2013 <i>WC</i> ₈₉		4 12.7 284°85	3°3/15.6	17	
3 12	13 49.13	- 4 41.9	1.410	2.291	14.7	20.9	3 12	13 46.83	-19 55.7	1.791	2.623	14.4	21.6
3 22	13 43.98	- 4 1.3	1.326	2.270	10.6	20.6	3 22	13 42.00	-19 43.1	1.694	2.603	11.1	21.3
4 1	13 36.19	- 3 11.9	1.265	2.248	6.0	20.2	4 1	13 34.96	-19 10.6	1.620	2.583	7.4	21.0
4 11	13 26.63	- 2 20.1	1.228	2.227	2.8	20.0	4 11	13 26.47	-18 19.4	1.570	2.563	4.0	20.8
4 21	13 16.54	- 1 33.9	1.218	2.206	6.4	20.1	4 21	13 17.52	-17 13.6	1.548	2.542	4.2	20.8
5 1	13 7.29	- 1 0.8	1.232	2.185	11.5	20.4	5 1	13 9.27	-16 0.2	1.552	2.522	8.0	20.9
5 11	13 0.11	- 0 46.4	1.268	2.164	16.2	20.6	5 11	13 2.72	-14 47.6	1.582	2.501	12.1	21.1
5 21	12 55.74	- 0 52.9	1.322	2.143	20.3	20.8	5 21	12 58.54	-13 43.2	1.633	2.481	15.8	21.3
432491	2010 <i>EB</i> ₇₉		4 12.7 349°30	3°1/14.8	15		66529	1999 <i>RX</i> ₁₀₇		4 12.7 295°58	1°1/13.8	18	
3 12	13 51.24	-16 11.6	1.801	2.640	14.1	21.4	3 12	13 44.87	-15 17.9	1.795	2.646	13.5	19.4
3 22	13 45.02	-16 49.9	1.723	2.637	10.7	21.2	3 22	13 40.38	-14 34.1	1.713	2.639	10.0	19.1
4 1	13 36.55	-17 15.6	1.667	2.634	6.9	20.9	4 1	13 33.93	-13 33.1	1.655	2.631	5.9	18.9
4 11	13 26.67	-17 28.6	1.639	2.632	3.6	20.7	4 11	13 26.30	-12 19.0	1.623	2.623	1.7	18.6
4 21	13 16.44	-17 30.6	1.637	2.631	4.2	20.7	4 21	13 18.43	-10 58.4	1.618	2.615	3.5	18.7
5 1	13 7.03	-17 25.3	1.663	2.629	7.9	21.0	5 1	13 11.33	- 9 38.9	1.641	2.608	7.9	18.9
5 11	12 59.43	-17 17.9	1.714	2.628	11.6	21.2	5 11	13 5.87	- 8 28.3	1.689	2.600	11.9	19.1
5 21	12 54.27	-17 13.1	1.787	2.628	14.9	21.4	5 21	13 2.57	- 7 31.9	1.758	2.593	15.4	19.3
130564	2000 <i>RC</i> ₃₈		4 12.7 184°88	0°9/11.9	18		125775	2001 <i>XQ</i> ₁₄₀		4 12.7 309°01	5°2/ 9.1	17	
3 12	13 49.87	- 9 9.2	1.915	2.772	12.5	20.2	3 12	13 48.00	- 0 16.6	1.247	2.139	15.4	19.2
3 22	13 43.74	- 8 24.2	1.840	2.772	8.9	19.9	3 22	13 43.31	+ 0 42.1	1.175	2.123	11.2	18.9
4 1	13 35.70	- 7 28.8	1.791	2.772	4.9	19.7	4 1	13 35.84	+ 1 45.4	1.125	2.107	7.0	18.6
4 11	13 26.53	- 6 28.0	1.770	2.771	1.0	19.4	4 11	13 26.61	+ 2 43.8	1.100	2.092	5.3	18.4
4 21	13 17.20	- 5 27.8	1.777	2.770	4.1	19.6	4 21	13 16.92	+ 3 27.8	1.098	2.077	8.6	18.6
5 1	13 8.70	- 4 34.5	1.813	2.767	8.3	19.9	5 1	13 8.27	+ 3 49.8	1.119	2.062	13.4	18.8
5 11	13 1.84	- 3 53.2	1.874	2.764	12.0	20.1	5 11	13 1.89	+ 3 45.9	1.161	2.049	18.0	19.0
5 21	12 57.15	- 3 26.9	1.956	2.760	15.2	20.3	5 21	12 58.47	+ 3 16.7	1.219	2.035	21.9	19.2
321354	2009 <i>LU</i> ₄		4 12.7 272°22	0°5/13.7	18		497841	2006 <i>UA</i> ₅₉		4 12.7 85°59	0°8/13.6	17	
3 12	13 38.58	-13 13.3	4.411	5.247	6.4	20.2	3 12	13 45.79	-13 15.8	2.315	3.160	11.1	21.9
3 22	13 34.93	-12 53.2	4.327	5.245	4.7	20.1	3 22	13 40.54	-12 56.1	2.249	3.172	8.1	21.7
4 1	13 30.55	-12 27.6	4.269	5.243	2.7	19.9	4 1	13 33.80	-12 26.1	2.209	3.185	4.7	21.5
4 11	13 25.76	-11 58.0	4.241	5.241	0.8	19.8	4 11	13 26.27	-11 48.9	2.197	3.197	1.2	21.3
4 21	13 20.91	-11 26.4	4.243	5.239	1.6	19.8	4 21	13 18.68	-11 8.2	2.214	3.210	2.8	21.5
5 1	13 16.36	-10 55.0	4.276	5.237	3.6	20.0	5 1	13 11.79	-10 28.7	2.259	3.222	6.3	21.7
5 11	13 12.41	-10 26.0	4.336	5.235	5.5	20.1	5 11	13 6.23	- 9 54.5	2.330	3.234	9.4	21.9
5 21	13 9.32	-10 1.1	4.422	5.234	7.2	20.2	5 21	13 2.39	- 9 28.8	2.425	3.247	12.1	22.1
212045	2005 <i>CL</i> ₆₅		4 12.7 76°21	2°0/11.2	18		310140	2011 <i>HG</i> ₈₁		4 12.7 57°07	1°9/10.8	18	
3 12	13 50.47	- 6 24.7	1.424	2.299	14.9	20.4	3 12	13 44.09	- 8 40.9	1.720	2.593	12.9	20.0
3 22	13 44.41	- 5 43.6	1.376	2.317	10.5	20.2	3 22	13 39.68	- 7 12.4	1.660	2.601	9.1	19.8
4 1	13 36.09	- 4 54.3	1.351	2.335	5.7	20.0	4 1	13 33.45	- 5 32.3	1.625	2.609	4.9	19.5
4 11	13 26.58	- 4 3.5	1.353	2.353	2.0	19.8	4 11	13 26.22	- 3 48.3	1.617	2.617	1.9	19.4
4 21	13 17.12	- 3 18.2	1.380	2.371	5.4	20.0	4 21	13 18.94	- 2 9.4	1.637	2.625	5.1	19.6
5 1	13 8.92	- 2 44.9	1.433	2.388	10.0	20.3	5 1	13 12.55	- 0 43.8	1.684	2.633	9.2	19.8
5 11	13 2.86	- 2 27.6	1.509	2.406	14.0	20.6	5 11	13 7.80	+ 0 22.6	1.755	2.642	12.9	20.1
5 21	12 59.38	- 2 27.6	1.605	2.423	17.4	20.9	5 21	13 5.12	+ 1 7.4	1.846	2.651	16.0	20.3
210113	2006 <i>QY</i> ₁₆₉		4 12.7 148°50	4°3/ 6.9	17		430884	2005 <i>QM</i> ₁₄₁		4 12.7 262°38	4°1/17.7	17	
3 12	13 43.65	+ 3 14.5	2.537	3.410	9.3	20.1	3 12	13 44.54	-25 27.3	2.467	3.259	12.1	20.7
3 22	13 38.88	+ 4 35.8	2.480	3.415	6.8	19.9	3 22	13 39.83	-25 8.8	2.368	3.246	9.7	20.5
4 1	13 32.84	+ 5 56.5	2.451	3.421	4.7	19.8	4 1	13 33.52	-24 31.6	2.293	3.234	7.1	20.3
4 11	13 26.11	+ 7 10.6	2.450	3.426	4.5	19.8	4 11	13 26.25	-23 36.6	2.244	3.222	4.7	20.1
4 21	13 19.33	+ 8 12.9	2.479	3.431	6.3	19.9	4 21	13 18.75	-22 27.0	2.224	3.209	4.3	20.0
5 1	13 13.15	+ 8 59.5	2.535	3.436	8.7	20.1	5 1	13 11.84	-21 7.8	2.232	3.196	6.3	20.2
5 11	13 8.12	+ 9 28.6	2.614	3.440	11.1	20.3	5 11	13 6.21	-19 45.9	2.267	3.183	9.1	20.3
5 21	13 4.58	+ 9 39.9	2.715	3.445	13.2	20.4	5 21	13 2.33	-18 27.3	2.327	3.170	11.8	20.5
278825	2008 <i>SS</i> ₂₆₈		4 12.7 169°85	4°5/ 8.1	17		373574	2001 <i>YH</i> ₅₁		4 12.7 215°80	4°2/17.5	17	
3 12	13 46.51	+ 2 20.0	2.057	2.932	11.0	20.6	3 12	13 49.22	-25 36.0	2.588	3.368	12.0	22.5
3 22	13 41.18	+ 3 21.1	1.996	2.933	8.0	20.4	3 22	13 43.13	-25 29.0	2.487	3.358	9.6	22.3
4 1	13 34.21	+ 4 21.9	1.960	2.934	5.3	20.2	4 1	13 35.35	-25 4.4	2.410	3.346	7.0	22.2
4 11	13 26.32	+ 5 16.0	1.952	2.935	4.6	20.2	4 11	13 26.52	-24 22.6	2.360	3.334	4.8	22.0
4 21	13 18.34	+ 5 58.0	1.972	2.936	6.8	20.3	4 21	13 17.44	-23 25.8	2.339	3.321	4.4	21.9
5 1	13 11.12	+ 6 23.7	2.019	2.937	9.8	20.5	5 1	13 8.94	-22 18.7	2.348	3.307	6.3	22.0
5 11	13 5.35	+ 6 31.1	2.088	2.937	12.7	20.7	5 11	13 1.76	-21 7.4	2.384	3.292	9.1	22.2
5 21	13 1.46	+ 6 20.4	2.178	2.938	15.2	20.9	5 21	12 56.40	-19 57.9	2.445	3.276	11.7	22.3
210047	2006 <i>PE</i> ₆		4 12.7 166°27	4°4/ 7.3	18		119981	2002 <i>XP</i> ₄		4 12.7 31°30	0°8/13.3	18	
3 12	13 44.99	+ 4 2.7	2.485	3.356	9.5	20.4	3 12	13 45.04	-13 52.0	1.198	2.074	17.1	18.8
3 22	13 39.86	+ 5 7.3	2.425	3.359	7.0	20.3	3 22	13 40.90	-13 12.8	1.152	2.091	12.4	18.5
4 1	13 33.40	+ 6 10.4	2.392	3.362	4.9	20.1	4 1	13 34.29	-12 14.4	1.127	2.108	7.1	18.3
4 11	13 26.20	+ 7 6.5	2.388	3.364	4.6	20.1	4 11	13 26.36	-11 3.6	1.125	2.127	1.6	18.0
4 21	13 18.94	+ 7 51.0	2.412	3.366	6.3	20.2	4 21	13 18.45	- 9 49.5	1.148	2.146	4.4	18.2
5 1	13 12.30	+ 8 20.4	2.464	3.368	8.8	20.4	5 1	13 11.86	- 8 42.0	1.195	2.167	9.6	18.6
5 11	13 6.85	+ 8 33.0	2.539	3.370	11.3	20.6	5 11	13 7.54	- 7 49.0	1.264	2.188	14.1	18.9
5 21	13 2.97	+ 8 29.1	2.635	3.371	13.4	20.7	5 21	13 5.91	- 7 14.9	1.352	2.210	17.9	19.2
390962	2005 <i>PU</i> ₂₀		4 12.7 167°45	2°3/ 9.7	18		199896	2007 <i>FB</i> ₃₉		4 1			

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2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
507439	2012 SS ₁₇	4 12.7 162°74		1°1/14.2 17			150074	2006 SX ₁₉₁	4 12.7 299°23		0°4/12.9 17		
3 12	13 44.92	-16 7.4	2.840	3.667	9.8	23.2	3 12	13 50.33	-10 29.5	1.481	2.347	15.0	20.6
3 22	13 39.73	-15 26.1	2.761	3.673	7.2	23.1	3 22	13 44.74	-10 29.6	1.401	2.336	11.0	20.4
4 1	13 33.32	-14 33.4	2.709	3.679	4.3	22.9	4 1	13 36.58	-10 18.2	1.344	2.324	6.3	20.1
4 11	13 26.22	-13 32.4	2.685	3.684	1.5	22.7	4 11	13 26.76	-9 58.3	1.312	2.314	1.1	19.7
4 21	13 19.06	-12 26.9	2.693	3.689	2.4	22.8	4 21	13 16.50	-9 34.6	1.306	2.303	4.3	19.9
5 1	13 12.45	-11 21.5	2.730	3.693	5.4	23.0	5 1	13 7.15	-9 13.0	1.326	2.292	9.4	20.1
5 11	13 6.94	-10 20.8	2.795	3.696	8.1	23.1	5 11	12 59.86	-8 59.3	1.369	2.282	14.1	20.4
5 21	13 2.88	-9 28.2	2.885	3.699	10.6	23.3	5 21	12 55.33	-8 57.4	1.432	2.272	18.0	20.6
443684	2015 KF ₁₈	4 12.7 306°65		8°0/ 3.0 18			45164	1999 XK ₁₂₇	4 12.7 236°70		2°8/ 9.7 17		
3 12	13 43.79	+12 27.9	2.025	2.899	11.2	20.2	3 12	13 48.77	- 3 45.3	2.183	3.046	10.9	20.6
3 22	13 39.41	+14 2.3	1.962	2.883	9.2	20.1	3 22	13 42.92	- 2 35.8	2.092	3.027	7.8	20.4
4 1	13 33.33	+15 29.5	1.924	2.867	8.1	20.0	4 1	13 35.29	- 1 19.3	2.027	3.007	4.5	20.1
4 11	13 26.24	+16 41.0	1.912	2.851	8.6	20.0	4 11	13 26.55	- 0 1.7	1.992	2.987	2.8	20.0
4 21	13 18.95	+17 30.5	1.925	2.836	10.4	20.0	4 21	13 17.51	+ 1 10.5	1.986	2.965	5.4	20.1
5 1	13 12.34	+17 53.9	1.962	2.820	12.9	20.2	5 1	13 9.06	+ 2 11.1	2.009	2.942	9.0	20.3
5 11	13 7.15	+17 50.7	2.019	2.805	15.3	20.3	5 11	13 1.98	+ 2 55.8	2.057	2.918	12.4	20.4
5 21	13 3.84	+17 23.0	2.093	2.790	17.4	20.4	5 21	12 56.81	+ 3 22.3	2.127	2.894	15.3	20.6
394065	2005 XW ₆₀	4 12.7 12°75		6°1/ 6.7 17			58899	1998 KD ₇	4 12.7 56°52		7°4/ 5.2 18		
3 12	13 46.44	+ 9 33.0	2.183	3.053	10.7	20.6	3 12	13 47.72	+13 56.3	2.218	3.079	10.9	18.6
3 22	13 41.04	+10 15.4	2.128	3.055	8.2	20.4	3 22	13 41.92	+14 47.1	2.169	3.083	8.8	18.4
4 1	13 34.11	+10 50.9	2.099	3.057	6.4	20.3	4 1	13 34.58	+15 27.7	2.146	3.086	7.5	18.3
4 11	13 26.34	+11 14.0	2.096	3.059	6.3	20.3	4 11	13 26.42	+15 52.3	2.149	3.090	7.7	18.4
4 21	13 18.53	+11 20.9	2.121	3.062	8.0	20.4	4 21	13 18.26	+15 57.2	2.179	3.094	9.1	18.5
5 1	13 11.47	+11 9.3	2.171	3.064	10.4	20.6	5 1	13 10.88	+15 40.7	2.233	3.098	11.3	18.6
5 11	13 5.81	+10 39.4	2.244	3.068	12.8	20.7	5 11	13 4.95	+15 3.7	2.309	3.102	13.4	18.8
5 21	13 1.95	+ 9 52.8	2.337	3.071	14.9	20.9	5 21	13 0.85	+14 8.7	2.405	3.107	15.3	18.9
63863	2001 RM ₁₀₂	4 12.7 152°70		0°7/12.2 18			375833	2009 UQ ₁₀₀	4 12.7 246°35		0°2/12.9 17		
3 12	13 52.79	- 8 43.2	1.668	2.528	13.9	20.6	3 12	13 46.58	-12 46.1	2.007	2.859	12.3	21.8
3 22	13 46.01	- 8 18.4	1.603	2.536	10.0	20.4	3 22	13 41.49	-11 56.8	1.917	2.845	8.9	21.6
4 1	13 37.03	- 7 44.0	1.562	2.543	5.5	20.1	4 1	13 34.54	-10 53.3	1.852	2.831	5.1	21.3
4 11	13 26.79	- 7 4.3	1.548	2.549	0.9	19.8	4 11	13 26.44	- 9 40.0	1.815	2.816	0.8	21.0
4 21	13 16.42	- 6 25.0	1.562	2.555	4.4	20.1	4 21	13 18.07	- 8 22.7	1.806	2.801	3.5	21.2
5 1	13 7.09	- 5 52.1	1.603	2.560	8.9	20.4	5 1	13 10.37	- 7 8.5	1.825	2.786	7.7	21.4
5 11	12 59.72	- 5 30.2	1.669	2.565	12.9	20.6	5 11	13 4.14	- 6 3.9	1.870	2.770	11.6	21.6
5 21	12 54.84	- 5 22.1	1.755	2.569	16.3	20.8	5 21	12 59.94	- 5 13.6	1.937	2.753	14.9	21.8
300278	2007 LA ₂₁	4 12.7 349°86		2°5/10.9 18			122638	2000 RM ₈₂	4 12.7 109°11		6°2/18.8 18		
3 12	13 46.02	- 7 25.6	1.160	2.050	16.5	20.5	3 12	13 50.33	-28 33.3	2.023	2.800	14.9	19.7
3 22	13 41.88	- 6 19.7	1.098	2.046	11.7	20.2	3 22	13 44.19	-28 50.9	1.952	2.814	12.2	19.5
4 1	13 35.01	- 4 59.3	1.058	2.044	6.4	19.9	4 1	13 36.01	-28 46.1	1.903	2.828	9.4	19.4
4 11	13 26.51	- 3 33.9	1.042	2.042	2.5	19.6	4 11	13 26.66	-28 18.4	1.879	2.841	7.0	19.3
4 21	13 17.75	- 2 14.3	1.049	2.040	6.6	19.9	4 21	13 17.17	-27 30.4	1.882	2.854	6.3	19.2
5 1	13 10.20	- 1 11.2	1.080	2.039	12.0	20.1	5 1	13 8.61	-26 27.7	1.912	2.867	7.8	19.4
5 11	13 4.99	- 0 31.4	1.131	2.038	16.8	20.4	5 11	13 1.85	-25 18.1	1.967	2.879	10.4	19.5
5 21	13 2.73	- 0 17.2	1.200	2.038	20.9	20.7	5 21	12 57.37	-24 9.2	2.046	2.891	13.1	19.7
467513	2007 ES ₁₅₀	4 12.7 255°13		5°0/ 7.2 17			29821	1999 DP ₁	4 12.7 334°74		7°2/ 8.2 18		
3 12	13 45.05	+ 1 0.1	1.886	2.766	11.6	21.6	3 12	13 51.64	+ 7 41.1	1.437	2.318	14.5	16.5
3 22	13 40.38	+ 2 38.9	1.814	2.755	8.4	21.4	3 22	13 45.54	+ 8 11.2	1.374	2.309	11.1	16.3
4 1	13 33.89	+ 4 21.3	1.769	2.745	5.7	21.2	4 1	13 36.93	+ 8 33.3	1.333	2.301	8.1	16.1
4 11	13 26.33	+ 5 58.6	1.752	2.734	5.2	21.1	4 11	13 26.81	+ 8 39.6	1.316	2.293	7.4	16.0
4 21	13 18.57	+ 7 22.6	1.762	2.722	7.7	21.3	4 21	13 16.47	+ 8 24.7	1.325	2.286	9.7	16.1
5 1	13 11.52	+ 8 26.5	1.798	2.711	11.1	21.4	5 1	13 7.22	+ 7 46.1	1.358	2.280	13.3	16.3
5 11	13 5.99	+ 9 6.9	1.856	2.699	14.3	21.6	5 11	13 0.13	+ 6 44.6	1.412	2.274	16.9	16.5
5 21	13 2.45	+ 9 23.2	1.934	2.688	17.0	21.8	5 21	12 55.78	+ 5 23.9	1.484	2.269	20.1	16.7
246271	2007 TJ ₄₀	4 12.7 242°09		1°1/11.7 16			103902	2000 DR ₅₆	4 12.7 261°79		5°9/16.8 18		
3 12	13 49.49	- 8 49.5	1.800	2.662	13.0	21.5	3 12	13 52.42	-23 28.4	1.729	2.539	15.8	19.6
3 22	13 43.76	- 8 2.2	1.712	2.646	9.3	21.2	3 22	13 46.18	-24 12.6	1.643	2.532	12.7	19.3
4 1	13 35.89	- 7 3.3	1.648	2.630	5.1	20.9	4 1	13 37.39	-24 37.4	1.580	2.526	9.3	19.1
4 11	13 26.64	- 5 57.7	1.612	2.613	1.2	20.6	4 11	13 26.91	-24 41.1	1.542	2.519	6.5	18.9
4 21	13 17.03	- 4 52.0	1.604	2.595	4.6	20.8	4 21	13 15.93	-24 24.6	1.529	2.512	6.2	18.9
5 1	13 8.15	- 3 53.5	1.623	2.577	9.1	21.0	5 1	13 5.78	-23 52.3	1.544	2.505	8.8	19.0
5 11	13 0.96	- 3 8.1	1.667	2.558	13.2	21.2	5 11	12 57.62	-23 11.8	1.582	2.497	12.3	19.2
5 21	12 56.08	- 2 39.5	1.731	2.538	16.7	21.4	5 21	12 52.17	-22 30.9	1.642	2.490	15.7	19.4
456048	2005 YX ₂₆₄	4 12.7 196°56		0°5/13.1 16			130400	2000 NP ₁₃	4 12.7 281°43		2°0/11.1 17		
3 12	13 51.38	-12 26.3	1.730	2.582	13.9	22.8	3 12	13 47.64	- 7 46.5	1.445	2.322	14.7	20.0
3 22	13 45.10	-11 59.2	1.652	2.579	10.2	22.6	3 22	13 42.87	- 6 48.1	1.360	2.302	10.5	19.6
4 1	13 36.59	-11 18.3	1.598	2.577	5.8	22.3	4 1	13 35.58	- 5 35.7	1.299	2.283	5.8	19.3
4 11	13 26.74	-10 27.5	1.572	2.573	1.1	22.0	4 11	13 26.64	- 4 16.2	1.263	2.263	2.0	19.0
4 21	13 16.63	- 9 32.3	1.573	2.569	3.9	22.2	4 21	13 17.22	- 2 58.4	1.253	2.243	5.8	19.2
5 1	13 7.42	- 8 39.6	1.601	2.563	8.5	22.5	5 1	13 8.65	- 1 51.9	1.268	2.223	10.9	19.4
5 11	13 0.07	- 7 55.9	1.655	2.558	12.6	22.7	5 11	13 2.06	- 1 4.0	1.305	2.203	15.7	19.7
5 21	12 55.15	- 7 25.5	1.729	2.551	16.2	22.9	5 21	12 58.16	- 0 38.5	1.361	2.183	19.7	19.9
273736	2007 ET ₁₁₀	4 12.7 41°42		3°8/ 9.3 17			125815	2001 XD ₁₆₅	4 12.7 240°27		3°7/ 9.3 17		
3 12	13 44.97	- 3 23.8	1.486	2.372	13.8	20.4	3 12	13 47.81					

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2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
502659	2015 <i>CN</i> ₄₉		4 12.7 106°21	4.9/ 7.2	18		498239	2007 <i>UJ</i> ₅₉		4 12.7 156°62	2.1/10.7	17	
3 12	13 46.13	+ 3 7.0	2.114	2.989	10.8	21.5	3 12	13 48.46	- 2 57.2	2.349	3.211	10.3	21.7
3 22	13 40.78	+ 4 33.6	2.070	3.006	7.8	21.3	3 22	13 42.45	- 2 37.0	2.280	3.214	7.3	21.6
4 1	13 33.95	+ 5 58.7	2.053	3.024	5.4	21.2	4 1	13 34.92	- 2 14.2	2.237	3.218	4.1	21.4
4 11	13 26.36	+ 7 15.1	2.064	3.041	5.1	21.2	4 11	13 26.53	- 1 52.6	2.223	3.221	2.1	21.2
4 21	13 18.80	+ 8 16.9	2.103	3.057	7.1	21.4	4 21	13 18.06	- 1 35.8	2.239	3.224	4.3	21.4
5 1	13 12.05	+ 8 59.9	2.168	3.074	9.8	21.6	5 1	13 10.26	- 1 26.8	2.283	3.226	7.5	21.6
5 11	13 6.71	+ 9 22.5	2.257	3.089	12.4	21.8	5 11	13 3.78	- 1 28.0	2.353	3.229	10.5	21.8
5 21	13 3.17	+ 9 25.5	2.366	3.105	14.7	22.0	5 21	12 59.06	- 1 40.3	2.445	3.231	13.0	22.0
60817	2000 <i>HR</i> ₃₇		4 12.7 155°57	12°5/ 1.0	18		203441	2001 <i>YD</i> ₈₁		4 12.7 125°85	3°2/15.4	18	
3 12	13 53.20	+25 23.6	1.799	2.631	14.4	18.7	3 12	13 51.77	-19 18.5	1.674	2.504	15.3	21.2
3 22	13 46.17	+26 39.0	1.764	2.633	13.0	18.6	3 22	13 45.36	-19 6.9	1.609	2.518	11.6	20.9
4 1	13 37.03	+27 31.8	1.751	2.635	12.5	18.6	4 1	13 36.71	-18 35.6	1.566	2.531	7.5	20.7
4 11	13 26.82	+27 53.9	1.761	2.636	13.0	18.6	4 11	13 26.81	-17 47.0	1.550	2.543	3.8	20.5
4 21	13 16.67	+27 41.3	1.793	2.638	14.4	18.7	4 21	13 16.81	-16 46.4	1.561	2.555	4.2	20.6
5 1	13 7.72	+26 54.5	1.846	2.639	16.2	18.8	5 1	13 7.89	-15 41.1	1.599	2.567	8.0	20.8
5 11	13 0.79	+25 37.6	1.917	2.640	18.0	19.0	5 11	13 1.00	-14 39.3	1.662	2.577	11.9	21.1
5 21	12 56.32	+23 56.8	2.003	2.641	19.7	19.1	5 21	12 56.62	-13 47.2	1.747	2.587	15.3	21.3
304380	2006 <i>SZ</i> ₃₈₄		4 12.7 126°27	3°1/ 8.7	17		66699	1999 <i>TB</i> ₈₅		4 12.7 191°37	0°1/12.8	16	
3 12	13 43.74	- 0 51.8	2.581	3.451	9.2	21.1	3 12	13 49.76	-11 30.7	2.009	2.858	12.4	20.6
3 22	13 38.94	+ 0 19.5	2.524	3.462	6.5	20.9	3 22	13 43.68	-10 55.5	1.930	2.857	8.9	20.4
4 1	13 32.90	+ 1 32.6	2.494	3.472	4.0	20.8	4 1	13 35.73	-10 8.6	1.876	2.855	5.0	20.2
4 11	13 26.21	+ 2 42.4	2.493	3.482	3.2	20.7	4 11	13 26.67	- 9 14.0	1.851	2.852	0.8	19.8
4 21	13 19.49	+ 3 43.8	2.522	3.492	5.1	20.9	4 21	13 17.41	- 8 17.0	1.854	2.849	3.5	20.1
5 1	13 13.37	+ 4 32.8	2.579	3.501	7.7	21.0	5 1	13 8.93	- 7 23.6	1.886	2.845	7.7	20.3
5 11	13 8.38	+ 5 6.9	2.661	3.511	10.3	21.2	5 11	13 2.03	- 6 39.2	1.943	2.840	11.4	20.5
5 21	13 4.86	+ 5 25.4	2.765	3.520	12.4	21.4	5 21	12 57.21	- 6 7.4	2.023	2.834	14.5	20.7
93706	2000 <i>VQ</i> ₃₀		4 12.7 154°47	3°6/ 9.1	18		166660	2002 <i>TT</i> ₃₃		4 12.7 127°87	0°1/12.8	17	
3 12	13 48.45	+ 0 46.2	2.212	3.080	10.6	20.4	3 12	13 46.71	-10 51.3	2.232	3.084	11.2	21.1
3 22	13 42.46	+ 1 32.9	2.151	3.087	7.6	20.3	3 22	13 41.29	-10 25.9	2.163	3.091	8.0	20.9
4 1	13 34.91	+ 2 20.1	2.117	3.093	4.8	20.1	4 1	13 34.30	- 9 51.4	2.118	3.098	4.5	20.7
4 11	13 26.52	+ 3 2.4	2.110	3.099	3.7	20.0	4 11	13 26.44	- 9 11.2	2.102	3.104	0.7	20.4
4 21	13 18.06	+ 3 35.2	2.133	3.104	5.8	20.2	4 21	13 18.49	- 8 29.6	2.115	3.110	3.1	20.6
5 1	13 10.35	+ 3 54.8	2.183	3.109	8.8	20.4	5 1	13 11.25	- 7 51.2	2.157	3.116	6.8	20.8
5 11	13 4.06	+ 3 59.3	2.258	3.113	11.6	20.5	5 11	13 5.37	- 7 20.1	2.224	3.122	10.0	21.1
5 21	12 59.59	+ 3 48.7	2.354	3.117	14.1	20.7	5 21	13 1.29	- 6 59.3	2.314	3.128	12.8	21.3
365217	2009 <i>HP</i> ₄₈		4 12.7 199°01	4°1/ 9.1	17		70617	1999 <i>TN</i> ₂₀₉		4 12.7 59°93	7°9/20.3	18	
3 12	13 50.38	+ 0 49.2	1.906	2.777	12.0	21.4	3 12	13 49.36	-31 49.1	1.889	2.655	16.3	18.8
3 22	13 44.13	+ 1 38.9	1.837	2.774	8.6	21.2	3 22	13 43.77	-32 24.6	1.816	2.663	13.7	18.6
4 1	13 35.96	+ 2 29.7	1.794	2.771	5.4	21.0	4 1	13 35.91	-32 34.8	1.764	2.672	11.0	18.5
4 11	13 26.68	+ 3 15.2	1.778	2.767	4.2	20.9	4 11	13 26.70	-32 18.1	1.735	2.681	8.8	18.3
4 21	13 17.24	+ 3 49.9	1.790	2.762	6.6	21.1	4 21	13 17.25	-31 35.9	1.730	2.690	7.9	18.3
5 1	13 8.63	+ 4 9.1	1.830	2.757	10.0	21.3	5 1	13 8.74	-30 33.7	1.752	2.699	9.0	18.4
5 11	13 1.66	+ 4 10.7	1.893	2.752	13.4	21.5	5 11	13 2.16	-29 20.0	1.797	2.709	11.3	18.5
5 21	12 56.84	+ 3 54.6	1.976	2.746	16.2	21.6	5 21	12 58.08	-28 3.6	1.865	2.718	13.9	18.7
170897	2004 <i>UX</i> ₇		4 12.7 183°62	1°1/13.6	18		221197	2005 <i>UV</i> ₅₄		4 12.7 198°90	0°6/13.3	18	
3 12	13 50.71	-13 57.4	1.682	2.532	14.3	21.0	3 12	13 49.14	-12 33.6	2.473	3.311	10.7	21.5
3 22	13 44.67	-13 35.9	1.608	2.532	10.5	20.7	3 22	13 42.99	-12 11.9	2.386	3.307	7.8	21.3
4 1	13 36.38	-12 59.2	1.557	2.533	6.2	20.5	4 1	13 35.26	-11 40.4	2.326	3.302	4.5	21.1
4 11	13 26.75	-12 10.9	1.532	2.532	1.7	20.2	4 11	13 26.60	-11 1.6	2.295	3.296	1.0	20.8
4 21	13 16.90	-11 16.4	1.535	2.531	3.8	20.3	4 21	13 17.75	-10 19.3	2.294	3.289	2.9	21.0
5 1	13 7.98	-10 22.7	1.565	2.530	8.3	20.6	5 1	13 9.50	- 9 37.8	2.322	3.282	6.4	21.2
5 11	13 0.96	- 9 36.5	1.620	2.528	12.5	20.8	5 11	13 2.53	- 9 1.5	2.378	3.274	9.6	21.4
5 21	12 56.41	- 9 2.8	1.696	2.526	16.1	21.0	5 21	12 57.31	- 8 33.8	2.457	3.265	12.4	21.6
182163	2000 <i>SO</i> ₁₉₃		4 12.7 248°34	1°4/15.4	18		470193	2006 <i>VF</i> ₃₅		4 12.7 326°24	3°1/ 9.8	17	
3 12	13 39.56	-17 55.8	4.676	5.488	6.5	20.3	3 12	13 47.33	- 0 1.8	2.262	3.130	10.4	21.2
3 22	13 35.65	-17 49.7	4.582	5.482	4.9	20.2	3 22	13 41.70	+ 0 23.9	2.193	3.130	7.4	21.0
4 1	13 31.01	-17 36.8	4.515	5.475	3.2	20.1	4 1	13 34.53	+ 0 50.2	2.151	3.130	4.5	20.8
4 11	13 25.95	-17 18.3	4.477	5.469	1.7	20.0	4 11	13 26.48	+ 1 12.8	2.137	3.129	3.1	20.7
4 21	13 20.80	-16 55.5	4.469	5.462	1.8	20.0	4 21	13 18.33	+ 1 27.8	2.152	3.129	5.2	20.9
5 1	13 15.91	-16 30.4	4.491	5.455	3.4	20.1	5 1	13 10.85	+ 1 32.2	2.194	3.129	8.2	21.1
5 11	13 11.62	-16 5.2	4.542	5.448	5.1	20.2	5 11	13 4.71	+ 1 24.1	2.261	3.129	11.2	21.2
5 21	13 8.16	-15 41.9	4.618	5.442	6.7	20.3	5 21	13 0.35	+ 1 3.2	2.350	3.128	13.7	21.4
466152	2012 <i>HQ</i> ₅₆		4 12.7 282°83	0°4/13.1	17		489620	2007 <i>TO</i> ₂₈₁		4 12.7 149°23	2°3/15.0	17	
3 12	13 45.53	-14 38.1	1.754	2.608	13.6	21.2	3 12	13 48.77	-17 24.9	2.429	3.251	11.4	22.1
3 22	13 41.07	-13 31.7	1.655	2.583	10.1	20.9	3 22	13 42.74	-17 29.3	2.351	3.258	8.6	21.9
4 1	13 34.48	-12 5.0	1.580	2.558	5.8	20.6	4 1	13 35.12	-17 21.5	2.299	3.264	5.5	21.7
4 11	13 26.50	-10 22.8	1.532	2.533	1.1	20.2	4 11	13 26.57	-17 3.0	2.275	3.269	2.7	21.5
4 21	13 18.09	- 8 32.9	1.511	2.508	3.9	20.4	4 21	13 17.89	-16 36.5	2.281	3.274	3.2	21.6
5 1	13 10.36	- 6 45.0	1.519	2.482	8.8	20.6	5 1	13 9.86	-16 5.7	2.315	3.279	6.1	21.8
5 11	13 4.27	- 5 8.8	1.551	2.456	13.2	20.8	5 11	13 3.18	-15 35.3	2.376	3.284	9.1	22.0
5 21	13 0.46	- 3 50.9	1.604	2.430	17.1	21.0	5 21	12 58.29	-15 9.3	2.461	3.288	11.8	22.2
489366	2006 <i>UW</i> ₁₇₂		4 12.7 271°52	1°2/11.6	17		265797	2005 <i>WP</i> ₁₉₄	</				

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2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
171800	2001 <i>DJ</i> ₃₈		4 12.7 73°96	3°3/ 9.9	18		166777	2002 <i>VA</i> ₂₂		4 12.7 106°66	2°7/15.7	17	
3 12	13 47.35	- 4 36.9	1.453	2.335	14.3	19.7	3 12	13 45.47	-20 7.8	2.204	3.027	12.4	20.0
3 22	13 42.29	- 3 23.1	1.399	2.343	10.1	19.4	3 22	13 40.50	-19 41.9	2.130	3.034	9.5	19.8
4 1	13 35.03	- 2 1.6	1.367	2.351	5.7	19.2	4 1	13 33.92	-18 59.5	2.079	3.041	6.2	19.6
4 11	13 26.56	- 0 40.9	1.362	2.359	3.3	19.1	4 11	13 26.42	-18 3.1	2.056	3.048	3.2	19.4
4 21	13 18.03	+ 0 30.1	1.383	2.367	6.5	19.3	4 21	13 18.83	-16 57.0	2.061	3.055	3.4	19.4
5 1	13 10.59	+ 1 23.8	1.430	2.375	10.8	19.5	5 1	13 11.97	-15 47.2	2.094	3.062	6.4	19.6
5 11	13 5.13	+ 1 55.9	1.498	2.383	14.8	19.8	5 11	13 6.52	-14 40.1	2.154	3.068	9.6	19.8
5 21	13 2.14	+ 2 5.6	1.585	2.392	18.1	20.0	5 21	13 2.92	-13 40.7	2.237	3.075	12.4	20.0
106079	2000 <i>SF</i> ₃₄₈		4 12.7 169°37	3°9/ 7.9	18		463229	2012 <i>DV</i> ₉₂		4 12.7 59°03	1°6/13.9	16	
3 12	13 46.19	+ 4 55.4	2.913	3.776	8.5	20.5	3 12	13 49.95	-14 21.6	1.425	2.284	15.9	21.5
3 22	13 40.58	+ 5 36.2	2.850	3.780	6.3	20.3	3 22	13 44.26	-14 12.9	1.369	2.298	11.7	21.3
4 1	13 33.80	+ 6 14.7	2.815	3.783	4.4	20.2	4 1	13 36.18	-13 47.8	1.336	2.312	6.9	21.1
4 11	13 26.37	+ 6 46.7	2.810	3.786	4.0	20.2	4 11	13 26.77	-13 9.9	1.327	2.327	2.3	20.8
4 21	13 18.90	+ 7 9.1	2.833	3.788	5.5	20.3	4 21	13 17.30	-12 25.1	1.345	2.342	4.0	21.0
5 1	13 11.97	+ 7 19.3	2.885	3.790	7.7	20.4	5 1	13 9.03	-11 40.7	1.388	2.357	8.7	21.3
5 11	13 6.10	+ 7 16.4	2.962	3.792	9.9	20.6	5 11	13 2.94	-11 3.7	1.454	2.372	13.0	21.6
5 21	13 1.63	+ 7 0.6	3.061	3.793	11.8	20.7	5 21	12 59.51	-10 38.7	1.541	2.388	16.6	21.8
501249	2013 <i>VR</i> ₁₉		4 12.7 230°60	1°2/14.1	17		281447	2008 <i>SJ</i> ₉₇		4 12.7 55°47	1°3/13.9	17	
3 12	13 47.10	-15 53.1	2.227	3.062	11.8	22.5	3 12	13 46.88	-14 32.7	1.871	2.719	13.2	20.5
3 22	13 41.74	-15 13.5	2.133	3.050	8.8	22.3	3 22	13 41.74	-14 13.4	1.798	2.722	9.7	20.3
4 1	13 34.66	-14 19.1	2.065	3.037	5.3	22.0	4 1	13 34.70	-13 40.2	1.750	2.725	5.8	20.1
4 11	13 26.52	-13 12.9	2.025	3.024	1.7	21.8	4 11	13 26.55	-12 56.3	1.728	2.728	1.8	19.8
4 21	13 18.14	-11 59.9	2.013	3.010	3.1	21.8	4 21	13 18.25	-12 6.4	1.734	2.730	3.4	19.9
5 1	13 10.37	-10 46.3	2.031	2.995	6.8	22.0	5 1	13 10.76	-11 16.7	1.767	2.733	7.4	20.2
5 11	13 3.98	- 9 38.3	2.076	2.980	10.4	22.2	5 11	13 4.89	-10 33.1	1.825	2.736	11.2	20.4
5 21	12 59.47	- 8 41.0	2.144	2.964	13.5	22.4	5 21	13 1.15	-10 0.0	1.905	2.739	14.4	20.6
205547	2001 <i>SJ</i> ₂₀₀		4 12.7 337°28	0°9/11.9	17		62145	2000 <i>SH</i> ₁₆		4 12.7 100°82	2°3/16.1	18	
3 12	13 44.97	- 8 38.8	1.995	2.860	11.8	20.4	3 12	13 42.96	-20 11.8	3.322	4.130	9.0	19.5
3 22	13 40.25	- 8 0.8	1.922	2.858	8.4	20.2	3 22	13 38.27	-20 2.3	3.248	4.142	6.9	19.4
4 1	13 33.82	- 7 13.9	1.873	2.855	4.6	19.9	4 1	13 32.53	-19 42.2	3.199	4.154	4.6	19.2
4 11	13 26.40	- 6 22.5	1.852	2.853	1.0	19.7	4 11	13 26.22	-19 12.9	3.179	4.166	2.6	19.1
4 21	13 18.82	- 5 32.1	1.858	2.851	3.9	19.9	4 21	13 19.85	-18 36.7	3.188	4.179	2.6	19.1
5 1	13 11.95	- 4 48.0	1.892	2.849	7.8	20.1	5 1	13 13.95	-17 56.9	3.226	4.190	4.6	19.3
5 11	13 6.53	- 4 14.8	1.951	2.847	11.3	20.3	5 11	13 8.97	-17 16.8	3.293	4.202	6.8	19.4
5 21	13 3.03	- 3 55.3	2.031	2.846	14.3	20.5	5 21	13 5.23	-16 39.6	3.384	4.214	8.8	19.6
462819	2010 <i>RQ</i> ₁₃₉		4 12.7 175°25	1°1/13.7	16		349051	2006 <i>WQ</i> ₂		4 12.7 160°76	8°4/31.2	18	
3 12	13 49.99	-14 12.2	1.990	2.831	12.8	22.9	3 12	13 48.62	+26 2.9	3.081	3.891	9.5	21.5
3 22	13 43.86	-13 47.4	1.913	2.834	9.4	22.7	3 22	13 42.26	+26 59.7	3.047	3.897	8.7	21.5
4 1	13 35.84	-13 9.2	1.862	2.836	5.5	22.5	4 1	13 34.70	+27 42.0	3.039	3.903	8.4	21.4
4 11	13 26.71	-12 20.8	1.838	2.838	1.6	22.2	4 11	13 26.54	+28 5.4	3.056	3.908	8.8	21.5
4 21	13 17.41	-11 26.9	1.842	2.839	3.3	22.3	4 21	13 18.41	+28 7.6	3.098	3.913	9.7	21.6
5 1	13 8.92	-10 33.7	1.875	2.839	7.3	22.6	5 1	13 10.95	+27 48.2	3.163	3.917	10.9	21.6
5 11	13 2.05	- 9 46.8	1.935	2.838	11.0	22.8	5 11	13 4.67	+27 8.7	3.249	3.921	12.1	21.8
5 21	12 57.31	- 9 10.6	2.016	2.837	14.2	23.0	5 21	12 59.92	+26 12.0	3.351	3.925	13.2	21.9
438608	2007 <i>VC</i> ₂₇₅		4 12.7 237°63	5°5/ 6.8	17		150816	2001 <i>RS</i> ₁₁₉		4 12.7 121°15	1°0/13.6	18	
3 12	13 46.02	+ 6 26.3	2.203	3.076	10.5	21.0	3 12	13 51.77	-12 57.6	2.009	2.851	12.7	20.6
3 22	13 40.83	+ 7 26.8	2.140	3.072	7.9	20.8	3 22	13 45.01	-12 53.1	1.945	2.866	9.2	20.4
4 1	13 34.07	+ 8 23.9	2.103	3.068	5.9	20.7	4 1	13 36.42	-12 37.7	1.906	2.881	5.4	20.2
4 11	13 26.44	+ 9 11.4	2.093	3.063	5.7	20.7	4 11	13 26.81	-12 13.7	1.895	2.895	1.5	20.0
4 21	13 18.69	+ 9 44.3	2.111	3.059	7.5	20.8	4 21	13 17.15	-11 45.2	1.913	2.909	3.3	20.1
5 1	13 11.63	+ 9 59.1	2.155	3.055	10.1	20.9	5 1	13 8.38	-11 16.6	1.960	2.923	7.1	20.4
5 11	13 5.92	+ 9 54.9	2.222	3.050	12.7	21.1	5 11	13 1.28	-10 52.8	2.033	2.936	10.6	20.7
5 21	13 1.98	+ 9 32.4	2.309	3.046	15.0	21.3	5 21	12 56.32	-10 37.0	2.128	2.948	13.6	20.9
416748	2005 <i>ET</i> ₁₀₃		4 12.7 148°35	3°6/ 9.6	18		433513	2013 <i>WY</i> ₅₅		4 12.7 280°07	5°5/18.2	17	
3 12	13 49.54	- 2 19.5	1.694	2.569	13.0	21.6	3 12	13 46.18	-26 56.3	1.883	2.681	15.1	20.6
3 22	13 43.64	- 1 15.4	1.635	2.576	9.2	21.3	3 22	13 41.50	-26 44.9	1.791	2.671	12.3	20.3
4 1	13 35.72	- 0 6.9	1.601	2.582	5.4	21.1	4 1	13 34.70	-26 8.7	1.721	2.660	9.1	20.1
4 11	13 26.69	+ 0 58.7	1.594	2.588	3.7	21.0	4 11	13 26.58	-25 8.0	1.675	2.650	6.3	19.9
4 21	13 17.58	+ 1 54.2	1.614	2.593	6.4	21.2	4 21	13 18.15	-23 46.5	1.656	2.640	5.6	19.9
5 1	13 9.44	+ 2 33.9	1.661	2.598	10.2	21.4	5 1	13 10.50	-22 11.3	1.663	2.629	7.9	20.0
5 11	13 3.12	+ 2 54.3	1.731	2.602	13.8	21.7	5 11	13 4.57	-20 31.8	1.696	2.619	11.2	20.1
5 21	12 59.08	+ 2 55.1	1.821	2.606	16.8	21.9	5 21	13 0.95	-18 57.0	1.752	2.608	14.5	20.3
145879	1999 <i>SW</i> ₂₁		4 12.7 227°44	1°2/14.1	17		150739	2001 <i>QA</i> ₆₇		4 12.7 122°08	1°0/13.7	18	
3 12	13 45.67	-14 32.5	2.514	3.351	10.6	20.8	3 12	13 50.78	-13 53.0	2.306	3.141	11.5	20.0
3 22	13 40.52	-14 20.8	2.429	3.347	7.8	20.6	3 22	13 44.07	-13 33.9	2.245	3.162	8.4	19.8
4 1	13 33.90	-13 58.6	2.371	3.343	4.7	20.4	4 1	13 35.80	-13 3.9	2.210	3.184	4.9	19.7
4 11	13 26.42	-13 28.2	2.340	3.339	1.6	20.2	4 11	13 26.72	-12 25.9	2.204	3.204	1.4	19.4
4 21	13 18.77	-12 52.7	2.338	3.334	2.7	20.2	4 21	13 17.64	-11 44.0	2.228	3.224	2.9	19.6
5 1	13 11.68	-12 16.1	2.366	3.330	6.0	20.5	5 1	13 9.39	-11 2.6	2.281	3.242	6.4	19.8
5 11	13 5.79	-11 42.8	2.420	3.325	9.0	20.6	5 11	13 2.60	-10 26.4	2.361	3.260	9.5	20.1
5 21	13 1.53	-11 16.0	2.497	3.321	11.7	20.8	5 21	12 57.69	- 9 58.5	2.465	3.277	12.2	20.3
374151	2004 <i>TH</i> ₂₅₇		4 12.7										

EPHEMERIDES

4 12.7

4 12.8

2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
190078	2004 <i>TL</i> ₁₇		4 12.7 195°78	1°8/14.6	17		459488	2013 <i>CJ</i> ₁₁₁		4 12.7 144°40	3°4/10.0	18	
3 12	13 48.24	-16 38.7	2.374	3.202	11.4	21.0	3 12	13 51.82	-2 58.5	1.613	2.485	13.7	21.9
3 22	13 42.44	-16 24.2	2.289	3.199	8.6	20.8	3 22	13 45.34	-2 0.0	1.555	2.495	9.7	21.7
4 1	13 35.02	-15 56.9	2.228	3.196	5.3	20.6	4 1	13 36.71	-0 56.5	1.523	2.504	5.6	21.5
4 11	13 26.62	-15 18.9	2.196	3.193	2.3	20.4	4 11	13 26.89	+0 4.6	1.517	2.513	3.4	21.3
4 21	13 18.04	-14 33.5	2.193	3.188	3.0	20.4	4 21	13 17.03	+0 56.2	1.539	2.521	6.3	21.5
5 1	13 10.08	-13 45.6	2.219	3.184	6.3	20.6	5 1	13 8.24	+1 32.3	1.588	2.528	10.4	21.8
5 11	13 3.47	-13 0.2	2.272	3.178	9.5	20.8	5 11	13 1.43	+1 49.6	1.660	2.535	14.1	22.0
5 21	12 58.66	-12 21.6	2.349	3.173	12.4	21.0	5 21	12 57.06	+1 47.7	1.751	2.541	17.3	22.3
519629	2012 <i>UL</i> ₁₈₂		4 12.7 93°47	1°9/10.7	17		18090	Kevinkuo		4 12.7 215°47	1°1/13.8	18	
3 12	13 44.46	-5 42.4	2.206	3.073	10.7	21.5	3 12	13 46.82	-15 28.0	1.939	2.783	13.0	18.5
3 22	13 39.70	-4 49.1	2.140	3.078	7.5	21.3	3 22	13 41.71	-14 43.1	1.857	2.779	9.6	18.3
4 1	13 33.45	-3 49.7	2.100	3.083	4.1	21.1	4 1	13 34.71	-13 41.9	1.799	2.774	5.7	18.0
4 11	13 26.38	-2 49.5	2.089	3.088	1.9	21.0	4 11	13 26.60	-12 28.4	1.769	2.769	1.7	17.8
4 21	13 19.24	-1 53.6	2.106	3.092	4.3	21.2	4 21	13 18.28	-11 8.7	1.766	2.763	3.3	17.9
5 1	13 12.77	-1 7.0	2.151	3.097	7.7	21.4	5 1	13 10.72	-9 49.9	1.792	2.757	7.5	18.1
5 11	13 7.61	-0 33.4	2.221	3.102	10.8	21.6	5 11	13 4.73	-8 39.4	1.844	2.751	11.3	18.3
5 21	13 4.17	-0 14.5	2.313	3.107	13.5	21.8	5 21	13 0.82	-7 42.0	1.917	2.744	14.6	18.5
87669	2000 <i>RE</i> ₉₉		4 12.7 203°72	3°0/16.1	18	R	348950	2006 <i>TT</i> ₁₁₄		4 12.7 252°94	4°6/7.4	17	
3 12	13 47.27	-21 26.9	2.276	3.087	12.4	20.1	3 12	13 44.26	+3 18.1	2.262	3.138	10.1	20.3
3 22	13 41.85	-20 58.6	2.186	3.083	9.6	19.9	3 22	13 39.57	+4 27.0	2.198	3.134	7.4	20.1
4 1	13 34.72	-20 12.4	2.121	3.078	6.4	19.7	4 1	13 33.40	+5 35.4	2.159	3.131	5.1	20.0
4 11	13 26.59	-19 10.5	2.083	3.073	3.6	19.5	4 11	13 26.40	+6 37.1	2.149	3.128	4.8	19.9
4 21	13 18.26	-17 56.8	2.074	3.067	3.6	19.5	4 21	13 19.29	+7 26.6	2.167	3.124	6.7	20.1
5 1	13 10.60	-16 37.6	2.094	3.060	6.5	19.6	5 1	13 12.82	+7 59.9	2.211	3.121	9.4	20.2
5 11	13 4.36	-15 19.6	2.141	3.053	9.7	19.8	5 11	13 7.60	+8 15.0	2.278	3.117	12.1	20.4
5 21	13 0.01	-14 8.8	2.212	3.046	12.7	20.0	5 21	13 4.07	+8 11.8	2.366	3.114	14.4	20.5
377917	2006 <i>EX</i> ₁₈		4 12.7 34°64	1°5/13.9	17		30324	Pandya		4 12.8 55°15	1°4/13.7	18	
3 12	13 48.12	-14 11.7	1.871	2.719	13.2	21.2	3 12	13 49.56	-14 14.5	1.265	2.132	17.1	18.9
3 22	13 42.66	-14 5.5	1.797	2.720	9.7	21.0	3 22	13 44.31	-13 53.5	1.205	2.138	12.5	18.6
4 1	13 35.24	-13 46.3	1.747	2.721	5.8	20.7	4 1	13 36.37	-13 13.4	1.166	2.145	7.4	18.3
4 11	13 26.67	-13 16.7	1.723	2.722	2.0	20.5	4 11	13 26.87	-12 19.0	1.151	2.152	2.1	18.0
4 21	13 17.89	-12 40.8	1.727	2.723	3.4	20.6	4 21	13 17.19	-11 17.6	1.161	2.159	4.4	18.2
5 1	13 9.92	-12 4.0	1.758	2.724	7.5	20.8	5 1	13 8.77	-10 18.3	1.196	2.166	9.7	18.5
5 11	13 3.61	-11 31.8	1.814	2.726	11.2	21.1	5 11	13 2.73	-9 29.7	1.253	2.174	14.5	18.8
5 21	12 59.47	-11 8.4	1.892	2.727	14.5	21.3	5 21	12 59.61	-8 57.0	1.329	2.181	18.5	19.1
327316	2005 <i>UK</i> ₃₁		4 12.7 276°80	0°4/12.4	17		19904	3487 <i>T</i> ₋₃		4 12.8 114°30	0°4/13.1	18	
3 12	13 48.01	-10 17.0	1.786	2.646	13.1	22.0	3 12	13 48.55	-11 33.7	1.959	2.811	12.5	18.8
3 22	13 42.83	-9 44.5	1.692	2.625	9.5	21.8	3 22	13 42.81	-11 14.7	1.892	2.820	9.0	18.6
4 1	13 35.49	-8 59.7	1.622	2.603	5.3	21.5	4 1	13 35.26	-10 45.1	1.849	2.828	5.1	18.4
4 11	13 26.73	-8 6.5	1.579	2.581	0.8	21.1	4 11	13 26.69	-10 8.4	1.834	2.835	1.0	18.1
4 21	13 17.53	-7 10.9	1.564	2.559	4.1	21.3	4 21	13 18.02	-9 29.1	1.847	2.843	3.4	18.3
5 1	13 9.00	-6 19.3	1.576	2.536	8.7	21.5	5 1	13 10.17	-8 52.3	1.888	2.850	7.4	18.6
5 11	13 2.11	-5 38.3	1.612	2.513	13.0	21.7	5 11	13 3.91	-8 23.0	1.954	2.858	11.0	18.8
5 21	12 57.52	-5 11.8	1.669	2.490	16.7	21.9	5 21	12 59.72	-8 4.1	2.043	2.865	14.0	19.0
259472	2003 <i>SA</i> ₁₆₈		4 12.7 181°83	3°8/9.5	18		96415	1998 <i>FX</i> ₄		4 12.8 94°52	1°0/11.9	18	
3 12	13 50.66	-0 44.8	1.829	2.700	12.4	20.6	3 12	13 49.73	-9 23.8	1.525	2.392	14.6	19.9
3 22	13 44.40	+0 7.0	1.763	2.701	8.9	20.4	3 22	13 43.91	-8 35.3	1.471	2.408	10.3	19.7
4 1	13 36.17	+1 1.3	1.723	2.701	5.3	20.2	4 1	13 35.93	-7 35.1	1.441	2.423	5.6	19.5
4 11	13 26.81	+1 51.7	1.710	2.701	3.8	20.1	4 11	13 26.79	-6 29.6	1.437	2.438	1.1	19.2
4 21	13 17.31	+2 32.2	1.724	2.701	6.3	20.2	4 21	13 17.64	-5 26.4	1.459	2.453	4.6	19.5
5 1	13 8.70	+2 57.7	1.766	2.699	10.0	20.4	5 1	13 9.63	-4 32.7	1.509	2.467	9.2	19.8
5 11	13 1.80	+3 5.7	1.832	2.697	13.4	20.6	5 11	13 3.63	-3 54.0	1.582	2.481	13.3	20.0
5 21	12 57.12	+2 55.8	1.917	2.695	16.4	20.8	5 21	13 0.08	-3 32.9	1.675	2.495	16.7	20.3
387411	2013 <i>TN</i> ₁₈		4 12.7 118°61	1°3/13.9	17		61689	2000 <i>QH</i> ₁₂₇		4 12.8 196°85	1°6/10.8	18	
3 12	13 49.46	-13 54.2	1.988	2.832	12.7	20.7	3 12	13 46.12	-7 18.7	2.300	3.160	10.6	19.4
3 22	13 43.47	-13 49.4	1.919	2.840	9.3	20.5	3 22	13 40.89	-6 9.6	2.223	3.157	7.5	19.2
4 1	13 35.63	-13 32.7	1.873	2.847	5.5	20.3	4 1	13 34.15	-4 52.1	2.172	3.154	4.1	18.9
4 11	13 26.73	-13 6.5	1.855	2.855	1.8	20.0	4 11	13 26.53	-3 31.6	2.151	3.150	1.6	18.8
4 21	13 17.69	-12 34.7	1.866	2.862	3.3	20.2	4 21	13 18.77	-2 14.1	2.159	3.145	4.2	18.9
5 1	13 9.48	-12 2.2	1.904	2.869	7.1	20.4	5 1	13 11.65	-1 5.5	2.196	3.140	7.7	19.1
5 11	13 2.88	-11 33.9	1.968	2.876	10.7	20.6	5 11	13 5.82	-0 10.3	2.259	3.135	10.9	19.3
5 21	12 58.38	-11 13.7	2.055	2.883	13.7	20.9	5 21	13 1.72	+0 29.0	2.344	3.128	13.6	19.5
394290	2006 <i>VF</i> ₂₈		4 12.7 142°94	0°9/13.7	17		496828	1995 <i>SO</i> ₇₈		4 12.8 178°68	1°7/14.3	17	
3 12	13 45.68	-13 37.1	2.508	3.348	10.5	21.5	3 12	13 50.71	-15 5.9	2.413	3.241	11.3	22.6
3 22	13 40.48	-13 19.3	2.432	3.352	7.7	21.3	3 22	13 44.18	-15 9.0	2.331	3.243	8.4	22.4
4 1	13 33.87	-12 51.6	2.382	3.357	4.5	21.1	4 1	13 35.98	-15 1.3	2.275	3.244	5.1	22.2
4 11	13 26.46	-12 16.6	2.360	3.361	1.3	20.9	4 11	13 26.81	-14 44.4	2.247	3.244	2.1	22.0
4 21	13 18.94	-11 37.7	2.368	3.364	2.7	21.0	4 21	13 17.45	-14 21.0	2.249	3.244	3.0	22.0
5 1	13 12.02	-10 59.1	2.405	3.368	5.9	21.2	5 1	13 8.74	-13 55.0	2.281	3.244	6.3	22.2
5 11	13 6.31	-10 24.9	2.468	3.371	9.0	21.4	5 11	13 1.40	-13 30.5	2.340	3.243	9.4	22.4
5 21	13 2.23	-9 58.2	2.554	3.375	11.6	21.6	5 21	12 55.90	-13 11.3	2.423	3.241	12.2	22.6
52725	1998 <i>GF</i> ₅		4 12.7 84°35	6°7/4.9	18		518998	2010 <i>JR</i> ₆₀		4 12.8 265°15	0°6/12.0	17	
3 12	13 45.31	+10 30.4	2.215	3.085	10.5								

EPHEMERIDES

4 12.8

4 12.8

2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
381517	2008 <i>SK</i> ₁₉₁		4 12.8 155°53	2°6/15.4	17		143323	2003 <i>AE</i> ₅₈		4 12.8 131°82	2°6/10.3	18	
3 12	13 49.26	-18 40.8	2.411	3.228	11.6	21.5	3 12	13 49.95	-3 6.8	2.136	2.999	11.2	20.2
3 22	13 43.13	-18 40.3	2.333	3.235	8.8	21.3	3 22	13 43.57	-2 21.0	2.080	3.015	7.9	20.0
4 1	13 35.39	-18 26.5	2.281	3.242	5.8	21.1	4 1	13 35.59	-1 31.9	2.050	3.030	4.5	19.9
4 11	13 26.72	-18 0.7	2.256	3.248	3.0	20.9	4 11	13 26.77	-0 44.5	2.049	3.045	2.6	19.8
4 21	13 17.91	-17 25.9	2.260	3.253	3.3	21.0	4 21	13 17.95	-0 3.8	2.077	3.059	4.9	19.9
5 1	13 9.78	-16 46.4	2.294	3.258	6.1	21.1	5 1	13 9.96	+0 26.0	2.134	3.072	8.2	20.2
5 11	13 3.02	-16 7.0	2.355	3.263	9.1	21.3	5 11	13 3.48	+0 42.3	2.215	3.085	11.3	20.4
5 21	12 58.09	-15 32.2	2.439	3.267	11.8	21.5	5 21	12 58.91	+0 44.2	2.319	3.097	13.9	20.6
341527	2007 <i>TF</i> ₄₄₁		4 12.8 215°72	1°9/10.8	17		315332	2007 <i>TW</i> ₃₉₂		4 12.8 105°60	0°8/13.4	18	
3 12	13 46.52	-4 39.3	2.257	3.122	10.6	21.0	3 12	13 51.42	-13 12.1	1.667	2.518	14.4	21.4
3 22	13 41.21	-4 1.9	2.182	3.118	7.5	20.8	3 22	13 45.03	-12 48.1	1.610	2.536	10.4	21.2
4 1	13 34.34	-3 19.5	2.132	3.114	4.2	20.6	4 1	13 36.54	-12 10.2	1.576	2.553	6.0	21.0
4 11	13 26.56	-2 36.6	2.111	3.110	1.9	20.4	4 11	13 26.92	-11 22.6	1.570	2.570	1.4	20.7
4 21	13 18.63	-1 57.8	2.119	3.105	4.3	20.6	4 21	13 17.29	-10 31.0	1.591	2.587	3.7	20.9
5 1	13 11.34	-1 27.3	2.155	3.101	7.7	20.8	5 1	13 8.75	-9 42.0	1.639	2.603	8.1	21.2
5 11	13 5.37	-1 8.5	2.216	3.096	10.9	21.0	5 11	13 2.15	-9 1.8	1.712	2.619	12.1	21.5
5 21	13 1.15	-1 3.0	2.299	3.091	13.6	21.1	5 21	12 57.97	-8 34.1	1.806	2.634	15.3	21.7
414074	2007 <i>TO</i> ₆₄		4 12.8 212°28	1°1/11.8	14	C	101672	1999 <i>CC</i> ₁₀₁		4 12.8 75°74	4°1/15.6	18	
3 12	13 50.61	-8 6.0	1.929	2.787	12.4	22.6	3 12	13 54.25	-19 0.6	1.657	2.485	15.5	19.2
3 22	13 44.43	-7 28.2	1.847	2.779	8.9	22.4	3 22	13 47.24	-19 37.0	1.597	2.502	11.9	19.0
4 1	13 36.26	-6 41.1	1.790	2.771	4.9	22.1	4 1	13 37.86	-19 56.2	1.559	2.519	8.0	18.8
4 11	13 26.86	-5 49.3	1.762	2.763	1.2	21.8	4 11	13 27.13	-19 58.1	1.547	2.536	4.7	18.7
4 21	13 17.21	-4 58.4	1.762	2.753	4.3	22.0	4 21	13 16.27	-19 45.3	1.563	2.553	4.8	18.7
5 1	13 8.32	-4 14.3	1.790	2.743	8.5	22.2	5 1	13 6.53	-19 23.0	1.605	2.570	8.2	18.9
5 11	13 1.05	-3 41.8	1.843	2.732	12.3	22.4	5 11	12 58.91	-18 57.7	1.672	2.587	11.8	19.2
5 21	12 55.96	-3 23.8	1.918	2.720	15.5	22.6	5 21	12 53.93	-18 35.6	1.761	2.604	15.0	19.4
65169	2002 <i>CR</i> ₁₆₇		4 12.8 251°30	4°2/7.7	18		39050	2000 <i>UQ</i> ₉₈		4 12.8 273°08	2°0/14.1	18	
3 12	13 44.15	+3 9.5	2.466	3.338	9.5	19.4	3 12	13 51.00	-14 45.3	1.552	2.404	15.3	19.4
3 22	13 39.42	+4 9.6	2.396	3.331	7.0	19.2	3 22	13 45.36	-14 46.7	1.462	2.386	11.5	19.1
4 1	13 33.31	+5 9.2	2.352	3.324	4.8	19.1	4 1	13 37.09	-14 32.3	1.395	2.369	7.0	18.8
4 11	13 26.41	+6 3.0	2.337	3.317	4.3	19.0	4 11	13 27.06	-14 3.8	1.352	2.351	2.6	18.5
4 21	13 19.39	+6 46.1	2.351	3.310	6.2	19.1	4 21	13 16.46	-13 25.4	1.336	2.333	4.2	18.5
5 1	13 12.94	+7 15.0	2.391	3.303	8.8	19.3	5 1	13 6.65	-12 43.5	1.346	2.315	9.1	18.8
5 11	13 7.64	+7 27.6	2.456	3.296	11.3	19.4	5 11	12 58.84	-12 5.7	1.380	2.296	13.7	19.0
5 21	13 3.90	+7 23.7	2.541	3.288	13.6	19.6	5 21	12 53.78	-11 38.1	1.434	2.278	17.8	19.2
228188	2009 <i>UA</i> ₂₁		4 12.8 190°08	1°3/13.9	17	R	106327	2000 <i>UF</i> ₁₀₂		4 12.8 205°52	0°9/13.8	17	
3 12	13 49.98	-14 4.5	2.181	3.019	12.0	21.1	3 12	13 46.61	-13 14.3	2.810	3.645	9.6	20.9
3 22	13 43.81	-13 56.8	2.100	3.018	8.8	20.9	3 22	13 41.09	-13 5.2	2.723	3.641	7.1	20.7
4 1	13 35.84	-13 37.6	2.044	3.017	5.3	20.7	4 1	13 34.24	-12 47.5	2.663	3.636	4.2	20.5
4 11	13 26.81	-13 9.2	2.015	3.015	1.7	20.4	4 11	13 26.59	-12 23.3	2.631	3.631	1.2	20.3
4 21	13 17.57	-12 35.1	2.016	3.012	3.1	20.5	4 21	13 18.78	-11 55.3	2.630	3.626	2.5	20.4
5 1	13 9.03	-11 59.9	2.046	3.009	6.8	20.8	5 1	13 11.46	-11 26.8	2.658	3.620	5.5	20.6
5 11	13 1.97	-11 28.5	2.102	3.006	10.3	21.0	5 11	13 5.24	-11 1.4	2.714	3.614	8.4	20.7
5 21	12 56.88	-11 4.7	2.181	3.002	13.3	21.2	5 21	13 0.50	-10 41.9	2.793	3.608	10.9	20.9
498133	2007 <i>TU</i> ₃₉		4 12.8 157°22	0°8/11.9	17		498249	2007 <i>UO</i> ₉₇		4 12.8 154°34	1°3/14.3	17	
3 12	13 46.57	-8 0.5	2.556	3.410	9.9	22.6	3 12	13 45.13	-16 13.8	2.326	3.161	11.4	22.0
3 22	13 41.06	-7 30.5	2.485	3.415	7.0	22.5	3 22	13 40.22	-15 37.1	2.248	3.165	8.4	21.8
4 1	13 34.18	-6 54.2	2.440	3.421	3.8	22.3	4 1	13 33.80	-14 47.0	2.196	3.168	5.1	21.6
4 11	13 26.55	-6 15.0	2.425	3.426	0.8	22.0	4 11	13 26.52	-13 46.6	2.172	3.171	1.8	21.4
4 21	13 18.83	-5 36.9	2.439	3.430	3.2	22.2	4 21	13 19.14	-12 40.6	2.177	3.173	2.8	21.5
5 1	13 11.72	-5 3.6	2.482	3.435	6.4	22.4	5 1	13 12.41	-11 34.4	2.210	3.176	6.2	21.7
5 11	13 5.80	-4 38.4	2.552	3.438	9.4	22.6	5 11	13 6.99	-10 33.7	2.271	3.178	9.5	21.9
5 21	13 1.47	-4 23.3	2.644	3.442	11.9	22.8	5 21	13 3.28	-9 42.6	2.354	3.180	12.3	22.1
87484	2000 <i>QD</i> ₁₅₀		4 12.8 253°78	1°0/11.8	18		406517	2007 <i>VB</i> ₂₁₁		4 12.8 123°53	1°2/13.8	18	
3 12	13 45.84	-10 1.7	1.948	2.809	12.2	19.9	3 12	13 51.56	-14 22.4	1.807	2.650	13.8	21.8
3 22	13 41.03	-8 57.9	1.862	2.796	8.7	19.7	3 22	13 45.05	-14 1.3	1.745	2.666	10.1	21.6
4 1	13 34.38	-7 41.4	1.801	2.783	4.8	19.4	4 1	13 36.55	-13 26.1	1.707	2.681	5.9	21.4
4 11	13 26.60	-6 17.5	1.768	2.769	1.0	19.1	4 11	13 26.95	-12 40.3	1.696	2.696	1.8	21.1
4 21	13 18.57	-4 53.3	1.764	2.756	4.2	19.3	4 21	13 17.30	-11 49.1	1.714	2.710	3.5	21.3
5 1	13 11.21	-3 36.2	1.787	2.742	8.4	19.5	5 1	13 8.65	-10 58.8	1.759	2.723	7.6	21.5
5 11	13 5.34	-2 32.5	1.836	2.727	12.2	19.7	5 11	13 1.83	-10 15.4	1.830	2.736	11.4	21.8
5 21	13 1.49	-1 46.0	1.905	2.713	15.4	19.9	5 21	12 57.31	-9 43.1	1.922	2.748	14.6	22.0
121465	1999 <i>TJ</i> ₂₁₄		4 12.8 100°37	0°2/12.6	18		188899	2006 <i>YG</i> ₄₆		4 12.8 105°27	0°2/12.6	18	
3 12	13 48.63	-9 30.7	1.900	2.759	12.5	19.7	3 12	13 48.36	-11 13.4	1.814	2.672	13.1	20.6
3 22	13 42.95	-9 15.3	1.830	2.762	9.0	19.5	3 22	13 42.73	-10 30.0	1.755	2.686	9.4	20.4
4 1	13 35.40	-8 50.9	1.784	2.765	5.0	19.3	4 1	13 35.24	-9 34.8	1.720	2.700	5.2	20.2
4 11	13 26.75	-8 21.1	1.765	2.767	0.7	19.0	4 11	13 26.75	-8 32.9	1.712	2.713	0.7	19.9
4 21	13 17.94	-7 50.4	1.775	2.770	3.7	19.2	4 21	13 18.22	-7 30.5	1.732	2.727	3.7	20.1
5 1	13 9.95	-7 23.6	1.812	2.773	7.8	19.5	5 1	13 10.63	-6 34.1	1.780	2.740	7.9	20.4
5 11	13 3.57	-7 5.1	1.874	2.775	11.5	19.7	5 11	13 4.75	-5 49.0	1.852	2.753	11.6	20.6
5 21	12 59.31	-6 57.6	1.957	2.778	14.6	19.9	5 21	13 1.00	-5 18.4	1.946	2.765	14.7	20.9
346758	2009 <i>BY</i> ₄₃		4 12.8 316°96	1°3/11.5	17		301570	2009 <i>HA</i> ₈₁		4 12.8 43°66			

EPHEMERIDES

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2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
480785	2016 <i>PW</i> ₂₇		4 12.8 28°52'	4.8/ 8.0	17		377157	2003 <i>SH</i> ₃₁₈		4 12.8 333°97'	1.8/14.3	17	
3 12	13 46.70	+ 4 45.2	2.162	3.035	10.6	20.9	3 12	13 46.90	-15 30.5	1.823	2.670	13.5	21.0
3 22	13 41.34	+ 5 27.9	2.102	3.036	7.9	20.7	3 22	13 41.91	-15 16.4	1.746	2.668	10.1	20.8
4 1	13 34.41	+ 6 7.7	2.068	3.038	5.5	20.5	4 1	13 34.93	-14 47.2	1.692	2.665	6.1	20.5
4 11	13 26.62	+ 6 39.2	2.061	3.040	4.9	20.5	4 11	13 26.76	-14 5.9	1.665	2.663	2.3	20.3
4 21	13 18.76	+ 6 58.0	2.082	3.042	6.8	20.6	4 21	13 18.36	-13 16.9	1.664	2.661	3.5	20.4
5 1	13 11.63	+ 7 1.1	2.130	3.044	9.5	20.8	5 1	13 10.76	-12 26.5	1.691	2.659	7.5	20.6
5 11	13 5.88	+ 6 47.6	2.201	3.046	12.2	21.0	5 11	13 4.81	-11 41.0	1.743	2.658	11.4	20.8
5 21	13 1.93	+ 6 18.2	2.292	3.049	14.6	21.1	5 21	13 1.06	-11 5.4	1.816	2.656	14.8	21.0
522801	2016 <i>NS</i> ₇₉		4 12.8 159°64'	2.6/15.8	17		298865	2004 <i>RJ</i> ₃₁₉		4 12.8 175°06'	3.7/15.9	16	
3 12	13 44.71	-20 6.6	2.365	3.185	11.7	21.6	3 12	13 52.79	-20 39.3	1.897	2.713	14.4	22.0
3 22	13 39.96	-19 39.9	2.283	3.186	9.0	21.4	3 22	13 46.12	-20 39.7	1.817	2.716	11.1	21.8
4 1	13 33.69	-18 57.6	2.226	3.187	5.9	21.2	4 1	13 37.28	-20 21.6	1.761	2.719	7.5	21.5
4 11	13 26.54	-18 1.8	2.196	3.188	3.1	21.0	4 11	13 27.12	-19 46.0	1.731	2.720	4.3	21.3
4 21	13 19.26	-16 56.7	2.195	3.189	3.2	21.0	4 21	13 16.73	-18 56.5	1.730	2.721	4.3	21.3
5 1	13 12.62	-15 47.8	2.222	3.190	6.1	21.2	5 1	13 7.21	-17 59.2	1.756	2.722	7.6	21.5
5 11	13 7.28	-14 40.9	2.276	3.191	9.1	21.4	5 11	12 59.52	-17 1.6	1.809	2.721	11.2	21.8
5 21	13 3.66	-13 41.0	2.354	3.191	11.9	21.6	5 21	12 54.22	-16 10.0	1.884	2.719	14.5	22.0
417222	2005 <i>YW</i> ₃₁		4 12.8 80°07'	7.0/ 6.3	17		134877	2000 <i>QN</i> ₁₃₅		4 12.8 187°24'	1.0/13.9	18	
3 12	13 48.08	+ 8 16.2	1.778	2.655	12.4	21.0	3 12	13 47.15	-13 52.1	2.861	3.693	9.6	20.2
3 22	13 42.48	+ 9 31.8	1.738	2.669	9.5	20.9	3 22	13 41.47	-13 44.7	2.777	3.692	7.1	20.0
4 1	13 35.07	+ 10 40.3	1.722	2.682	7.4	20.8	4 1	13 34.46	-13 28.6	2.719	3.691	4.2	19.8
4 11	13 26.75	+ 11 34.0	1.732	2.696	7.3	20.8	4 11	13 26.68	-13 5.6	2.690	3.690	1.4	19.6
4 21	13 18.46	+ 12 7.0	1.769	2.710	9.3	20.9	4 21	13 18.76	-12 38.5	2.692	3.688	2.5	19.7
5 1	13 11.16	+ 12 16.4	1.830	2.723	12.0	21.1	5 1	13 11.35	-12 10.4	2.723	3.685	5.4	19.8
5 11	13 5.57	+ 12 2.4	1.912	2.737	14.6	21.3	5 11	13 5.02	-11 44.9	2.782	3.683	8.2	20.0
5 21	13 2.08	+ 11 27.5	2.013	2.750	16.9	21.5	5 21	13 0.18	-11 24.8	2.865	3.680	10.6	20.2
235136	2003 <i>QJ</i> ₆₃		4 12.8 190°94'	5.0/ 6.0	18		386178	2007 <i>UU</i> ₁₃₇		4 12.8 35°53'	5.1/18.3	17	
3 12	13 45.14	+ 4 36.2	2.472	3.343	9.6	20.6	3 12	13 45.01	-26 26.6	1.917	2.719	14.8	20.2
3 22	13 40.12	+ 6 14.9	2.409	3.341	7.1	20.5	3 22	13 40.51	-26 13.5	1.844	2.726	11.9	20.0
4 1	13 33.73	+ 7 52.7	2.374	3.339	5.3	20.3	4 1	13 34.12	-25 37.1	1.793	2.734	8.7	19.8
4 11	13 26.56	+ 9 22.9	2.369	3.337	5.3	20.3	4 11	13 26.64	-24 38.9	1.766	2.742	5.9	19.7
4 21	13 19.28	+ 10 39.5	2.392	3.334	7.1	20.4	4 21	13 19.03	-23 23.0	1.766	2.750	5.2	19.7
5 1	13 12.60	+ 11 37.9	2.443	3.331	9.6	20.6	5 1	13 12.28	-21 56.5	1.792	2.759	7.3	19.8
5 11	13 7.09	+ 12 16.1	2.517	3.327	12.0	20.7	5 11	13 7.19	-20 28.1	1.845	2.768	10.4	20.0
5 21	13 3.17	+ 12 34.0	2.611	3.322	14.1	20.9	5 21	13 4.24	-19 5.2	1.920	2.778	13.4	20.2
239532	2008 <i>RT</i> ₉₇		4 12.8 226°04'	0.6/13.2	17		138802	2000 <i>TL</i> ₂₇		4 12.8 125°20'	1.6/11.1	17	
3 12	13 50.41	-13 10.8	1.647	2.501	14.4	21.5	3 12	13 47.70	- 4 14.0	2.445	3.305	10.0	20.0
3 22	13 44.66	-12 34.3	1.564	2.492	10.6	21.2	3 22	13 41.93	- 3 56.5	2.378	3.311	7.1	19.8
4 1	13 36.57	-11 41.8	1.504	2.482	6.1	20.9	4 1	13 34.72	- 3 35.8	2.336	3.317	3.9	19.6
4 11	13 27.02	-10 37.2	1.471	2.472	1.3	20.6	4 11	13 26.73	- 3 15.1	2.324	3.323	1.6	19.4
4 21	13 17.11	- 9 27.1	1.465	2.461	4.0	20.8	4 21	13 18.64	- 2 57.9	2.341	3.328	3.8	19.6
5 1	13 8.07	- 8 19.6	1.486	2.450	8.8	21.0	5 1	13 11.21	- 2 47.3	2.387	3.334	7.0	19.8
5 11	13 0.92	- 7 22.2	1.532	2.438	13.3	21.2	5 11	13 5.03	- 2 45.7	2.458	3.339	9.9	20.0
5 21	12 56.28	- 6 40.1	1.598	2.425	17.0	21.4	5 21	13 0.52	- 2 54.1	2.553	3.344	12.4	20.2
320636	2008 <i>CR</i> ₈₅		4 12.8 281°35'	1.0/12.0	17		359987	2012 <i>VR</i> ₃₃		4 12.8 108°06'	1.9/10.6	17	
3 12	13 49.25	- 8 12.9	1.652	2.519	13.7	20.9	3 12	13 45.62	- 4 29.4	2.425	3.289	10.0	21.6
3 22	13 43.90	- 7 46.3	1.562	2.499	9.9	20.6	3 22	13 40.41	- 3 45.2	2.367	3.303	7.0	21.4
4 1	13 36.21	- 7 9.2	1.496	2.478	5.5	20.3	4 1	13 33.86	- 2 57.0	2.334	3.316	3.9	21.2
4 11	13 26.98	- 6 26.2	1.456	2.457	1.1	19.9	4 11	13 26.59	- 2 9.1	2.331	3.328	1.9	21.1
4 21	13 17.27	- 5 43.0	1.443	2.437	4.6	20.1	4 21	13 19.29	- 1 26.0	2.356	3.341	4.1	21.3
5 1	13 8.28	- 5 6.1	1.457	2.416	9.5	20.4	5 1	13 12.66	- 0 51.5	2.411	3.353	7.2	21.5
5 11	13 1.09	- 4 41.3	1.494	2.395	13.9	20.6	5 11	13 7.26	- 0 28.5	2.490	3.366	10.0	21.7
5 21	12 56.37	- 4 32.0	1.551	2.374	17.7	20.8	5 21	13 3.46	- 0 18.3	2.592	3.377	12.4	21.9
115180	2003 <i>SM</i> ₉₀		4 12.8 156°06'	1.7/11.3	18		38474	1999 <i>TS</i> ₈₈		4 12.8 250°80'	3.5/ 7.7	18	
3 12	13 50.17	- 4 30.7	2.117	2.978	11.3	19.6	3 12	13 43.51	+ 0 48.9	2.754	3.623	8.7	19.4
3 22	13 43.89	- 4 16.9	2.047	2.981	8.1	19.4	3 22	13 38.94	+ 2 9.0	2.670	3.606	6.3	19.2
4 1	13 35.89	- 3 59.2	2.003	2.984	4.5	19.2	4 1	13 33.10	+ 3 31.5	2.614	3.588	4.2	19.0
4 11	13 26.89	- 3 41.2	1.987	2.987	1.7	19.0	4 11	13 26.50	+ 4 51.2	2.588	3.570	3.7	19.0
4 21	13 17.77	- 3 26.7	2.001	2.989	4.2	19.2	4 21	13 19.72	+ 6 2.7	2.591	3.552	5.6	19.1
5 1	13 9.41	- 3 19.2	2.042	2.992	7.8	19.4	5 1	13 13.38	+ 7 1.4	2.622	3.533	8.1	19.2
5 11	13 2.54	- 3 21.5	2.109	2.994	11.1	19.6	5 11	13 8.06	+ 7 44.5	2.679	3.514	10.6	19.3
5 21	12 57.63	- 3 34.6	2.198	2.995	14.0	19.8	5 21	13 4.13	+ 8 10.8	2.757	3.494	12.8	19.5
384226	2009 <i>DA</i> ₃₁		4 12.8 3°39'	2.9/ 9.9	17		474980	2005 <i>TQ</i> ₉₇		4 12.8 247°88'	0.2/12.9	17	
3 12	13 44.34	- 3 33.1	1.857	2.735	11.9	20.8	3 12	13 47.13	-10 23.7	2.510	3.357	10.3	21.5
3 22	13 39.91	- 2 36.5	1.792	2.734	8.4	20.6	3 22	13 41.63	-10 17.1	2.425	3.350	7.4	21.3
4 1	13 33.74	- 1 34.7	1.752	2.734	4.8	20.4	4 1	13 34.63	-10 3.1	2.365	3.343	4.2	21.1
4 11	13 26.57	- 0 33.8	1.739	2.735	2.9	20.3	4 11	13 26.74	- 9 44.2	2.334	3.336	0.7	20.8
4 21	13 19.27	+ 0 19.7	1.753	2.736	5.5	20.5	4 21	13 18.64	- 9 23.2	2.333	3.328	2.8	20.9
5 1	13 12.74	+ 1 0.4	1.794	2.737	9.2	20.7	5 1	13 11.09	- 9 3.6	2.360	3.321	6.2	21.2
5 11	13 7.73	+ 1 24.6	1.858	2.739	12.6	20.9	5 11	13 4.74	- 8 48.9	2.415	3.313	9.4	21.3
5 21	13 4.68	+ 1 31.0	1.942	2.741	15.5	21.1	5 21	13 0.03	- 8 41.6	2.492	3.305	12.1	21.5
26569	2000 <i>EL</i> ₇₇		4 12.8 224°33'	6.7/ 5.5	18 R		162705	2000 <i>UB</i> ₆₆					

EPHEMERIDES

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2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
462121	2007 <i>RJ</i> ₁₅₂		4 12.8 192°42	3°7/15.7	16		499095	2009 <i>FB</i> ₅₅		4 12.8 314°60	1°9/11.7	17	
3 12	13 52.05	-20 5.4	1.804	2.627	14.7	22.6	3 12	13 50.46	-5 28.5	1.325	2.205	15.5	20.7
3 22	13 45.74	-20 8.4	1.723	2.626	11.4	22.4	3 22	13 45.17	-5 18.7	1.247	2.190	11.2	20.4
4 1	13 37.15	-19 52.7	1.664	2.624	7.6	22.1	4 1	13 37.09	-5 1.7	1.192	2.176	6.2	20.1
4 11	13 27.15	-19 19.4	1.631	2.621	4.3	21.9	4 11	13 27.18	-4 42.6	1.161	2.162	1.9	19.7
4 21	13 16.84	-18 32.0	1.626	2.619	4.4	21.9	4 21	13 16.76	-4 27.2	1.156	2.148	5.7	19.9
5 1	13 7.40	-17 36.6	1.649	2.615	7.9	22.1	5 1	13 7.31	-4 21.4	1.174	2.136	11.0	20.2
5 11	12 59.83	-16 40.9	1.696	2.611	11.7	22.3	5 11	13 0.09	-4 29.7	1.215	2.123	15.8	20.4
5 21	12 54.73	-15 51.6	1.766	2.606	15.1	22.6	5 21	12 55.83	-4 54.0	1.274	2.111	20.0	20.6
416403	2003 <i>UO</i> ₁₃₁		4 12.8 194°16	2°0/14.7	16		56119	1999 <i>CZ</i> ₁₈		4 12.8 149°49	1°7/14.4	18	
3 12	13 50.89	-16 54.0	2.108	2.936	12.7	22.8	3 12	13 51.27	-15 33.2	2.238	3.067	12.0	19.3
3 22	13 44.59	-16 37.7	2.023	2.934	9.5	22.6	3 22	13 44.65	-15 24.7	2.165	3.078	8.9	19.1
4 1	13 36.38	-16 6.6	1.963	2.931	5.9	22.4	4 1	13 36.32	-15 3.9	2.118	3.088	5.4	18.9
4 11	13 27.02	-15 23.0	1.930	2.927	2.5	22.1	4 11	13 27.02	-14 32.9	2.100	3.097	2.1	18.7
4 21	13 17.43	-14 30.9	1.927	2.922	3.3	22.2	4 21	13 17.62	-13 55.4	2.111	3.106	3.1	18.8
5 1	13 8.57	-13 35.8	1.952	2.917	7.0	22.4	5 1	13 8.98	-13 16.1	2.151	3.114	6.5	19.0
5 11	13 1.27	-12 43.9	2.004	2.910	10.6	22.6	5 11	13 1.85	-12 39.8	2.217	3.121	9.8	19.2
5 21	12 56.05	-12 0.2	2.079	2.903	13.7	22.8	5 21	12 56.68	-12 10.6	2.308	3.128	12.7	19.4
374328	2005 <i>TV</i> ₈₀		4 12.8 246°61	1°1/13.9	17		420875	2013 <i>KX</i> ₁₂		4 12.8 306°27	2°4/14.7	17	
3 12	13 47.75	-15 27.9	2.074	2.914	12.4	22.7	3 12	13 46.39	-17 35.5	1.400	2.255	16.4	20.9
3 22	13 42.44	-14 47.3	1.978	2.897	9.2	22.5	3 22	13 42.15	-17 6.3	1.318	2.243	12.4	20.6
4 1	13 35.25	-13 50.8	1.905	2.879	5.5	22.2	4 1	13 35.35	-16 14.0	1.258	2.232	7.8	20.3
4 11	13 26.86	-12 41.7	1.861	2.860	1.7	21.9	4 11	13 26.91	-15 1.9	1.222	2.220	3.2	20.0
4 21	13 18.15	-11 25.4	1.845	2.842	3.2	22.0	4 21	13 18.05	-13 36.9	1.212	2.210	4.2	20.0
5 1	13 10.05	-10 8.5	1.858	2.822	7.3	22.2	5 1	13 10.14	-12 8.9	1.227	2.199	9.2	20.3
5 11	13 3.42	-8 58.0	1.897	2.802	11.2	22.4	5 11	13 4.32	-10 48.7	1.264	2.189	14.0	20.5
5 21	12 58.81	-7 59.4	1.959	2.781	14.5	22.6	5 21	13 1.26	-9 44.0	1.322	2.179	18.2	20.7
401072	2011 <i>UT</i> ₈₀		4 12.8 182°28	1°3/13.9	17		233570	2007 <i>PU</i> ₂₉		4 12.8 314°33	4°9/8.2	17	
3 12	13 49.60	-15 39.2	1.712	2.557	14.3	22.0	3 12	13 44.57	+0 20.1	1.652	2.538	12.6	19.5
3 22	13 43.93	-14 58.0	1.636	2.558	10.6	21.8	3 22	13 40.42	+1 35.2	1.576	2.520	9.2	19.2
4 1	13 36.09	-13 59.0	1.584	2.558	6.3	21.5	4 1	13 34.21	+2 54.3	1.524	2.503	5.9	19.0
4 11	13 26.98	-12 46.3	1.558	2.558	1.9	21.2	4 11	13 26.72	+4 9.2	1.498	2.485	5.1	18.9
4 21	13 17.67	-11 26.5	1.561	2.557	3.7	21.4	4 21	13 18.93	+5 11.6	1.498	2.469	7.8	19.0
5 1	13 9.28	-10 7.9	1.590	2.556	8.2	21.6	5 1	13 11.88	+5 54.7	1.523	2.452	11.5	19.2
5 11	13 2.73	-8 58.4	1.645	2.554	12.3	21.9	5 11	13 6.50	+6 14.6	1.569	2.436	15.2	19.4
5 21	12 58.56	-8 3.4	1.721	2.552	15.9	22.1	5 21	13 3.34	+6 11.0	1.634	2.421	18.4	19.5
969	Leocadia		4 12.8 186°76	1°2/13.9	18		214443	2005 <i>QZ</i> ₁₈₇		4 12.8 319°92	1°1/11.6	17	
3 12	13 49.65	-14 42.1	2.132	2.969	12.2	17.3	3 12	13 44.05	-8 6.3	2.137	3.002	11.1	20.6
3 22	13 43.63	-14 16.7	2.051	2.969	9.0	17.1	3 22	13 39.60	-7 20.1	2.060	2.997	7.9	20.4
4 1	13 35.81	-13 38.2	1.995	2.968	5.3	16.9	4 1	13 33.57	-6 25.4	2.009	2.992	4.3	20.2
4 11	13 26.93	-12 49.5	1.967	2.967	1.7	16.6	4 11	13 26.62	-5 27.0	1.986	2.987	1.2	19.9
4 21	13 17.87	-11 55.0	1.968	2.965	3.1	16.7	4 21	13 19.50	-4 30.0	1.991	2.982	3.9	20.1
5 1	13 9.53	-11 0.4	1.998	2.962	7.0	16.9	5 1	13 13.03	-3 40.1	2.024	2.978	7.6	20.3
5 11	13 2.70	-10 11.4	2.055	2.958	10.5	17.2	5 11	13 7.88	-3 1.5	2.081	2.974	10.9	20.5
5 21	12 57.86	-9 32.2	2.134	2.954	13.6	17.4	5 21	13 4.50	-2 36.9	2.161	2.970	13.8	20.7
417474	2006 <i>RR</i> ₂₂		4 12.8 182°06	1°6/11.3	14	17	517200	2013 <i>VB</i> ₂₆		4 12.8 133°28	3°0/9.9	17	
3 12	13 49.82	-6 34.4	2.097	2.955	11.5	22.8	3 12	13 46.98	-2 23.4	1.998	2.870	11.4	21.7
3 22	13 43.69	-5 52.1	2.023	2.956	8.2	22.6	3 22	13 41.69	-1 31.6	1.935	2.874	8.1	21.5
4 1	13 35.82	-5 2.6	1.976	2.957	4.5	22.3	4 1	13 34.71	-0 36.2	1.898	2.878	4.7	21.3
4 11	13 26.93	-4 10.8	1.957	2.957	1.6	22.1	4 11	13 26.79	+0 17.1	1.888	2.882	3.1	21.2
4 21	13 17.90	-3 21.9	1.967	2.956	4.3	22.3	4 21	13 18.78	+1 2.5	1.906	2.886	5.5	21.3
5 1	13 9.62	-2 41.1	2.006	2.954	8.0	22.5	5 1	13 11.54	+1 35.4	1.951	2.889	8.9	21.6
5 11	13 2.84	-2 12.2	2.070	2.952	11.4	22.7	5 11	13 5.78	+1 52.9	2.020	2.893	12.1	21.8
5 21	12 58.03	-1 57.4	2.156	2.949	14.3	22.9	5 21	13 1.96	+1 54.0	2.110	2.896	14.8	22.0
147285	2003 <i>AF</i> ₂₄		4 12.8 108°91	0°3/13.0	18		333135	2011 <i>WR</i> ₁₄₄		4 12.8 82°00	1°7/11.6	18	
3 12	13 49.67	-11 58.2	1.828	2.681	13.2	20.6	3 12	13 50.75	-7 17.9	1.445	2.317	14.9	21.8
3 22	13 43.69	-11 27.3	1.768	2.696	9.5	20.4	3 22	13 44.77	-6 36.6	1.394	2.334	10.6	21.5
4 1	13 35.83	-10 44.5	1.733	2.711	5.4	20.2	4 1	13 36.53	-5 46.0	1.367	2.350	5.7	21.3
4 11	13 26.94	-9 54.0	1.724	2.726	1.0	19.9	4 11	13 27.07	-4 52.6	1.365	2.366	1.7	21.1
4 21	13 18.01	-9 1.4	1.744	2.740	3.5	20.1	4 21	13 17.62	-4 3.5	1.390	2.382	5.1	21.3
5 1	13 10.03	-8 12.8	1.791	2.754	7.7	20.4	5 1	13 9.38	-3 25.5	1.441	2.398	9.8	21.6
5 11	13 3.78	-7 33.5	1.864	2.767	11.4	20.7	5 11	13 3.25	-3 3.0	1.515	2.413	13.9	21.9
5 21	12 59.72	-7 6.8	1.958	2.780	14.6	20.9	5 21	12 59.70	-2 57.8	1.608	2.429	17.2	22.2
365494	2010 <i>QO</i> ₆		4 12.8 285°67	0°3/12.9	17		239699	2008 <i>YF</i> ₁₅₆		4 12.8 274°93	1°2/11.6	17	
3 12	13 49.87	-11 6.5	1.477	2.342	15.1	21.0	3 12	13 45.72	-7 46.0	2.069	2.933	11.4	20.9
3 22	13 44.59	-10 52.6	1.392	2.327	11.1	20.7	3 22	13 40.87	-7 5.7	1.990	2.925	8.2	20.7
4 1	13 36.71	-10 25.1	1.330	2.311	6.3	20.4	4 1	13 34.32	-6 17.1	1.935	2.917	4.5	20.4
4 11	13 27.12	-9 47.6	1.293	2.295	1.1	20.0	4 11	13 26.75	-5 24.8	1.908	2.909	1.2	20.2
4 21	13 17.02	-9 5.7	1.282	2.279	4.4	20.2	4 21	13 18.98	-4 33.9	1.910	2.901	4.0	20.4
5 1	13 7.77	-8 26.4	1.297	2.263	9.6	20.5	5 1	13 11.86	-3 49.8	1.939	2.893	7.8	20.6
5 11	13 0.55	-7 56.8	1.335	2.247	14.4	20.7	5 11	13 6.14	-3 17.0	1.993	2.885	11.3	20.8
5 21	12 56.08	-7 41.3	1.392	2.232	18.5	20.9	5 21	13 2.30	-2 58.1	2.068	2.877	14.3	21.0
193715	2001 <i>FP</i> ₉₁		4 12.8 336°29	1°6/14.0	17		173872	Andrewwst		4 12.8 82°03	0°8/13.6	17	
3 12	13 48.48	-13 55.7	1.774										

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2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
136967	1998 RQ ₃₉		4 12.8 182°92	1°4/11.5 18			265723	2005 UQ ₃₉₃		4 12.8 170°91	2°9/10.1 17		
3 12	13 49.73	- 7 2.1	2.089	2.947	11.6	20.5	3 12	13 47.73	- 3 19.3	1.867	2.739	12.1	20.9
3 22	13 43.66	- 6 22.8	2.015	2.948	8.2	20.2	3 22	13 42.36	- 2 23.9	1.801	2.741	8.6	20.7
4 1	13 35.83	- 5 36.0	1.967	2.948	4.5	20.0	4 1	13 35.16	- 1 23.6	1.761	2.742	4.9	20.4
4 11	13 26.98	- 4 46.4	1.947	2.947	1.4	19.8	4 11	13 26.90	- 0 24.4	1.747	2.743	3.0	20.3
4 21	13 17.98	- 3 59.2	1.956	2.946	4.1	20.0	4 21	13 18.52	+ 0 27.4	1.762	2.744	5.6	20.5
5 1	13 9.73	- 3 19.3	1.994	2.945	7.9	20.2	5 1	13 10.95	+ 1 6.2	1.803	2.744	9.3	20.7
5 11	13 2.98	- 2 51.0	2.058	2.942	11.4	20.4	5 11	13 4.97	+ 1 28.6	1.868	2.744	12.7	20.9
5 21	12 58.20	- 2 36.3	2.143	2.939	14.3	20.6	5 21	13 1.07	+ 1 33.5	1.954	2.745	15.7	21.1
178601	2000 CG ₅₉		4 12.8 98°51	0°2/12.6 18			74008	1998 FM ₁₀₃		4 12.8 307°08	2°8/14.8 18		
3 12	13 54.10	-10 35.5	2.170	3.010	11.9	22.4	3 12	13 48.30	-16 55.4	1.411	2.265	16.3	19.3
3 22	13 46.38	-10 0.0	2.126	3.049	8.5	22.2	3 22	13 43.57	-16 51.8	1.330	2.254	12.4	19.0
4 1	13 37.12	- 9 15.8	2.109	3.087	4.6	22.1	4 1	13 36.20	-16 28.4	1.270	2.242	7.9	18.7
4 11	13 27.16	- 8 27.0	2.122	3.124	0.7	21.8	4 11	13 27.11	-15 47.0	1.234	2.231	3.5	18.4
4 21	13 17.37	- 7 38.5	2.165	3.159	3.3	22.1	4 21	13 17.54	-14 52.7	1.223	2.220	4.4	18.5
5 1	13 8.60	- 6 54.9	2.238	3.193	6.9	22.4	5 1	13 8.90	-13 53.5	1.238	2.210	9.2	18.7
5 11	13 1.48	- 6 20.4	2.338	3.226	10.1	22.6	5 11	13 2.38	-12 58.5	1.275	2.199	13.9	18.9
5 21	12 56.36	- 5 57.1	2.462	3.258	12.7	22.9	5 21	12 58.70	-12 15.0	1.332	2.190	18.1	19.2
418413	2008 LU ₈		4 12.8 334°32	7°6/ 7.5 16			313719	2003 UV ₁₂₉		4 12.8 158°84	2°4/14.9 16		
3 12	13 51.53	+ 8 52.9	1.529	2.406	14.0	20.3	3 12	13 51.75	-17 29.6	1.968	2.796	13.4	21.5
3 22	13 45.42	+ 9 36.7	1.470	2.401	10.8	20.1	3 22	13 45.27	-17 22.2	1.893	2.803	10.1	21.3
4 1	13 36.97	+10 12.2	1.434	2.397	8.2	20.0	4 1	13 36.80	-16 59.3	1.843	2.809	6.4	21.1
4 11	13 27.17	+10 31.3	1.423	2.393	7.8	19.9	4 11	13 27.17	-16 23.0	1.820	2.815	3.0	20.9
4 21	13 17.21	+10 28.3	1.437	2.389	10.0	20.0	4 21	13 17.37	-15 37.2	1.825	2.820	3.6	20.9
5 1	13 8.32	+10 0.5	1.476	2.386	13.2	20.2	5 1	13 8.43	-14 47.6	1.859	2.824	7.2	21.1
5 11	13 1.48	+ 9 9.0	1.535	2.383	16.5	20.4	5 11	13 1.20	-14 0.5	1.918	2.828	10.8	21.4
5 21	12 57.20	+ 7 57.1	1.613	2.380	19.4	20.6	5 21	12 56.19	-13 21.1	2.001	2.831	14.0	21.6
295546	2008 SB ₁₁		4 12.8 284°94	2°8/14.7 18			457645	2009 BW ₁₈₉		4 12.8 108°55	0°5/13.2 18		
3 12	13 51.83	-15 53.6	1.824	2.662	13.9	20.4	3 12	13 52.08	-12 34.4	1.634	2.487	14.5	22.6
3 22	13 45.76	-16 19.2	1.728	2.642	10.6	20.2	3 22	13 45.58	-12 5.0	1.578	2.506	10.5	22.4
4 1	13 37.32	-16 32.1	1.654	2.623	6.8	19.9	4 1	13 36.95	-11 21.9	1.546	2.524	6.0	22.1
4 11	13 27.27	-16 32.5	1.607	2.603	3.3	19.6	4 11	13 27.18	-10 29.8	1.541	2.542	1.2	21.8
4 21	13 16.63	-16 22.3	1.588	2.583	4.1	19.6	4 21	13 17.41	- 9 34.7	1.563	2.559	3.8	22.1
5 1	13 6.63	-16 5.7	1.596	2.563	8.1	19.8	5 1	13 8.77	- 8 43.7	1.613	2.576	8.3	22.4
5 11	12 58.35	-15 48.2	1.629	2.542	12.2	20.0	5 11	13 2.11	- 8 2.6	1.687	2.592	12.3	22.6
5 21	12 52.52	-15 35.0	1.684	2.522	15.8	20.2	5 21	12 57.90	- 7 35.1	1.782	2.608	15.6	22.9
435144	2007 HA ₄₈		4 12.8 91°24	10°0/ 9.9 17			469342	2000 SM ₃₀₀		4 12.8 232°43	3°1/15.9 18		
3 12	14 9.72	+12 26.3	1.025	1.893	20.0	20.2	3 12	13 49.70	-20 17.8	2.812	3.614	10.6	21.7
3 22	13 58.94	+12 26.0	0.985	1.909	15.6	20.0	3 22	13 43.51	-20 36.5	2.713	3.602	8.2	21.5
4 1	13 44.53	+12 5.4	0.965	1.926	11.6	19.9	4 1	13 35.76	-20 43.5	2.638	3.590	5.7	21.3
4 11	13 28.32	+11 15.9	0.969	1.942	10.0	19.8	4 11	13 27.02	-20 38.9	2.592	3.577	3.5	21.2
4 21	13 12.49	+ 9 55.8	0.998	1.958	12.2	20.0	4 21	13 17.99	-20 24.4	2.576	3.564	3.5	21.2
5 1	12 59.05	+ 8 9.1	1.050	1.973	16.0	20.3	5 1	13 9.42	-20 2.7	2.590	3.551	5.7	21.3
5 11	12 49.24	+ 6 3.7	1.124	1.988	20.1	20.5	5 11	13 1.98	-19 37.7	2.631	3.537	8.4	21.4
5 21	12 43.46	+ 3 47.4	1.215	2.003	23.5	20.8	5 21	12 56.17	-19 13.5	2.697	3.522	10.9	21.6
2864	Soderblom		4 12.8 42°30	2°0/11.2 18			807	Ceraskia		4 12.8 82°04	5°1/ 7.2 18 R		
3 12	13 46.66	- 6 32.6	1.563	2.440	13.8	16.7	3 12	13 45.20	+ 4 12.5	2.106	2.982	10.7	15.2
3 22	13 41.77	- 5 46.0	1.510	2.451	9.7	16.5	3 22	13 40.34	+ 5 24.8	2.053	2.989	7.9	15.1
4 1	13 34.86	- 4 51.3	1.480	2.464	5.3	16.2	4 1	13 33.95	+ 6 35.0	2.026	2.995	5.6	14.9
4 11	13 26.84	- 3 54.8	1.476	2.476	2.0	16.0	4 11	13 26.72	+ 7 36.6	2.026	3.002	5.3	14.9
4 21	13 18.79	- 3 3.6	1.499	2.489	5.1	16.3	4 21	13 19.45	+ 8 24.0	2.054	3.008	7.2	15.0
5 1	13 11.76	- 2 23.8	1.548	2.503	9.4	16.6	5 1	13 12.91	+ 8 53.3	2.107	3.015	10.0	15.2
5 11	13 6.56	- 1 59.7	1.620	2.517	13.2	16.8	5 11	13 7.75	+ 9 3.0	2.184	3.021	12.6	15.4
5 21	13 3.64	- 1 52.9	1.711	2.531	16.4	17.1	5 21	13 4.36	+ 8 53.7	2.280	3.028	14.9	15.6
154488	2003 EL ₃₆		4 12.8 149°72	3°6/ 9.2 18			338959	2004 FO ₆		4 12.8 1°44	1°1/13.7 17		
3 12	13 46.69	- 2 18.2	1.822	2.698	12.1	20.2	3 12	13 47.76	-12 36.6	1.881	2.733	12.9	20.7
3 22	13 41.63	- 1 2.5	1.760	2.701	8.6	20.0	3 22	13 42.49	-12 36.6	1.806	2.733	9.5	20.5
4 1	13 34.74	+ 0 17.9	1.724	2.704	5.1	19.8	4 1	13 35.30	-12 25.5	1.756	2.733	5.5	20.3
4 11	13 26.83	+ 1 35.7	1.714	2.707	3.7	19.7	4 11	13 26.95	-12 5.7	1.732	2.733	1.6	20.0
4 21	13 18.82	+ 2 43.5	1.733	2.709	6.3	19.8	4 21	13 18.39	-11 41.1	1.736	2.733	3.4	20.1
5 1	13 11.63	+ 3 35.3	1.778	2.711	9.9	20.1	5 1	13 10.60	-11 16.4	1.767	2.734	7.4	20.4
5 11	13 6.05	+ 4 7.4	1.846	2.713	13.3	20.3	5 11	13 4.42	-10 56.4	1.823	2.735	11.2	20.6
5 21	13 2.53	+ 4 19.2	1.934	2.715	16.1	20.5	5 21	13 0.38	-10 44.8	1.901	2.736	14.4	20.8
357047	2000 SH ₁₈₀		4 12.8 229°26	4°5/18.4 18			471816	2012 WD ₁₅		4 12.8 79°45	5°2/ 7.5 17		
3 12	13 47.41	-27 34.9	3.040	3.803	10.7	22.3	3 12	13 46.94	+ 6 13.5	2.219	3.090	10.5	21.3
3 22	13 41.82	-27 42.7	2.935	3.790	8.8	22.1	3 22	13 41.50	+ 7 1.5	2.165	3.097	7.8	21.2
4 1	13 34.79	-27 35.2	2.855	3.777	6.7	22.0	4 1	13 34.56	+ 7 45.4	2.138	3.104	5.7	21.1
4 11	13 26.85	-27 12.3	2.801	3.763	5.0	21.8	4 11	13 26.83	+ 8 19.8	2.138	3.111	5.3	21.1
4 21	13 18.66	-26 35.5	2.776	3.748	4.5	21.8	4 21	13 19.06	+ 8 40.2	2.166	3.119	7.1	21.2
5 1	13 10.92	-25 47.8	2.780	3.733	5.8	21.8	5 1	13 12.03	+ 8 44.2	2.220	3.126	9.6	21.3
5 11	13 4.27	-24 54.0	2.812	3.717	7.9	22.0	5 11	13 6.37	+ 8 30.9	2.298	3.133	12.1	21.5
5 21	12 59.16	-23 58.8	2.868	3.701	10.1	22.1	5 21	13 2.46	+ 8 1.4	2.396	3.140	14.4	21.7
70997	1999 XE ₃₆		4 12.8 60°91	0°7/13.4 18			131890	2002 AE ₁₇₉		4 12.8 316°07	7°0/ 7.4 18		
3 12	13 47.16	-13 36.0	1.751	2.606</									

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2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
42337	2001 YK ₁₆		4 12.8 65°96'	0°6'/13.4	18		68051	2000 YU ₅₁		4 12.8 246°34'	1°9'/14.4	18	
3 12	13 47.92	-12 43.4	1.731	2.587	13.7	19.7	3 12	13 51.00	-16 10.2	1.919	2.754	13.4	20.1
3 22	13 42.69	-12 18.9	1.661	2.590	10.0	19.5	3 22	13 45.03	-15 52.9	1.820	2.735	10.1	19.8
4 1	13 35.43	-11 41.1	1.614	2.593	5.7	19.3	4 1	13 36.87	-15 19.6	1.745	2.716	6.3	19.6
4 11	13 26.98	-10 53.8	1.594	2.595	1.3	19.0	4 11	13 27.26	-14 32.4	1.697	2.695	2.4	19.3
4 21	13 18.35	-10 2.5	1.602	2.598	3.6	19.1	4 21	13 17.18	-13 35.5	1.677	2.674	3.6	19.3
5 1	13 10.60	-9 13.6	1.636	2.601	8.0	19.4	5 1	13 7.76	-12 35.1	1.686	2.651	7.8	19.5
5 11	13 4.61	-8 33.3	1.695	2.604	12.0	19.6	5 11	12 59.96	-11 38.6	1.720	2.629	11.9	19.7
5 21	13 0.87	-8 5.5	1.774	2.608	15.4	19.9	5 21	12 54.46	-10 51.6	1.777	2.605	15.5	19.9
177934	2005 TQ ₁₀₁		4 12.8 252°75'	3°2'/9.5	17		41063	1999 VE ₂₉		4 12.8 185°29'	0°5'/12.2	18	
3 12	13 47.32	+ 1 0.2	2.519	3.384	9.6	19.6	3 12	13 47.79	- 9 0.0	2.524	3.373	10.1	20.2
3 22	13 41.76	+ 1 28.8	2.440	3.374	6.9	19.4	3 22	13 42.08	- 8 28.9	2.445	3.373	7.2	20.0
4 1	13 34.74	+ 1 57.5	2.387	3.363	4.3	19.2	4 1	13 34.92	- 7 50.6	2.393	3.373	4.0	19.8
4 11	13 26.87	+ 2 22.2	2.363	3.352	3.2	19.1	4 11	13 26.92	- 7 8.3	2.370	3.372	0.7	19.5
4 21	13 18.83	+ 2 39.4	2.368	3.341	5.1	19.2	4 21	13 18.80	- 6 26.0	2.377	3.370	3.1	19.7
5 1	13 11.33	+ 2 45.9	2.401	3.330	7.9	19.4	5 1	13 11.26	- 5 47.9	2.413	3.368	6.5	19.9
5 11	13 5.02	+ 2 40.0	2.460	3.319	10.7	19.5	5 11	13 4.94	- 5 17.6	2.476	3.365	9.5	20.1
5 21	13 0.32	+ 2 21.3	2.540	3.307	13.1	19.7	5 21	13 0.26	- 4 57.6	2.562	3.361	12.2	20.3
198937	2005 UX ₂₆₃		4 12.8 291°02'	2°7'/11.1	17		5389	Choikaiyau		4 12.8 209°59'	2°0'/11.2	18	
3 12	13 50.98	- 4 54.1	1.261	2.143	16.0	20.6	3 12	13 51.86	- 4 56.9	1.867	2.729	12.5	17.7
3 22	13 45.73	- 4 22.6	1.182	2.126	11.5	20.3	3 22	13 45.44	- 4 28.3	1.789	2.724	9.0	17.4
4 1	13 37.53	- 3 42.2	1.124	2.108	6.5	20.0	4 1	13 36.97	- 3 53.9	1.737	2.719	5.0	17.2
4 11	13 27.35	- 2 59.5	1.091	2.090	2.7	19.7	4 11	13 27.26	- 3 18.4	1.713	2.712	2.0	17.0
4 21	13 16.58	- 2 22.4	1.082	2.073	6.5	19.9	4 21	13 17.30	- 2 46.9	1.717	2.705	4.8	17.1
5 1	13 6.77	- 1 58.5	1.098	2.055	12.0	20.1	5 1	13 8.14	- 2 24.4	1.749	2.698	8.9	17.4
5 11	12 59.28	- 1 53.6	1.134	2.038	17.1	20.3	5 11	13 0.67	- 2 14.5	1.805	2.690	12.7	17.6
5 21	12 54.91	- 2 9.4	1.188	2.021	21.4	20.5	5 21	12 55.45	- 2 18.9	1.883	2.681	15.9	17.8
428052	2006 DG ₁₈₉		4 12.8 356°74'	2°2'/14.2	17		289146	2004 VL ₁₄		4 12.8 157°35'	0°6'/12.3	18	
3 12	13 48.80	-13 52.3	1.489	2.348	15.3	20.2	3 12	13 51.08	- 9 52.6	1.802	2.658	13.2	21.8
3 22	13 43.71	-14 14.0	1.417	2.345	11.4	19.9	3 22	13 44.84	- 9 12.1	1.734	2.665	9.5	21.5
4 1	13 36.18	-14 22.1	1.367	2.342	7.0	19.6	4 1	13 36.59	- 8 20.6	1.691	2.672	5.2	21.3
4 11	13 27.12	-14 18.1	1.342	2.340	2.7	19.4	4 11	13 27.20	- 7 23.1	1.676	2.678	0.9	21.0
4 21	13 17.72	-14 5.5	1.342	2.339	4.1	19.5	4 21	13 17.69	- 6 25.6	1.689	2.683	4.0	21.2
5 1	13 9.27	-13 49.4	1.369	2.339	8.6	19.7	5 1	13 9.10	- 5 34.6	1.730	2.687	8.4	21.5
5 11	13 2.85	-13 35.9	1.418	2.340	13.0	20.0	5 11	13 2.29	- 4 55.4	1.796	2.691	12.2	21.8
5 21	12 59.08	-13 29.6	1.488	2.342	16.7	20.2	5 21	12 57.73	- 4 30.9	1.883	2.694	15.4	22.0
432586	2010 RM ₆₁		4 12.8 329°29'	2°0'/14.0	17		263879	2009 DG ₁₃₉		4 12.8 301°66'	1°6'/11.7	17	
3 12	13 51.14	-13 30.8	1.402	2.262	16.1	20.5	3 12	13 48.46	- 7 23.6	1.380	2.258	15.1	20.8
3 22	13 45.58	-13 47.7	1.327	2.256	12.0	20.2	3 22	13 43.74	- 6 51.0	1.295	2.237	10.9	20.5
4 1	13 37.31	-13 50.4	1.274	2.250	7.2	19.9	4 1	13 36.37	- 6 6.8	1.233	2.217	6.1	20.2
4 11	13 27.31	-13 40.5	1.246	2.245	2.6	19.6	4 11	13 27.21	- 5 16.5	1.196	2.197	1.7	19.8
4 21	13 16.87	-13 21.8	1.243	2.240	4.3	19.7	4 21	13 17.49	- 4 27.7	1.184	2.177	5.5	20.0
5 1	13 7.44	-13 0.2	1.266	2.236	9.3	20.0	5 1	13 8.62	- 3 48.2	1.196	2.157	10.8	20.2
5 11	13 0.22	-12 42.4	1.311	2.232	14.0	20.2	5 11	13 1.81	- 3 24.6	1.231	2.138	15.7	20.5
5 21	12 55.89	-12 33.6	1.376	2.228	18.0	20.5	5 21	12 57.83	- 3 20.4	1.283	2.119	20.0	20.7
105859	2000 SY ₁₆₉		4 12.8 186°54'	0°1'/12.9	18		374385	2005 UO ₄₇₆		4 12.8 286°62'	3°3'/10.7	17	
3 12	13 46.75	-10 30.2	3.025	3.866	8.9	20.7	3 12	13 53.00	- 0 43.9	1.687	2.558	13.3	20.4
3 22	13 41.15	-10 16.1	2.943	3.865	6.4	20.6	3 22	13 46.53	- 0 34.8	1.607	2.544	9.6	20.2
4 1	13 34.34	- 9 55.5	2.887	3.864	3.6	20.4	4 1	13 37.71	- 0 24.9	1.551	2.531	5.7	19.9
4 11	13 26.82	- 9 30.6	2.861	3.863	0.6	20.1	4 11	13 27.41	- 0 18.9	1.521	2.517	3.3	19.7
4 21	13 19.18	- 9 4.2	2.866	3.861	2.4	20.3	4 21	13 16.73	- 0 21.4	1.519	2.503	6.0	19.9
5 1	13 12.02	- 8 39.2	2.901	3.859	5.4	20.5	5 1	13 6.88	- 0 36.0	1.544	2.490	10.2	20.1
5 11	13 5.86	- 8 18.8	2.963	3.856	8.0	20.7	5 11	12 58.88	- 1 4.5	1.593	2.477	14.1	20.3
5 21	13 1.08	- 8 4.9	3.050	3.852	10.3	20.8	5 21	12 53.38	- 1 47.2	1.661	2.463	17.6	20.5
347324	2011 SE ₇₂		4 12.8 6°09'	1°0'/13.8	18		294523	2007 XU ₂₅		4 12.8 221°28'	4°7'/7.2	18	
3 12	13 45.50	-13 56.5	2.093	2.941	12.0	20.7	3 12	13 45.83	+ 5 36.0	2.512	3.381	9.5	21.0
3 22	13 40.72	-13 35.5	2.017	2.941	8.8	20.5	3 22	13 40.68	+ 6 32.6	2.445	3.375	7.1	20.8
4 1	13 34.26	-13 2.3	1.966	2.941	5.2	20.2	4 1	13 34.15	+ 7 26.9	2.403	3.369	5.2	20.7
4 11	13 26.82	-12 20.0	1.942	2.942	1.5	20.0	4 11	13 26.83	+ 8 13.4	2.391	3.363	4.9	20.6
4 21	13 19.22	-11 33.0	1.945	2.942	3.0	20.1	4 21	13 19.38	+ 8 47.9	2.406	3.356	6.6	20.7
5 1	13 12.31	-10 46.5	1.977	2.943	6.8	20.3	5 1	13 12.51	+ 9 7.0	2.448	3.350	9.0	20.9
5 11	13 6.81	-10 5.7	2.034	2.944	10.3	20.5	5 11	13 6.81	+ 9 9.3	2.515	3.342	11.5	21.0
5 21	13 3.19	- 9 34.4	2.114	2.945	13.3	20.7	5 21	13 2.69	+ 8 55.3	2.601	3.335	13.6	21.2
405766	2005 YW ₁₈₉		4 12.8 290°72'	3°5'/10.4	16		391677	2008 AT ₂₁		4 12.8 18°72'	5°3'/6.7	18	
3 12	13 49.75	- 3 37.1	1.328	2.211	15.2	20.7	3 12	13 44.56	+ 5 47.1	2.230	3.106	10.3	20.6
3 22	13 44.73	- 2 49.8	1.247	2.191	11.0	20.4	3 22	13 39.88	+ 6 56.7	2.173	3.106	7.7	20.4
4 1	13 36.93	- 1 53.9	1.188	2.171	6.4	20.0	4 1	13 33.73	+ 8 3.3	2.141	3.107	5.7	20.3
4 11	13 27.28	- 0 57.3	1.154	2.151	3.6	19.8	4 11	13 26.76	+ 9 0.8	2.137	3.107	5.5	20.3
4 21	13 17.06	- 0 8.4	1.144	2.131	7.1	20.0	4 21	13 19.71	+ 9 43.9	2.160	3.108	7.4	20.4
5 1	13 7.74	+ 0 24.5	1.159	2.111	12.2	20.2	5 1	13 13.32	+10 9.0	2.209	3.109	9.9	20.5
5 11	13 0.58	+ 0 36.1	1.196	2.091	17.0	20.4	5 11	13 8.22	+10 14.8	2.281	3.110	12.4	20.7
5 21	12 56.35	+ 0 24.6	1.249	2.071	21.2	20.6	5 21	13 4.80	+10 1.9	2.373	3.111	14.6	20.9
412043	2013 DK ₁		4 12.8 327°06'	2°5'/11.3	16		376805	2000 TK ₆₀		4 12			

EPHEMERIDES

4 12.8

4 12.8

2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
419653	2010 <i>TT</i> ₆₂		4 12.8 230°65	1°3/14.1	14	C	276404	2002 <i>XL</i> ₈₈		4 12.8 185°89	2°5/15.2	18	
3 12	13 49.48	-15 28.7	1.928	2.768	13.2	22.2	3 12	13 50.63	-18 17.3	2.177	2.998	12.6	20.7
3 22	13 43.83	-14 57.0	1.837	2.756	9.8	22.0	3 22	13 44.42	-18 9.0	2.093	2.998	9.5	20.5
4 1	13 36.15	-14 9.4	1.770	2.744	5.9	21.7	4 1	13 36.37	-17 45.8	2.034	2.998	6.1	20.3
4 11	13 27.18	-13 8.8	1.731	2.731	1.9	21.4	4 11	13 27.21	-17 9.4	2.003	2.996	3.0	20.1
4 21	13 17.88	-12 0.4	1.720	2.717	3.4	21.5	4 21	13 17.84	-16 23.3	2.000	2.995	3.4	20.1
5 1	13 9.29	-10 51.2	1.738	2.703	7.7	21.7	5 1	13 9.18	-15 32.6	2.027	2.992	6.7	20.3
5 11	13 2.31	-9 48.3	1.781	2.688	11.6	21.9	5 11	13 2.04	-14 43.4	2.080	2.989	10.1	20.5
5 21	12 57.52	-8 57.1	1.846	2.672	15.1	22.1	5 21	12 56.92	-14 0.5	2.156	2.985	13.1	20.7
174559	2003 <i>FZ</i> ₁₀₀		4 12.8 74°94	1°2/14.0	18		1309	<i>Hyperborea</i>		4 12.8 95°67	0°2/13.1	18	R
3 12	13 47.67	-13 47.4	2.218	3.060	11.6	20.1	3 12	13 44.50	-12 50.4	2.434	3.280	10.6	15.5
3 22	13 42.13	-13 42.0	2.151	3.071	8.5	19.9	3 22	13 39.72	-12 1.8	2.369	3.294	7.6	15.3
4 1	13 35.00	-13 26.1	2.110	3.083	5.1	19.7	4 1	13 33.60	-11 2.8	2.330	3.307	4.3	15.1
4 11	13 26.97	-13 2.0	2.096	3.095	1.7	19.5	4 11	13 26.76	-9 57.5	2.319	3.321	0.8	14.9
4 21	13 18.86	-12 33.1	2.110	3.107	2.9	19.6	4 21	13 19.89	-8 50.7	2.339	3.334	2.8	15.1
5 1	13 11.48	-12 3.7	2.153	3.119	6.4	19.8	5 1	13 13.66	-7 47.5	2.387	3.348	6.2	15.3
5 11	13 5.50	-11 38.1	2.222	3.130	9.6	20.0	5 11	13 8.66	-6 52.6	2.461	3.361	9.2	15.5
5 21	13 1.35	-11 19.6	2.315	3.142	12.4	20.2	5 21	13 5.25	-6 9.0	2.559	3.373	11.8	15.7
300114	2006 <i>UL</i> ₃₃₅		4 12.8 188°06	4°2/ 7.6	18		122426	2000 <i>QY</i> ₁₀₇		4 12.8 138°00	0°8/12.2	18	
3 12	13 45.10	+ 3 53.1	2.585	3.455	9.2	20.7	3 12	13 50.19	-10 14.5	1.709	2.568	13.7	20.0
3 22	13 40.11	+ 4 52.5	2.521	3.454	6.8	20.5	3 22	13 44.25	-9 21.0	1.646	2.579	9.8	19.8
4 1	13 33.81	+ 5 50.7	2.484	3.453	4.7	20.4	4 1	13 36.29	-8 15.3	1.608	2.589	5.3	19.5
4 11	13 26.79	+ 6 42.5	2.475	3.452	4.3	20.3	4 11	13 27.19	-7 3.3	1.597	2.599	0.9	19.2
4 21	13 19.67	+ 7 23.5	2.495	3.451	6.1	20.4	4 21	13 18.02	-5 52.2	1.614	2.608	4.2	19.5
5 1	13 13.12	+ 7 50.3	2.542	3.449	8.5	20.6	5 1	13 9.84	-4 49.2	1.659	2.616	8.7	19.8
5 11	13 7.71	+ 8 1.4	2.614	3.447	10.9	20.8	5 11	13 3.48	-4 0.1	1.728	2.624	12.6	20.0
5 21	13 3.79	+ 7 56.7	2.706	3.445	13.0	20.9	5 21	12 59.43	-3 28.0	1.818	2.631	15.8	20.3
344738	2003 <i>UB</i> ₁₆₄		4 12.8 143°43	2°7/ 9.9	17		412708	2014 <i>OV</i> ₂₉₄		4 12.8 313°56	4°4/ 9.4	14	C
3 12	13 48.24	- 1 27.8	2.435	3.298	10.0	21.5	3 12	13 43.92	- 5 5.5	1.102	2.001	16.4	20.9
3 22	13 42.35	- 0 49.2	2.374	3.308	7.1	21.3	3 22	13 40.96	- 3 34.0	1.020	1.972	11.8	20.5
4 1	13 35.05	- 0 9.0	2.339	3.318	4.2	21.1	4 1	13 35.04	- 1 44.1	0.958	1.944	6.9	20.2
4 11	13 26.98	+ 0 28.7	2.333	3.327	2.7	21.0	4 11	13 27.06	+ 0 12.9	0.919	1.916	4.6	19.9
4 21	13 18.87	+ 0 59.8	2.357	3.335	4.7	21.2	4 21	13 18.35	+ 2 2.9	0.904	1.889	8.8	20.1
5 1	13 11.43	+ 1 20.8	2.409	3.343	7.6	21.4	5 1	13 10.53	+ 3 31.3	0.910	1.862	14.6	20.3
5 11	13 5.27	+ 1 29.6	2.487	3.351	10.4	21.6	5 11	13 5.03	+ 4 28.2	0.935	1.837	20.0	20.5
5 21	13 0.78	+ 1 25.5	2.586	3.358	12.8	21.7	5 21	13 2.72	+ 4 50.0	0.975	1.812	24.7	20.7
67625	2000 <i>SA</i> ₁₇₉		4 12.8 328°76	2°5/14.2	18		56841	2000 <i>QS</i> ₄₂		4 12.8 31°58	4°4/17.1	18	
3 12	13 50.89	-14 11.0	1.286	2.150	17.0	17.9	3 12	13 47.65	-23 19.6	2.170	2.975	13.2	19.2
3 22	13 45.66	-14 32.8	1.211	2.141	12.8	17.6	3 22	13 42.36	-23 33.8	2.090	2.977	10.4	19.0
4 1	13 37.50	-14 38.9	1.157	2.133	7.9	17.3	4 1	13 35.25	-23 30.7	2.033	2.979	7.5	18.9
4 11	13 27.42	-14 30.5	1.127	2.125	3.1	17.0	4 11	13 27.05	-23 10.7	2.001	2.980	5.0	18.7
4 21	13 16.81	-14 11.4	1.121	2.118	4.6	17.1	4 21	13 18.62	-22 36.2	1.997	2.982	4.7	18.7
5 1	13 7.25	-13 47.9	1.140	2.112	9.8	17.3	5 1	13 10.89	-21 51.8	2.021	2.984	6.9	18.8
5 11	13 0.05	-13 27.6	1.181	2.106	14.8	17.6	5 11	13 4.66	-21 3.5	2.070	2.986	9.8	19.0
5 21	12 55.97	-13 16.4	1.240	2.101	19.0	17.8	5 21	13 0.43	-20 17.2	2.142	2.989	12.6	19.2
105461	2000 <i>QH</i> ₂₀₅		4 12.8 259°67	3°3/16.1	18		372633	2009 <i>VS</i> ₇₉		4 12.8 82°46	4°9/17.5	18	
3 12	13 48.19	-20 28.9	2.444	3.255	11.7	20.0	3 12	13 51.56	-24 40.0	1.939	2.738	14.7	21.1
3 22	13 42.65	-20 40.4	2.346	3.241	9.1	19.8	3 22	13 45.12	-24 50.6	1.882	2.764	11.7	21.0
4 1	13 35.40	-20 38.2	2.273	3.228	6.3	19.6	4 1	13 36.72	-24 40.7	1.847	2.789	8.4	20.8
4 11	13 27.06	-20 22.7	2.227	3.214	3.8	19.4	4 11	13 27.26	-24 11.1	1.837	2.814	5.6	20.7
4 21	13 18.40	-19 55.9	2.210	3.199	3.8	19.4	4 21	13 17.80	-23 25.2	1.855	2.839	5.1	20.7
5 1	13 10.26	-19 21.5	2.221	3.185	6.3	19.5	5 1	13 9.35	-22 29.0	1.901	2.864	7.3	20.9
5 11	13 3.41	-18 44.5	2.259	3.170	9.3	19.7	5 11	13 2.72	-21 29.8	1.972	2.888	10.3	21.1
5 21	12 58.35	-18 9.6	2.320	3.156	12.1	19.9	5 21	12 58.37	-20 34.3	2.067	2.911	13.1	21.4
115239	2003 <i>SS</i> ₁₄₇		4 12.8 316°32	5°0/16.3	17		98010	2000 <i>QW</i> ₂₁₀		4 12.8 124°45	0°7/13.4	18	
3 12	13 48.10	-21 4.7	1.341	2.184	17.7	19.0	3 12	13 52.07	-13 5.2	1.754	2.602	13.9	20.6
3 22	13 43.69	-21 21.1	1.258	2.171	13.9	18.7	3 22	13 45.55	-12 38.2	1.693	2.617	10.1	20.4
4 1	13 36.43	-21 13.8	1.196	2.158	9.7	18.4	4 1	13 36.99	-11 57.7	1.656	2.633	5.8	20.2
4 11	13 27.26	-20 42.4	1.156	2.145	5.8	18.1	4 11	13 27.31	-11 7.8	1.646	2.647	1.3	19.9
4 21	13 17.50	-19 50.4	1.140	2.133	5.7	18.1	4 21	13 17.59	-10 14.2	1.665	2.661	3.6	20.1
5 1	13 8.69	-18 45.6	1.148	2.121	9.6	18.3	5 1	13 8.89	-9 23.3	1.711	2.675	7.9	20.4
5 11	13 2.15	-17 38.6	1.179	2.110	14.2	18.5	5 11	13 2.06	-8 41.0	1.783	2.687	11.8	20.6
5 21	12 58.66	-16 39.0	1.229	2.100	18.5	18.7	5 21	12 57.57	-8 11.2	1.876	2.699	15.0	20.9
404194	2013 <i>CH</i> ₁₂₃		4 12.8 95°55	2°4/14.5	18		345464	2006 <i>GD</i> ₁₃		4 12.8 318°97	2°1/11.6	17	
3 12	13 52.10	-15 45.1	1.386	2.239	16.6	21.6	3 12	13 52.74	- 3 2.9	1.630	2.500	13.7	19.4
3 22	13 46.17	-15 45.4	1.321	2.245	12.4	21.4	3 22	13 46.51	- 3 15.9	1.544	2.482	9.9	19.2
4 1	13 37.58	-15 27.4	1.278	2.251	7.7	21.1	4 1	13 37.81	- 3 27.2	1.482	2.464	5.6	18.9
4 11	13 27.41	-14 53.7	1.259	2.257	3.1	20.9	4 11	13 27.48	- 3 40.3	1.447	2.447	2.1	18.6
4 21	13 17.00	-14 9.6	1.266	2.263	4.3	21.0	4 21	13 16.67	- 3 58.6	1.439	2.430	5.1	18.7
5 1	13 7.76	-13 22.6	1.299	2.269	9.1	21.3	5 1	13 6.63	- 4 25.1	1.458	2.414	9.7	19.0
5 11	13 0.83	-12 40.9	1.354	2.274	13.6	21.5	5 11	12 58.48	- 5 1.9	1.500	2.398	14.0	19.2
5 21	12 56.77	-12 10.4	1.430	2.280	17.5	21.8	5 21	12 52.91	- 5 49.7	1.563	2.383	17.7	19.4
434557	2005 <i>TV</i> ₁₂₄		4 12.8 267°32	0°5/13.4	16		333497	2005 <i>BO</i> ₁₅		4 12.8 186°48	2°8/16.0		

EPHEMERIDES

4 12.8

4 12.9

2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
303834	2005 SY ₁₄₅		4 12.8 198°52	1.5/14.2	18		376873	2001 UW ₂₃₀		4 12.9 225°45	0.7/11.5	18	
3 12	13 51.34	-13 45.9	2.612	3.440	10.5	20.9	3 12	13 41.89	-5 3.4	4.778	5.628	5.7	21.2
3 22	13 44.68	-14 7.6	2.526	3.438	7.8	20.7	3 22	13 37.40	-4 57.2	4.694	5.623	4.0	21.1
4 1	13 36.44	-14 21.0	2.467	3.436	4.8	20.5	4 1	13 32.20	-4 49.1	4.639	5.619	2.2	20.9
4 11	13 27.24	-14 27.1	2.437	3.434	1.9	20.3	4 11	13 26.59	-4 40.7	4.614	5.614	0.7	20.8
4 21	13 17.82	-14 27.5	2.437	3.432	2.8	20.4	4 21	13 20.92	-4 33.4	4.620	5.609	2.0	20.9
5 1	13 8.95	-14 24.9	2.467	3.430	5.9	20.6	5 1	13 15.51	-4 28.8	4.657	5.604	3.8	21.0
5 11	13 1.33	-14 22.5	2.526	3.427	8.9	20.8	5 11	13 10.67	-4 28.1	4.721	5.599	5.6	21.2
5 21	12 55.43	-14 23.1	2.608	3.424	11.5	21.0	5 21	13 6.65	-4 32.3	4.812	5.594	7.1	21.3
122804	2000 SG ₉₉		4 12.8 247°21	1.3/14.1	18		292410	2006 SJ ₂₈₈		4 12.9 212°89	4.2/18.1	18	
3 12	13 48.57	-15 12.6	2.210	3.046	11.9	21.1	3 12	13 47.45	-26 19.2	2.883	3.657	11.0	21.5
3 22	13 43.03	-14 48.2	2.111	3.028	8.9	20.8	3 22	13 41.92	-26 23.8	2.786	3.650	8.9	21.3
4 1	13 35.66	-14 10.3	2.037	3.009	5.4	20.6	4 1	13 34.93	-26 12.8	2.712	3.642	6.7	21.2
4 11	13 27.13	-13 21.2	1.991	2.990	1.8	20.3	4 11	13 27.04	-25 46.6	2.666	3.634	4.8	21.0
4 21	13 18.26	-12 25.0	1.973	2.970	3.1	20.4	4 21	13 18.93	-25 6.9	2.648	3.626	4.3	21.0
5 1	13 9.95	-11 27.2	1.985	2.949	6.9	20.6	5 1	13 11.33	-24 17.2	2.660	3.617	5.8	21.1
5 11	13 3.02	-10 33.8	2.023	2.928	10.6	20.7	5 11	13 4.86	-23 22.4	2.699	3.607	8.1	21.2
5 21	12 58.01	-9 49.5	2.084	2.906	13.8	20.9	5 21	12 59.99	-22 27.4	2.762	3.597	10.4	21.3
410178	2007 QF ₁₇		4 12.8 219°41	0.4/13.2	17		349483	2008 DC ₈₈		4 12.9 119°09	1.2/14.0	18	
3 12	13 50.18	-12 57.5	1.820	2.669	13.4	22.2	3 12	13 48.75	-13 26.2	2.475	3.311	10.8	21.1
3 22	13 44.40	-12 18.6	1.735	2.661	9.8	22.0	3 22	13 42.83	-13 31.1	2.401	3.318	7.9	21.0
4 1	13 36.49	-11 25.0	1.674	2.652	5.6	21.7	4 1	13 35.41	-13 26.9	2.352	3.324	4.7	20.8
4 11	13 27.26	-10 20.8	1.641	2.642	1.1	21.3	4 11	13 27.12	-13 15.4	2.331	3.330	1.6	20.6
4 21	13 17.73	-9 11.8	1.635	2.631	3.7	21.5	4 21	13 18.69	-12 59.2	2.340	3.337	2.7	20.7
5 1	13 8.98	-8 5.5	1.658	2.620	8.2	21.8	5 1	13 10.89	-12 41.7	2.379	3.342	6.0	20.9
5 11	13 1.94	-7 8.6	1.706	2.608	12.3	22.0	5 11	13 4.37	-12 26.4	2.444	3.348	9.0	21.1
5 21	12 57.19	-6 26.0	1.775	2.596	15.9	22.2	5 21	12 59.56	-12 16.4	2.533	3.354	11.6	21.3
422412	2014 SE ₂₈₂		4 12.8 214°49	1.9/11.2	16		292807	2006 UK ₂₄₈		4 12.9 241°89	0.3/12.6	17	
3 12	13 50.77	-5 57.3	1.873	2.736	12.5	22.5	3 12	13 45.96	-9 59.8	2.450	3.301	10.3	21.4
3 22	13 44.70	-5 14.5	1.793	2.729	8.9	22.3	3 22	13 40.92	-9 30.2	2.363	3.292	7.4	21.2
4 1	13 36.61	-4 24.0	1.739	2.721	4.9	22.0	4 1	13 34.39	-8 52.1	2.302	3.282	4.1	21.0
4 11	13 27.28	-3 31.1	1.713	2.712	1.9	21.8	4 11	13 26.96	-8 8.9	2.270	3.272	0.6	20.7
4 21	13 17.69	-2 41.6	1.715	2.703	4.8	21.9	4 21	13 19.34	-7 24.6	2.267	3.261	3.1	20.9
5 1	13 8.87	-2 1.6	1.745	2.693	9.0	22.2	5 1	13 12.26	-6 43.7	2.293	3.251	6.6	21.1
5 11	13 1.70	-1 35.3	1.799	2.683	12.8	22.4	5 11	13 6.36	-6 10.1	2.345	3.240	9.7	21.2
5 21	12 56.74	-1 25.0	1.874	2.672	16.0	22.6	5 21	13 2.11	-5 46.7	2.420	3.229	12.5	21.4
461293	2015 XM ₉₇		4 12.8 58°12	4.1/10.1	18		168150	2006 HA ₃₃		4 12.9 321°54	3.7/15.2	18	
3 12	13 50.44	-2 46.5	1.236	2.123	15.9	20.8	3 12	13 51.62	-17 35.3	1.381	2.230	17.0	19.8
3 22	13 45.01	-1 49.6	1.182	2.128	11.4	20.5	3 22	13 46.06	-17 56.0	1.307	2.226	13.0	19.6
4 1	13 36.93	-0 46.7	1.149	2.132	6.6	20.2	4 1	13 37.69	-17 57.7	1.254	2.222	8.5	19.3
4 11	13 27.33	+0 13.1	1.141	2.137	4.1	20.1	4 11	13 27.52	-17 41.1	1.225	2.219	4.3	19.1
4 21	13 17.59	+1 1.0	1.158	2.142	7.4	20.3	4 21	13 16.91	-17 9.8	1.221	2.216	4.9	19.1
5 1	13 9.12	+1 29.8	1.198	2.147	12.2	20.6	5 1	13 7.35	-16 30.4	1.242	2.213	9.3	19.3
5 11	13 3.00	+1 35.9	1.260	2.152	16.5	20.9	5 11	13 0.08	-15 51.4	1.286	2.210	13.9	19.6
5 21	12 59.76	+1 19.5	1.339	2.157	20.2	21.1	5 21	12 55.81	-15 20.1	1.350	2.208	17.9	19.8
334762	2003 SM ₄₈		4 12.8 178°38	2.4/15.5	17		264543	2001 SR ₇₂		4 12.9 177°53	4.8/8.5	18	
3 12	13 47.30	-19 6.2	2.296	3.117	12.0	21.3	3 12	13 50.45	+3 48.0	2.071	2.939	11.3	20.5
3 22	13 41.95	-18 46.4	2.214	3.119	9.1	21.1	3 22	13 44.20	+4 35.3	2.008	2.940	8.3	20.3
4 1	13 34.96	-18 11.5	2.157	3.119	5.9	20.9	4 1	13 36.22	+5 20.6	1.970	2.941	5.6	20.2
4 11	13 27.02	-17 23.5	2.127	3.120	3.0	20.7	4 11	13 27.26	+5 58.1	1.961	2.942	4.9	20.1
4 21	13 18.91	-16 26.4	2.125	3.120	3.2	20.7	4 21	13 18.20	+6 22.8	1.980	2.942	6.9	20.2
5 1	13 11.47	-15 25.4	2.153	3.120	6.3	20.9	5 1	13 9.92	+6 31.4	2.026	2.942	9.8	20.4
5 11	13 5.41	-14 26.4	2.207	3.119	9.5	21.1	5 11	13 3.17	+6 22.5	2.096	2.942	12.8	20.6
5 21	13 1.17	-13 34.4	2.285	3.118	12.4	21.3	5 21	12 58.40	+5 56.9	2.185	2.940	15.3	20.8
297745	2001 XW ₁₃		4 12.8 178°16	0.3/12.6	18		138609	2000 QH ₁₈₈		4 12.9 218°18	2.1/10.4	17	
3 12	13 52.41	-10 14.0	1.817	2.669	13.3	21.6	3 12	13 46.18	-3 11.5	2.656	3.517	9.3	20.7
3 22	13 45.88	-9 47.1	1.743	2.672	9.6	21.4	3 22	13 40.93	-2 34.7	2.576	3.510	6.6	20.5
4 1	13 37.26	-9 9.3	1.694	2.673	5.3	21.1	4 1	13 34.34	-1 54.5	2.523	3.503	3.8	20.3
4 11	13 27.39	-8 24.7	1.673	2.674	0.8	20.8	4 11	13 26.96	-1 15.0	2.499	3.496	2.1	20.2
4 21	13 17.33	-7 38.6	1.680	2.674	3.9	21.0	4 21	13 19.44	-0 39.9	2.505	3.488	4.1	20.3
5 1	13 8.15	-6 57.0	1.715	2.674	8.3	21.3	5 1	13 12.43	-0 12.8	2.540	3.479	7.0	20.5
5 11	13 0.76	-6 25.2	1.775	2.672	12.2	21.5	5 11	13 6.52	+0 3.7	2.600	3.471	9.8	20.6
5 21	12 55.68	-6 6.3	1.856	2.670	15.5	21.7	5 21	13 2.12	+0 8.2	2.683	3.462	12.2	20.8
120572	1995 MQ ₄		4 12.9 12°06	5.0/17.5	18		214721	2006 TZ ₁₃		4 12.9 175°26	0.6/12.2	17	
3 12	13 47.24	-24 31.3	1.738	2.552	15.6	19.8	3 12	13 47.26	-8 6.4	2.682	3.532	9.6	21.3
3 22	13 42.43	-24 27.7	1.661	2.552	12.4	19.6	3 22	13 41.67	-7 47.3	2.606	3.534	6.8	21.1
4 1	13 35.43	-24 0.7	1.604	2.553	8.9	19.4	4 1	13 34.73	-7 22.4	2.556	3.536	3.8	20.9
4 11	13 27.11	-23 11.2	1.572	2.554	5.8	19.2	4 11	13 27.02	-6 54.6	2.535	3.537	0.7	20.7
4 21	13 18.55	-22 3.3	1.567	2.555	5.3	19.1	4 21	13 19.20	-6 27.2	2.545	3.538	3.0	20.9
5 1	13 10.88	-20 44.2	1.587	2.556	7.9	19.3	5 1	13 11.93	-6 3.4	2.583	3.538	6.1	21.1
5 11	13 5.04	-19 22.9	1.633	2.557	11.4	19.5	5 11	13 5.79	-5 46.3	2.649	3.538	9.0	21.3
5 21	13 1.60	-18 7.7	1.700	2.559	14.8	19.7	5 21	13 1.18	-5 37.9	2.738	3.538	11.4	21.4
148627	2001 RE ₁₃₆		4 12.9 184°01	0.3/12.7	17		502070	2015 AB ₁₈₉		4 12.9 215°18	3.4/9.7	17	
3 12	13 51.35	-9 9.5	1.857	2.713	12.9	20.1	3 12	13 48.45	-1 51.3				

EPHEMERIDES

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2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
295973	2008 <i>YF</i> ₃₃		4 12.9 167°22	4.3/ 9.2	18		129467	1993 <i>FM</i> ₄₇		4 12.9 273°77	1°0/13.7	17	
3 12	13 50.19	- 1 5.3	1.618	2.494	13.4	20.7	3 12	13 49.27	-12 43.3	1.909	2.759	12.9	20.0
3 22	13 44.39	+ 0 6.5	1.557	2.497	9.6	20.5	3 22	13 43.74	-12 39.1	1.823	2.747	9.5	19.7
4 1	13 36.46	+ 1 22.2	1.521	2.500	5.9	20.3	4 1	13 36.16	-12 23.4	1.760	2.736	5.6	19.5
4 11	13 27.31	+ 2 33.6	1.512	2.503	4.4	20.2	4 11	13 27.30	-11 58.6	1.724	2.725	1.6	19.2
4 21	13 18.03	+ 3 32.8	1.529	2.504	7.1	20.3	4 21	13 18.09	-11 28.5	1.716	2.713	3.4	19.3
5 1	13 9.74	+ 4 13.5	1.573	2.506	11.0	20.6	5 1	13 9.57	-10 58.1	1.736	2.702	7.6	19.5
5 11	13 3.32	+ 4 32.6	1.639	2.507	14.7	20.8	5 11	13 2.64	-10 32.5	1.781	2.690	11.5	19.7
5 21	12 59.27	+ 4 30.1	1.724	2.507	17.7	21.0	5 21	12 57.90	-10 15.9	1.847	2.678	14.9	19.9
193674	2001 <i>DT</i> ₉₉		4 12.9 42°85	3°9/16.4	18		506025	2015 <i>HE</i> ₁₅₂		4 12.9 4°96	1°1/11.9	17	
3 12	13 47.12	-21 30.2	1.495	2.331	16.5	19.5	3 12	13 48.96	- 6 11.0	2.061	2.923	11.6	21.0
3 22	13 42.31	-21 13.2	1.444	2.353	12.7	19.3	3 22	13 43.23	- 6 1.2	1.989	2.923	8.3	20.8
4 1	13 35.30	-20 32.8	1.413	2.375	8.5	19.1	4 1	13 35.73	- 5 46.2	1.942	2.923	4.5	20.6
4 11	13 27.12	-19 32.4	1.407	2.398	4.7	18.9	4 11	13 27.22	- 5 29.3	1.922	2.923	1.2	20.3
4 21	13 18.94	-18 18.4	1.427	2.421	4.5	19.0	4 21	13 18.53	- 5 14.3	1.931	2.923	3.9	20.5
5 1	13 11.94	-16 59.7	1.473	2.445	8.0	19.2	5 1	13 10.57	- 5 4.9	1.968	2.924	7.6	20.7
5 11	13 6.96	-15 45.3	1.543	2.470	11.8	19.5	5 11	13 4.09	- 5 4.2	2.031	2.924	11.1	21.0
5 21	13 4.45	-14 42.2	1.634	2.494	15.2	19.8	5 21	12 59.57	- 5 13.8	2.115	2.925	14.0	21.2
91798	1999 <i>TT</i> ₂₃₃		4 12.9 114°71	3°2/16.2	18		164164	2003 <i>YK</i> ₁₆₆		4 12.9 194°11	0°1/12.9	18	
3 12	13 47.88	-21 17.3	2.093	2.909	13.2	19.9	3 12	13 47.01	-11 20.1	2.776	3.617	9.6	21.6
3 22	13 42.45	-20 58.1	2.022	2.920	10.2	19.7	3 22	13 41.49	-10 50.6	2.691	3.614	6.9	21.5
4 1	13 35.28	-20 21.0	1.974	2.931	6.8	19.5	4 1	13 34.66	-10 12.9	2.634	3.611	3.9	21.3
4 11	13 27.12	-19 28.2	1.953	2.942	3.8	19.4	4 11	13 27.04	- 9 29.8	2.606	3.607	0.7	21.0
4 21	13 18.87	-18 24.1	1.960	2.953	3.7	19.4	4 21	13 19.29	- 8 44.7	2.607	3.603	2.6	21.1
5 1	13 11.42	-17 14.7	1.996	2.963	6.6	19.6	5 1	13 12.05	- 8 1.8	2.639	3.597	5.8	21.3
5 11	13 5.52	-16 7.0	2.058	2.973	9.9	19.8	5 11	13 5.91	- 7 24.7	2.698	3.592	8.7	21.5
5 21	13 1.61	-15 6.5	2.142	2.983	12.8	20.0	5 21	13 1.25	- 6 56.2	2.782	3.585	11.2	21.7
471469	2011 <i>UW</i> ₃₂₄		4 12.9 237°45	2°0/10.9	17		444653	2007 <i>BP</i> ₂₆		4 12.9 11°72	1°3/12.0	18	
3 12	13 47.46	- 3 24.2	2.407	3.269	10.1	21.5	3 12	13 48.51	- 8 43.8	1.056	1.945	17.8	20.6
3 22	13 41.96	- 3 1.3	2.329	3.264	7.2	21.3	3 22	13 44.08	- 8 9.5	1.000	1.946	12.8	20.3
4 1	13 34.96	- 2 35.2	2.278	3.259	4.1	21.1	4 1	13 36.64	- 7 20.5	0.963	1.948	7.1	20.0
4 11	13 27.07	- 2 9.7	2.256	3.254	2.0	21.0	4 11	13 27.39	- 6 24.2	0.949	1.950	1.5	19.6
4 21	13 19.03	- 1 48.5	2.263	3.248	4.2	21.1	4 21	13 17.88	- 5 30.0	0.958	1.954	5.8	19.9
5 1	13 11.58	- 1 34.9	2.298	3.243	7.3	21.3	5 1	13 9.74	- 4 47.3	0.990	1.957	11.6	20.2
5 11	13 5.36	- 1 31.5	2.358	3.237	10.4	21.5	5 11	13 4.19	- 4 23.1	1.042	1.962	16.8	20.5
5 21	13 0.82	- 1 39.5	2.441	3.231	12.9	21.6	5 21	13 1.84	- 4 20.3	1.111	1.967	21.0	20.8
165410	2000 <i>YV</i> ₁₉		4 12.9 171°13	1°1/13.8	18		107029	2000 <i>YL</i> ₁₂₁		4 12.9 195°24	7°7/30.4	18	
3 12	13 51.22	-14 16.4	1.906	2.748	13.3	21.0	3 12	13 46.51	+24 28.4	3.330	4.147	8.7	20.2
3 22	13 44.99	-13 52.5	1.831	2.752	9.8	20.7	3 22	13 40.97	+25 39.6	3.287	4.144	7.9	20.1
4 1	13 36.76	-13 14.7	1.781	2.755	5.8	20.5	4 1	13 34.29	+26 38.7	3.270	4.140	7.7	20.1
4 11	13 27.37	-12 26.3	1.757	2.757	1.7	20.2	4 11	13 26.99	+27 21.1	3.280	4.135	8.1	20.1
4 21	13 17.79	-11 32.1	1.763	2.759	3.4	20.4	4 21	13 19.62	+27 44.1	3.314	4.130	9.1	20.2
5 1	13 9.06	-10 38.5	1.796	2.761	7.5	20.6	5 1	13 12.77	+27 46.5	3.372	4.125	10.3	20.3
5 11	13 2.03	- 9 51.4	1.856	2.761	11.3	20.8	5 11	13 6.92	+27 29.1	3.450	4.118	11.5	20.4
5 21	12 57.22	- 9 15.4	1.937	2.761	14.6	21.1	5 21	13 2.42	+26 54.0	3.544	4.112	12.6	20.5
511576	2014 <i>WM</i> ₅₁₁		4 12.9 261°78	2°5/ 8.2	18		191740	2004 <i>SB</i> ₁₂		4 12.9 241°52	6°9/ 4.7	18	
3 12	13 40.24	+ 3 49.5	4.379	5.243	5.9	21.3	3 12	13 47.64	+10 4.9	2.189	3.056	10.8	21.1
3 22	13 36.29	+ 4 16.6	4.309	5.240	4.3	21.2	3 22	13 42.28	+11 33.6	2.119	3.041	8.5	20.9
4 1	13 31.61	+ 4 42.4	4.267	5.237	2.9	21.0	4 1	13 35.22	+12 57.5	2.075	3.026	7.1	20.8
4 11	13 26.54	+ 5 4.7	4.255	5.234	2.6	21.0	4 11	13 27.15	+14 8.8	2.059	3.009	7.3	20.8
4 21	13 21.40	+ 5 21.3	4.272	5.232	3.6	21.1	4 21	13 18.86	+15 1.5	2.070	2.993	9.2	20.9
5 1	13 16.57	+ 5 30.8	4.318	5.229	5.2	21.2	5 1	13 11.20	+15 31.3	2.107	2.976	11.7	21.0
5 11	13 12.34	+ 5 32.0	4.391	5.226	6.8	21.3	5 11	13 4.91	+15 37.1	2.165	2.958	14.2	21.1
5 21	13 8.98	+ 5 24.6	4.486	5.224	8.2	21.4	5 21	13 0.46	+15 20.3	2.241	2.940	16.4	21.3
185661	1993 <i>TY</i> ₂₃		4 12.9 209°89	0°8/11.9	18		489462	2007 <i>CV</i> ₇₃		4 12.9 153°01	0°3/12.6	17	
3 12	13 48.21	- 9 16.8	2.216	3.070	11.2	21.2	3 12	13 48.66	-10 29.2	1.849	2.706	12.9	22.4
3 22	13 42.64	- 8 28.4	2.133	3.063	8.0	20.9	3 22	13 43.17	- 9 55.9	1.778	2.709	9.3	22.1
4 1	13 35.40	- 7 30.4	2.075	3.056	4.4	20.7	4 1	13 35.76	- 9 11.6	1.732	2.712	5.2	21.9
4 11	13 27.16	- 6 27.1	2.047	3.048	0.9	20.4	4 11	13 27.23	- 8 20.6	1.713	2.715	0.8	21.6
4 21	13 18.71	- 5 24.0	2.047	3.039	3.7	20.6	4 21	13 18.56	- 7 28.7	1.723	2.718	3.7	21.8
5 1	13 10.90	- 4 26.6	2.076	3.030	7.4	20.8	5 1	13 10.71	- 6 41.7	1.759	2.720	8.0	22.1
5 11	13 4.46	- 3 39.8	2.132	3.020	10.9	21.0	5 11	13 4.51	- 6 4.9	1.821	2.722	11.8	22.3
5 21	12 59.86	- 3 6.8	2.209	3.009	13.8	21.2	5 21	13 0.45	- 5 41.5	1.904	2.724	15.0	22.5
266304	2007 <i>CO</i> ₈		4 12.9 270°83	6°5/ 6.7	17		494235	2016 <i>PE</i> ₃		4 12.9 204°94	1°4/11.2	17	
3 12	13 47.60	+ 5 30.3	1.711	2.591	12.6	20.7	3 12	13 45.98	- 5 28.5	2.748	3.605	9.2	22.4
3 22	13 42.53	+ 6 51.2	1.647	2.583	9.5	20.5	3 22	13 40.76	- 4 58.0	2.669	3.601	6.5	22.2
4 1	13 35.45	+ 8 9.8	1.608	2.575	7.0	20.3	4 1	13 34.25	- 4 23.0	2.616	3.597	3.6	22.0
4 11	13 27.17	+ 9 17.5	1.594	2.567	6.8	20.3	4 11	13 26.99	- 3 47.0	2.593	3.593	1.4	21.8
4 21	13 18.69	+10 6.6	1.607	2.559	9.1	20.4	4 21	13 19.60	- 3 13.6	2.600	3.588	3.5	22.0
5 1	13 11.04	+10 32.2	1.645	2.551	12.3	20.6	5 1	13 12.72	- 2 46.0	2.635	3.582	6.4	22.2
5 11	13 5.10	+10 32.6	1.703	2.543	15.5	20.7	5 11	13 6.90	- 2 27.2	2.698	3.577	9.2	22.3
5 21	13 1.38	+10 9.2	1.780	2.535	18.3	20.9	5 21	13 2.54	- 2 18.8	2.783	3.571	11.6	22.5
403541	2010 <i>GO</i> ₁₅₆		4 12.9 32°19	4°6/ 9.7	18		184144	2004 <i>JY</i> ₃₀		4 12			

EPHEMERIDES

4 12.9

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2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
238482	2004 <i>RF</i> ₁₈₃		4 12.9 254°98	0°6/12.3 17			47957	2000 <i>QN</i> ₁₁₆		4 12.9 262°72	1°3/10.4 18	R	
3 12	13 49.58	-10 56.6	1.623	2.484	14.2	20.7	3 12	13 38.77	-3 26.5	4.535	5.395	5.8	19.1
3 22	13 44.29	-10 3.5	1.533	2.467	10.3	20.4	3 22	13 35.28	-2 53.4	4.454	5.388	4.1	19.0
4 1	13 36.63	-8 54.5	1.467	2.448	5.8	20.1	4 1	13 31.10	-2 18.4	4.402	5.382	2.3	18.8
4 11	13 27.43	-7 34.9	1.428	2.429	0.9	19.7	4 11	13 26.52	-1 43.7	4.380	5.376	1.3	18.7
4 21	13 17.77	-6 12.5	1.416	2.410	4.5	20.0	4 21	13 21.89	-1 11.5	4.388	5.370	2.5	18.8
5 1	13 8.88	-4 56.1	1.430	2.390	9.5	20.2	5 1	13 17.51	-0 43.7	4.426	5.364	4.3	19.0
5 11	13 1.82	-3 53.6	1.469	2.369	14.1	20.4	5 11	13 13.71	-0 22.1	4.490	5.358	6.0	19.1
5 21	12 57.27	-3 9.9	1.527	2.348	18.0	20.6	5 21	13 10.70	-0 7.6	4.579	5.351	7.6	19.2
298833	2004 <i>RD</i> ₁₆₄		4 12.9 158°90	2°1/14.7 18			497614	2006 <i>QQ</i> ₇		4 12.9 252°66	1°8/14.4 17		
3 12	13 52.37	-17 5.1	1.890	2.721	13.8	22.0	3 12	13 52.33	-15 34.1	2.095	2.926	12.6	22.4
3 22	13 45.84	-16 45.6	1.817	2.729	10.3	21.8	3 22	13 45.98	-15 24.9	1.988	2.901	9.5	22.1
4 1	13 37.26	-16 9.8	1.768	2.737	6.4	21.6	4 1	13 37.51	-15 1.8	1.906	2.875	5.9	21.9
4 11	13 27.50	-15 20.3	1.746	2.743	2.7	21.4	4 11	13 27.60	-14 26.4	1.851	2.849	2.3	21.6
4 21	13 17.59	-14 22.1	1.753	2.749	3.5	21.5	4 21	13 17.17	-13 42.1	1.825	2.821	3.4	21.6
5 1	13 8.58	-13 21.6	1.788	2.754	7.4	21.7	5 1	13 7.26	-12 54.1	1.829	2.793	7.4	21.8
5 11	13 1.35	-12 25.6	1.849	2.758	11.2	21.9	5 11	12 58.85	-12 8.6	1.859	2.763	11.4	22.0
5 21	12 56.41	-11 39.6	1.932	2.761	14.4	22.1	5 21	12 52.59	-11 30.9	1.911	2.733	14.9	22.1
234018	1998 <i>QX</i> ₄₄		4 12.9 209°31	2°7/ 9.5 18			315253	2007 <i>TY</i> ₈		4 12.9 193°38	2°2/10.9 17		
3 12	13 45.68	-3 12.8	2.455	3.320	9.8	20.8	3 12	13 51.02	-5 11.2	1.928	2.790	12.2	21.7
3 22	13 40.68	-2 0.2	2.378	3.314	7.0	20.6	3 22	13 44.83	-4 25.3	1.854	2.788	8.7	21.5
4 1	13 34.26	-0 42.5	2.328	3.308	4.1	20.4	4 1	13 36.71	-3 32.8	1.805	2.786	4.9	21.2
4 11	13 27.02	+0 34.6	2.308	3.301	2.8	20.3	4 11	13 27.44	-2 38.9	1.784	2.783	2.2	21.0
4 21	13 19.63	+1 45.5	2.317	3.293	4.9	20.4	4 21	13 17.98	-1 49.7	1.792	2.779	4.9	21.2
5 1	13 12.80	+2 45.2	2.354	3.285	7.9	20.6	5 1	13 9.32	-1 10.6	1.828	2.774	8.8	21.4
5 11	13 7.15	+3 30.1	2.418	3.277	10.8	20.8	5 11	13 2.27	-0 45.6	1.889	2.769	12.4	21.6
5 21	13 3.09	+3 58.5	2.502	3.268	13.3	20.9	5 21	12 57.36	-0 36.6	1.970	2.763	15.5	21.8
70694	1999 <i>US</i> ₂₃		4 12.9 100°15	1°9/14.5 18			520141	2014 <i>BK</i> ₆₈		4 12.9 188°13	2°1/10.4 18		
3 12	13 48.94	-16 53.1	1.585	2.431	15.2	18.6	3 12	13 44.80	-5 14.0	2.396	3.260	10.1	21.1
3 22	13 43.63	-16 19.4	1.519	2.440	11.3	18.3	3 22	13 40.07	-4 9.6	2.323	3.260	7.1	20.9
4 1	13 36.10	-15 26.6	1.476	2.449	6.9	18.1	4 1	13 33.93	-2 59.1	2.278	3.259	4.0	20.7
4 11	13 27.32	-14 18.6	1.459	2.458	2.6	17.9	4 11	13 26.99	-1 47.9	2.261	3.258	2.1	20.6
4 21	13 18.41	-13 2.4	1.469	2.466	3.7	17.9	4 21	13 19.94	-0 41.2	2.273	3.257	4.4	20.7
5 1	13 10.54	-11 46.3	1.505	2.475	8.2	18.2	5 1	13 13.48	+0 15.7	2.314	3.255	7.5	20.9
5 11	13 4.61	-10 38.6	1.566	2.483	12.3	18.5	5 11	13 8.21	+0 59.3	2.381	3.254	10.5	21.1
5 21	13 1.13	-9 45.0	1.648	2.491	15.9	18.7	5 21	13 4.55	+1 27.6	2.469	3.252	13.0	21.3
439338	2012 <i>XU</i> ₇		4 12.9 2°23	8°3/22.8 17			20529	Zwerling		4 12.9 122°35	0°4/12.5 18		
3 12	13 41.75	-35 55.7	1.660	2.421	18.3	19.8	3 12	13 49.30	-11 21.7	1.695	2.554	13.8	19.1
3 22	13 38.74	-35 30.3	1.578	2.420	15.7	19.6	3 22	13 43.68	-10 26.1	1.634	2.565	9.9	18.9
4 1	13 33.48	-34 28.8	1.515	2.419	12.7	19.4	4 1	13 36.06	-9 17.1	1.596	2.577	5.5	18.6
4 11	13 26.90	-32 50.7	1.473	2.420	9.9	19.2	4 11	13 27.33	-8 0.7	1.586	2.588	0.8	18.3
4 21	13 20.16	-30 40.5	1.455	2.422	8.4	19.1	4 21	13 18.54	-6 44.2	1.603	2.598	4.0	18.6
5 1	13 14.42	-28 8.0	1.464	2.425	9.1	19.2	5 1	13 10.73	-5 35.3	1.648	2.608	8.5	18.9
5 11	13 10.62	-25 27.0	1.497	2.430	11.7	19.3	5 11	13 4.72	-4 40.1	1.718	2.618	12.4	19.1
5 21	13 9.24	-22 50.6	1.555	2.435	14.8	19.5	5 21	13 0.99	-4 2.0	1.808	2.627	15.7	19.3
1191	Alfaterna		4 12.9 7°74	8°8/ 2.8 18			440911	2006 <i>VN</i> ₇₇		4 12.9 74°81	3°8/ 8.9 17		
3 12	13 45.15	+13 25.9	1.884	2.757	12.0	15.1	3 12	13 46.85	+2 0.6	2.257	3.128	10.3	21.2
3 22	13 40.60	+15 12.6	1.839	2.757	9.9	15.0	3 22	13 41.54	+2 40.3	2.197	3.133	7.5	21.0
4 1	13 34.30	+16 49.2	1.819	2.758	8.8	14.9	4 1	13 34.73	+3 19.2	2.164	3.138	4.8	20.9
4 11	13 27.03	+18 6.7	1.825	2.758	9.3	14.9	4 11	13 27.12	+3 52.4	2.158	3.144	3.9	20.8
4 21	13 19.67	+18 58.7	1.855	2.759	11.2	15.0	4 21	13 19.44	+4 15.7	2.180	3.149	5.8	20.9
5 1	13 13.13	+19 21.9	1.909	2.760	13.5	15.2	5 1	13 12.44	+4 26.0	2.229	3.155	8.6	21.1
5 11	13 8.12	+19 16.8	1.982	2.761	15.8	15.4	5 11	13 6.77	+4 21.6	2.303	3.160	11.4	21.3
5 21	13 5.10	+18 46.3	2.071	2.762	17.8	15.5	5 21	13 2.82	+4 2.7	2.398	3.166	13.8	21.5
60365	2000 <i>AT</i> ₁₀₉		4 12.9 283°97	4°4/16.1 17			288800	2004 <i>RK</i> ₁₅₅		4 12.9 304°07	5°4/16.5 16		
3 12	13 49.09	-20 57.8	1.334	2.177	17.8	19.0	3 12	13 50.01	-21 47.3	1.335	2.173	18.0	20.2
3 22	13 44.43	-20 50.8	1.252	2.166	13.9	18.8	3 22	13 45.15	-22 7.7	1.255	2.163	14.3	20.0
4 1	13 36.91	-20 17.8	1.190	2.154	9.4	18.5	4 1	13 37.35	-22 3.8	1.195	2.154	10.0	19.7
4 11	13 27.50	-19 19.5	1.151	2.143	5.2	18.2	4 11	13 27.60	-21 34.9	1.157	2.145	6.2	19.5
4 21	13 17.56	-18 1.3	1.137	2.132	5.2	18.2	4 21	13 17.27	-20 44.1	1.144	2.135	6.0	19.4
5 1	13 8.62	-16 32.8	1.147	2.121	9.6	18.4	5 1	13 7.95	-19 39.4	1.155	2.127	9.7	19.6
5 11	13 1.98	-15 6.2	1.180	2.110	14.4	18.6	5 11	13 0.98	-18 31.5	1.188	2.118	14.3	19.8
5 21	12 58.39	-13 51.3	1.233	2.099	18.8	18.8	5 21	12 57.13	-17 30.3	1.241	2.110	18.5	20.0
182487	2001 <i>SK</i> ₁₅₈		4 12.9 265°47	0°4/12.1 18			59854	1999 <i>RY</i> ₈₅		4 12.9 289°91	0°5/12.4 18		
3 12	13 38.61	-9 27.5	4.373	5.221	6.2	19.8	3 12	13 46.59	-8 33.4	2.253	3.110	10.9	18.8
3 22	13 35.19	-8 41.8	4.288	5.216	4.4	19.6	3 22	13 41.54	-8 15.0	2.167	3.099	7.8	18.6
4 1	13 31.05	-7 51.3	4.232	5.212	2.4	19.5	4 1	13 34.85	-7 49.3	2.107	3.087	4.3	18.4
4 11	13 26.51	-6 58.3	4.206	5.208	0.5	19.3	4 11	13 27.17	-7 19.5	2.074	3.076	0.8	18.1
4 21	13 21.91	-6 5.5	4.211	5.203	1.9	19.4	4 21	13 19.24	-6 49.5	2.070	3.064	3.4	18.2
5 1	13 17.60	-5 15.4	4.246	5.199	4.0	19.6	5 1	13 11.89	-6 23.3	2.094	3.053	7.1	18.4
5 11	13 13.88	-4 30.3	4.309	5.194	5.9	19.7	5 11	13 5.82	-6 4.9	2.144	3.041	10.4	18.6
5 21	13 10.99	-3 52.2	4.398	5.190	7.6	19.8	5 21	13 1.53	-5 56.8	2.216	3.030	13.3	18.8
269041	2007 <i>FW</i> ₃₂		4 12.9 32°18	0°4/12.7 16			20443	1999 <i>JJ</i> ₆₀		4 12.9 254°33	3°5/10.3 18		
3 12	13 54.72	-6 43.0	1.450	2.317									

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2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
260841	2005 <i>QQ</i> ₅₄		4 12.9 264°86	2°5/ 9.9	18		95035	2002 <i>AA</i> ₂₇		4 12.9 107°11	2°5/10.9	18	
3 12	13 44.12	- 3 45.6	2.312	3.181	10.2	20.5	3 12	13 51.19	- 5 47.2	1.547	2.418	14.2	19.5
3 22	13 39.66	- 2 42.7	2.237	3.175	7.2	20.3	3 22	13 45.10	- 4 47.9	1.496	2.435	10.0	19.3
4 1	13 33.74	- 1 34.7	2.188	3.170	4.1	20.1	4 1	13 36.88	- 3 40.8	1.468	2.451	5.5	19.0
4 11	13 26.98	- 0 26.8	2.168	3.164	2.6	20.0	4 11	13 27.51	- 2 33.3	1.468	2.466	2.5	18.9
4 21	13 20.08	+ 0 35.3	2.177	3.158	4.8	20.1	4 21	13 18.16	- 1 33.0	1.494	2.481	5.6	19.1
5 1	13 13.75	+ 1 26.7	2.214	3.152	8.0	20.3	5 1	13 9.93	- 0 46.4	1.547	2.496	9.9	19.4
5 11	13 8.64	+ 2 3.7	2.275	3.146	11.0	20.5	5 11	13 3.70	- 0 17.9	1.623	2.510	13.7	19.6
5 21	13 5.15	+ 2 24.8	2.358	3.140	13.6	20.6	5 21	12 59.90	- 0 8.5	1.719	2.524	16.9	19.9
279317	2009 <i>XH</i> ₁		4 12.9 74°72	5°0/ 8.4	18		418	<i>Alemannia</i>		4 12.9 191°66	2°5/15.4	18	
3 12	13 48.96	+ 3 8.5	1.820	2.696	12.2	20.0	3 12	13 48.37	- 18 58.5	2.077	2.902	12.9	14.4
3 22	13 43.20	+ 4 5.3	1.777	2.714	8.9	19.8	3 22	13 42.95	- 18 34.5	1.994	2.901	9.8	14.2
4 1	13 35.69	+ 4 59.9	1.759	2.733	5.9	19.7	4 1	13 35.69	- 17 53.7	1.935	2.899	6.3	14.0
4 11	13 27.29	+ 5 45.3	1.769	2.751	5.1	19.7	4 11	13 27.34	- 16 58.4	1.903	2.897	3.1	13.8
4 21	13 18.94	+ 6 16.2	1.805	2.769	7.2	19.8	4 21	13 18.79	- 15 53.0	1.900	2.895	3.4	13.8
5 1	13 11.55	+ 6 29.3	1.867	2.788	10.3	20.0	5 1	13 10.96	- 14 43.8	1.925	2.892	6.8	14.0
5 11	13 5.84	+ 6 23.4	1.952	2.806	13.2	20.3	5 11	13 4.66	- 13 37.7	1.976	2.889	10.4	14.2
5 21	13 2.18	+ 5 59.7	2.056	2.824	15.7	20.5	5 21	13 0.38	- 12 40.1	2.050	2.886	13.5	14.4
222651	2001 <i>XX</i> ₁₇₇		4 12.9 122°40	0°6/13.4	17		317848	2003 <i>TG</i> ₇		4 12.9 185°94	2°7/10.6	16	
3 12	13 48.53	- 12 45.0	1.873	2.724	13.0	20.8	3 12	13 53.36	- 2 5.9	2.180	3.037	11.2	21.3
3 22	13 43.08	- 12 17.2	1.804	2.730	9.5	20.6	3 22	13 46.32	- 1 34.9	2.106	3.037	8.0	21.1
4 1	13 35.74	- 11 36.8	1.759	2.736	5.4	20.4	4 1	13 37.50	- 1 1.3	2.058	3.037	4.7	20.9
4 11	13 27.31	- 10 47.7	1.741	2.742	1.2	20.1	4 11	13 27.64	- 0 29.6	2.040	3.035	2.7	20.7
4 21	13 18.75	- 9 55.1	1.751	2.748	3.4	20.2	4 21	13 17.62	- 0 4.0	2.051	3.033	5.0	20.9
5 1	13 11.02	- 9 5.0	1.789	2.753	7.5	20.5	5 1	13 8.34	+ 0 11.5	2.091	3.029	8.4	21.1
5 11	13 4.94	- 8 23.1	1.852	2.759	11.3	20.7	5 11	13 0.58	+ 0 14.4	2.157	3.025	11.6	21.3
5 21	13 0.97	- 7 53.1	1.937	2.764	14.5	21.0	5 21	12 54.81	+ 0 3.9	2.245	3.020	14.4	21.5
144399	2004 <i>ES</i> ₆		4 12.9 323°98	0°5/13.4	17		436345	2010 <i>JZ</i> ₁₈		4 12.9 217°81	2°7/ 9.5	18	
3 12	13 44.77	- 12 31.8	1.783	2.644	13.1	19.8	3 12	13 45.23	- 0 50.5	2.748	3.613	8.9	21.5
3 22	13 40.65	- 12 6.1	1.696	2.627	9.6	19.6	3 22	13 40.26	- 0 6.1	2.672	3.607	6.4	21.3
4 1	13 34.53	- 11 26.8	1.632	2.611	5.6	19.3	4 1	13 34.03	+ 0 40.1	2.623	3.601	3.8	21.1
4 11	13 27.14	- 10 37.6	1.595	2.596	1.2	19.0	4 11	13 27.07	+ 1 24.0	2.603	3.594	2.8	21.0
4 21	13 19.41	- 9 43.7	1.584	2.581	3.6	19.1	4 21	13 19.98	+ 2 1.7	2.612	3.587	4.6	21.2
5 1	13 12.36	- 8 51.6	1.599	2.566	8.0	19.3	5 1	13 13.39	+ 2 29.7	2.650	3.580	7.2	21.3
5 11	13 6.88	- 8 7.7	1.639	2.553	12.1	19.5	5 11	13 7.84	+ 2 45.8	2.713	3.572	9.8	21.5
5 21	13 3.55	- 7 36.5	1.700	2.539	15.6	19.7	5 21	13 3.71	+ 2 49.0	2.799	3.565	12.0	21.6
345077	2005 <i>JN</i> ₁₁₁		4 12.9 194°11	4°6/ 7.5	18		188663	2005 <i>SC</i> ₁₀₅		4 12.9 189°17	0°8/11.9	17	
3 12	13 46.67	+ 5 15.2	2.491	3.358	9.6	21.2	3 12	13 46.84	- 10 44.8	2.070	2.925	11.8	21.0
3 22	13 41.34	+ 6 10.6	2.426	3.357	7.2	21.1	3 22	13 41.75	- 9 32.1	1.993	2.924	8.4	20.8
4 1	13 34.63	+ 7 3.5	2.388	3.355	5.1	20.9	4 1	13 34.98	- 8 7.1	1.942	2.923	4.6	20.6
4 11	13 27.14	+ 7 48.9	2.379	3.353	4.8	20.9	4 11	13 27.23	- 6 35.4	1.920	2.921	0.9	20.3
4 21	13 19.54	+ 8 22.2	2.398	3.350	6.5	21.0	4 21	13 19.34	- 5 4.0	1.927	2.919	3.9	20.5
5 1	13 12.54	+ 8 40.4	2.444	3.347	8.9	21.2	5 1	13 12.16	- 3 40.2	1.963	2.917	7.8	20.7
5 11	13 6.74	+ 8 42.1	2.514	3.344	11.4	21.3	5 11	13 6.42	- 2 29.7	2.025	2.914	11.3	21.0
5 21	13 2.54	+ 8 27.7	2.604	3.341	13.5	21.5	5 21	13 2.57	- 1 36.3	2.108	2.911	14.3	21.1
303374	2004 <i>VU</i> ₅₆		4 12.9 125°71	3°6/15.9	18		405344	2003 <i>UN</i> ₃₅₂		4 12.9 68°22	2°7/10.9	18	
3 12	13 50.50	- 20 30.6	1.560	2.393	16.2	20.4	3 12	13 50.11	- 5 30.1	1.392	2.271	15.0	21.0
3 22	13 44.90	- 20 16.1	1.491	2.399	12.4	20.2	3 22	13 44.47	- 4 35.8	1.347	2.289	10.6	20.8
4 1	13 36.92	- 19 39.2	1.443	2.406	8.2	20.0	4 1	13 36.57	- 3 34.0	1.324	2.307	5.9	20.6
4 11	13 27.52	- 18 42.2	1.420	2.412	4.4	19.8	4 11	13 27.48	- 2 32.4	1.327	2.325	2.7	20.4
4 21	13 17.93	- 17 30.7	1.424	2.418	4.4	19.8	4 21	13 18.43	- 1 38.7	1.355	2.344	5.9	20.7
5 1	13 9.40	- 16 13.2	1.454	2.424	8.3	20.0	5 1	13 10.61	- 0 59.7	1.410	2.362	10.3	21.0
5 11	13 2.94	- 14 59.1	1.508	2.430	12.4	20.3	5 11	13 4.91	- 0 39.4	1.486	2.380	14.3	21.3
5 21	12 59.09	- 13 55.7	1.584	2.435	16.0	20.5	5 21	13 1.76	- 0 38.4	1.582	2.399	17.6	21.5
438384	2006 <i>TZ</i> ₁₂₄		4 12.9 270°17	2°6/15.9	17		238754	2005 <i>HN</i> ₁₀		4 12.9 276°06	1°0/11.9	17	
3 12	13 44.97	- 20 12.8	2.296	3.117	12.0	20.9	3 12	13 46.88	- 7 49.5	2.085	2.947	11.5	21.3
3 22	13 40.36	- 19 46.3	2.213	3.116	9.2	20.7	3 22	13 41.80	- 7 19.7	2.009	2.943	8.2	21.1
4 1	13 34.18	- 19 3.6	2.154	3.114	6.1	20.5	4 1	13 35.03	- 6 42.3	1.959	2.940	4.5	20.9
4 11	13 27.08	- 18 7.0	2.121	3.113	3.2	20.3	4 11	13 27.25	- 6 1.3	1.936	2.937	1.1	20.6
4 21	13 19.81	- 17 0.5	2.118	3.112	3.3	20.3	4 21	13 19.29	- 5 21.5	1.941	2.934	3.8	20.8
5 1	13 13.18	- 15 49.8	2.142	3.111	6.2	20.5	5 1	13 12.00	- 4 47.7	1.974	2.930	7.6	21.1
5 11	13 7.87	- 14 41.1	2.193	3.110	9.3	20.7	5 11	13 6.13	- 4 23.9	2.032	2.927	11.0	21.3
5 21	13 4.32	- 13 39.7	2.268	3.108	12.2	20.9	5 21	13 2.13	- 4 12.4	2.112	2.924	14.0	21.5
67916	2000 <i>WU</i> ₁₀₅		4 12.9 288°16	1°9/14.9	18		191151	2002 <i>GA</i> ₁₇₃		4 12.9 65°48	4°4/ 8.3	18	
3 12	13 45.47	- 16 59.9	2.330	3.162	11.5	19.7	3 12	13 45.38	- 0 58.6	1.757	2.638	12.3	19.9
3 22	13 40.77	- 16 45.9	2.237	3.149	8.7	19.5	3 22	13 40.83	+ 0 35.8	1.703	2.646	8.7	19.7
4 1	13 34.45	- 16 18.6	2.169	3.137	5.5	19.3	4 1	13 34.48	+ 2 13.7	1.675	2.653	5.5	19.5
4 11	13 27.13	- 15 40.1	2.128	3.124	2.4	19.1	4 11	13 27.15	+ 3 46.4	1.674	2.661	4.6	19.4
4 21	13 19.56	- 14 53.7	2.115	3.111	3.0	19.1	4 21	13 19.76	+ 5 5.8	1.700	2.669	7.1	19.6
5 1	13 12.54	- 14 4.2	2.131	3.099	6.3	19.3	5 1	13 13.23	+ 6 5.7	1.752	2.678	10.5	19.8
5 11	13 6.77	- 13 16.9	2.173	3.086	9.6	19.5	5 11	13 8.30	+ 6 42.7	1.826	2.686	13.8	20.0
5 21	13 2.76	- 12 36.3	2.239	3.074	12.5	19.6	5 21	13 5.39	+ 6 56.8	1.920	2.694	16.5	20.3
523635	2010 <i>DN</i> <												

EPHEMERIDES

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2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
17632	1996 <i>HW</i> ₂₁		4 12.9 43°06'	0.7/13.4	18		91408	1999 <i>NP</i> ₁₁		4 12.9 47°97'	7.4/19.2	18	
3 12	13 48.69	-13 17.4	1.227	2.098	17.1	17.8	3 12	13 50.59	-28 43.1	1.726	2.514	16.7	18.1
3 22	13 43.91	-12 43.2	1.170	2.106	12.5	17.5	3 22	13 45.03	-29 21.8	1.655	2.522	13.8	17.9
4 1	13 36.47	-11 50.1	1.134	2.114	7.2	17.2	4 1	13 37.07	-29 35.9	1.605	2.530	10.8	17.7
4 11	13 27.50	-10 44.1	1.122	2.123	1.5	16.9	4 11	13 27.64	-29 23.8	1.578	2.539	8.2	17.6
4 21	13 18.38	-9 33.7	1.134	2.132	4.4	17.1	4 21	13 17.92	-28 47.3	1.576	2.547	7.4	17.6
5 1	13 10.52	-8 28.7	1.171	2.141	9.9	17.4	5 1	13 9.18	-27 52.1	1.600	2.556	9.0	17.7
5 11	13 5.00	-7 37.5	1.230	2.151	14.7	17.7	5 11	13 2.47	-26 46.9	1.648	2.566	11.8	17.8
5 21	13 2.36	-7 4.9	1.308	2.161	18.6	18.0	5 21	12 58.37	-25 40.5	1.717	2.575	14.7	18.1
171473	3182 <i>T</i> ₋₃		4 12.9 100°13'	0.5/12.5	18		2978	Roudebush		4 12.9 222°15'	0.3/13.3	18	
3 12	13 53.67	-8 55.3	1.645	2.504	14.2	20.7	3 12	13 46.07	-11 50.4	2.751	3.593	9.6	17.8
3 22	13 46.81	-8 37.9	1.591	2.523	10.1	20.5	3 22	13 40.94	-11 25.3	2.662	3.584	7.0	17.6
4 1	13 37.83	-8 11.3	1.562	2.542	5.6	20.2	4 1	13 34.47	-10 51.7	2.599	3.576	4.0	17.4
4 11	13 27.70	-7 39.6	1.559	2.561	0.9	20.0	4 11	13 27.20	-10 12.2	2.565	3.566	0.8	17.1
4 21	13 17.58	-7 8.2	1.584	2.579	4.1	20.2	4 21	13 19.75	-9 30.1	2.561	3.557	2.6	17.3
5 1	13 8.58	-6 42.3	1.637	2.597	8.5	20.5	5 1	13 12.78	-8 49.5	2.586	3.547	5.8	17.5
5 11	13 1.58	-6 26.5	1.714	2.614	12.4	20.8	5 11	13 6.88	-8 14.1	2.639	3.537	8.7	17.6
5 21	12 57.03	-6 22.9	1.812	2.631	15.7	21.0	5 21	13 2.45	-7 46.7	2.715	3.526	11.2	17.8
203418	2001 <i>XM</i> ₂₀₃		4 12.9 151°58'	3.4/10.0	18		367087	2006 <i>QE</i> ₄₃		4 12.9 199°14'	2.0/10.8	14	C
3 12	13 50.79	-3 20.3	1.612	2.485	13.6	20.8	3 12	13 49.44	-5 40.7	2.165	3.025	11.2	22.4
3 22	13 44.87	-2 15.1	1.552	2.491	9.7	20.6	3 22	13 43.58	-4 44.7	2.087	3.021	7.9	22.2
4 1	13 36.82	-1 4.1	1.516	2.497	5.6	20.3	4 1	13 36.02	-3 41.7	2.035	3.016	4.4	21.9
4 11	13 27.55	+0 5.2	1.507	2.503	3.5	20.2	4 11	13 27.46	-2 36.9	2.012	3.011	2.0	21.8
4 21	13 18.18	+1 5.1	1.526	2.508	6.3	20.4	4 21	13 18.70	-1 36.1	2.019	3.004	4.6	21.9
5 1	13 9.81	+1 49.1	1.571	2.512	10.4	20.6	5 1	13 10.63	-0 44.8	2.054	2.997	8.2	22.1
5 11	13 3.35	+2 13.5	1.639	2.516	14.2	20.9	5 11	13 3.97	-0 7.1	2.114	2.989	11.5	22.3
5 21	12 59.27	+2 17.5	1.726	2.519	17.3	21.1	5 21	12 59.19	+0 15.0	2.196	2.981	14.4	22.5
417106	2005 <i>UV</i> ₃₉₂		4 12.9 57°00'	1.4/11.9	18		338591	2003 <i>SW</i> ₁₄₅		4 12.9 199°45'	4.1/17.8	17	
3 12	13 51.12	-6 41.1	1.510	2.381	14.5	20.4	3 12	13 48.58	-25 33.3	2.654	3.434	11.7	22.4
3 22	13 45.10	-6 21.5	1.462	2.400	10.3	20.2	3 22	13 42.88	-25 28.8	2.560	3.430	9.4	22.2
4 1	13 36.90	-5 54.5	1.437	2.420	5.6	20.0	4 1	13 35.61	-25 7.5	2.490	3.426	6.9	22.1
4 11	13 27.56	-5 25.2	1.438	2.439	1.5	19.7	4 11	13 27.39	-24 30.0	2.447	3.421	4.7	21.9
4 21	13 18.23	-4 59.2	1.466	2.459	4.7	20.0	4 21	13 18.96	-23 38.5	2.433	3.415	4.3	21.9
5 1	13 10.08	-4 41.5	1.520	2.479	9.1	20.3	5 1	13 11.10	-22 37.5	2.448	3.408	6.1	22.0
5 11	13 3.95	-4 35.9	1.597	2.498	13.1	20.6	5 11	13 4.49	-21 32.5	2.491	3.401	8.6	22.1
5 21	13 0.29	-4 43.9	1.694	2.519	16.3	20.8	5 21	12 59.62	-20 29.1	2.558	3.394	11.1	22.3
75581	2000 <i>AV</i> ₁₃		4 12.9 145°11'	1.1/13.9	18		236700	2007 <i>EO</i> ₂₈		4 12.9 307°32'	5.5/15.9	17	
3 12	13 50.91	-14 15.9	1.939	2.780	13.1	19.5	3 12	13 52.05	-19 49.6	1.228	2.076	18.7	20.0
3 22	13 44.74	-13 51.3	1.870	2.790	9.6	19.3	3 22	13 46.94	-20 31.3	1.148	2.063	14.7	19.7
4 1	13 36.68	-13 13.1	1.825	2.799	5.7	19.1	4 1	13 38.58	-20 51.6	1.087	2.051	10.2	19.4
4 11	13 27.54	-12 24.9	1.808	2.808	1.7	18.8	4 11	13 27.94	-20 48.7	1.049	2.039	6.2	19.1
4 21	13 18.28	-11 31.5	1.819	2.816	3.3	19.0	4 21	13 16.54	-20 24.3	1.034	2.027	6.3	19.1
5 1	13 9.88	-10 39.0	1.859	2.823	7.3	19.2	5 1	13 6.14	-19 45.0	1.043	2.015	10.5	19.3
5 11	13 3.16	-9 53.2	1.924	2.830	11.0	19.5	5 11	12 58.30	-19 0.8	1.074	2.005	15.4	19.5
5 21	12 58.58	-9 18.2	2.012	2.836	14.1	19.7	5 21	12 53.90	-18 21.2	1.123	1.994	19.8	19.7
508289	2015 <i>KC</i> ₁₅		4 12.9 281°91'	4.4/7.7	18		430149	2013 <i>TP</i> ₅₀		4 12.9 115°18'	0.4/12.6	17	
3 12	13 44.53	+2 40.4	2.263	3.138	10.1	21.3	3 12	13 48.99	-9 47.7	2.271	3.121	11.1	21.6
3 22	13 39.99	+3 49.3	2.196	3.133	7.4	21.1	3 22	13 43.06	-9 17.2	2.211	3.139	7.9	21.5
4 1	13 33.97	+4 58.3	2.156	3.128	5.1	21.0	4 1	13 35.63	-8 38.6	2.177	3.156	4.4	21.3
4 11	13 27.10	+6 1.2	2.143	3.124	4.6	20.9	4 11	13 27.39	-7 55.7	2.171	3.173	0.7	21.0
4 21	13 20.10	+6 52.5	2.159	3.119	6.5	21.0	4 21	13 19.13	-7 12.9	2.195	3.189	3.2	21.2
5 1	13 13.71	+7 28.1	2.201	3.115	9.3	21.2	5 1	13 11.62	-6 34.5	2.248	3.205	6.7	21.5
5 11	13 8.57	+7 45.6	2.267	3.110	12.0	21.4	5 11	13 5.51	-6 4.5	2.327	3.221	9.9	21.7
5 21	13 5.09	+7 45.0	2.352	3.106	14.4	21.5	5 21	13 1.19	-5 45.2	2.429	3.236	12.5	21.9
338530	2003 <i>RO</i> ₁₆		4 12.9 314°00'	5.7/16.6	17		122768	2000 <i>SQ</i> ₇₃		4 12.9 226°24'	2.7/10.5	18	
3 12	13 49.58	-22 5.4	1.605	2.431	16.1	20.4	3 12	13 48.12	-3 53.2	1.879	2.749	12.1	20.2
3 22	13 44.70	-22 47.6	1.507	2.406	12.9	20.2	3 22	13 42.83	-3 6.0	1.808	2.746	8.6	20.0
4 1	13 37.14	-23 11.2	1.429	2.382	9.4	19.9	4 1	13 35.68	-2 13.2	1.761	2.743	4.9	19.7
4 11	13 27.68	-23 14.2	1.376	2.358	6.4	19.6	4 11	13 27.42	-1 20.7	1.742	2.739	2.7	19.6
4 21	13 17.45	-22 57.2	1.347	2.334	6.1	19.6	4 21	13 18.97	-0 34.3	1.751	2.736	5.3	19.7
5 1	13 7.86	-22 24.5	1.344	2.311	9.2	19.7	5 1	13 11.29	+0 0.4	1.787	2.732	9.1	20.0
5 11	13 0.18	-21 43.6	1.364	2.289	13.2	19.8	5 11	13 5.18	+0 20.0	1.847	2.728	12.6	20.2
5 21	12 55.28	-21 2.9	1.405	2.267	17.1	20.0	5 21	13 1.14	+0 22.9	1.927	2.724	15.6	20.4
91293	1999 <i>FD</i> ₂₈		4 12.9 280°61'	6.6/16.0	18		200309	2000 <i>DY</i> ₈₈		4 12.9 40°75'	0.4/13.3	17	
3 12	14 1.01	-22 49.4	1.857	2.651	15.5	18.7	3 12	13 47.02	-12 12.5	1.926	2.780	12.6	21.0
3 22	13 52.93	-24 20.1	1.753	2.631	12.6	18.5	3 22	13 42.02	-11 47.0	1.855	2.783	9.2	20.8
4 1	13 41.83	-25 37.5	1.674	2.612	9.5	18.2	4 1	13 35.21	-11 9.9	1.807	2.785	5.2	20.5
4 11	13 28.47	-26 36.8	1.622	2.592	7.0	18.0	4 11	13 27.34	-10 24.7	1.787	2.788	1.1	20.2
4 21	13 14.08	-27 15.1	1.598	2.572	7.0	18.0	4 21	13 19.31	-9 36.4	1.794	2.791	3.3	20.4
5 1	13 0.17	-27 33.2	1.602	2.551	9.6	18.1	5 1	13 12.05	-8 50.8	1.829	2.793	7.4	20.7
5 11	12 48.19	-27 36.2	1.633	2.531	13.1	18.2	5 11	13 6.33	-8 13.0	1.889	2.796	11.1	20.9
5 21	12 39.11	-27 31.3	1.686	2.511	16.4	18.4	5 21	13 2.63	-7 46.7	1.970	2.799	14.2	21.1
34183	Yeshdoctor		4 12.9 134°01'	0.1/12.8	18		36447	2000 <i>QB</i> ₁		4 12.9 309°19'	3.4/14.9	18	
3 12	13 46.16	-10 37.7	2.696	3									

EPHEMERIDES

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2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
464789	2004 AQ ₁₃	4 12.9 67°24'		3°3'/10.4 16			375814	2009 UF ₁₆	4 12.9 126°03'		2°4'/14.9 17		
3 12	13 50.06	- 3 20.9	1.450	2.329	14.5	22.0	3 12	13 52.61	-16 41.7	2.092	2.918	12.8	21.5
3 22	13 44.42	- 2 29.2	1.402	2.345	10.2	21.7	3 22	13 45.94	-16 53.2	2.022	2.930	9.7	21.3
4 1	13 36.58	- 1 32.6	1.378	2.360	5.8	21.5	4 1	13 37.39	-16 51.6	1.976	2.942	6.1	21.1
4 11	13 27.56	- 0 38.6	1.379	2.376	3.4	21.4	4 11	13 27.75	-16 38.3	1.958	2.953	2.9	20.9
4 21	13 18.55	+ 0 5.6	1.406	2.391	6.3	21.6	4 21	13 17.97	-16 16.0	1.969	2.964	3.4	21.0
5 1	13 10.70	+ 0 34.2	1.459	2.407	10.5	21.9	5 1	13 9.01	-15 49.3	2.009	2.974	6.8	21.2
5 11	13 4.90	+ 0 44.0	1.534	2.422	14.3	22.2	5 11	13 1.67	-15 23.0	2.075	2.984	10.1	21.4
5 21	13 1.58	+ 0 35.0	1.628	2.438	17.5	22.4	5 21	12 56.43	-15 1.6	2.164	2.994	13.1	21.6
247401	2002 AV ₂₀₈	4 12.9		4°14' 23°8'/ 6.4 17			83323	2001 RE ₁₂₅	4 12.9 165°29'		2°6'/ 9.8 18		
3 12	13 56.22	-53 45.8	1.231	1.882	28.5	19.3	3 12	13 45.43	- 2 43.4	2.520	3.385	9.6	20.5
3 22	13 52.44	-57 4.1	1.177	1.881	27.4	19.1	3 22	13 40.50	- 1 44.3	2.452	3.388	6.8	20.3
4 1	13 43.06	-59 40.7	1.133	1.881	26.3	19.0	4 1	13 34.23	- 0 41.7	2.412	3.391	4.0	20.1
4 11	13 28.87	-61 21.7	1.101	1.882	25.2	18.9	4 11	13 27.23	+ 0 19.4	2.400	3.394	2.6	20.0
4 21	13 12.36	-61 57.8	1.081	1.886	24.4	18.9	4 21	13 20.13	+ 1 14.3	2.418	3.396	4.6	20.2
5 1	12 57.41	-61 27.8	1.073	1.890	23.9	18.9	5 1	13 13.62	+ 1 58.8	2.465	3.398	7.5	20.4
5 11	12 47.46	-60 2.3	1.078	1.896	23.9	18.9	5 11	13 8.26	+ 2 29.8	2.536	3.400	10.2	20.5
5 21	12 44.09	-57 57.4	1.095	1.904	24.3	18.9	5 21	13 4.43	+ 2 46.3	2.630	3.402	12.6	20.7
379368	2009 WU ₂₁₄	4 12.9 152°28'		0°3'/13.2 17			297221	2011 OF ₁₈	4 12.9 252°65'		0°0'/12.9 18		
3 12	13 49.16	-11 45.8	2.117	2.965	11.9	22.2	3 12	13 39.22	-10 10.5	4.976	5.818	5.6	21.7
3 22	13 43.40	-11 21.1	2.046	2.971	8.6	22.0	3 22	13 35.63	- 9 49.5	4.882	5.805	4.0	21.5
4 1	13 35.93	-10 46.1	1.999	2.976	4.9	21.8	4 1	13 31.39	- 9 24.5	4.815	5.792	2.3	21.4
4 11	13 27.48	-10 4.0	1.980	2.981	0.9	21.5	4 11	13 26.76	- 8 57.0	4.778	5.779	0.4	21.2
4 21	13 18.90	- 9 19.5	1.990	2.986	3.2	21.7	4 21	13 22.05	- 8 28.8	4.771	5.766	1.6	21.3
5 1	13 11.06	- 8 37.4	2.029	2.991	7.0	21.9	5 1	13 17.57	- 8 1.7	4.795	5.753	3.4	21.4
5 11	13 4.69	- 8 2.6	2.094	2.995	10.4	22.2	5 11	13 13.61	- 7 37.6	4.848	5.740	5.1	21.6
5 21	13 0.25	- 7 38.3	2.181	2.998	13.4	22.4	5 21	13 10.39	- 7 18.0	4.925	5.726	6.7	21.7
257230	2009 DR ₆₄	4 12.9 289°16'		1°6'/11.7 17			71384	2000 AQ ₁₅₁	4 12.9 165°07'		3°8'/ 9.7 18		
3 12	13 48.86	- 7 48.0	1.484	2.357	14.6	20.5	3 12	13 51.08	- 0 53.8	1.801	2.671	12.5	19.2
3 22	13 44.03	- 7 6.3	1.396	2.336	10.5	20.2	3 22	13 44.96	- 0 2.5	1.738	2.675	9.0	18.9
4 1	13 36.69	- 6 12.2	1.332	2.315	5.9	19.9	4 1	13 36.88	+ 0 51.3	1.700	2.678	5.4	18.7
4 11	13 27.66	- 5 11.5	1.293	2.294	1.7	19.6	4 11	13 27.67	+ 1 41.2	1.689	2.681	3.8	18.6
4 21	13 18.10	- 4 11.7	1.280	2.273	5.3	19.8	4 21	13 18.35	+ 2 21.0	1.707	2.684	6.3	18.8
5 1	13 9.31	- 3 20.9	1.293	2.251	10.4	20.0	5 1	13 9.91	+ 2 45.9	1.751	2.686	9.9	19.0
5 11	13 2.45	- 2 46.0	1.328	2.230	15.1	20.2	5 11	13 3.20	+ 2 53.3	1.818	2.687	13.4	19.2
5 21	12 58.25	- 2 30.6	1.381	2.209	19.2	20.4	5 21	12 58.70	+ 2 42.9	1.906	2.688	16.3	19.4
457431	2008 UL ₅₃	4 12.9 239°72'		0°1'/13.0 17			423599	2005 WM ₂₄	4 12.9 92°72'		3°7'/10.1 18		
3 12	13 51.58	-11 59.8	1.682	2.536	14.1	22.4	3 12	13 51.98	+ 0 18.3	1.806	2.676	12.5	21.3
3 22	13 45.75	-11 23.0	1.592	2.521	10.4	22.1	3 22	13 45.50	+ 0 47.0	1.753	2.689	9.0	21.1
4 1	13 37.55	-10 31.0	1.526	2.505	5.9	21.8	4 1	13 37.12	+ 1 15.7	1.724	2.702	5.5	20.9
4 11	13 27.80	- 9 28.2	1.487	2.489	1.0	21.4	4 11	13 27.71	+ 1 39.2	1.723	2.715	3.8	20.8
4 21	13 17.60	- 8 20.7	1.476	2.472	4.1	21.6	4 21	13 18.29	+ 1 52.7	1.749	2.728	6.0	21.0
5 1	13 8.16	- 7 16.5	1.492	2.454	9.0	21.8	5 1	13 9.84	+ 1 53.0	1.803	2.740	9.5	21.2
5 11	13 0.56	- 6 22.9	1.532	2.435	13.4	22.0	5 11	13 3.15	+ 1 38.4	1.880	2.752	12.8	21.4
5 21	12 55.46	- 5 44.8	1.593	2.416	17.3	22.2	5 21	12 58.67	+ 1 9.3	1.978	2.764	15.6	21.6
297493	2000 VQ ₂₁	4 12.9 140°18'		0°9'/11.9 17			494248	2016 QE ₁₃	4 12.9 295°49'		2°8'/15.3 16		
3 12	13 46.23	- 7 23.4	2.828	3.679	9.1	21.8	3 12	13 47.85	-17 58.2	2.000	2.832	13.1	21.7
3 22	13 40.93	- 6 54.5	2.759	3.689	6.4	21.6	3 22	13 42.88	-18 0.7	1.901	2.811	10.1	21.5
4 1	13 34.42	- 6 20.5	2.718	3.698	3.5	21.4	4 1	13 35.88	-17 48.2	1.825	2.790	6.6	21.2
4 11	13 27.24	- 5 44.5	2.706	3.707	0.9	21.3	4 11	13 27.55	-17 21.5	1.776	2.770	3.4	21.0
4 21	13 20.01	- 5 9.8	2.725	3.716	3.0	21.4	4 21	13 18.77	-16 43.8	1.754	2.749	3.7	21.0
5 1	13 13.31	- 4 39.9	2.772	3.724	5.9	21.6	5 1	13 10.57	-15 59.9	1.760	2.728	7.3	21.1
5 11	13 7.68	- 4 17.4	2.847	3.732	8.6	21.8	5 11	13 3.85	-15 16.1	1.791	2.708	11.0	21.3
5 21	13 3.47	- 4 4.2	2.945	3.739	10.8	22.0	5 21	12 59.25	-14 38.0	1.844	2.687	14.4	21.5
106779	2000 XP ₁₉	4 12.9 213°34'		1°4'/14.0 18			221309	2005 VK ₅	4 12.9 248°16'		3°9'/16.5 17		
3 12	13 52.81	-14 1.4	1.817	2.659	13.8	20.2	3 12	13 49.90	-21 55.4	2.060	2.871	13.6	20.5
3 22	13 46.45	-13 56.7	1.734	2.654	10.2	20.0	3 22	13 44.31	-21 53.5	1.961	2.855	10.7	20.3
4 1	13 37.85	-13 38.5	1.674	2.647	6.2	19.7	4 1	13 36.67	-21 33.1	1.885	2.839	7.4	20.1
4 11	13 27.84	-13 9.1	1.640	2.640	2.0	19.4	4 11	13 27.68	-20 54.8	1.836	2.822	4.5	19.9
4 21	13 17.47	-12 32.6	1.636	2.632	3.6	19.5	4 21	13 18.27	-20 1.6	1.814	2.805	4.3	19.8
5 1	13 7.90	-11 54.5	1.659	2.624	7.9	19.8	5 1	13 9.49	-18 58.8	1.820	2.787	7.3	20.0
5 11	13 0.11	-11 21.0	1.707	2.615	12.0	20.0	5 11	13 2.26	-17 53.7	1.853	2.769	10.8	20.1
5 21	12 54.70	-10 56.6	1.777	2.606	15.5	20.2	5 21	12 57.20	-16 53.0	1.908	2.750	14.1	20.3
261935	2006 OM ₂	4 12.9 277°83'		1°0'/13.7 17			453909	2011 UA ₃₂₇	4 12.9 153°54'		0°3'/13.2 18		
3 12	13 50.04	-13 34.3	1.623	2.477	14.6	21.5	3 12	13 50.81	-13 1.9	1.868	2.715	13.3	22.2
3 22	13 44.83	-13 13.4	1.526	2.453	10.8	21.2	3 22	13 44.75	-12 15.0	1.799	2.724	9.6	22.0
4 1	13 37.14	-12 36.4	1.452	2.429	6.4	20.9	4 1	13 36.75	-11 14.3	1.755	2.732	5.5	21.7
4 11	13 27.75	-11 46.1	1.404	2.405	1.7	20.6	4 11	13 27.67	-10 4.3	1.738	2.739	1.0	21.4
4 21	13 17.77	-10 48.0	1.383	2.380	3.9	20.6	4 21	13 18.47	- 8 51.5	1.750	2.746	3.5	21.6
5 1	13 8.46	- 9 49.4	1.388	2.355	9.0	20.9	5 1	13 10.17	- 7 43.0	1.791	2.752	7.8	21.9
5 11	13 0.98	- 8 58.2	1.417	2.330	13.7	21.1	5 11	13 3.57	- 6 45.0	1.857	2.758	11.6	22.2
5 21	12 56.08	- 8 20.3	1.467	2.305	17.8	21.3	5 21	12 59.16	- 6 1.5	1.945	2.762	14.8	22.4
338339	2002 WG ₈	4 12.9 90°94'		0°9'/11.9 18			112022	2002 GG ₁₇₆	4 12.9 234°96'		2°5'/14.8 18		
3 1													

EPHEMERIDES

4 12.9

4 12.9

2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
155226	2005 <i>VV</i> ₇₀		4 12.9 131°03	1°1/11.9	18		197826	2004 <i>PL</i> ₈₄		4 12.9 177°52	3°7/ 8.5	17	
3 12	13 48.34	− 8 30.3	1.896	2.758	12.4	20.8	3 12	13 46.77	− 0 13.5	2.357	3.225	10.1	20.7
3 22	13 42.95	− 7 46.8	1.830	2.764	8.9	20.6	3 22	13 41.54	+ 1 6.9	2.291	3.227	7.2	20.5
4 1	13 35.74	− 6 54.1	1.789	2.770	4.8	20.4	4 1	13 34.87	+ 2 29.8	2.253	3.228	4.6	20.3
4 11	13 27.50	− 5 57.3	1.775	2.776	1.2	20.1	4 11	13 27.37	+ 3 48.8	2.243	3.229	3.8	20.3
4 21	13 19.15	− 5 2.1	1.789	2.782	4.1	20.4	4 21	13 19.78	+ 4 58.3	2.263	3.230	5.8	20.4
5 1	13 11.61	− 4 14.6	1.831	2.787	8.1	20.6	5 1	13 12.81	+ 5 53.2	2.311	3.229	8.7	20.6
5 11	13 5.66	− 3 39.2	1.898	2.792	11.7	20.8	5 11	13 7.10	+ 6 30.8	2.383	3.229	11.4	20.7
5 21	13 1.76	− 3 18.6	1.986	2.797	14.7	21.0	5 21	13 3.04	+ 6 50.3	2.477	3.227	13.8	20.9
195556	2002 <i>JB</i> ₆₉		4 12.9 293°81	6°6/ 7.5	18		324342	2006 <i>PB</i> ₂₇		4 12.9 227°30	2°2/14.9	17	
3 12	13 50.49	+ 7 49.6	1.801	2.674	12.4	19.1	3 12	13 50.70	− 17 19.1	2.005	2.834	13.2	21.6
3 22	13 44.67	+ 8 35.6	1.732	2.662	9.6	18.8	3 22	13 44.84	− 17 2.8	1.912	2.823	10.0	21.4
4 1	13 36.79	+ 9 15.9	1.687	2.651	7.2	18.7	4 1	13 36.94	− 16 30.4	1.844	2.811	6.3	21.2
4 11	13 27.69	+ 9 43.3	1.669	2.639	6.8	18.6	4 11	13 27.74	− 15 44.0	1.802	2.799	2.8	20.9
4 21	13 18.35	+ 9 52.5	1.676	2.628	8.8	18.7	4 21	13 18.19	− 14 47.7	1.789	2.785	3.5	20.9
5 1	13 9.83	+ 9 40.1	1.709	2.617	11.9	18.9	5 1	13 9.32	− 13 47.6	1.805	2.772	7.3	21.1
5 11	13 3.01	+ 9 5.9	1.764	2.606	15.0	19.0	5 11	13 2.02	− 12 50.3	1.846	2.757	11.1	21.3
5 21	12 58.43	+ 8 12.0	1.838	2.595	17.7	19.2	5 21	12 56.90	− 12 1.5	1.910	2.742	14.5	21.5
279530	2011 <i>BM</i> ₅₂		4 12.9 91°26	0°5/13.3	18		436670	2011 <i>SH</i> ₆₉		4 12.9 248°58	4°3/ 7.1	16	
3 12	13 52.00	− 11 33.1	1.816	2.666	13.4	21.3	3 12	13 45.47	+ 4 4.5	2.695	3.562	9.0	22.3
3 22	13 45.54	− 11 20.2	1.760	2.687	9.7	21.1	3 22	13 40.58	+ 5 16.0	2.612	3.544	6.7	22.1
4 1	13 37.15	− 10 56.5	1.730	2.707	5.5	20.9	4 1	13 34.35	+ 6 27.4	2.557	3.525	4.8	22.0
4 11	13 27.73	− 10 25.4	1.726	2.727	1.1	20.6	4 11	13 27.30	+ 7 33.4	2.531	3.505	4.5	21.9
4 21	13 18.31	− 9 51.6	1.750	2.747	3.4	20.8	4 21	13 20.05	+ 8 29.0	2.534	3.485	6.3	22.0
5 1	13 9.88	− 9 20.3	1.803	2.766	7.6	21.1	5 1	13 13.26	+ 9 10.1	2.565	3.465	8.7	22.1
5 11	13 3.24	− 8 56.2	1.880	2.785	11.3	21.4	5 11	13 7.51	+ 9 34.6	2.620	3.444	11.1	22.3
5 21	12 58.84	− 8 42.5	1.980	2.804	14.3	21.6	5 21	13 3.22	+ 9 41.8	2.696	3.423	13.3	22.4
369565	2011 <i>BW</i> ₁₄		4 12.9 137°05	1°8/14.7	17		11163	Milešovka		4 12.9 166°90	2°6/ 9.6	18	
3 12	13 48.94	− 17 10.5	1.984	2.818	13.1	21.2	3 12	13 45.21	− 2 25.0	2.610	3.475	9.3	18.2
3 22	13 43.37	− 16 37.4	1.913	2.827	9.8	21.0	3 22	13 40.32	− 1 23.3	2.543	3.479	6.6	18.0
4 1	13 35.97	− 15 48.3	1.867	2.836	6.0	20.8	4 1	13 34.15	− 0 18.5	2.503	3.482	3.9	17.9
4 11	13 27.55	− 14 46.5	1.847	2.845	2.4	20.6	4 11	13 27.26	+ 0 44.7	2.492	3.485	2.7	17.8
4 21	13 19.02	− 13 37.3	1.856	2.853	3.2	20.6	4 21	13 20.30	+ 1 41.5	2.510	3.487	4.6	17.9
5 1	13 11.31	− 12 27.3	1.893	2.861	7.0	20.9	5 1	13 13.89	+ 2 27.8	2.557	3.489	7.4	18.1
5 11	13 5.21	− 11 23.3	1.957	2.868	10.6	21.1	5 11	13 8.58	+ 3 0.8	2.630	3.490	10.0	18.3
5 21	13 1.16	− 10 30.1	2.043	2.875	13.7	21.3	5 21	13 4.76	+ 3 19.4	2.725	3.492	12.3	18.4
219686	2001 <i>WE</i> ₃₇		4 12.9 185°00	1°9/10.9	17 R		85934	1999 <i>CF</i> ₁₄₈		4 12.9 268°66	1°6/11.6	18	
3 12	13 49.67	− 4 37.1	2.401	3.257	10.3	22.1	3 12	13 48.01	− 7 33.9	1.767	2.635	12.9	20.2
3 22	13 43.62	− 3 56.5	2.326	3.258	7.3	21.9	3 22	13 43.01	− 6 47.0	1.685	2.622	9.3	19.9
4 1	13 36.03	− 3 11.2	2.277	3.257	4.1	21.7	4 1	13 35.95	− 5 50.0	1.626	2.608	5.1	19.7
4 11	13 27.56	− 2 25.5	2.258	3.256	1.9	21.6	4 11	13 27.59	− 4 48.2	1.595	2.595	1.6	19.4
4 21	13 18.95	− 1 43.8	2.269	3.254	4.2	21.7	4 21	13 18.91	− 3 48.2	1.590	2.582	4.7	19.6
5 1	13 10.97	− 1 10.2	2.309	3.251	7.4	21.9	5 1	13 10.96	− 2 56.8	1.613	2.568	9.1	19.8
5 11	13 4.28	− 0 48.0	2.374	3.248	10.5	22.1	5 11	13 4.64	− 2 19.5	1.660	2.554	13.1	20.0
5 21	12 59.33	− 0 38.7	2.463	3.244	13.1	22.3	5 21	13 0.55	− 1 59.4	1.727	2.540	16.5	20.2
243128	2007 <i>RA</i> ₂₅₉		4 12.9 292°65	0°7/12.2	18		500374	2012 <i>TB</i> ₅₅		4 12.9 103°76	3°0/16.7	17	
3 12	13 44.54	− 11 10.5	1.942	2.803	12.2	20.3	3 12	13 46.28	− 22 19.0	2.454	3.260	11.8	20.9
3 22	13 40.33	− 10 3.2	1.859	2.792	8.8	20.1	3 22	13 41.19	− 21 49.7	2.383	3.275	9.1	20.8
4 1	13 34.35	− 8 42.1	1.800	2.782	4.9	19.8	4 1	13 34.66	− 21 4.0	2.337	3.290	6.2	20.6
4 11	13 27.30	− 7 12.7	1.769	2.771	0.9	19.5	4 11	13 27.35	− 20 4.3	2.318	3.305	3.6	20.5
4 21	13 20.01	− 5 42.3	1.767	2.760	3.9	19.7	4 21	13 19.99	− 18 54.6	2.328	3.319	3.4	20.5
5 1	13 13.39	− 4 18.4	1.792	2.750	8.0	19.9	5 1	13 13.32	− 17 40.4	2.367	3.334	5.8	20.6
5 11	13 8.21	− 3 7.7	1.842	2.740	11.8	20.1	5 11	13 7.96	− 16 27.7	2.433	3.348	8.6	20.8
5 21	13 4.98	− 2 14.3	1.913	2.729	15.1	20.3	5 21	13 4.28	− 15 21.5	2.523	3.362	11.2	21.0
363103	2000 <i>TU</i> ₄₇		4 12.9 178°61	2°5/10.8	18		292801	2006 <i>UA</i> ₂₄₁		4 12.9 186°87	2°2/10.2	18	
3 12	13 52.53	− 3 44.4	1.924	2.786	12.3	21.4	3 12	13 45.73	− 2 47.5	2.774	3.636	8.9	21.1
3 22	13 45.96	− 3 4.7	1.854	2.788	8.7	21.2	3 22	13 40.65	− 2 4.5	2.701	3.635	6.3	20.9
4 1	13 37.44	− 2 20.2	1.810	2.790	5.0	20.9	4 1	13 34.33	− 1 18.6	2.655	3.634	3.7	20.8
4 11	13 27.80	− 1 36.2	1.793	2.790	2.5	20.8	4 11	13 27.30	− 0 33.8	2.638	3.633	2.2	20.7
4 21	13 18.00	− 0 58.1	1.806	2.790	5.1	20.9	4 21	13 20.17	+ 0 6.2	2.651	3.631	4.1	20.8
5 1	13 9.03	− 0 30.8	1.846	2.790	8.9	21.2	5 1	13 13.55	+ 0 37.8	2.693	3.630	6.8	21.0
5 11	13 1.72	− 0 17.5	1.911	2.788	12.5	21.4	5 11	13 7.98	+ 0 58.5	2.760	3.627	9.4	21.1
5 21	12 56.59	− 0 19.6	1.997	2.786	15.5	21.6	5 21	13 3.82	+ 1 7.2	2.851	3.625	11.7	21.3
173910	2001 <i>VF</i> ₃₁		4 12.9 100°43	3°4/ 9.5	18		146249	2000 <i>YN</i> ₆		4 12.9 237°78	4°7/18.8	18	
3 12	13 47.51	+ 0 36.7	2.290	3.158	10.3	20.0	3 12	13 47.64	− 28 18.5	2.950	3.711	11.1	20.6
3 22	13 42.07	+ 1 13.3	2.229	3.164	7.4	19.8	3 22	13 42.23	− 28 27.2	2.845	3.697	9.2	20.4
4 1	13 35.15	+ 1 50.1	2.194	3.171	4.6	19.6	4 1	13 35.33	− 28 19.9	2.763	3.682	7.1	20.3
4 11	13 27.42	+ 2 22.5	2.188	3.177	3.4	19.5	4 11	13 27.48	− 27 56.4	2.708	3.667	5.3	20.1
4 21	13 19.62	+ 2 46.3	2.210	3.184	5.3	19.7	4 21	13 19.37	− 27 18.0	2.682	3.652	4.8	20.1
5 1	13 12.50	+ 2 58.4	2.260	3.190	8.2	19.9	5 1	13 11.70	− 26 28.0	2.684	3.636	6.0	20.1
5 11	13 6.69	+ 2 56.9	2.334	3.197	11.0	20.1	5 11	13 5.15	− 25 31.1	2.713	3.620	8.1	20.2
5 21	13 2.60	+ 2 41.7	2.430	3.203	13.4	20.2	5 21	13 0.17	− 24 32.6	2.767	3.604	10.4	20.4
177805	2005 <i>LC</i> <												

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2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
198473	2004 <i>XK</i> ₃₃		4 12.9 256°53	2°8/10.4	18		347325	2011 <i>SM</i> ₁₁₇		4 12.9 267°18	2°7/15.5	17	
3 12	13 48.22	- 2 56.6	1.984	2.853	11.6	20.2	3 12	13 48.72	-18 11.5	2.324	3.146	11.9	20.5
3 22	13 42.93	- 2 13.6	1.906	2.843	8.3	19.9	3 22	13 43.19	-18 23.5	2.236	3.140	9.1	20.3
4 1	13 35.81	- 1 26.2	1.853	2.833	4.8	19.7	4 1	13 35.94	-18 22.9	2.173	3.134	6.0	20.1
4 11	13 27.58	- 0 39.6	1.827	2.823	2.8	19.6	4 11	13 27.63	-18 10.4	2.137	3.129	3.2	19.9
4 21	13 19.10	+ 0 0.7	1.830	2.813	5.3	19.7	4 21	13 19.04	-17 48.4	2.130	3.123	3.4	19.9
5 1	13 11.31	+ 0 29.7	1.860	2.802	8.9	19.9	5 1	13 11.04	-17 20.7	2.151	3.117	6.3	20.1
5 11	13 4.99	+ 0 44.0	1.914	2.792	12.4	20.1	5 11	13 4.37	-16 52.0	2.198	3.111	9.5	20.3
5 21	13 0.66	+ 0 42.4	1.988	2.781	15.4	20.3	5 21	12 59.56	-16 26.7	2.269	3.105	12.3	20.5
308073	2004 <i>TV</i> ₂₂₈		4 12.9 133°00	0°6/13.4	18		203253	2001 <i>QU</i> ₁₁₆		4 12.9 201°22	3°0/15.5	16	
3 12	13 52.89	-12 30.7	1.683	2.533	14.3	22.2	3 12	13 52.54	-19 9.0	1.834	2.658	14.4	21.4
3 22	13 46.42	-12 8.9	1.619	2.544	10.4	21.9	3 22	13 46.31	-18 56.2	1.749	2.654	11.1	21.1
4 1	13 37.78	-11 33.9	1.579	2.556	6.0	21.7	4 1	13 37.83	-18 24.8	1.687	2.650	7.2	20.9
4 11	13 27.90	-10 49.5	1.565	2.566	1.3	21.4	4 11	13 27.96	-17 36.5	1.651	2.644	3.6	20.6
4 21	13 17.91	-10 1.3	1.580	2.576	3.7	21.6	4 21	13 17.75	-16 35.6	1.643	2.638	3.9	20.6
5 1	13 8.94	- 9 15.7	1.622	2.586	8.2	21.9	5 1	13 8.38	-15 28.9	1.664	2.631	7.7	20.9
5 11	13 1.90	- 8 38.7	1.688	2.595	12.2	22.1	5 11	13 0.80	-14 24.2	1.710	2.623	11.7	21.1
5 21	12 57.31	- 8 14.2	1.776	2.603	15.6	22.4	5 21	12 55.63	-13 28.2	1.778	2.615	15.2	21.3
213509	2002 <i>GU</i> ₉₁		4 12.9 244°54	2°3/11.3	17		363626	2004 <i>RA</i> ₁₁		4 12.9 68°06	19°0/27.3	18	
3 12	13 53.74	- 3 52.9	1.814	2.676	12.9	20.1	3 12	14 4.06	+15 12.1	0.791	1.679	22.3	20.5
3 22	13 47.16	- 3 31.4	1.727	2.661	9.3	19.8	3 22	13 54.69	+22 31.2	0.820	1.732	19.4	20.5
4 1	13 38.32	- 3 5.1	1.665	2.645	5.3	19.6	4 1	13 42.11	+28 30.9	0.877	1.785	19.2	20.7
4 11	13 28.02	- 2 38.5	1.630	2.629	2.3	19.3	4 11	13 28.53	+32 47.4	0.959	1.836	21.1	21.1
4 21	13 17.31	- 2 16.7	1.624	2.612	5.2	19.5	4 21	13 16.13	+35 22.7	1.060	1.886	23.4	21.4
5 1	13 7.32	- 2 4.4	1.646	2.594	9.4	19.7	5 1	13 6.57	+36 33.2	1.177	1.934	25.4	21.8
5 11	12 59.06	- 2 5.1	1.692	2.576	13.4	19.9	5 11	13 0.64	+36 39.9	1.303	1.981	27.0	22.1
5 21	12 53.17	- 2 20.3	1.758	2.557	16.8	20.1	5 21	12 58.35	+36 1.5	1.437	2.026	27.9	22.4
340674	2006 <i>RG</i> ₄₃		4 12.9 83°00	0°9/11.9	17		334614	2002 <i>UG</i> ₄₅		4 12.9 128°09	1°5/10.9	17	
3 12	13 45.95	- 8 43.6	2.304	3.161	10.7	20.9	3 12	13 46.51	- 5 51.3	2.737	3.592	9.2	22.0
3 22	13 40.92	- 7 56.1	2.248	3.180	7.6	20.7	3 22	13 41.14	- 4 59.7	2.677	3.609	6.5	21.8
4 1	13 34.50	- 7 1.3	2.219	3.199	4.1	20.5	4 1	13 34.58	- 4 3.5	2.645	3.626	3.6	21.7
4 11	13 27.35	- 6 3.6	2.217	3.218	1.0	20.3	4 11	13 27.38	- 3 6.8	2.643	3.641	1.5	21.5
4 21	13 20.19	- 5 7.9	2.245	3.237	3.4	20.5	4 21	13 20.17	- 2 13.7	2.671	3.657	3.6	21.7
5 1	13 13.74	- 4 18.9	2.302	3.256	6.8	20.8	5 1	13 13.55	- 1 28.3	2.728	3.672	6.4	21.9
5 11	13 8.58	- 3 40.5	2.384	3.274	9.8	21.0	5 11	13 8.05	- 0 53.3	2.812	3.686	9.0	22.1
5 21	13 5.08	- 3 14.6	2.489	3.293	12.3	21.2	5 21	13 3.98	- 0 30.3	2.919	3.699	11.3	22.3
53407	1999 <i>KC</i> ₁₇		4 12.9 159°33	1°6/14.9	18		286335	2001 <i>XP</i> ₁₅		4 12.9 55°61	7°0/7.9	18	
3 12	13 45.65	-17 29.2	2.552	3.377	10.8	19.3	3 12	13 55.04	+12 47.1	2.030	2.884	12.0	19.9
3 22	13 40.74	-16 55.6	2.472	3.381	8.1	19.1	3 22	13 47.41	+13 3.8	1.989	2.903	9.5	19.7
4 1	13 34.44	-16 8.9	2.418	3.385	5.0	18.9	4 1	13 38.09	+13 9.2	1.974	2.923	7.5	19.6
4 11	13 27.35	-15 11.9	2.392	3.388	2.1	18.7	4 11	13 27.96	+12 58.7	1.986	2.942	7.1	19.7
4 21	13 20.14	-14 8.6	2.395	3.391	2.6	18.7	4 21	13 17.98	+12 29.6	2.026	2.962	8.6	19.8
5 1	13 13.53	-13 3.9	2.427	3.394	5.7	18.9	5 1	13 9.05	+11 42.0	2.093	2.982	10.9	20.0
5 11	13 8.10	-12 3.0	2.487	3.396	8.7	19.1	5 11	13 1.87	+10 37.6	2.183	3.002	13.3	20.2
5 21	13 4.26	-11 10.1	2.571	3.399	11.3	19.3	5 21	12 56.80	+ 9 19.8	2.294	3.022	15.3	20.3
381523	2008 <i>SB</i> ₂₁₉		4 12.9 197°22	1°9/14.9	17		136062	2002 <i>XJ</i> ₇₆		4 12.9 131°49	0°5/12.4	18	
3 12	13 48.65	-16 54.6	2.256	3.085	11.9	21.7	3 12	13 47.55	- 8 56.5	2.481	3.332	10.2	20.2
3 22	13 43.11	-16 39.6	2.172	3.082	9.0	21.5	3 22	13 42.06	- 8 29.5	2.413	3.342	7.3	20.1
4 1	13 35.86	-16 11.0	2.112	3.080	5.6	21.3	4 1	13 35.17	- 7 55.8	2.372	3.351	4.0	19.9
4 11	13 27.60	-15 31.0	2.080	3.077	2.4	21.1	4 11	13 27.50	- 7 18.4	2.359	3.361	0.7	19.6
4 21	13 19.12	-14 43.2	2.077	3.073	3.1	21.1	4 21	13 19.76	- 6 41.4	2.376	3.370	3.0	19.8
5 1	13 11.28	-13 52.6	2.103	3.070	6.4	21.3	5 1	13 12.65	- 6 8.6	2.422	3.379	6.3	20.1
5 11	13 4.83	-13 4.8	2.155	3.065	9.8	21.5	5 11	13 6.77	- 5 43.3	2.495	3.387	9.3	20.3
5 21	13 0.25	-12 24.2	2.231	3.061	12.7	21.7	5 21	13 2.51	- 5 27.9	2.590	3.395	11.9	20.4
290770	2005 <i>UG</i> ₅₂₃		4 12.9 294°83	1°1/11.8	17		80136	1999 <i>TV</i> ₂₂		4 12.9 24°97	1°6/12.0	18	
3 12	13 44.32	- 8 51.4	2.162	3.024	11.1	21.0	3 12	13 51.03	- 7 28.8	1.097	1.982	17.6	19.3
3 22	13 40.07	- 7 57.1	2.073	3.008	7.9	20.7	3 22	13 45.94	- 7 3.4	1.041	1.986	12.6	19.0
4 1	13 34.20	- 6 52.6	2.010	2.992	4.4	20.5	4 1	13 37.86	- 6 26.2	1.005	1.990	7.0	18.7
4 11	13 27.32	- 5 42.9	1.975	2.976	1.1	20.2	4 11	13 27.99	- 5 44.0	0.993	1.994	1.7	18.4
4 21	13 20.20	- 4 33.5	1.968	2.960	3.9	20.4	4 21	13 17.88	- 5 5.0	1.004	1.999	5.8	18.7
5 1	13 13.64	- 3 30.5	1.989	2.944	7.6	20.6	5 1	13 9.15	- 4 37.3	1.039	2.005	11.4	19.0
5 11	13 8.36	- 2 39.2	2.036	2.929	11.1	20.8	5 11	13 3.01	- 4 26.5	1.094	2.010	16.5	19.3
5 21	13 4.85	- 2 2.7	2.104	2.913	14.1	20.9	5 21	13 0.05	- 4 34.8	1.167	2.017	20.6	19.6
200229	1999 <i>UU</i> ₂₈		4 12.9 284°41	0°8/12.3	18		501319	2013 <i>WF</i> ₁₀₄		4 12.9 165°92	4°3/18.0	17	
3 12	13 48.91	- 8 16.6	1.846	2.708	12.7	20.2	3 12	13 48.83	-26 6.8	2.464	3.246	12.5	22.0
3 22	13 43.58	- 7 56.4	1.766	2.700	9.1	20.0	3 22	13 43.16	-25 52.8	2.380	3.251	10.0	21.8
4 1	13 36.24	- 7 27.5	1.710	2.692	5.1	19.7	4 1	13 35.87	-25 20.0	2.319	3.255	7.3	21.6
4 11	13 27.67	- 6 54.0	1.682	2.683	1.0	19.4	4 11	13 27.64	-24 29.6	2.285	3.259	5.0	21.5
4 21	13 18.82	- 6 20.7	1.681	2.675	4.0	19.6	4 21	13 19.26	-23 24.5	2.280	3.262	4.4	21.4
5 1	13 10.70	- 5 52.7	1.707	2.667	8.2	19.9	5 1	13 11.56	-22 10.1	2.303	3.265	6.2	21.6
5 11	13 4.18	- 5 34.7	1.758	2.659	12.1	20.1	5 11	13 5.25	-20 52.9	2.354	3.267	8.9	21.7
5 21	12 59.84	- 5 29.2	1.830	2.651	15.4	20.3	5 21	13 0.75	-19 38.9	2.429	3.269	11.5	21.9
266305	2007 <i>CW</i> ₁₁		4 12.9 120°12	6°8/19.7	17		269509	2009 <i>UQ</i> ₉₈		4 12.9 7			

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2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
170827	2004 EG ₅₉		4 12.9 352°35	0°7/12.4	17		303393	2004 XL ₇₀		4 12.9 166°88	0°6/12.5	18	
3 12	13 47.10	- 8 22.6	1.819	2.685	12.7	19.8	3 12	13 52.62	- 9 20.3	1.836	2.690	13.1	21.2
3 22	13 42.26	- 8 4.9	1.746	2.681	9.1	19.6	3 22	13 46.16	- 8 50.8	1.766	2.695	9.4	21.0
4 1	13 35.50	- 7 38.8	1.697	2.679	5.0	19.3	4 1	13 37.66	- 8 11.4	1.720	2.700	5.2	20.8
4 11	13 27.59	- 7 8.4	1.675	2.677	0.9	19.0	4 11	13 27.98	- 7 26.4	1.702	2.703	0.9	20.5
4 21	13 19.47	- 6 38.2	1.680	2.675	3.9	19.2	4 21	13 18.12	- 6 41.2	1.712	2.706	3.9	20.7
5 1	13 12.10	- 6 13.3	1.712	2.674	8.1	19.5	5 1	13 9.15	- 6 1.6	1.751	2.709	8.2	21.0
5 11	13 6.33	- 5 58.0	1.768	2.673	11.9	19.7	5 11	13 1.93	- 5 32.4	1.814	2.710	12.1	21.2
5 21	13 2.67	- 5 54.8	1.845	2.673	15.1	19.9	5 21	12 56.97	- 5 16.4	1.899	2.711	15.3	21.4
59110	1998 WR ₃₁		4 12.9 151°59	4°1/16.3	18		488997	2005 UL ₄₆₀		4 12.9 108°41	6°1/20.2	16	
3 12	13 54.48	-21 19.7	1.759	2.574	15.3	19.3	3 12	13 48.67	-31 25.6	1.978	2.744	15.6	21.5
3 22	13 47.71	-21 26.7	1.686	2.583	11.9	19.1	3 22	13 43.37	-30 56.4	1.902	2.756	12.9	21.4
4 1	13 38.61	-21 13.7	1.636	2.591	8.2	18.9	4 1	13 36.08	-29 59.7	1.847	2.767	9.9	21.2
4 11	13 28.12	-20 41.7	1.611	2.599	4.8	18.7	4 11	13 27.70	-28 36.3	1.817	2.778	7.2	21.0
4 21	13 17.40	-19 54.1	1.615	2.605	4.7	18.7	4 21	13 19.26	-26 51.1	1.814	2.789	6.1	21.0
5 1	13 7.68	-18 57.4	1.645	2.611	7.9	18.9	5 1	13 11.77	-24 52.1	1.838	2.800	7.6	21.1
5 11	13 59.94	-17 59.7	1.701	2.617	11.6	19.2	5 11	13 6.06	-22 49.6	1.890	2.811	10.3	21.3
5 21	12 54.76	-17 7.9	1.780	2.621	15.0	19.4	5 21	13 2.57	-20 53.0	1.966	2.821	13.2	21.5
359409	2010 JO ₁₁₈		4 12.9 223°95	2°9/10.8	16		130191	2000 AS ₉₂		4 12.9 138°29	13°4/21.9	18	
3 12	13 52.57	- 3 30.5	1.660	2.529	13.5	21.3	3 12	14 1.85	-37 12.3	1.376	2.120	22.2	20.1
3 22	13 46.39	- 2 51.2	1.584	2.522	9.7	21.0	3 22	13 54.41	-38 53.7	1.309	2.128	19.6	19.9
4 1	13 37.91	- 2 6.2	1.533	2.514	5.6	20.8	4 1	13 43.03	-40 1.3	1.259	2.137	16.8	19.7
4 11	13 28.02	- 1 21.6	1.508	2.505	2.9	20.6	4 11	13 28.95	-40 26.5	1.229	2.144	14.4	19.6
4 21	13 17.81	- 0 43.6	1.511	2.496	5.8	20.7	4 21	13 14.10	-40 6.2	1.220	2.151	13.4	19.6
5 1	13 8.46	- 0 18.1	1.540	2.487	10.1	21.0	5 1	13 0.71	-39 5.4	1.233	2.158	14.1	19.6
5 11	13 0.98	- 0 8.9	1.593	2.477	14.1	21.2	5 11	12 50.55	-37 37.3	1.268	2.164	16.2	19.8
5 21	12 55.97	- 0 17.3	1.665	2.466	17.6	21.4	5 21	12 44.51	-35 57.4	1.322	2.169	18.8	19.9
161880	2007 CP ₄₄		4 12.9 153°10	5°2/ 7.3	16		303365	2004 VX ₁₇		4 12.9 118°04	0°1/13.1	18	
3 12	13 48.30	+ 3 27.1	2.061	2.933	11.1	21.1	3 12	13 51.59	-12 41.8	1.722	2.573	14.0	21.3
3 22	13 42.79	+ 4 53.0	2.006	2.940	8.2	20.9	3 22	13 45.38	-11 51.5	1.665	2.591	10.1	21.1
4 1	13 35.65	+ 6 18.0	1.978	2.947	5.8	20.8	4 1	13 37.17	-10 47.1	1.631	2.609	5.7	20.9
4 11	13 27.61	+ 7 34.7	1.977	2.953	5.4	20.8	4 11	13 27.88	- 9 34.3	1.625	2.627	1.0	20.6
4 21	13 19.51	+ 8 36.5	2.005	2.959	7.4	20.9	4 21	13 18.60	- 8 19.9	1.648	2.643	3.7	20.8
5 1	13 12.18	+ 9 19.0	2.059	2.965	10.3	21.1	5 1	13 10.35	- 7 11.5	1.698	2.659	8.1	21.1
5 11	13 6.31	+ 9 40.3	2.137	2.969	13.0	21.3	5 11	13 3.96	- 6 15.3	1.773	2.675	12.0	21.4
5 21	13 2.33	+ 9 41.0	2.234	2.974	15.4	21.5	5 21	12 59.87	- 5 34.9	1.869	2.689	15.2	21.6
399686	2004 TS ₇₂		4 12.9 173°00	2°9/10.6	18		227783	2006 WK ₁₇₈		4 12.9 338°55	1°4/14.1	17	
3 12	13 53.41	- 2 41.9	1.940	2.802	12.2	21.7	3 12	13 44.37	-14 43.8	1.328	2.197	16.2	19.6
3 22	13 46.59	- 2 0.9	1.872	2.806	8.7	21.5	3 22	13 41.00	-14 19.1	1.250	2.184	12.1	19.3
4 1	13 37.85	- 1 16.0	1.830	2.809	5.0	21.3	4 1	13 35.11	-13 34.4	1.193	2.172	7.2	19.0
4 11	13 27.99	- 0 32.8	1.816	2.812	2.9	21.1	4 11	13 27.59	-12 33.7	1.160	2.160	2.2	18.6
4 21	13 18.00	+ 0 3.4	1.831	2.814	5.4	21.3	4 21	13 19.64	-11 24.0	1.151	2.150	4.1	18.7
5 1	13 8.86	+ 0 27.9	1.874	2.815	9.1	21.5	5 1	13 12.61	-10 14.7	1.167	2.141	9.4	19.0
5 11	13 1.39	+ 0 37.8	1.942	2.815	12.5	21.7	5 11	13 7.62	- 9 15.3	1.204	2.132	14.3	19.3
5 21	12 56.09	+ 0 32.2	2.031	2.814	15.4	21.9	5 21	13 5.35	- 8 32.1	1.261	2.125	18.5	19.5
454114	2013 CE ₇₉		4 12.9 82°13	0°7/13.5	18		374129	2004 TY ₁₀₆		4 12.9 166°25	0°6/13.5	17	
3 12	13 51.37	-14 3.0	1.329	2.190	16.7	21.4	3 12	13 50.28	-11 49.9	2.011	2.859	12.4	20.8
3 22	13 45.66	-13 19.4	1.278	2.208	12.2	21.2	3 22	13 44.41	-11 40.0	1.936	2.861	9.1	20.6
4 1	13 37.46	-12 17.4	1.248	2.227	7.0	20.9	4 1	13 36.67	-11 19.8	1.886	2.863	5.2	20.4
4 11	13 27.92	-11 3.2	1.244	2.245	1.6	20.6	4 11	13 27.83	-10 52.1	1.863	2.864	1.2	20.1
4 21	13 18.39	- 9 45.4	1.266	2.263	4.2	20.9	4 21	13 18.79	-10 20.8	1.869	2.866	3.2	20.3
5 1	13 10.17	- 8 33.5	1.313	2.281	9.3	21.2	5 1	13 10.50	- 9 50.7	1.903	2.867	7.2	20.5
5 11	13 4.23	- 7 35.4	1.384	2.299	13.8	21.5	5 11	13 3.77	- 9 26.5	1.962	2.868	10.8	20.7
5 21	13 1.04	- 6 55.7	1.474	2.316	17.5	21.8	5 21	12 59.09	- 9 11.4	2.044	2.868	13.9	20.9
513891	2013 TY ₆₀		4 12.9 254°45	1°9/16.7	18		61806	2000 QZ ₁₈₅		4 12.9 239°68	0°3/13.2	18	
3 12	13 39.87	-20 58.9	4.573	5.370	6.9	21.3	3 12	13 49.84	-11 29.0	2.091	2.938	12.0	20.2
3 22	13 36.22	-20 45.4	4.479	5.365	5.3	21.1	3 22	13 44.15	-11 8.3	2.001	2.926	8.8	19.9
4 1	13 31.82	-20 23.6	4.410	5.361	3.6	21.0	4 1	13 36.58	-10 36.9	1.935	2.913	5.0	19.7
4 11	13 26.98	-19 54.7	4.371	5.356	2.2	20.9	4 11	13 27.83	- 9 57.9	1.898	2.899	1.0	19.4
4 21	13 22.06	-19 20.3	4.361	5.351	2.1	20.9	4 21	13 18.75	- 9 15.4	1.889	2.885	3.3	19.5
5 1	13 17.42	-18 42.7	4.382	5.347	3.4	21.0	5 1	13 10.29	- 8 34.8	1.908	2.870	7.3	19.7
5 11	13 13.38	-18 4.2	4.430	5.342	5.1	21.1	5 11	13 3.28	- 8 1.0	1.954	2.855	11.1	19.9
5 21	13 10.20	-17 27.4	4.505	5.337	6.7	21.2	5 21	12 58.28	- 7 37.7	2.022	2.840	14.3	20.1
54420	2000 LT ₂₀		4 12.9 138°03	13°2/25.5	18		285723	2000 SS ₃₀₉		4 12.9 207°66	3°6/ 7.9	18	
3 12	13 55.13	-42 12.6	1.451	2.167	22.4	17.9	3 12	13 44.17	- 0 58.8	2.540	3.409	9.4	20.5
3 22	13 49.26	-42 57.3	1.379	2.174	20.0	17.7	3 22	13 39.69	+ 0 43.6	2.469	3.406	6.7	20.3
4 1	13 39.91	-43 2.0	1.322	2.180	17.3	17.5	4 1	13 33.90	+ 2 29.8	2.426	3.402	4.3	20.2
4 11	13 28.38	-42 20.4	1.283	2.186	14.9	17.4	4 11	13 27.36	+ 4 13.4	2.414	3.398	3.7	20.1
4 21	13 16.45	-40 51.9	1.265	2.192	13.4	17.3	4 21	13 20.70	+ 5 47.8	2.431	3.395	5.7	20.2
5 1	13 6.03	-38 44.1	1.269	2.197	13.5	17.3	5 1	13 14.57	+ 7 7.5	2.477	3.390	8.4	20.4
5 11	12 58.59	-36 12.0	1.295	2.202	15.1	17.4	5 11	13 9.53	+ 8 9.2	2.549	3.386	11.0	20.6
5 21	12 54.80	-33 32.2	1.342	2.206	17.6	17.6	5 21	13 5.99	+ 8 51.5	2.641	3.381	13.3	20.7
315443	2007 WL ₂₄		4 12.9 89°51	3°5/10.4	18		264199						

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4 12.9

4 12.9

2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
87563	2000 <i>RP</i> ₆		4 12.9 141°91	0°0/12.9 18			462597	2009 <i>HL</i> ₁₇		4 12.9 299°78	0°2/12.8 17		
3 12	13 49.69	-10 54.1	2.393	3.236	10.8	20.1	3 12	13 48.28	-10 56.4	1.425	2.295	15.3	21.8
3 22	13 43.64	-10 25.7	2.325	3.249	7.8	19.9	3 22	13 43.78	-10 25.0	1.339	2.276	11.2	21.5
4 1	13 36.09	-9 48.7	2.284	3.261	4.4	19.7	4 1	13 36.71	-9 38.1	1.275	2.256	6.4	21.2
4 11	13 27.72	-9 6.3	2.271	3.273	0.7	19.5	4 11	13 27.90	-8 40.4	1.236	2.237	1.0	20.8
4 21	13 19.29	-8 22.7	2.288	3.284	2.9	19.7	4 21	13 18.54	-7 38.8	1.222	2.218	4.5	21.0
5 1	13 11.54	-7 42.3	2.335	3.294	6.4	19.9	5 1	13 9.99	-6 41.8	1.233	2.200	9.9	21.2
5 11	13 5.13	-7 8.9	2.408	3.303	9.5	20.1	5 11	13 3.44	-5 57.5	1.267	2.181	14.8	21.4
5 21	13 0.46	-6 45.4	2.505	3.312	12.2	20.3	5 21	12 59.61	-5 30.8	1.320	2.163	19.1	21.6
467264	2016 <i>EX</i> ₁₈₁		4 12.9 337°63	2°1/14.4 17			33677	Truell		4 12.9 64°13	5°5/ 9.1 18		
3 12	13 50.14	-14 42.8	1.522	2.376	15.4	20.8	3 12	13 51.10	+ 1 16.6	1.347	2.232	15.0	18.5
3 22	13 44.89	-14 49.1	1.447	2.372	11.5	20.6	3 22	13 45.47	+ 2 16.7	1.297	2.239	10.9	18.3
4 1	13 37.19	-14 40.0	1.394	2.368	7.1	20.3	4 1	13 37.41	+ 3 17.2	1.269	2.247	7.0	18.1
4 11	13 27.94	-14 17.8	1.366	2.364	2.7	20.0	4 11	13 27.97	+ 4 8.8	1.266	2.254	5.6	18.0
4 21	13 18.33	-13 46.4	1.364	2.361	4.0	20.1	4 21	13 18.46	+ 4 43.9	1.288	2.262	8.3	18.2
5 1	13 9.64	-13 12.2	1.388	2.358	8.6	20.4	5 1	13 10.16	+ 4 57.3	1.334	2.270	12.3	18.4
5 11	13 2.95	-12 42.0	1.435	2.356	13.0	20.6	5 11	13 4.03	+ 4 47.4	1.401	2.278	16.2	18.7
5 21	12 58.89	-12 21.0	1.503	2.354	16.8	20.8	5 21	13 0.59	+ 4 15.6	1.487	2.286	19.4	18.9
375890	2009 <i>VN</i> ₇₂		4 12.9 182°98	2°9/ 9.7 17			148732	2001 <i>TA</i> ₉₄		4 12.9 172°46	1°3/14.2 17		
3 12	13 48.68	- 1 24.4	2.510	3.371	9.8	22.1	3 12	13 48.94	-14 55.5	1.838	2.683	13.5	20.4
3 22	13 42.90	- 0 30.0	2.439	3.372	7.0	21.9	3 22	13 43.62	-14 30.2	1.763	2.685	10.0	20.2
4 1	13 35.69	+ 0 27.0	2.394	3.372	4.2	21.7	4 1	13 36.30	-13 50.0	1.712	2.685	6.0	20.0
4 11	13 27.66	+ 1 21.7	2.380	3.371	2.9	21.6	4 11	13 27.80	-12 58.1	1.687	2.686	1.9	19.7
4 21	13 19.52	+ 2 9.5	2.395	3.370	4.9	21.7	4 21	13 19.09	-11 59.9	1.689	2.687	3.3	19.8
5 1	13 11.98	+ 2 46.2	2.439	3.368	7.8	21.9	5 1	13 11.20	-11 1.8	1.720	2.687	7.5	20.1
5 11	13 5.65	+ 3 9.4	2.508	3.365	10.6	22.1	5 11	13 4.97	-10 10.4	1.775	2.687	11.4	20.3
5 21	13 0.95	+ 3 18.0	2.599	3.362	12.9	22.3	5 21	13 0.92	- 9 30.4	1.853	2.687	14.7	20.5
153759	2001 <i>UX</i> ₂₁₆		4 12.9 258°00	0°5/13.4 17			158502	2002 <i>EP</i> ₅₉		4 12.9 340°75	0°5/12.5 17		
3 12	13 49.60	-12 0.0	1.812	2.665	13.3	20.5	3 12	13 46.02	-10 37.8	1.600	2.469	14.0	20.1
3 22	13 44.20	-11 41.6	1.728	2.655	9.8	20.2	3 22	13 41.74	- 9 54.3	1.527	2.464	10.1	19.8
4 1	13 36.69	-11 10.9	1.668	2.646	5.6	20.0	4 1	13 35.33	- 8 57.3	1.477	2.459	5.6	19.6
4 11	13 27.86	-10 31.2	1.634	2.636	1.2	19.6	4 11	13 27.64	- 7 52.2	1.453	2.455	0.9	19.2
4 21	13 18.69	- 9 47.3	1.629	2.625	3.6	19.8	4 21	13 19.71	- 6 46.1	1.456	2.451	4.2	19.4
5 1	13 10.26	- 9 5.1	1.650	2.615	8.0	20.0	5 1	13 12.61	- 5 46.5	1.484	2.448	8.8	19.7
5 11	13 3.49	- 8 30.4	1.697	2.605	12.1	20.3	5 11	13 7.27	- 5 0.1	1.536	2.445	13.0	19.9
5 21	12 58.97	- 8 7.4	1.764	2.594	15.6	20.5	5 21	13 4.24	- 4 30.5	1.608	2.443	16.6	20.2
492195	2013 <i>RZ</i> ₃₅		4 12.9 212°88	2°4/10.4 17			206897	2004 <i>HJ</i> ₂₈		4 12.9 343°62	2°3/10.9 17		
3 12	13 49.25	- 3 26.3	2.309	3.169	10.5	22.5	3 12	13 44.07	- 5 34.3	1.635	2.515	13.0	19.4
3 22	13 43.49	- 2 39.0	2.228	3.161	7.5	22.3	3 22	13 40.30	- 4 47.7	1.561	2.505	9.3	19.2
4 1	13 36.10	- 1 47.1	2.173	3.153	4.3	22.1	4 1	13 34.52	- 3 53.0	1.511	2.495	5.2	18.9
4 11	13 27.74	- 0 55.4	2.148	3.144	2.5	21.9	4 11	13 27.52	- 2 56.2	1.486	2.486	2.3	18.7
4 21	13 19.18	- 0 8.9	2.152	3.134	4.7	22.0	4 21	13 20.24	- 2 4.2	1.488	2.477	5.3	18.9
5 1	13 11.22	+ 0 27.8	2.184	3.123	8.0	22.2	5 1	13 13.74	- 1 23.7	1.515	2.470	9.5	19.1
5 11	13 4.57	+ 0 51.5	2.242	3.112	11.1	22.4	5 11	13 8.87	- 0 59.3	1.565	2.464	13.5	19.3
5 21	12 59.69	+ 1 0.5	2.322	3.100	13.9	22.6	5 21	13 6.19	- 0 53.1	1.635	2.458	16.9	19.5
165310	2000 <i>UP</i> ₃₆		4 12.9 93°97	1°1/12.1 18			365942	2012 <i>AE</i> ₉		4 12.9 113°98	3°7/ 9.8 18		
3 12	13 51.89	- 8 37.6	1.525	2.391	14.7	20.4	3 12	13 49.21	- 2 57.3	1.582	2.459	13.6	21.2
3 22	13 45.78	- 7 57.6	1.473	2.409	10.4	20.2	3 22	13 43.88	- 1 46.2	1.525	2.467	9.7	21.0
4 1	13 37.46	- 7 7.1	1.444	2.426	5.7	20.0	4 1	13 36.44	- 0 29.6	1.492	2.473	5.7	20.8
4 11	13 27.97	- 6 12.3	1.442	2.443	1.3	19.7	4 11	13 27.83	+ 0 44.6	1.486	2.480	3.8	20.7
4 21	13 18.46	- 5 20.0	1.466	2.460	4.6	20.0	4 21	13 19.11	+ 1 48.1	1.506	2.487	6.6	20.9
5 1	13 10.10	- 4 36.9	1.517	2.476	9.2	20.3	5 1	13 11.39	+ 2 34.6	1.553	2.493	10.5	21.1
5 11	13 3.77	- 4 7.9	1.592	2.492	13.2	20.6	5 11	13 5.53	+ 3 0.3	1.622	2.499	14.3	21.3
5 21	12 59.93	- 3 55.2	1.686	2.508	16.5	20.8	5 21	13 2.00	+ 3 4.7	1.710	2.505	17.4	21.6
508401	2016 <i>GY</i> ₂₂₅		4 12.9 302°46	8°0/19.7 18			503304	2016 <i>AV</i> ₁₁₀		4 12.9 4°25	3°5/10.6 17		
3 12	13 47.82	-30 16.3	1.642	2.430	17.5	20.5	3 12	13 47.73	- 3 53.1	1.175	2.067	16.2	20.9
3 22	13 43.53	-30 37.4	1.543	2.408	14.7	20.3	3 22	13 43.43	- 3 7.6	1.118	2.066	11.6	20.6
4 1	13 36.61	-30 30.4	1.464	2.387	11.7	20.0	4 1	13 36.45	- 2 14.6	1.082	2.066	6.6	20.3
4 11	13 27.89	-29 52.7	1.406	2.367	9.0	19.8	4 11	13 27.85	- 1 22.7	1.069	2.067	3.5	20.2
4 21	13 18.53	-28 45.0	1.373	2.346	8.0	19.7	4 21	13 19.02	- 0 40.5	1.081	2.069	6.9	20.4
5 1	13 9.92	-27 13.6	1.364	2.325	9.7	19.7	5 1	13 11.38	- 0 15.5	1.115	2.072	11.9	20.6
5 11	13 3.31	-25 29.1	1.379	2.305	13.0	19.9	5 11	13 6.05	- 0 11.8	1.170	2.075	16.5	20.9
5 21	12 59.48	-23 43.1	1.415	2.286	16.5	20.0	5 21	13 3.59	- 0 29.8	1.242	2.080	20.3	21.2
84104	2002 <i>RN</i> ₁₃		4 12.9 147°12	1°7/10.9 18			523047	2016 <i>QE</i> ₇		4 12.9 36°55	0°6/13.7 17		
3 12	13 46.72	- 5 26.4	2.603	3.460	9.6	20.3	3 12	13 46.00	-13 5.0	2.196	3.044	11.5	21.4
3 22	13 41.42	- 4 37.7	2.537	3.470	6.8	20.1	3 22	13 41.22	-12 39.0	2.121	3.045	8.4	21.2
4 1	13 34.83	- 3 44.1	2.498	3.479	3.8	19.9	4 1	13 34.86	-12 1.9	2.071	3.047	4.9	21.0
4 11	13 27.53	- 2 50.0	2.489	3.487	1.7	19.8	4 11	13 27.57	-11 16.9	2.048	3.049	1.2	20.8
4 21	13 20.16	- 1 59.7	2.509	3.495	3.8	20.0	4 21	13 20.12	-10 28.3	2.054	3.051	2.9	20.9
5 1	13 13.39	- 1 17.2	2.559	3.503	6.7	20.2	5 1	13 13.33	- 9 41.2	2.088	3.053	6.6	21.1
5 11	13 7.77	- 0 45.6	2.634	3.510	9.5	20.4	5 11	13 7.88	- 9 0.5	2.147	3.055	9.9	21.3
5 21	13 3.66	- 0 26.5	2.733	3.516	11.9	20.5	5 21	13 4.20	- 8 29.7	2.230	3.057	12.8	21.5
292387	2006 <i>SS</i> ₂₆₆		4 12.9 136°23	1°3/14.5 17			312531	2009 <i>DB</i> ₁₃₀		4 12.9 29°17	0°7/12.5 18		

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2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
471832	2012 <i>XD</i> ₆₂	4 12.9 212°89		0°1/13.1 17			289273	2004 <i>XV</i> ₁₄₇	4 13.0 186°25		2°6/10.8 18		
3 12	13 45.49	-12 23.4	2.438	3.284	10.6	21.8	3 12	13 52.18	-4 14.3	1.855	2.719	12.6	21.2
3 22	13 40.75	-11 36.6	2.355	3.280	7.7	21.6	3 22	13 45.88	-3 26.8	1.784	2.719	9.0	20.9
4 1	13 34.56	-10 39.0	2.298	3.275	4.3	21.4	4 1	13 37.57	-2 33.4	1.738	2.718	5.1	20.7
4 11	13 27.52	-9 34.4	2.269	3.271	0.8	21.1	4 11	13 28.09	-1 39.9	1.720	2.717	2.6	20.5
4 21	13 20.32	-8 27.4	2.270	3.266	2.9	21.2	4 21	13 18.41	-0 52.3	1.730	2.715	5.3	20.7
5 1	13 13.69	-7 23.4	2.300	3.261	6.4	21.5	5 1	13 9.56	-0 16.2	1.768	2.712	9.2	20.9
5 11	13 8.24	-6 27.3	2.357	3.255	9.5	21.7	5 11	13 2.41	+0 4.6	1.830	2.709	12.8	21.1
5 21	13 4.41	-5 42.6	2.436	3.250	12.3	21.8	5 21	12 57.47	+0 8.7	1.913	2.705	15.9	21.3
522784	2016 <i>NT</i> ₇₇	4 13.0 194°35		0°8/12.0 17			381483	2008 <i>SW</i> ₆₇	4 13.0 246°69		1°7/11.6 18		
3 12	13 45.19	-9 18.3	2.512	3.366	10.0	22.2	3 12	13 51.81	-4 30.8	2.152	3.009	11.3	20.8
3 22	13 40.46	-8 27.1	2.434	3.365	7.2	22.0	3 22	13 45.53	-4 16.6	2.064	2.995	8.1	20.5
4 1	13 34.37	-7 27.5	2.383	3.363	3.9	21.8	4 1	13 37.39	-3 58.3	2.001	2.981	4.6	20.3
4 11	13 27.48	-6 23.8	2.360	3.361	0.9	21.5	4 11	13 28.07	-3 39.3	1.967	2.966	1.8	20.0
4 21	13 20.47	-5 20.6	2.367	3.359	3.2	21.7	4 21	13 18.43	-3 23.6	1.962	2.951	4.2	20.2
5 1	13 14.01	-4 22.9	2.402	3.357	6.5	21.9	5 1	13 9.40	-3 14.8	1.986	2.936	8.0	20.4
5 11	13 8.70	-3 34.8	2.465	3.354	9.6	22.1	5 11	13 1.79	-3 16.0	2.035	2.920	11.5	20.6
5 21	13 4.92	-2 59.1	2.550	3.351	12.1	22.3	5 21	12 56.16	-3 28.6	2.107	2.904	14.5	20.7
44795	1999 <i>TU</i> ₁₈₀	4 13.0 280°44		2°5/11.0 18			407920	2012 <i>CJ</i> ₁₅	4 13.0 108°12		2°5/10.8 18		
3 12	13 49.50	-5 39.9	1.577	2.450	13.9	19.0	3 12	13 50.38	-5 36.0	1.685	2.554	13.3	21.2
3 22	13 44.45	-4 51.6	1.489	2.429	10.0	18.7	3 22	13 44.56	-4 34.5	1.632	2.570	9.4	21.0
4 1	13 37.01	-3 53.5	1.426	2.408	5.6	18.4	4 1	13 36.78	-3 25.8	1.603	2.585	5.2	20.8
4 11	13 27.98	-2 51.8	1.388	2.387	2.5	18.2	4 11	13 27.94	-2 16.9	1.602	2.600	2.5	20.7
4 21	13 18.45	-1 54.0	1.377	2.365	5.7	18.3	4 21	13 19.09	-1 14.9	1.628	2.615	5.3	20.9
5 1	13 9.66	-1 7.6	1.391	2.344	10.5	18.5	5 1	13 11.24	-0 26.1	1.681	2.629	9.3	21.1
5 11	13 2.69	-0 38.6	1.429	2.322	14.9	18.7	5 11	13 5.20	+0 5.4	1.758	2.643	13.0	21.4
5 21	12 58.24	-0 29.6	1.486	2.300	18.7	18.9	5 21	13 1.41	+0 18.5	1.856	2.656	16.0	21.6
213604	2002 <i>PU</i> ₈₆	4 13.0 300°88		3°3/15.1 17			65065	2002 <i>AL</i> ₁₈₄	4 13.0 210°35		2°4/15.5 18		
3 12	13 50.17	-17 11.9	1.449	2.298	16.3	20.1	3 12	13 48.57	-17 54.7	2.591	3.409	10.9	19.9
3 22	13 45.39	-17 24.2	1.352	2.272	12.6	19.8	3 22	13 42.98	-18 0.7	2.503	3.406	8.3	19.7
4 1	13 37.78	-17 18.2	1.277	2.246	8.2	19.5	4 1	13 35.85	-17 55.2	2.441	3.402	5.4	19.5
4 11	13 28.16	-16 54.1	1.225	2.220	4.0	19.1	4 11	13 27.80	-17 39.1	2.406	3.398	2.8	19.4
4 21	13 17.73	-16 15.1	1.198	2.195	4.7	19.1	4 21	13 19.52	-17 14.9	2.401	3.394	3.0	19.4
5 1	13 7.99	-15 27.7	1.197	2.169	9.4	19.3	5 1	13 11.78	-16 45.9	2.424	3.390	5.8	19.5
5 11	13 0.28	-14 40.7	1.218	2.144	14.4	19.5	5 11	13 5.23	-16 16.5	2.475	3.386	8.7	19.7
5 21	12 55.50	-14 2.1	1.259	2.119	18.8	19.7	5 21	13 0.35	-15 50.5	2.550	3.381	11.3	19.9
108880	2001 <i>OC</i> ₁₀₆	4 13.0 178°96		4°8/16.9 18			267201	2000 <i>SZ</i> ₉₂	4 13.0 140°67		2°0/15.1 17		
3 12	13 53.87	-23 13.2	2.101	2.898	13.8	19.8	3 12	13 47.12	-18 45.7	1.930	2.762	13.5	20.3
3 22	13 47.17	-23 43.6	2.017	2.899	11.0	19.6	3 22	13 42.23	-17 54.5	1.854	2.766	10.2	20.1
4 1	13 38.35	-23 56.9	1.957	2.900	8.0	19.4	4 1	13 35.51	-16 44.2	1.802	2.770	6.4	19.9
4 11	13 28.20	-23 52.5	1.923	2.901	5.4	19.3	4 11	13 27.74	-15 18.9	1.777	2.774	2.6	19.6
4 21	13 17.72	-23 31.8	1.918	2.901	5.1	19.3	4 21	13 19.83	-13 44.9	1.781	2.778	3.2	19.7
5 1	13 7.98	-22 59.0	1.940	2.900	7.4	19.4	5 1	13 12.72	-12 10.3	1.813	2.782	7.1	19.9
5 11	12 59.90	-22 20.3	1.988	2.899	10.4	19.6	5 11	13 7.20	-10 42.9	1.871	2.785	10.8	20.2
5 21	12 54.08	-21 41.7	2.060	2.898	13.4	19.8	5 21	13 3.72	-9 28.7	1.951	2.788	14.0	20.4
92368	2000 <i>HC</i> ₄₇	4 13.0 279°69		0°3/13.2 16			507912	2014 <i>WQ</i> ₁₃₅	4 13.0 273°96		1°4/14.1 17		
3 12	13 51.34	-11 32.9	1.449	2.312	15.5	20.1	3 12	13 48.66	-15 11.5	1.585	2.437	14.9	21.6
3 22	13 46.08	-11 15.0	1.359	2.291	11.4	19.8	3 22	13 43.85	-14 40.5	1.500	2.425	11.1	21.3
4 1	13 38.08	-10 42.2	1.290	2.270	6.6	19.4	4 1	13 36.67	-13 51.1	1.437	2.412	6.7	21.0
4 11	13 28.20	-9 57.8	1.247	2.248	1.3	19.0	4 11	13 27.97	-12 46.7	1.400	2.400	2.1	20.7
4 21	13 17.67	-9 7.9	1.229	2.226	4.4	19.2	4 21	13 18.86	-11 33.8	1.390	2.387	3.8	20.8
5 1	13 7.90	-8 20.1	1.238	2.204	9.9	19.4	5 1	13 10.56	-10 20.6	1.406	2.375	8.7	21.0
5 11	13 0.18	-7 42.3	1.269	2.182	14.9	19.6	5 11	13 4.13	-9 15.7	1.445	2.362	13.2	21.2
5 21	12 55.30	-7 19.7	1.319	2.160	19.2	19.8	5 21	13 0.22	-8 25.3	1.506	2.349	17.1	21.4
105959	2000 <i>SX</i> ₂₅₅	4 13.0 293°66		1°7/11.8 17			417470	2006 <i>QK</i> ₁₄₆	4 13.0 151°31		2°9/15.7 16		
3 12	13 50.56	-6 53.9	1.386	2.262	15.2	19.6	3 12	13 53.25	-19 4.5	2.143	2.957	13.0	22.6
3 22	13 45.41	-6 25.3	1.309	2.249	11.0	19.3	3 22	13 46.50	-19 6.7	2.068	2.968	9.9	22.4
4 1	13 37.62	-5 46.6	1.254	2.237	6.2	19.0	4 1	13 37.87	-18 53.8	2.018	2.977	6.5	22.2
4 11	13 28.11	-5 3.4	1.223	2.224	1.8	18.7	4 11	13 28.15	-18 27.0	1.995	2.986	3.5	22.0
4 21	13 18.13	-4 22.5	1.219	2.212	5.4	18.9	4 21	13 18.25	-17 49.5	2.001	2.994	3.6	22.0
5 1	13 9.07	-3 51.3	1.239	2.200	10.6	19.1	5 1	13 9.16	-17 6.2	2.036	3.001	6.7	22.2
5 11	13 2.12	-3 35.5	1.281	2.188	15.3	19.4	5 11	13 1.66	-16 23.1	2.098	3.008	10.0	22.4
5 21	12 57.97	-3 37.8	1.342	2.176	19.4	19.6	5 21	12 56.28	-15 45.0	2.183	3.013	13.0	22.7
14532	1997 <i>QM</i>	4 13.0 337°74		5°0/7.9 18			333875	1997 <i>SP</i> ₂₃	4 13.0 202°44		0°3/13.3 17		
3 12	13 45.91	-0 59.9	1.628	2.511	12.9	18.0	3 12	13 49.70	-11 58.5	2.094	2.940	12.0	22.8
3 22	13 41.54	+0 50.5	1.567	2.510	9.3	17.8	3 22	13 44.01	-11 29.6	2.012	2.937	8.8	22.6
4 1	13 35.17	+2 46.3	1.531	2.510	6.0	17.6	4 1	13 36.51	-10 49.5	1.956	2.933	5.0	22.3
4 11	13 27.66	+4 37.4	1.523	2.509	5.2	17.5	4 11	13 27.93	-10 1.5	1.927	2.928	1.0	22.0
4 21	13 19.99	+6 13.8	1.541	2.509	7.9	17.7	4 21	13 19.11	-9 10.4	1.927	2.923	3.2	22.2
5 1	13 13.19	+7 27.7	1.585	2.508	11.6	17.9	5 1	13 10.98	-8 21.7	1.955	2.917	7.2	22.4
5 11	13 8.08	+8 15.1	1.651	2.508	15.1	18.1	5 11	13 4.32	-7 40.6	2.010	2.911	10.8	22.6
5 21	13 5.17	+8 35.8	1.735	2.508	18.0	18.3	5 21	12 59.63	-7 10.6	2.087	2.904	13.9	22.8
129254	2005 <i>QU</i> ₆₆	4 13.0 237°62		1°5/14.5 18			349412	2007 <i>YC</i> ₄₉	4 13.0 82°09		6°1/6.3 17		
3 12	13 49.43	-14 39.5	2.664	3.492	10.3	20.3	3 12						