

EPHEMERIDES

3 30.9

3 31.0

2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
341675	2007 <i>VN</i> ₉₀		3 30.9 156°17'	4.3/26.3	18		334500	2002 <i>QH</i> ₉₄		3 30.9 146°42'	1.1/1.3	17	
2 21	13 3.90	+ 8 10.0	2.349	3.155	12.1	20.8	2 21	13 0.10	-11 32.9	2.383	3.142	13.3	21.1
3 2	12 59.57	+ 8 52.1	2.270	3.157	9.5	20.6	3 2	12 56.67	-10 56.6	2.291	3.147	10.6	21.0
3 12	12 53.37	+ 9 36.1	2.216	3.160	6.7	20.4	3 12	12 51.46	-10 4.5	2.221	3.152	7.5	20.8
3 22	12 45.80	+10 16.9	2.188	3.162	4.6	20.3	3 22	12 44.92	- 8 59.3	2.178	3.157	4.0	20.6
4 1	12 37.57	+10 48.9	2.189	3.164	4.8	20.3	4 1	12 37.73	- 7 45.3	2.164	3.162	1.1	20.3
4 11	12 29.50	+11 8.0	2.219	3.166	7.1	20.5	4 11	12 30.64	- 6 28.4	2.179	3.166	3.8	20.5
4 21	12 22.33	+11 11.6	2.275	3.167	9.9	20.6	4 21	12 24.38	- 5 14.6	2.223	3.170	7.3	20.8
5 1	12 16.66	+10 58.9	2.354	3.169	12.5	20.8	5 1	12 19.53	- 4 9.6	2.293	3.174	10.4	21.0
222607	2001 <i>XY</i> ₃₇		3 30.9 264°94'	1.7/29.6	18		72223	2001 <i>AM</i> ₁₀		3 30.9 94°31'	3.1/2.8	18	
2 21	13 6.93	- 0 33.8	1.906	2.702	14.8	19.9	2 21	13 4.05	-15 0.5	1.637	2.401	18.2	20.0
3 2	13 2.64	- 0 24.2	1.807	2.690	11.7	19.6	3 2	13 0.64	-14 54.3	1.558	2.412	14.9	19.8
3 12	12 55.89	- 0 6.2	1.730	2.677	8.0	19.4	3 12	12 54.60	-14 25.5	1.499	2.424	11.0	19.6
3 22	12 47.20	+ 0 16.7	1.678	2.664	3.9	19.1	3 22	12 46.57	-13 35.2	1.463	2.435	6.7	19.4
4 1	12 37.40	+ 0 39.7	1.655	2.651	2.0	18.9	4 1	12 37.54	-12 27.6	1.453	2.446	3.3	19.2
4 11	12 27.58	+ 0 57.6	1.660	2.638	5.9	19.2	4 11	12 28.74	-11 10.4	1.469	2.457	5.1	19.3
4 21	12 18.78	+ 1 6.1	1.691	2.625	10.1	19.4	4 21	12 21.26	- 9 52.6	1.513	2.468	9.3	19.6
5 1	12 11.88	+ 1 2.0	1.747	2.612	13.9	19.6	5 1	12 15.91	- 8 42.6	1.580	2.478	13.2	19.8
382834	2004 <i>AC</i> ₂₁		3 30.9 127°29'	2.6/27.9	17		82830	2001 <i>QS</i> ₄₅		3 30.9 160°13'	0.9/1.1	18	
2 21	13 2.17	+ 1 49.5	2.458	3.255	11.9	21.7	2 21	13 2.19	- 9 14.8	2.716	3.472	11.9	20.8
3 2	12 58.09	+ 2 36.9	2.382	3.267	9.2	21.6	3 2	12 58.05	- 9 1.3	2.621	3.478	9.5	20.6
3 12	12 52.28	+ 3 30.5	2.330	3.278	6.2	21.4	3 12	12 52.27	- 8 36.5	2.551	3.482	6.6	20.4
3 22	12 45.25	+ 4 25.8	2.306	3.289	3.3	21.2	3 22	12 45.29	- 8 2.4	2.507	3.487	3.5	20.2
4 1	12 37.64	+ 5 17.5	2.311	3.300	3.0	21.2	4 1	12 37.70	- 7 21.8	2.493	3.491	0.9	20.0
4 11	12 30.20	+ 6 0.8	2.346	3.310	5.6	21.4	4 11	12 30.19	- 6 38.8	2.509	3.495	3.5	20.2
4 21	12 23.61	+ 6 32.1	2.408	3.320	8.5	21.6	4 21	12 23.42	- 5 57.7	2.553	3.498	6.6	20.5
5 1	12 18.41	+ 6 49.3	2.494	3.330	11.2	21.8	5 1	12 17.92	- 5 22.2	2.625	3.501	9.4	20.6
231698	1998 <i>QC</i> ₂		3 30.9 249°76'	6.3/6.3	18		67574	2000 <i>SL</i> ₁₁₁		3 30.9 88°90'	0.8/30.3	18	
2 21	13 5.05	-24 1.9	2.403	3.085	15.1	20.3	2 21	13 3.88	- 6 17.6	1.534	2.335	17.6	18.9
3 2	13 0.98	-24 42.3	2.286	3.070	13.1	20.1	3 2	13 0.52	- 5 34.4	1.463	2.348	13.8	18.7
3 12	12 54.71	-25 4.8	2.188	3.054	10.8	19.9	3 12	12 54.50	- 4 33.4	1.412	2.360	9.4	18.4
3 22	12 46.64	-25 6.8	2.113	3.038	8.4	19.7	3 22	12 46.51	- 3 19.7	1.386	2.373	4.4	18.2
4 1	12 37.47	-24 47.4	2.064	3.021	6.6	19.6	4 1	12 37.57	- 2 1.1	1.386	2.385	1.2	18.0
4 11	12 28.14	-24 8.7	2.043	3.004	6.5	19.5	4 11	12 28.91	- 0 46.8	1.414	2.397	6.0	18.3
4 21	12 19.59	-23 15.2	2.049	2.987	8.3	19.6	4 21	12 21.64	+ 0 15.1	1.467	2.409	10.7	18.6
5 1	12 12.65	-22 13.5	2.080	2.969	11.0	19.7	5 1	12 16.54	+ 0 59.2	1.542	2.421	14.7	18.9
109171	2001 <i>QP</i> ₆₄		3 30.9 122°04'	2.0/28.8	18		411208	2010 <i>MM</i> ₉₇		3 31.0 157°81'	0.4/30.7	16	
2 21	13 2.43	- 3 15.0	2.058	2.851	14.0	20.0	2 21	13 6.42	- 5 24.6	2.105	2.882	14.3	22.1
3 2	12 58.63	- 2 4.1	1.983	2.866	10.8	19.9	3 2	13 1.81	- 5 1.4	2.018	2.889	11.2	21.9
3 12	12 52.82	+ 0 40.6	1.932	2.880	7.2	19.7	3 12	12 55.06	- 4 26.2	1.955	2.896	7.6	21.7
3 22	12 45.56	+ 0 49.9	1.908	2.894	3.5	19.4	3 22	12 46.71	- 3 42.2	1.917	2.902	3.7	21.5
4 1	12 37.62	+ 2 20.0	1.913	2.907	2.4	19.4	4 1	12 37.56	- 2 54.0	1.909	2.907	0.7	21.2
4 11	12 29.90	+ 3 42.0	1.947	2.920	5.8	19.6	4 11	12 28.55	- 2 7.4	1.930	2.912	4.8	21.6
4 21	12 23.20	+ 4 50.0	2.009	2.932	9.4	19.9	4 21	12 20.56	- 1 27.5	1.978	2.916	8.6	21.8
5 1	12 18.14	+ 5 40.0	2.096	2.944	12.6	20.1	5 1	12 14.29	- 0 58.5	2.052	2.920	12.0	22.0
458869	2011 <i>UO</i> ₁₂₉		3 30.9 154°37'	2.5/2.3	18		270069	2001 <i>PQ</i> ₂₅		3 31.0 184°12'	1.8/29.2	18	
2 21	13 6.36	-13 25.0	1.813	2.571	16.9	22.4	2 21	13 5.90	- 0 52.4	2.189	2.979	13.4	21.4
3 2	13 2.22	-13 18.3	1.725	2.578	13.8	22.2	3 2	13 1.36	- 0 22.4	2.099	2.979	10.5	21.2
3 12	12 55.58	-12 52.1	1.658	2.584	10.0	22.0	3 12	12 54.74	+ 0 16.3	2.032	2.979	7.1	21.0
3 22	12 47.01	-12 7.5	1.616	2.590	5.9	21.8	3 22	12 46.56	+ 0 59.7	1.993	2.978	3.4	20.8
4 1	12 37.44	-11 8.3	1.600	2.595	2.6	21.6	4 1	12 37.57	+ 1 42.8	1.982	2.977	2.1	20.7
4 11	12 28.02	-10 1.1	1.612	2.600	4.8	21.7	4 11	12 28.69	+ 2 20.2	2.000	2.975	5.5	20.9
4 21	12 19.79	- 8 53.6	1.652	2.604	9.0	22.0	4 21	12 20.75	+ 2 47.6	2.046	2.973	9.1	21.1
5 1	12 13.59	- 7 53.2	1.717	2.607	12.8	22.2	5 1	12 14.44	+ 3 1.9	2.117	2.970	12.3	21.3
389198	2009 <i>CM</i> ₅₁		3 30.9 23°33'	4.1/3.4	16		431095	2006 <i>DN</i> ₁₆₈		3 31.0 138°71'	1.4/29.5	17	
2 21	13 4.22	-14 47.6	1.899	2.652	16.4	20.9	2 21	13 4.40	- 1 45.0	2.227	3.016	13.2	21.9
3 2	13 0.50	-15 27.5	1.813	2.657	13.6	20.7	3 2	13 0.08	- 1 18.4	2.144	3.023	10.3	21.7
3 12	12 54.40	-15 51.1	1.748	2.663	10.3	20.5	3 12	12 53.79	- 0 43.2	2.084	3.031	6.9	21.5
3 22	12 46.46	-15 57.7	1.706	2.670	6.7	20.3	3 22	12 46.07	- 0 2.9	2.052	3.038	3.3	21.3
4 1	12 37.54	-15 48.2	1.690	2.677	4.2	20.2	4 1	12 37.63	+ 0 37.7	2.048	3.045	1.7	21.2
4 11	12 28.71	-15 26.4	1.702	2.684	5.2	20.2	4 11	12 29.36	+ 1 13.4	2.074	3.051	5.1	21.4
4 21	12 20.97	-14 57.5	1.740	2.692	8.5	20.4	4 21	12 22.02	+ 1 40.3	2.127	3.057	8.6	21.7
5 1	12 15.13	-14 27.7	1.802	2.701	11.9	20.7	5 1	12 16.27	+ 1 55.3	2.205	3.063	11.7	21.9
323445	2004 <i>HV</i> ₂₇		3 30.9 333°67'	1.1/1.2	17		61652	2000 <i>QO</i> ₁₁₂		3 31.0 113°54'	0.5/31.5	17	
2 21	12 57.49	-12 58.1	1.600	2.386	17.7	20.4	2 21	13 2.51	- 8 8.0	1.883	2.667	15.5	19.2
3 2	12 55.64	-12 3.4	1.509	2.381	14.3	20.2	3 2	12 59.09	- 7 47.6	1.796	2.669	12.3	18.9
3 12	12 51.31	-10 42.4	1.438	2.376	10.1	19.9	3 12	12 53.39	- 7 11.6	1.731	2.672	8.5	18.7
3 22	12 45.03	- 8 58.3	1.390	2.372	5.4	19.6	3 22	12 45.96	- 6 23.1	1.690	2.674	4.3	18.5
4 1	12 37.70	- 6 58.6	1.369	2.368	1.1	19.3	4 1	12 37.64	- 5 26.7	1.677	2.676	0.5	18.2
4 11	12 30.46	- 4 54.4	1.376	2.364	5.2	19.6	4 11	12 29.44	- 4 29.1	1.692	2.679	4.8	18.5
4 21	12 24.37	- 2 57.5	1.409	2.361	10.1	19.9	4 21	12 22.29	- 3 36.9	1.734	2.681	9.0	18.7
5 1	12 20.28	- 1 17.6	1.465	2.358	14.4	20.1	5 1	12 16.96	- 2 55.4	1.800	2.683	12.7	19.0
430349	2013 <i>YU</i> ₁₀₈		3 30.9 162°10'	4.1/25.9	17		377911	2006 <i>DU</i> ₂₁₄		3 31.0 87°31'	0.5/3		

EPHEMERIDES

3 31.0

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2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
67013	1999 XY ₁₂₄		3 31.0 219°13	1.8°/29.1	18		3374	Namur		3 31.0 325°88	1.4°/29.5	18	
2 21	13 5.10	+ 0 10.4	2.475	3.261	12.1	20.2	2 21	13 1.57	- 2 14.5	2.124	2.920	13.5	17.4
3 2	13 0.55	+ 0 35.6	2.374	3.252	9.5	20.0	3 2	12 58.07	- 1 44.3	2.036	2.919	10.6	17.2
3 12	12 54.12	+ 1 7.9	2.298	3.243	6.4	19.8	3 12	12 52.56	- 1 4.1	1.970	2.919	7.1	17.0
3 22	12 46.26	+ 1 43.6	2.249	3.234	3.2	19.5	3 22	12 45.55	- 0 17.8	1.931	2.918	3.4	16.8
4 1	12 37.62	+ 2 18.5	2.229	3.223	2.1	19.4	4 1	12 37.75	+ 0 29.4	1.921	2.917	1.8	16.7
4 11	12 29.01	+ 2 48.1	2.240	3.213	5.1	19.6	4 11	12 30.06	+ 1 12.0	1.938	2.917	5.2	16.9
4 21	12 21.18	+ 3 8.7	2.278	3.201	8.4	19.8	4 21	12 23.28	+ 1 45.2	1.983	2.916	8.9	17.1
5 1	12 14.78	+ 3 17.6	2.343	3.190	11.5	20.0	5 1	12 18.07	+ 2 5.5	2.052	2.915	12.2	17.3
211851	2004 FT ₁₃₉		3 31.0 34°14	2.4°/ 2.8	18		501304	2013 WM ₇₀		3 31.0 207°78	0°0/31.0	17	
2 21	12 57.83	-15 27.8	1.998	2.756	15.5	19.7	2 21	13 2.62	- 6 35.5	2.189	2.968	13.7	22.2
3 2	12 55.31	-14 54.9	1.912	2.763	12.7	19.5	3 2	12 58.88	- 6 13.1	2.093	2.965	10.9	21.9
3 12	12 50.75	-14 0.9	1.846	2.770	9.3	19.3	3 12	12 53.12	- 5 38.2	2.021	2.962	7.5	21.7
3 22	12 44.66	-12 47.9	1.804	2.777	5.5	19.0	3 22	12 45.83	- 4 53.3	1.974	2.959	3.6	21.5
4 1	12 37.82	-11 20.6	1.790	2.785	2.5	18.9	4 1	12 37.72	- 4 2.9	1.956	2.955	0.4	21.2
4 11	12 31.12	- 9 46.5	1.804	2.792	4.2	19.0	4 11	12 29.67	- 3 12.4	1.967	2.951	4.5	21.5
4 21	12 25.40	- 8 13.5	1.846	2.800	7.9	19.2	4 21	12 22.50	- 2 27.3	2.005	2.947	8.3	21.7
5 1	12 21.30	- 6 49.3	1.913	2.809	11.4	19.5	5 1	12 16.90	- 1 52.1	2.069	2.943	11.7	21.9
446805	1999 VY ₂₀		3 31.0 123°29	12°1/23.0	15		162743	2000 WN ₁₅		3 31.0 114°10	3°3/28.1	18	
2 21	13 23.90	+26 34.5	1.645	2.427	17.4	21.2	2 21	13 8.46	+ 2 0.4	1.837	2.638	15.1	20.3
3 2	13 15.90	+27 41.1	1.599	2.445	15.0	21.1	3 2	13 3.52	+ 2 48.8	1.771	2.658	11.7	20.1
3 12	13 4.70	+28 31.9	1.574	2.462	13.0	21.0	3 12	12 56.24	+ 3 44.8	1.729	2.677	7.9	19.9
3 22	12 51.29	+28 56.1	1.573	2.478	12.1	21.0	3 22	12 47.28	+ 4 42.3	1.713	2.696	4.3	19.7
4 1	12 37.13	+28 45.6	1.596	2.493	12.7	21.1	4 1	12 37.58	+ 5 34.3	1.725	2.714	3.7	19.7
4 11	12 23.82	+27 58.7	1.645	2.507	14.4	21.2	4 11	12 28.24	+ 6 14.6	1.766	2.732	6.9	19.9
4 21	12 12.64	+26 39.4	1.716	2.521	16.6	21.4	4 21	12 20.17	+ 6 39.0	1.833	2.749	10.6	20.2
5 1	12 4.36	+24 54.6	1.807	2.534	18.8	21.6	5 1	12 14.09	+ 6 45.8	1.923	2.765	13.8	20.4
404150	2013 CB ₃₂		3 31.0 350°23	1°3/31.9	16		166800	2002 VC ₅₇		3 31.0 192°93	1°2/29.6	18	
2 21	12 56.42	- 9 0.6	1.057	1.890	21.7	20.8	2 21	13 0.83	- 3 22.6	2.382	3.170	12.5	20.8
3 2	12 56.02	- 8 59.3	0.981	1.881	17.5	20.4	3 2	12 57.27	- 2 43.2	2.290	3.169	9.7	20.6
3 12	12 52.29	- 8 33.3	0.922	1.874	12.4	20.1	3 12	12 51.90	- 1 53.3	2.221	3.168	6.6	20.4
3 22	12 45.78	- 7 44.7	0.882	1.868	6.5	19.8	3 22	12 45.20	- 0 56.8	2.180	3.166	3.1	20.2
4 1	12 37.69	- 6 40.0	0.865	1.864	1.3	19.4	4 1	12 37.80	+ 0 1.4	2.168	3.165	1.5	20.1
4 11	12 29.67	- 5 30.4	0.870	1.861	6.7	19.7	4 11	12 30.49	+ 0 55.9	2.185	3.163	4.8	20.3
4 21	12 23.28	- 4 27.7	0.896	1.860	12.7	20.1	4 21	12 23.97	+ 1 41.9	2.229	3.161	8.2	20.5
5 1	12 19.70	- 3 41.6	0.942	1.860	18.0	20.4	5 1	12 18.85	+ 2 15.7	2.299	3.158	11.2	20.7
180676	2004 GL ₇₇		3 31.0 314°35	11°0/20.3	17		511632	2015 BZ ₁₀₂		3 31.0 91°69	1°4/ 1.4	17	
2 21	13 5.02	+20 34.3	1.596	2.422	15.9	19.8	2 21	13 3.03	- 9 59.5	1.994	2.765	15.1	21.5
3 2	13 1.60	+22 13.6	1.533	2.415	13.5	19.6	3 2	12 59.41	- 9 56.3	1.903	2.767	12.2	21.3
3 12	12 55.38	+23 46.2	1.492	2.408	11.6	19.5	3 12	12 53.59	- 9 38.2	1.834	2.768	8.6	21.1
3 22	12 47.01	+25 0.4	1.474	2.402	11.0	19.4	3 22	12 46.09	- 9 6.7	1.790	2.770	4.7	20.9
4 1	12 37.58	+25 46.0	1.479	2.396	12.2	19.5	4 1	12 37.70	- 8 25.5	1.773	2.771	1.5	20.7
4 11	12 28.39	+25 56.7	1.508	2.390	14.4	19.6	4 11	12 29.40	- 7 39.9	1.785	2.772	4.4	20.9
4 21	12 20.61	+25 32.0	1.556	2.384	17.0	19.7	4 21	12 22.09	- 6 55.7	1.823	2.774	8.3	21.1
5 1	12 15.13	+24 35.1	1.622	2.378	19.5	19.9	5 1	12 16.52	- 6 18.4	1.887	2.775	11.9	21.3
347484	1994 SW ₅		3 31.0 123°59	0°4/30.6	18		241047	2006 RJ ₈₁		3 31.0 298°42	0°6/30.4	17	
2 21	13 2.22	- 4 29.1	2.735	3.509	11.4	21.4	2 21	12 59.88	- 5 21.3	2.068	2.860	14.0	21.6
3 2	12 58.00	- 4 11.7	2.650	3.520	8.9	21.3	3 2	12 56.98	- 4 52.4	1.962	2.842	11.1	21.3
3 12	12 52.20	- 3 45.9	2.589	3.531	6.0	21.1	3 12	12 52.00	- 4 10.1	1.878	2.824	7.6	21.1
3 22	12 45.26	- 3 14.3	2.556	3.541	2.9	20.9	3 22	12 45.37	- 3 17.5	1.820	2.806	3.6	20.8
4 1	12 37.78	- 2 40.2	2.553	3.552	0.6	20.7	4 1	12 37.78	- 2 19.6	1.790	2.788	0.9	20.5
4 11	12 30.43	- 2 7.7	2.580	3.562	3.8	21.0	4 11	12 30.14	- 1 22.6	1.787	2.771	5.0	20.8
4 21	12 23.82	- 1 40.0	2.635	3.572	6.8	21.2	4 21	12 23.34	- 0 32.6	1.812	2.753	9.1	21.0
5 1	12 18.47	- 1 20.1	2.717	3.581	9.5	21.4	5 1	12 18.12	+ 0 5.3	1.861	2.736	12.7	21.2
186100	2001 TN ₂₅		3 31.0 219°51	2°5/ 2.6	18		66408	1999 LA ₃₅		3 31.0 202°80	0°9/30.1	17	
2 21	13 4.44	-13 47.4	2.216	2.961	14.6	21.5	2 21	13 5.31	- 4 53.5	1.979	2.764	14.8	20.4
3 2	13 0.42	-13 45.4	2.109	2.953	12.0	21.3	3 2	13 1.23	- 4 14.7	1.883	2.760	11.6	20.2
3 12	12 54.27	-13 27.0	2.024	2.944	8.8	21.1	3 12	12 54.87	- 3 22.1	1.811	2.755	7.9	19.9
3 22	12 46.43	-12 52.9	1.964	2.935	5.3	20.8	3 22	12 46.73	- 2 19.4	1.764	2.750	3.7	19.7
4 1	12 37.64	-12 5.3	1.932	2.925	2.6	20.6	4 1	12 37.63	- 1 12.5	1.745	2.743	1.3	19.5
4 11	12 28.83	-11 9.3	1.929	2.915	4.3	20.7	4 11	12 28.59	- 0 8.4	1.756	2.737	5.4	19.8
4 21	12 20.88	-10 10.8	1.954	2.904	7.9	20.9	4 21	12 20.54	+ 0 46.4	1.794	2.729	9.6	20.0
5 1	12 14.56	- 9 15.9	2.005	2.893	11.4	21.1	5 1	12 14.29	+ 1 27.0	1.856	2.721	13.2	20.2
377866	2006 BS ₂₇₇		3 31.0 102°90	0°7/30.3	18		126357	2002 AA ₁₇₁		3 31.0 127°83	2°2/28.9	18	
2 21	13 2.41	- 5 13.7	2.028	2.817	14.3	21.7	2 21	13 3.01	- 1 8.5	1.952	2.754	14.4	20.9
3 2	12 58.73	- 4 38.0	1.949	2.827	11.2	21.5	3 2	12 59.32	- 0 24.7	1.872	2.759	11.2	20.7
3 12	12 52.99	- 3 49.6	1.893	2.838	7.6	21.3	3 12	12 53.46	+ 0 29.6	1.814	2.764	7.5	20.4
3 22	12 45.73	- 2 52.3	1.862	2.848	3.6	21.1	3 22	12 45.99	+ 1 29.4	1.783	2.769	3.7	20.2
4 1	12 37.73	- 1 51.8	1.860	2.858	1.0	20.9	4 1	12 37.73	+ 2 28.2	1.779	2.774	2.5	20.1
4 11	12 29.92	- 0 54.3	1.886	2.868	4.9	21.2	4 11	12 29.62	+ 3 19.6	1.804	2.778	6.0	20.4
4 21	12 23.13	- 0 5.6	1.940	2.878	8.7	21.4	4 21	12 22.56	+ 3 58.3	1.856	2.783	9.8	20.6
5 1	12 18.00	+ 0 30.3	2.018	2.888	12.1	21.7	5 1	12 17.24	+ 4 21.1	1.931	2.787	13.1	20.8
435306	2007 UD ₅₁		3 31.0 181°44	0°5/31.7	17		500745	2013 AO ₁₉		3 31.0 138°92	3°4/25.9	18	
2 21	12 59.83	- 9 35.9	2.635										

EPHEMERIDES

3 31.0

3 31.0

2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
458763	2011 SV ₃₃		3 31.0 127°89	0°8/31.7 18			265733	2005 UZ ₄₅₁		3 31.0 182°86	2°0/28.9 17		
2 21	13 7.59	- 8 48.1	1.734	2.511	16.9	22.4	2 21	13 3.82	- 0 56.5	2.213	3.006	13.2	21.4
3 2	13 3.18	- 8 30.5	1.656	2.525	13.4	22.2	3 2	12 59.74	- 0 13.0	2.124	3.007	10.3	21.2
3 12	12 56.23	- 7 56.1	1.599	2.537	9.3	22.0	3 12	12 53.67	+ 0 39.9	2.059	3.007	6.9	21.0
3 22	12 47.37	- 7 7.7	1.567	2.550	4.8	21.7	3 22	12 46.10	+ 1 37.8	2.021	3.006	3.4	20.7
4 1	12 37.59	- 6 10.5	1.563	2.561	0.8	21.4	4 1	12 37.77	+ 2 35.1	2.012	3.006	2.4	20.7
4 11	12 28.04	- 5 11.8	1.586	2.573	5.0	21.8	4 11	12 29.54	+ 3 25.9	2.031	3.004	5.6	20.9
4 21	12 19.79	- 4 18.4	1.637	2.583	9.4	22.1	4 21	12 22.21	+ 4 5.4	2.079	3.002	9.1	21.1
5 1	12 13.63	- 3 36.3	1.711	2.593	13.3	22.3	5 1	12 16.45	+ 4 30.4	2.151	3.000	12.3	21.3
489243	2006 QQ ₁₈₇		3 31.0 193°34	2°1/ 2.7 17			329379	2001 WK ₇₄		3 31.0 136°02	2°7/28.5 17		
2 21	13 1.64	-13 42.1	2.839	3.574	11.9	22.2	2 21	13 4.46	+ 0 49.7	1.892	2.697	14.6	21.3
3 2	12 57.67	-13 36.2	2.734	3.572	9.7	22.0	3 2	13 0.55	+ 1 29.7	1.812	2.701	11.4	21.0
3 12	12 52.08	-13 17.3	2.653	3.570	7.1	21.8	3 12	12 54.36	+ 2 18.5	1.755	2.705	7.7	20.8
3 22	12 45.28	-12 46.4	2.597	3.567	4.3	21.6	3 22	12 46.47	+ 3 10.9	1.724	2.709	4.0	20.6
4 1	12 37.84	-12 5.6	2.571	3.564	2.1	21.5	4 1	12 37.74	+ 4 0.4	1.720	2.712	3.2	20.6
4 11	12 30.42	-11 18.7	2.575	3.560	3.4	21.5	4 11	12 29.17	+ 4 40.6	1.745	2.716	6.5	20.8
4 21	12 23.68	-10 30.0	2.608	3.556	6.2	21.7	4 21	12 21.71	+ 5 7.1	1.796	2.719	10.3	21.0
5 1	12 18.16	- 9 43.9	2.668	3.552	9.0	21.9	5 1	12 16.07	+ 5 17.0	1.870	2.722	13.7	21.2
335788	2007 GJ		3 31.0 324°08	1°6/ 1.5 17			155278	2005 WR ₁₆₈		3 31.0 182°99	0°3/30.7 17		
2 21	12 57.18	-12 11.6	1.606	2.396	17.4	20.4	2 21	13 3.57	- 6 11.4	2.316	3.091	13.2	21.2
3 2	12 55.52	-11 42.3	1.508	2.382	14.2	20.2	3 2	12 59.48	- 5 40.2	2.222	3.092	10.4	21.0
3 12	12 51.35	-10 49.6	1.430	2.369	10.2	19.9	3 12	12 53.47	- 4 56.7	2.151	3.092	7.1	20.8
3 22	12 45.17	- 9 35.3	1.375	2.356	5.6	19.6	3 22	12 46.01	- 4 4.0	2.106	3.091	3.4	20.6
4 1	12 37.83	- 8 4.9	1.346	2.344	1.6	19.3	4 1	12 37.79	- 3 6.8	2.091	3.090	0.6	20.4
4 11	12 30.48	- 6 27.7	1.343	2.332	5.2	19.5	4 11	12 29.66	- 2 10.4	2.106	3.089	4.4	20.7
4 21	12 24.21	- 4 53.8	1.365	2.321	10.0	19.8	4 21	12 22.37	- 1 20.3	2.149	3.087	8.0	20.9
5 1	12 19.93	- 3 32.7	1.411	2.311	14.4	20.0	5 1	12 16.60	- 0 40.7	2.217	3.084	11.3	21.1
173932	2001 VD ₁₀₅		3 31.0 92°18	1°2/29.7 18			357575	2004 TX ₁₇₀		3 31.0 131°57	2°9/28.6 18		
2 21	13 2.84	- 1 59.2	2.418	3.205	12.3	20.6	2 21	13 8.50	+ 0 48.9	1.752	2.553	15.7	21.6
3 2	12 58.66	- 1 34.4	2.343	3.221	9.6	20.4	3 2	13 3.80	+ 1 30.1	1.679	2.566	12.2	21.4
3 12	12 52.73	- 1 1.7	2.291	3.237	6.4	20.2	3 12	12 56.60	+ 2 20.4	1.629	2.578	8.3	21.2
3 22	12 45.56	- 0 24.6	2.267	3.253	3.0	20.0	3 22	12 47.55	+ 3 14.1	1.604	2.589	4.3	21.0
4 1	12 37.82	+ 0 12.7	2.271	3.268	1.5	20.0	4 1	12 37.63	+ 4 4.4	1.608	2.600	3.3	20.9
4 11	12 30.26	+ 0 45.8	2.306	3.283	4.6	20.2	4 11	12 27.99	+ 4 44.2	1.639	2.610	6.9	21.2
4 21	12 23.58	+ 1 11.0	2.368	3.299	7.8	20.4	4 21	12 19.65	+ 5 9.1	1.697	2.620	10.8	21.4
5 1	12 18.33	+ 1 25.8	2.455	3.313	10.6	20.6	5 1	12 13.38	+ 5 16.5	1.778	2.629	14.3	21.7
292137	2006 RH ₈₁		3 31.0 232°45	0°3/31.3 17			407757	2011 WW ₅₄		3 31.0 95°98	3°7/28.1 18		
2 21	13 6.50	- 6 48.3	2.043	2.818	14.7	21.9	2 21	13 7.87	+ 2 14.9	1.559	2.373	16.8	21.6
3 2	13 2.23	- 6 35.9	1.937	2.805	11.8	21.7	3 2	13 3.55	+ 2 59.2	1.494	2.387	13.1	21.4
3 12	12 55.63	- 6 10.2	1.853	2.792	8.2	21.4	3 12	12 56.53	+ 3 52.0	1.451	2.402	8.8	21.2
3 22	12 47.16	- 5 33.5	1.795	2.779	4.1	21.2	3 22	12 47.54	+ 4 46.6	1.432	2.416	4.8	21.0
4 1	12 37.63	- 4 49.7	1.765	2.764	0.4	20.8	4 1	12 37.64	+ 5 35.0	1.440	2.430	4.2	21.0
4 11	12 28.03	- 4 4.4	1.765	2.750	4.8	21.1	4 11	12 28.11	+ 6 10.1	1.476	2.444	7.7	21.2
4 21	12 19.35	- 3 23.4	1.791	2.734	9.0	21.4	4 21	12 20.03	+ 6 27.4	1.536	2.458	11.8	21.5
5 1	12 12.44	- 2 51.7	1.843	2.718	12.8	21.6	5 1	12 14.20	+ 6 25.2	1.618	2.471	15.4	21.8
175650	1408 T-2		3 31.0 149°98	1°4/ 1.4 18			128442	2004 NE ₁₅		3 31.0 237°89	3°4/ 4.6 18		
2 21	13 7.61	-10 12.8	2.091	2.849	15.0	21.7	2 21	13 0.93	-19 2.3	3.085	3.787	11.7	20.8
3 2	13 2.81	-10 5.3	2.003	2.859	12.0	21.5	3 2	12 57.12	-19 7.2	2.965	3.773	9.8	20.6
3 12	12 55.81	- 9 43.0	1.938	2.868	8.5	21.3	3 12	12 51.74	-18 58.0	2.867	3.759	7.6	20.4
3 22	12 47.14	- 9 7.8	1.898	2.877	4.6	21.1	3 22	12 45.15	-18 34.6	2.795	3.745	5.3	20.2
4 1	12 37.64	- 8 23.1	1.888	2.885	1.4	20.9	4 1	12 37.88	-17 58.1	2.751	3.730	3.6	20.1
4 11	12 28.29	- 7 34.4	1.906	2.893	4.3	21.1	4 11	12 30.57	-17 11.4	2.736	3.714	3.9	20.1
4 21	12 20.00	- 6 47.5	1.953	2.899	8.2	21.3	4 21	12 23.84	-16 18.4	2.751	3.698	6.0	20.2
5 1	12 13.49	- 6 7.5	2.025	2.905	11.6	21.6	5 1	12 18.23	-15 23.8	2.793	3.682	8.5	20.3
196771	2003 SU ₁₆₉		3 31.0 202°01	0°3/30.8 17			60348	2000 AT ₈₁		3 31.0 18°47	2°4/ 2.1 18 R		
2 21	13 2.50	- 5 49.1	2.240	3.020	13.4	21.0	2 21	13 0.79	-12 58.2	1.506	2.291	18.6	19.1
3 2	12 58.74	- 5 24.7	2.145	3.018	10.6	20.8	3 2	12 58.40	-12 46.2	1.424	2.293	15.1	18.9
3 12	12 53.01	- 4 48.4	2.073	3.015	7.2	20.6	3 12	12 53.31	-12 11.2	1.361	2.295	11.0	18.7
3 22	12 45.79	- 4 3.1	2.028	3.013	3.5	20.4	3 22	12 46.11	-11 14.8	1.320	2.298	6.3	18.4
4 1	12 37.79	- 3 13.2	2.011	3.010	0.6	20.1	4 1	12 37.78	-10 2.1	1.305	2.301	2.4	18.2
4 11	12 29.85	- 2 24.1	2.023	3.007	4.5	20.4	4 11	12 29.59	- 8 41.6	1.315	2.305	5.2	18.3
4 21	12 22.77	- 1 41.0	2.063	3.003	8.2	20.6	4 21	12 22.70	- 7 23.0	1.351	2.308	9.9	18.6
5 1	12 17.22	- 1 8.0	2.129	3.000	11.5	20.8	5 1	12 18.00	- 6 15.2	1.410	2.313	14.2	18.9
30509	Yukitrippel		3 31.0 298°71	5°0/26.9 18			325289	2008 HC ₁₂		3 31.0 36°04	3°3/28.8 18		
2 21	13 3.08	+ 4 15.9	1.514	2.341	16.5	18.1	2 21	13 10.27	+ 3 58.9	1.611	2.421	16.5	19.8
3 2	13 0.38	+ 5 10.4	1.419	2.320	13.1	17.9	3 2	13 5.51	+ 4 4.1	1.534	2.424	13.0	19.6
3 12	12 54.84	+ 6 15.1	1.345	2.298	9.1	17.6	3 12	12 57.96	+ 4 13.9	1.478	2.428	8.9	19.4
3 22	12 46.95	+ 7 22.5	1.294	2.276	5.7	17.3	3 22	12 48.29	+ 4 23.3	1.447	2.431	4.8	19.1
4 1	12 37.65	+ 8 23.1	1.270	2.255	5.7	17.2	4 1	12 37.55	+ 4 26.8	1.444	2.436	3.7	19.1
4 11	12 28.25	+ 9 7.7	1.271	2.234	9.5	17.4	4 11	12 27.06	+ 4 19.5	1.467	2.440	7.3	19.3
4 21	12 20.03	+ 9 29.7	1.295	2.213	13.9	17.6	4 21	12 17.98	+ 3 58.7	1.516	2.444	11.5	19.6
5 1	12 14.05	+ 9 26.3	1.340	2.192	18.0	17.8	5 1	12 11.20	+ 3 23.5	1.588	2.449	15.3	19.8
293577	2007 HW ₈₂		3 31.0 263°89	4°0/27.5 17			418040	2007 VM ₆₁		3 31.0 261°88	0°6/31.5 17		
2 21	13 4.36	+ 1 3.5	1.586	2.403	16.4								

EPHEMERIDES

3 31.0

3 31.1

2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
465926	2010 <i>WU</i> ₃₅		3 31.0 99°07'0	3:8/27.6	18		211187	2002 <i>JG</i> ₁₄₉		3 31.0 299°50'	1:9/29.4	17	
2 21	13 6.45	+ 3 36.0	1.837	2.645	14.9	21.8	2 21	13 0.15	- 4 25.5	1.480	2.296	17.4	20.6
3 2	13 2.00	+ 4 25.7	1.772	2.662	11.5	21.6	3 2	12 58.06	- 3 33.1	1.387	2.282	13.8	20.3
3 12	12 55.25	+ 5 21.7	1.730	2.679	7.8	21.4	3 12	12 53.24	- 2 21.4	1.314	2.267	9.4	20.0
3 22	12 46.85	+ 6 17.6	1.714	2.696	4.5	21.2	3 22	12 46.18	- 0 55.6	1.266	2.253	4.5	19.7
4 1	12 37.72	+ 7 6.4	1.726	2.712	4.3	21.2	4 1	12 37.82	+ 0 35.8	1.243	2.240	2.3	19.5
4 11	12 28.91	+ 7 42.1	1.766	2.728	7.3	21.4	4 11	12 29.44	+ 2 1.9	1.246	2.226	7.1	19.7
4 21	12 21.34	+ 8 0.9	1.832	2.744	10.8	21.7	4 21	12 22.24	+ 3 13.0	1.273	2.213	12.2	20.0
5 1	12 15.68	+ 8 1.5	1.920	2.759	13.9	21.9	5 1	12 17.24	+ 4 2.2	1.322	2.200	16.7	20.2
419369	2009 <i>XT</i> ₈		3 31.0 208°22'	2:5/2.7	17		56398	2000 <i>EW</i> ₁₃₄		3 31.0 324°26'	4:4/28.3	18	
2 21	13 0.59	-15 9.2	2.036	2.789	15.5	20.7	2 21	13 5.05	+ 3 7.6	1.223	2.060	19.1	19.2
3 2	12 57.54	-14 44.6	1.939	2.787	12.7	20.5	3 2	13 2.49	+ 3 36.1	1.143	2.049	15.1	18.9
3 12	12 52.36	-13 59.7	1.863	2.786	9.3	20.3	3 12	12 56.56	+ 4 14.2	1.082	2.038	10.4	18.6
3 22	12 45.54	-12 55.7	1.812	2.784	5.6	20.1	3 22	12 47.89	+ 4 54.9	1.043	2.028	5.8	18.3
4 1	12 37.85	-11 36.8	1.788	2.782	2.6	19.9	4 1	12 37.64	+ 5 28.9	1.027	2.019	5.0	18.2
4 11	12 30.23	-10 9.7	1.792	2.780	4.3	20.0	4 11	12 27.45	+ 5 47.5	1.036	2.010	9.4	18.4
4 21	12 23.56	- 8 42.1	1.824	2.778	8.1	20.2	4 21	12 18.83	+ 5 44.9	1.067	2.002	14.5	18.7
5 1	12 18.57	- 7 21.8	1.882	2.776	11.7	20.4	5 1	12 12.96	+ 5 19.1	1.117	1.994	19.1	18.9
367003	2006 <i>AU</i> ₁₅		3 31.0 124°57'	2:6/2.9	15		393115	2013 <i>BH</i> ₁₉		3 31.0 140°90'	4:3/27.3	18	
2 21	13 7.31	-14 29.9	2.525	3.252	13.4	22.5	2 21	13 8.76	+ 3 2.2	1.682	2.490	16.0	21.8
3 2	13 2.14	-14 34.8	2.441	3.272	11.0	22.4	3 2	13 4.12	+ 4 8.8	1.613	2.503	12.4	21.6
3 12	12 55.11	-14 25.2	2.380	3.292	8.1	22.2	3 12	12 56.88	+ 5 24.1	1.566	2.515	8.5	21.4
3 22	12 46.74	-14 2.1	2.345	3.311	5.0	22.1	3 22	12 47.74	+ 6 40.4	1.545	2.526	5.0	21.2
4 1	12 37.74	-13 27.7	2.339	3.330	2.7	21.9	4 1	12 37.69	+ 7 49.2	1.551	2.536	4.9	21.2
4 11	12 28.91	-12 45.9	2.363	3.347	3.9	22.0	4 11	12 27.94	+ 8 42.3	1.586	2.546	8.2	21.4
4 21	12 21.00	-12 1.5	2.417	3.364	6.8	22.3	4 21	12 19.55	+ 9 15.0	1.645	2.554	12.0	21.6
5 1	12 14.61	-11 19.4	2.498	3.380	9.6	22.5	5 1	12 13.31	+ 9 25.6	1.727	2.562	15.4	21.9
17397	1981 <i>EF</i> ₄₈		3 31.0 147°28'	0:3/31.5	18		134586	1999 <i>TA</i> ₆₁		3 31.1 276°92'	1:1/31.9	17	
2 21	12 57.46	- 7 28.5	3.239	4.004	10.0	19.3	2 21	13 3.92	- 9 20.2	1.687	2.471	17.0	21.1
3 2	12 54.16	- 7 8.0	3.142	4.005	7.9	19.2	3 2	13 0.89	- 9 9.4	1.577	2.449	13.8	20.8
3 12	12 49.57	- 6 38.6	3.070	4.006	5.4	19.0	3 12	12 55.15	- 8 40.2	1.488	2.427	9.8	20.5
3 22	12 44.04	- 6 2.3	3.025	4.007	2.7	18.8	3 22	12 47.15	- 7 54.0	1.422	2.404	5.2	20.2
4 1	12 38.04	- 5 21.8	3.009	4.009	0.3	18.6	4 1	12 37.73	- 6 55.0	1.382	2.381	1.1	19.8
4 11	12 32.09	- 4 40.7	3.024	4.010	3.0	18.8	4 11	12 28.09	- 5 50.2	1.370	2.357	5.4	20.1
4 21	12 26.69	- 4 2.3	3.068	4.011	5.7	19.0	4 21	12 19.47	- 4 48.0	1.383	2.334	10.4	20.3
5 1	12 22.28	- 3 29.7	3.139	4.011	8.1	19.2	5 1	12 12.91	- 3 56.0	1.420	2.310	15.0	20.5
397860	2008 <i>TO</i> ₁₃₅		3 31.0 176°60'	3:7/27.4	18		193614	2001 <i>CZ</i> ₁₃		3 31.1 27°29'	2:5/1.9	17	
2 21	13 6.63	+ 1 49.4	1.878	2.681	14.8	21.8	2 21	13 4.61	-10 23.6	1.600	2.383	17.8	19.6
3 2	13 2.30	+ 3 0.0	1.796	2.684	11.5	21.6	3 2	13 1.19	-10 50.9	1.523	2.391	14.4	19.4
3 12	12 55.60	+ 4 20.7	1.737	2.686	7.8	21.4	3 12	12 55.10	-11 2.0	1.466	2.400	10.4	19.2
3 22	12 47.11	+ 5 44.7	1.705	2.688	4.5	21.2	3 22	12 46.96	-10 57.5	1.432	2.410	6.0	19.0
4 1	12 37.70	+ 7 3.7	1.702	2.688	4.3	21.2	4 1	12 37.77	-10 40.0	1.424	2.420	2.6	18.8
4 11	12 28.45	+ 8 9.8	1.727	2.688	7.6	21.4	4 11	12 28.77	-10 14.9	1.443	2.431	5.1	19.0
4 21	12 20.33	+ 8 57.3	1.778	2.687	11.3	21.6	4 21	12 21.08	- 9 48.1	1.487	2.443	9.4	19.2
5 1	12 14.11	+ 9 23.5	1.853	2.685	14.6	21.8	5 1	12 15.55	- 9 25.6	1.555	2.455	13.3	19.5
371026	2005 <i>UL</i> ₇₆		3 31.0 173°27'	1:4/1.3	17		439738	2015 <i>FD</i> ₂₁₃		3 31.1 252°14'	4:4/25.5	17	
2 21	13 8.29	- 9 4.6	2.258	3.013	14.0	21.3	2 21	13 1.58	+ 7 56.8	2.528	3.335	11.3	21.3
3 2	13 3.27	- 9 15.0	2.162	3.016	11.3	21.1	3 2	12 57.85	+ 8 55.9	2.432	3.320	8.9	21.1
3 12	12 56.12	- 9 13.5	2.089	3.018	8.0	20.9	3 12	12 52.35	+ 9 58.6	2.361	3.305	6.4	21.0
3 22	12 47.34	- 9 1.3	2.042	3.020	4.4	20.6	3 22	12 45.50	+10 59.4	2.318	3.290	4.6	20.8
4 1	12 37.69	- 8 40.7	2.024	3.021	1.4	20.4	4 1	12 37.93	+11 52.6	2.304	3.274	5.0	20.8
4 11	12 28.10	- 8 15.8	2.036	3.022	4.1	20.6	4 11	12 30.37	+12 33.0	2.318	3.258	7.2	20.9
4 21	12 19.46	- 7 50.9	2.077	3.022	7.8	20.8	4 21	12 23.53	+12 57.1	2.358	3.242	9.9	21.1
5 1	12 12.47	- 7 30.4	2.143	3.022	11.1	21.0	5 1	12 18.03	+13 3.5	2.422	3.226	12.5	21.2
90124	2002 <i>XJ</i> ₈₀		3 31.0 161°84'	5:2/25.5	18		165481	2001 <i>AX</i> ₅₀		3 31.1 107°75'	1:5/1.4	18	
2 21	13 6.31	+ 9 11.1	2.226	3.030	12.7	19.9	2 21	13 6.72	-10 45.9	1.744	2.515	17.0	20.8
3 2	13 1.60	+10 14.7	2.152	3.037	10.0	19.7	3 2	13 2.50	-10 33.9	1.669	2.532	13.6	20.6
3 12	12 54.88	+11 20.4	2.102	3.043	7.2	19.6	3 12	12 55.78	-10 3.9	1.614	2.548	9.6	20.4
3 22	12 46.68	+12 21.7	2.079	3.048	5.3	19.4	3 22	12 47.21	- 9 18.3	1.584	2.564	5.2	20.2
4 1	12 37.77	+13 12.0	2.086	3.053	5.7	19.5	4 1	12 37.75	- 8 21.7	1.581	2.579	1.5	20.0
4 11	12 29.06	+13 46.1	2.120	3.057	8.0	19.6	4 11	12 28.56	- 7 21.2	1.606	2.594	4.8	20.2
4 21	12 21.34	+14 1.3	2.181	3.060	10.8	19.8	4 21	12 20.65	- 6 24.0	1.658	2.608	9.0	20.5
5 1	12 15.26	+13 56.9	2.264	3.062	13.4	20.0	5 1	12 14.80	- 5 36.4	1.734	2.622	12.8	20.7
377375	2004 <i>RF</i> ₂₀₂		3 31.0 252°94'	2:2/2.5	17		171934	2001 <i>SL</i> ₂₁₃		3 31.1 196°29'	0:9/29.9	17	
2 21	13 1.71	-14 21.2	2.189	2.938	14.6	21.3	2 21	13 1.76	- 3 22.1	2.592	3.373	11.8	21.5
3 2	12 58.40	-13 57.9	2.074	2.921	12.0	21.0	3 2	12 57.86	- 2 53.8	2.497	3.372	9.2	21.3
3 12	12 52.99	-13 15.5	1.981	2.904	8.8	20.8	3 12	12 52.28	- 2 16.6	2.425	3.369	6.2	21.1
3 22	12 45.91	-12 15.0	1.913	2.886	5.2	20.5	3 22	12 45.44	- 1 33.4	2.381	3.367	2.9	20.9
4 1	12 37.85	-10 59.8	1.872	2.867	2.3	20.3	4 1	12 37.94	- 0 48.3	2.366	3.364	1.1	20.8
4 11	12 29.71	- 9 35.8	1.861	2.848	4.3	20.4	4 11	12 30.50	- 0 5.9	2.381	3.361	4.3	21.0
4 21	12 22.38	- 8 10.4	1.878	2.829	8.1	20.6	4 21	12 23.80	+ 0 29.6	2.425	3.357	7.5	21.2
5 1	12 16.63	- 6 51.0	1.921	2.809	11.7	20.8	5 1	12 18.40	+ 0 55.3	2.494	3.353	10.4	21.4
364181	2006 <i>OJ</i> ₁₄		3 31.0 263°80'	0:9/30.2	17		341369	2007 <i>TU</i> ₉₅		3 31.1 83°73'	2:6/		

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2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
285657	2000 SQ ₄₈		3 31.1 189°47	0°6/30.2	18		67940	2000 WT ₁₄₃		3 31.1 161°60	1°4/ 1.5	18	
2 21	12 59.13	- 6 3.2	2.953	3.724	10.7	21.1	2 21	13 7.49	-10 39.0	2.143	2.898	14.7	20.2
3 2	12 55.60	- 5 9.5	2.854	3.723	8.4	20.9	3 2	13 2.73	-10 28.3	2.052	2.905	11.9	20.0
3 12	12 50.63	- 4 5.0	2.780	3.722	5.7	20.7	3 12	12 55.80	-10 2.5	1.983	2.912	8.4	19.8
3 22	12 44.60	- 2 52.9	2.734	3.719	2.7	20.5	3 22	12 47.22	- 9 23.4	1.940	2.918	4.6	19.6
4 1	12 38.03	- 1 37.7	2.719	3.717	0.8	20.4	4 1	12 37.80	- 8 34.5	1.926	2.923	1.4	19.3
4 11	12 31.52	- 0 24.2	2.734	3.714	3.8	20.6	4 11	12 28.50	- 7 41.4	1.941	2.928	4.2	19.6
4 21	12 25.63	+ 0 42.8	2.780	3.711	6.7	20.8	4 21	12 20.20	- 6 49.8	1.985	2.931	8.0	19.8
5 1	12 20.83	+ 1 39.6	2.851	3.707	9.4	20.9	5 1	12 13.64	- 6 5.2	2.054	2.934	11.5	20.0
214828	2006 VE ₇₃		3 31.1 215°45	1°3/29.4	17		228674	2002 JZ ₈₀		3 31.1 351°95	0°8/30.4	17	
2 21	13 0.85	- 1 49.9	2.711	3.497	11.2	21.2	2 21	13 2.14	- 3 41.6	1.601	2.410	16.6	19.9
3 2	12 57.10	- 1 17.9	2.614	3.492	8.7	21.0	3 2	12 59.30	- 3 31.0	1.516	2.406	13.1	19.7
3 12	12 51.74	- 0 38.1	2.541	3.487	5.9	20.8	3 12	12 53.87	- 3 7.7	1.453	2.402	9.0	19.4
3 22	12 45.17	+ 0 6.4	2.495	3.481	2.8	20.6	3 22	12 46.42	- 2 35.1	1.413	2.400	4.3	19.1
4 1	12 37.98	+ 0 51.5	2.479	3.475	1.6	20.5	4 1	12 37.88	- 1 58.7	1.399	2.398	1.2	18.9
4 11	12 30.84	+ 1 32.8	2.493	3.469	4.4	20.7	4 11	12 29.43	- 1 25.2	1.412	2.396	5.8	19.2
4 21	12 24.37	+ 2 6.6	2.535	3.463	7.5	20.9	4 21	12 22.18	- 1 0.4	1.449	2.395	10.5	19.5
5 1	12 19.13	+ 2 29.9	2.603	3.456	10.2	21.0	5 1	12 17.00	- 0 48.9	1.510	2.395	14.5	19.7
117601	2005 EH ₇₂		3 31.1 99°09	3°1/28.7	18		503667	2016 GH ₂₄₆		3 31.1 78°09	1°0/31.9	18	
2 21	13 8.11	+ 1 33.4	1.598	2.408	16.6	19.9	2 21	13 5.71	- 8 17.9	1.735	2.518	16.6	21.5
3 2	13 3.79	+ 2 2.4	1.526	2.417	13.0	19.7	3 2	13 1.77	- 8 16.8	1.658	2.529	13.3	21.3
3 12	12 56.77	+ 2 39.8	1.475	2.426	8.8	19.5	3 12	12 55.35	- 8 0.6	1.601	2.540	9.3	21.1
3 22	12 47.73	+ 3 20.1	1.449	2.435	4.6	19.2	3 22	12 47.05	- 7 31.5	1.569	2.551	4.8	20.8
4 1	12 37.72	+ 3 56.3	1.451	2.443	3.5	19.2	4 1	12 37.82	- 6 53.6	1.563	2.562	1.0	20.6
4 11	12 27.98	+ 4 21.8	1.479	2.452	7.2	19.4	4 11	12 28.81	- 6 13.1	1.586	2.573	4.9	20.9
4 21	12 19.64	+ 4 32.3	1.532	2.460	11.4	19.7	4 21	12 21.03	- 5 36.1	1.634	2.584	9.2	21.1
5 1	12 13.52	+ 4 25.7	1.608	2.468	15.1	19.9	5 1	12 15.27	- 5 7.9	1.707	2.595	13.0	21.4
231769	1999 VS ₁₅₀		3 31.1 163°77	0°6/31.8	18		372692	2009 WC ₁₉₅		3 31.1 174°59	1°6/29.4	17	
2 21	13 3.24	- 8 34.9	2.395	3.160	13.1	21.1	2 21	13 5.42	- 1 5.5	2.351	3.136	12.7	21.5
3 2	12 59.17	- 8 15.5	2.302	3.164	10.4	20.9	3 2	13 0.87	- 0 36.7	2.261	3.139	9.9	21.3
3 12	12 53.24	- 7 43.5	2.233	3.168	7.2	20.7	3 12	12 54.41	+ 0 0.1	2.196	3.141	6.7	21.1
3 22	12 45.93	- 7 1.1	2.190	3.171	3.7	20.5	3 22	12 46.51	+ 0 41.5	2.157	3.143	3.2	20.9
4 1	12 37.91	- 6 12.1	2.176	3.174	0.6	20.2	4 1	12 37.88	+ 1 22.7	2.148	3.144	1.9	20.8
4 11	12 29.99	- 5 21.5	2.191	3.177	3.9	20.5	4 11	12 29.36	+ 1 58.9	2.169	3.144	5.0	21.0
4 21	12 22.90	- 4 34.1	2.235	3.179	7.4	20.7	4 21	12 21.72	+ 2 25.9	2.218	3.144	8.5	21.2
5 1	12 17.26	- 3 54.5	2.305	3.181	10.6	20.9	5 1	12 15.59	+ 2 41.1	2.292	3.144	11.5	21.4
384887	2012 TG ₆		3 31.1 140°55	0°9/30.0	17		242565	2005 EM ₂₀₇		3 31.1 36°05	2°6/28.1	18	
2 21	13 1.39	- 3 54.2	2.597	3.377	11.8	21.9	2 21	12 57.33	- 3 31.1	1.747	2.560	15.3	20.3
3 2	12 57.51	- 3 19.6	2.511	3.386	9.2	21.8	3 2	12 55.13	- 1 58.0	1.675	2.570	11.8	20.1
3 12	12 51.99	- 2 35.7	2.449	3.393	6.2	21.6	3 12	12 50.76	- 0 8.8	1.627	2.580	7.8	19.9
3 22	12 45.28	- 1 45.7	2.415	3.401	2.9	21.4	3 22	12 44.80	+ 1 48.8	1.604	2.591	3.9	19.7
4 1	12 37.98	- 0 54.1	2.410	3.408	1.1	21.2	4 1	12 38.06	+ 3 45.2	1.610	2.602	3.2	19.6
4 11	12 30.81	- 0 5.4	2.436	3.415	4.2	21.5	4 11	12 31.54	+ 5 30.2	1.643	2.614	6.9	19.9
4 21	12 24.40	+ 0 36.1	2.489	3.422	7.4	21.7	4 21	12 26.09	+ 6 56.0	1.702	2.626	10.7	20.1
5 1	12 19.29	+ 1 7.3	2.568	3.428	10.2	21.9	5 1	12 22.39	+ 7 58.3	1.785	2.639	14.2	20.4
72920	2001 SK ₇₉		3 31.1 135°48	1°8/28.7	17		286377	2001 XE ₂₃₅		3 31.1 102°91	3°9/ 4.9	17	
2 21	13 0.25	- 1 47.8	2.456	3.248	12.0	19.6	2 21	13 1.64	-19 39.7	2.567	3.277	13.6	21.1
3 2	12 56.72	- 0 52.2	2.373	3.255	9.3	19.5	3 2	12 57.86	-19 44.0	2.478	3.291	11.4	21.0
3 12	12 51.51	+ 0 12.7	2.315	3.262	6.2	19.3	3 12	12 52.31	-19 31.3	2.410	3.304	8.8	20.8
3 22	12 45.06	+ 1 22.6	2.284	3.269	3.0	19.1	3 22	12 45.47	-19 1.8	2.367	3.317	6.1	20.7
4 1	12 38.01	+ 2 32.0	2.282	3.276	2.2	19.0	4 1	12 37.99	-18 17.2	2.351	3.330	4.1	20.5
4 11	12 31.09	+ 3 35.1	2.310	3.282	5.1	19.2	4 11	12 30.64	-17 21.6	2.364	3.343	4.4	20.6
4 21	12 24.96	+ 4 27.3	2.366	3.289	8.2	19.4	4 21	12 24.10	-16 20.2	2.405	3.355	6.6	20.7
5 1	12 20.18	+ 5 5.6	2.447	3.294	11.0	19.6	5 1	12 18.96	-15 18.7	2.474	3.368	9.2	20.9
376002	2010 AT ₁₁		3 31.1 121°45	3°6/26.9	17		415964	2001 XE ₁₈₂		3 31.1 57°23	7°9/ 8.1	18	
2 21	13 2.31	+ 3 29.0	2.247	3.052	12.6	21.4	2 21	13 4.70	-26 32.5	1.686	2.386	20.1	20.8
3 2	12 58.44	+ 4 35.1	2.176	3.065	9.7	21.3	3 2	13 1.28	-27 11.4	1.618	2.410	17.4	20.7
3 12	12 52.71	+ 5 47.4	2.128	3.077	6.6	21.1	3 12	12 55.15	-27 22.3	1.566	2.434	14.2	20.5
3 22	12 45.64	+ 7 0.0	2.108	3.089	4.0	20.9	3 22	12 46.98	-27 2.5	1.535	2.458	11.1	20.4
4 1	12 37.95	+ 8 6.5	2.117	3.100	4.1	21.0	4 1	12 37.84	-26 12.8	1.527	2.483	8.6	20.3
4 11	12 30.46	+ 9 1.0	2.155	3.111	6.7	21.1	4 11	12 29.02	-24 58.6	1.544	2.508	8.0	20.3
4 21	12 23.88	+ 9 39.7	2.220	3.122	9.6	21.3	4 21	12 21.62	-23 29.1	1.587	2.533	9.7	20.5
5 1	12 18.82	+10 0.5	2.308	3.132	12.4	21.5	5 1	12 16.47	-21 54.8	1.654	2.557	12.4	20.7
426770	2013 TO ₁₀₅		3 31.1 228°91	3°9/ 4.5	17		88616	2001 RC ₄		3 31.1 41°57	8°5/ 6.5	18	
2 21	13 3.13	-19 18.5	2.325	3.042	14.7	22.2	2 21	13 7.48	-22 59.7	1.579	2.301	20.4	18.4
3 2	12 59.43	-19 14.4	2.212	3.030	12.4	22.0	3 2	13 3.88	-24 18.5	1.501	2.310	17.7	18.2
3 12	12 53.65	-18 50.7	2.119	3.018	9.6	21.8	3 12	12 57.24	-25 14.0	1.439	2.320	14.5	18.0
3 22	12 46.23	-18 7.2	2.050	3.006	6.6	21.5	3 22	12 48.15	-25 41.8	1.398	2.330	11.2	17.9
4 1	12 37.88	-17 5.4	2.009	2.992	4.2	21.4	4 1	12 37.71	-25 39.7	1.381	2.341	8.9	17.7
4 11	12 29.48	-15 50.1	1.997	2.979	4.7	21.4	4 11	12 27.34	-25 10.6	1.388	2.351	8.7	17.8
4 21	12 21.89	-14 27.8	2.013	2.964	7.6	21.5	4 21	12 18.40	-24 21.5	1.419	2.363	10.8	17.9
5 1	12 15.87	-13 5.9	2.056	2.949	10.8	21.7	5 1	12 11.95	-23 22.4	1.473	2.374	13.9	18.1
290260	2005 SK ₁₂₃		3 31.1 164°30	1°1/ 1.2	17		133926	2004 SB ₃₁		3 31.1 109°19	1°0/30.2	18	
2 21	13 5.19	- 9 43.8	2.196	2.958									

EPHEMERIDES

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2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
82947	2001 QV ₁₂₁		3 31.1 174°00	1°5/29.3	18		9057	1992 HA ₅		3 31.1 241°26	0°8/30.0	18	
2 21	13 1.81	- 1 34.2	2.534	3.322	11.8	20.3	2 21	13 0.70	- 3 32.0	2.780	3.560	11.1	18.3
3 2	12 57.93	- 0 58.8	2.444	3.324	9.2	20.2	3 2	12 57.01	- 3 3.0	2.674	3.548	8.7	18.1
3 12	12 52.34	- 0 15.2	2.379	3.325	6.2	20.0	3 12	12 51.72	- 2 25.3	2.592	3.536	5.9	17.9
3 22	12 45.49	+ 0 33.0	2.340	3.326	3.0	19.8	3 22	12 45.22	- 1 41.5	2.538	3.523	2.8	17.6
4 1	12 38.00	+ 1 21.4	2.332	3.327	1.8	19.7	4 1	12 38.06	- 0 55.6	2.513	3.510	1.1	17.5
4 11	12 30.61	+ 2 5.0	2.352	3.328	4.7	19.9	4 11	12 30.90	- 0 11.7	2.518	3.497	4.1	17.7
4 21	12 23.98	+ 2 40.0	2.401	3.328	7.9	20.1	4 21	12 24.38	+ 0 26.1	2.552	3.484	7.2	17.9
5 1	12 18.68	+ 3 3.4	2.475	3.328	10.7	20.3	5 1	12 19.03	+ 0 54.6	2.611	3.470	10.0	18.0
210160	2006 SR ₂₈₁		3 31.1 96°20	1°9/28.7	18		7570	1989 CP		3 31.1 67°69	0°6/31.6	18	
2 21	12 59.02	- 2 2.1	2.292	3.090	12.6	20.1	2 21	13 5.84	- 7 39.2	1.528	2.321	18.0	17.6
3 2	12 55.95	- 1 3.5	2.207	3.092	9.8	19.9	3 2	13 2.15	- 7 30.4	1.458	2.336	14.3	17.4
3 12	12 51.09	+ 0 5.7	2.145	3.094	6.5	19.7	3 12	12 55.74	- 7 4.9	1.408	2.351	9.9	17.1
3 22	12 44.91	+ 1 20.7	2.110	3.096	3.2	19.5	3 22	12 47.29	- 6 25.8	1.382	2.366	5.0	16.9
4 1	12 38.07	+ 2 35.5	2.105	3.099	2.3	19.4	4 1	12 37.86	- 5 38.3	1.381	2.381	0.6	16.6
4 11	12 31.33	+ 3 43.8	2.128	3.101	5.4	19.6	4 11	12 28.74	- 4 50.1	1.408	2.395	5.4	17.0
4 21	12 25.41	+ 4 40.3	2.179	3.103	8.7	19.8	4 21	12 21.03	- 4 8.0	1.460	2.410	10.0	17.3
5 1	12 20.89	+ 5 21.6	2.254	3.105	11.7	20.0	5 1	12 15.56	- 3 37.7	1.536	2.425	14.1	17.6
466168	2012 JU ₂₀		3 31.1 289°30	2°7/ 2.5	17		313640	2003 SL ₄₉		3 31.1 225°65	2°3/ 2.2	16	
2 21	13 0.81	-13 57.7	1.795	2.563	16.7	21.6	2 21	13 6.88	-12 40.6	2.104	2.853	15.1	21.8
3 2	12 58.24	-13 48.6	1.687	2.544	13.8	21.4	3 2	13 2.58	-12 38.5	1.994	2.841	12.4	21.6
3 12	12 53.22	-13 18.4	1.598	2.526	10.2	21.1	3 12	12 55.95	-12 20.0	1.905	2.828	9.1	21.4
3 22	12 46.17	-12 27.6	1.533	2.508	6.1	20.8	3 22	12 47.45	-11 45.5	1.841	2.815	5.3	21.1
4 1	12 37.92	-11 19.5	1.494	2.489	2.8	20.5	4 1	12 37.84	-10 57.6	1.805	2.800	2.3	20.9
4 11	12 29.55	-10 0.5	1.482	2.471	4.9	20.6	4 11	12 28.15	-10 1.5	1.798	2.785	4.5	21.0
4 21	12 22.14	- 8 39.4	1.497	2.453	9.3	20.8	4 21	12 19.35	- 9 3.4	1.820	2.769	8.4	21.2
5 1	12 16.64	- 7 24.7	1.535	2.434	13.5	21.0	5 1	12 12.30	- 8 10.0	1.867	2.752	12.2	21.4
134616	1999 TP ₂₃₅		3 31.1 239°35	1°7/29.5	17		205655	2001 XT ₁₄₂		3 31.1 229°45	3°4/27.9	17	
2 21	13 5.05	- 2 48.4	1.933	2.726	14.8	21.0	2 21	13 6.60	+ 1 17.5	1.815	2.619	15.2	21.1
3 2	13 1.24	- 2 8.3	1.831	2.713	11.6	20.8	3 2	13 2.59	+ 2 11.7	1.719	2.608	11.9	20.9
3 12	12 55.06	- 1 15.1	1.751	2.699	7.9	20.5	3 12	12 56.06	+ 3 17.0	1.646	2.596	8.1	20.6
3 22	12 47.00	- 0 13.2	1.697	2.684	3.8	20.2	3 22	12 47.52	+ 4 27.2	1.599	2.583	4.5	20.4
4 1	12 37.85	+ 0 51.3	1.672	2.668	2.1	20.1	4 1	12 37.84	+ 5 34.7	1.580	2.569	3.9	20.3
4 11	12 28.65	+ 1 51.1	1.675	2.652	6.0	20.3	4 11	12 28.15	+ 6 31.4	1.588	2.555	7.5	20.5
4 21	12 20.42	+ 2 39.9	1.704	2.635	10.2	20.5	4 21	12 19.53	+ 7 11.3	1.623	2.540	11.6	20.7
5 1	12 13.99	+ 3 12.9	1.758	2.618	14.0	20.7	5 1	12 12.87	+ 7 30.8	1.680	2.525	15.3	20.9
67317	2000 HE ₄₃		3 31.1 62°41	1°4/ 1.5	18		489571	2007 TC ₆₀		3 31.1 169°89	1°0/30.1	17	
2 21	13 1.01	-11 58.3	1.689	2.469	17.1	19.8	2 21	13 4.40	- 2 18.4	2.413	3.195	12.5	21.8
3 2	12 58.25	-11 27.0	1.606	2.474	13.8	19.6	3 2	13 0.06	- 2 4.3	2.322	3.197	9.8	21.6
3 12	12 53.05	-10 34.4	1.543	2.479	9.8	19.4	3 12	12 53.86	- 1 42.2	2.255	3.199	6.6	21.4
3 22	12 45.98	- 9 23.2	1.504	2.484	5.3	19.1	3 22	12 46.28	- 1 15.2	2.214	3.200	3.1	21.2
4 1	12 37.96	- 7 59.2	1.491	2.489	1.4	18.8	4 1	12 37.99	- 0 46.8	2.203	3.201	1.2	21.0
4 11	12 30.10	- 6 31.0	1.506	2.495	4.9	19.1	4 11	12 29.79	- 0 21.5	2.222	3.202	4.5	21.3
4 21	12 23.41	- 5 7.6	1.547	2.500	9.3	19.4	4 21	12 22.42	- 0 2.8	2.269	3.203	7.9	21.5
5 1	12 18.67	- 3 56.8	1.613	2.505	13.3	19.6	5 1	12 16.50	+ 0 6.5	2.341	3.203	10.9	21.7
165359	2000 WS ₇₅		3 31.1 147°24	1°3/ 1.3	18		255635	2006 QB ₅		3 31.1 263°89	0°6/31.6	17	
2 21	13 7.70	- 9 56.9	1.932	2.697	15.8	21.1	2 21	13 4.84	- 7 54.7	1.757	2.541	16.4	21.3
3 2	13 3.12	- 9 47.6	1.847	2.706	12.7	20.9	3 2	13 1.43	- 7 43.5	1.653	2.526	13.2	21.1
3 12	12 56.18	- 9 22.6	1.783	2.716	8.9	20.7	3 12	12 55.42	- 7 16.2	1.569	2.509	9.3	20.8
3 22	12 47.45	- 8 43.8	1.744	2.724	4.8	20.5	3 22	12 47.28	- 6 34.6	1.510	2.493	4.8	20.5
4 1	12 37.82	- 7 55.2	1.734	2.732	1.3	20.3	4 1	12 37.87	- 5 43.1	1.477	2.476	0.6	20.1
4 11	12 28.35	- 7 2.9	1.752	2.739	4.6	20.5	4 11	12 28.34	- 4 48.5	1.472	2.459	5.3	20.4
4 21	12 20.01	- 6 13.0	1.798	2.746	8.7	20.8	4 21	12 19.84	- 3 58.0	1.494	2.442	10.0	20.7
5 1	12 13.58	- 5 31.4	1.869	2.751	12.3	21.0	5 1	12 13.34	- 3 18.1	1.539	2.424	14.3	20.9
131224	2001 DT ₉₂		3 31.1 131°21	2°3/28.7	18		18656	Mergler		3 31.1 117°00	3°1/ 2.6	18	
2 21	13 2.93	- 0 12.1	2.159	2.957	13.3	20.3	2 21	13 7.73	-13 5.5	1.685	2.447	17.8	18.2
3 2	12 59.07	+ 0 31.8	2.079	2.964	10.3	20.1	3 2	13 3.59	-13 22.9	1.602	2.456	14.6	18.0
3 12	12 53.24	+ 1 24.3	2.023	2.971	6.9	19.9	3 12	12 56.76	-13 21.9	1.539	2.464	10.7	17.8
3 22	12 45.97	+ 2 20.9	1.993	2.978	3.5	19.7	3 22	12 47.84	-13 2.4	1.500	2.472	6.5	17.5
4 1	12 37.99	+ 3 15.7	1.991	2.984	2.6	19.7	4 1	12 37.82	-12 27.4	1.487	2.480	3.2	17.4
4 11	12 30.16	+ 4 3.0	2.019	2.991	5.7	19.9	4 11	12 27.96	-11 42.3	1.501	2.488	5.2	17.5
4 21	12 23.28	+ 4 38.2	2.073	2.996	9.1	20.1	4 21	12 19.39	-10 54.4	1.542	2.495	9.3	17.7
5 1	12 17.97	+ 4 58.6	2.152	3.002	12.2	20.3	5 1	12 13.01	-10 10.8	1.607	2.502	13.2	18.0
106101	2000 TT ₁₂		3 31.1 260°80	4°9/25.0	16		429968	2012 XF ₁₁₄		3 31.1 206°62	4°6/25.4	18	
2 21	13 4.19	+11 11.6	2.685	3.486	10.9	20.6	2 21	13 1.21	+ 8 20.1	2.464	3.273	11.5	20.9
3 2	12 59.84	+12 0.5	2.582	3.464	8.7	20.5	3 2	12 57.55	+ 9 22.0	2.382	3.271	9.0	20.8
3 12	12 53.71	+12 50.3	2.505	3.442	6.5	20.3	3 12	12 52.14	+10 26.7	2.325	3.268	6.5	20.6
3 22	12 46.22	+13 35.9	2.456	3.420	5.0	20.1	3 22	12 45.43	+11 28.6	2.295	3.266	4.7	20.5
4 1	12 37.96	+14 12.1	2.435	3.397	5.4	20.1	4 1	12 38.08	+12 21.8	2.294	3.263	5.1	20.5
4 11	12 29.68	+14 34.3	2.443	3.373	7.5	20.2	4 11	12 30.82	+13 1.2	2.321	3.260	7.3	20.6
4 21	12 22.10	+14 39.9	2.478	3.349	10.0	20.3	4 21	12 24.36	+13 23.9	2.374	3.256	9.9	20.8
5 1	12 15.83	+14 28.2	2.536	3.325	12.4	20.5	5 1	12 19.26	+13 28.6	2.450	3.253	12.4	20.9
241275	2007 TU ₄₃₀		3 31.1 205°29	6°5/21.7	18		235718	2004 TH ₁₂₉		3 31.1 95°11	3°3/28.0	18	
2 21	13 2.59	+17 43.1	2.743	3.546	10.6	21.1							

EPHEMERIDES

3 31.1

3 31.1

2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
123775	2001 <i>BA</i> ₇		3 31.1 322°36	2°5/28.9	17		364632	2007 <i>TM</i> ₈₅		3 31.1 199°93	1°8/1.6	1.6	16
2 21	13 2.00	- 0 7.8	1.755	2.567	15.3	19.5	2 21	13 7.43	-10 41.7	1.921	2.684	15.9	21.9
3 2	12 58.99	+ 0 24.8	1.666	2.559	12.0	19.3	3 2	13 3.13	-10 42.2	1.824	2.681	12.9	21.7
3 12	12 53.59	+ 1 7.8	1.599	2.550	8.1	19.0	3 12	12 56.37	-10 26.9	1.747	2.677	9.3	21.5
3 22	12 46.30	+ 1 56.3	1.556	2.542	4.1	18.8	3 22	12 47.67	- 9 56.8	1.696	2.673	5.2	21.2
4 1	12 37.99	+ 2 43.8	1.540	2.535	2.9	18.7	4 1	12 37.89	- 9 15.0	1.672	2.669	1.8	21.0
4 11	12 29.73	+ 3 23.3	1.552	2.527	6.6	18.9	4 11	12 28.12	- 8 27.0	1.676	2.664	4.7	21.2
4 21	12 22.54	+ 3 49.6	1.588	2.520	10.8	19.1	4 21	12 19.40	- 7 39.3	1.708	2.658	8.9	21.4
5 1	12 17.24	+ 3 58.9	1.648	2.514	14.5	19.3	5 1	12 12.60	- 6 58.1	1.765	2.651	12.7	21.6
211558	2003 <i>SP</i> ₈₃		3 31.1 110°93	1°7/29.5	18		353454	2011 <i>RY</i> ₉		3 31.1 166°91	2°9/3.5	1.8	18
2 21	13 4.31	- 3 58.3	1.698	2.499	16.2	20.7	2 21	13 2.87	-15 31.2	2.744	3.470	12.5	21.2
3 2	13 0.67	- 3 3.7	1.626	2.511	12.6	20.5	3 2	12 58.75	-15 41.3	2.644	3.472	10.3	21.1
3 12	12 54.59	- 1 54.2	1.574	2.523	8.5	20.3	3 12	12 52.94	-15 37.9	2.567	3.475	7.7	20.9
3 22	12 46.71	- 0 35.6	1.548	2.535	4.0	20.0	3 22	12 45.85	-15 21.4	2.515	3.477	5.0	20.7
4 1	12 37.96	+ 0 44.3	1.550	2.547	2.1	19.9	4 1	12 38.08	-14 53.4	2.491	3.479	3.0	20.6
4 11	12 29.46	+ 1 56.9	1.580	2.558	6.2	20.2	4 11	12 30.35	-14 17.1	2.498	3.481	3.8	20.6
4 21	12 22.21	+ 2 55.4	1.635	2.569	10.4	20.5	4 21	12 23.34	-13 36.7	2.533	3.482	6.4	20.8
5 1	12 16.95	+ 3 35.3	1.714	2.579	14.1	20.7	5 1	12 17.62	-12 56.7	2.594	3.483	9.1	21.0
495815	2017 <i>FL</i> ₁₀₈		3 31.1 248°98	0°9/31.7	18		301444	2009 <i>DM</i> ₈₂		3 31.1 284°87	1°3/29.6	1.7	18
2 21	13 7.83	- 7 18.7	1.384	2.183	19.3	21.2	2 21	12 59.54	- 3 17.6	2.285	3.078	12.8	20.9
3 2	13 4.33	- 7 25.7	1.301	2.181	15.5	20.9	3 2	12 56.46	- 2 35.8	2.189	3.071	10.0	20.7
3 12	12 57.66	- 7 15.9	1.236	2.180	10.9	20.6	3 12	12 51.54	- 1 43.0	2.117	3.065	6.7	20.5
3 22	12 48.43	- 6 51.1	1.194	2.178	5.6	20.3	3 22	12 45.22	- 0 42.9	2.071	3.058	3.2	20.2
4 1	12 37.77	- 6 15.7	1.177	2.176	0.9	20.0	4 1	12 38.14	+ 0 19.1	2.054	3.051	1.6	20.1
4 11	12 27.18	- 5 37.1	1.187	2.175	6.0	20.3	4 11	12 31.12	+ 1 17.2	2.066	3.044	5.0	20.3
4 21	12 18.08	- 5 2.9	1.220	2.173	11.3	20.6	4 21	12 24.88	+ 2 6.2	2.105	3.038	8.5	20.5
5 1	12 11.55	- 4 39.6	1.276	2.171	16.0	20.9	5 1	12 20.06	+ 2 42.1	2.169	3.031	11.7	20.7
414272	2008 <i>HZ</i> ₃₂		3 31.1 18°16	4°4/27.9	18		3411	Debetencourt		3 31.1 54°27	4°2/28.2	1.8	18
2 21	13 2.25	+ 3 1.4	1.295	2.132	18.2	20.7	2 21	13 6.87	+ 2 15.2	1.245	2.075	19.2	16.5
3 2	12 59.80	+ 3 43.0	1.231	2.137	14.2	20.5	3 2	13 3.49	+ 2 57.2	1.184	2.087	15.0	16.3
3 12	12 54.38	+ 4 33.6	1.187	2.144	9.7	20.3	3 12	12 56.93	+ 3 49.4	1.144	2.099	10.2	16.1
3 22	12 46.71	+ 5 25.6	1.166	2.151	5.5	20.0	3 22	12 47.96	+ 4 43.8	1.126	2.111	5.6	15.8
4 1	12 37.96	+ 6 9.9	1.170	2.159	4.9	20.0	4 1	12 37.88	+ 5 30.9	1.133	2.124	4.7	15.8
4 11	12 29.53	+ 6 38.3	1.197	2.169	8.8	20.3	4 11	12 28.22	+ 6 2.1	1.164	2.137	8.8	16.1
4 21	12 22.63	+ 6 45.9	1.248	2.179	13.2	20.5	4 21	12 20.30	+ 6 12.5	1.219	2.150	13.4	16.4
5 1	12 18.16	+ 6 31.2	1.319	2.190	17.2	20.8	5 1	12 15.03	+ 6 0.5	1.294	2.163	17.5	16.7
221085	2005 <i>SK</i> ₅₀		3 31.1 61°91	1°0/1.1	18		452689	2005 <i>XF</i> ₈₅		3 31.1 108°17	3°8/28.3	1.8	18
2 21	13 1.44	-12 25.2	1.649	2.428	17.5	20.0	2 21	13 8.28	+ 2 6.1	1.447	2.265	17.7	21.6
3 2	12 58.41	-11 29.9	1.585	2.453	13.9	19.8	3 2	13 4.26	+ 2 47.4	1.377	2.272	13.8	21.4
3 12	12 53.01	-10 12.3	1.541	2.478	9.7	19.6	3 12	12 57.31	+ 3 38.3	1.328	2.280	9.4	21.1
3 22	12 45.90	- 8 37.0	1.521	2.502	5.1	19.4	3 22	12 48.13	+ 4 31.7	1.303	2.288	5.1	20.9
4 1	12 38.06	- 6 51.6	1.528	2.527	1.0	19.2	4 1	12 37.86	+ 5 19.4	1.304	2.295	4.3	20.9
4 11	12 30.57	- 5 6.3	1.564	2.552	4.8	19.5	4 11	12 27.89	+ 5 53.4	1.331	2.302	8.2	21.1
4 21	12 24.36	- 3 30.4	1.626	2.577	9.2	19.8	4 21	12 19.44	+ 6 8.7	1.383	2.309	12.6	21.4
5 1	12 20.11	- 2 11.0	1.713	2.601	12.9	20.1	5 1	12 13.41	+ 6 3.4	1.456	2.316	16.5	21.6
27751	2006 <i>DK</i> ₁₂₁		3 31.1 328°73	4°0/27.9	17		339479	2005 <i>EN</i> ₃₁₆		3 31.1 299°09	0°3/30.8	1.7	17
2 21	13 3.79	+ 4 7.0	1.647	2.468	15.7	20.4	2 21	13 1.18	- 6 2.9	2.105	2.891	14.0	21.0
3 2	13 0.59	+ 4 34.7	1.560	2.457	12.4	20.2	3 2	12 57.89	- 5 35.0	2.014	2.890	11.0	20.8
3 12	12 54.79	+ 5 8.9	1.494	2.446	8.5	19.9	3 12	12 52.58	- 4 54.2	1.946	2.889	7.5	20.6
3 22	12 46.93	+ 5 43.6	1.452	2.436	4.9	19.7	3 22	12 45.74	- 4 3.7	1.903	2.888	3.6	20.3
4 1	12 37.94	+ 6 12.2	1.437	2.426	4.4	19.6	4 1	12 38.10	- 3 8.3	1.888	2.887	0.6	20.1
4 11	12 29.00	+ 6 28.0	1.448	2.417	7.9	19.8	4 11	12 30.54	- 2 13.9	1.902	2.886	4.6	20.4
4 21	12 21.23	+ 6 26.9	1.484	2.408	12.0	20.0	4 21	12 23.88	- 1 26.2	1.943	2.885	8.5	20.6
5 1	12 15.52	+ 6 7.1	1.541	2.400	15.7	20.2	5 1	12 18.80	- 0 49.8	2.009	2.884	11.9	20.8
496964	2002 <i>OM</i> ₃₀		3 31.1 272°12	1°5/1.3	17		153533	2001 <i>SE</i> ₆₆		3 31.1 101°84	3°2/28.2	1.8	18
2 21	13 3.95	-10 15.7	1.755	2.533	16.6	22.6	2 21	13 9.93	+ 3 52.7	2.053	2.848	14.0	20.6
3 2	13 0.81	-10 7.5	1.646	2.514	13.5	22.4	3 2	13 4.44	+ 4 23.1	1.990	2.872	10.8	20.5
3 12	12 55.06	- 9 41.1	1.558	2.494	9.7	22.1	3 12	12 56.81	+ 4 58.0	1.949	2.895	7.4	20.3
3 22	12 47.14	- 8 57.8	1.493	2.474	5.3	21.8	3 22	12 47.68	+ 5 32.3	1.936	2.917	4.1	20.1
4 1	12 37.91	- 8 1.2	1.455	2.454	1.5	21.5	4 1	12 37.93	+ 6 0.8	1.952	2.940	3.6	20.1
4 11	12 28.50	- 6 58.0	1.445	2.433	5.1	21.7	4 11	12 28.52	+ 6 18.8	1.996	2.961	6.4	20.3
4 21	12 20.09	- 5 56.0	1.461	2.412	9.9	21.9	4 21	12 20.31	+ 6 23.6	2.068	2.982	9.7	20.6
5 1	12 13.66	- 5 2.9	1.500	2.391	14.3	22.1	5 1	12 13.93	+ 6 14.1	2.165	3.002	12.6	20.8
365532	2010 <i>RY</i> ₁₄₈		3 31.1 276°37	1°0/31.9	17		338717	2003 <i>UH</i> ₇₈		3 31.1 272°66	1°2/1.2	1.6	16
2 21	13 3.76	- 9 36.0	1.699	2.482	16.9	22.1	2 21	13 5.92	- 8 59.0	2.327	3.086	13.6	21.2
3 2	13 0.81	- 9 17.8	1.586	2.457	13.7	21.8	3 2	13 1.73	- 8 58.4	2.199	3.056	11.0	20.9
3 12	12 55.17	- 8 40.2	1.493	2.432	9.8	21.5	3 12	12 55.37	- 8 45.4	2.094	3.026	7.9	20.7
3 22	12 47.25	- 7 44.6	1.424	2.406	5.2	21.2	3 22	12 47.22	- 8 21.0	2.015	2.994	4.3	20.4
4 1	12 37.89	- 6 35.4	1.381	2.380	1.0	20.8	4 1	12 37.95	- 7 47.4	1.964	2.963	1.2	20.1
4 11	12 28.28	- 5 20.1	1.366	2.354	5.4	21.1	4 11	12 28.43	- 7 9.1	1.944	2.930	4.2	20.3
4 21	12 19.65	- 4 7.7	1.377	2.327	10.5	21.3	4 21	12 19.58	- 6 30.9	1.951	2.897	8.2	20.4
5 1	12 13.06	- 3 6.5	1.411	2.300	15.1	21.5	5 1	12 12.23	- 5 58.0	1.985	2.863	11.9	20.6
237697	2001 <i>UQ</i> ₄₇		3 31.1 220°07	2°7/28.7	17		172348	2002 <i>VU</i> ₁₁₃		3			

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2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
402928	2007 <i>TD</i> ₁₇₂		3 31.1 199°89	1°5/29.6	17		264534	2001 <i>RM</i> ₁₅₄		3 31.1 129°40	5°0/4.8	16	
2 21	13 6.09	- 3 7.9	1.989	2.778	14.6	22.2	2 21	13 8.71	-19 19.4	2.129	2.841	16.0	21.6
3 2	13 1.90	- 2 26.4	1.895	2.774	11.5	22.0	3 2	13 3.89	-19 55.5	2.041	2.853	13.5	21.4
3 12	12 55.42	- 1 32.4	1.824	2.770	7.8	21.8	3 12	12 56.75	-20 13.6	1.972	2.865	10.6	21.2
3 22	12 47.17	- 0 30.2	1.779	2.765	3.7	21.5	3 22	12 47.82	-20 12.2	1.928	2.876	7.5	21.1
4 1	12 37.97	+ 0 34.1	1.763	2.759	1.9	21.4	4 1	12 37.95	-19 51.8	1.910	2.886	5.3	20.9
4 11	12 28.82	+ 1 33.6	1.775	2.753	5.7	21.6	4 11	12 28.18	-19 16.1	1.921	2.896	5.6	21.0
4 21	12 20.68	+ 2 22.3	1.815	2.746	9.8	21.8	4 21	12 19.47	-18 30.4	1.960	2.906	8.1	21.1
5 1	12 14.32	+ 2 55.8	1.880	2.738	13.4	22.0	5 1	12 12.61	-17 41.7	2.024	2.915	11.1	21.3
34739	2001 <i>QO</i> ₇₅		3 31.1 77°95	0°3/31.4	18		438416	2006 <i>VZ</i> ₅₂		3 31.1 179°87	0°5/30.5	17	
2 21	13 2.11	- 7 23.4	2.298	3.072	13.3	19.2	2 21	13 2.94	- 3 51.4	2.669	3.445	11.6	21.5
3 2	12 58.28	- 7 2.0	2.223	3.091	10.5	19.1	3 2	12 58.77	- 3 37.6	2.574	3.445	9.1	21.4
3 12	12 52.63	- 6 28.7	2.170	3.109	7.2	18.9	3 12	12 52.93	- 3 15.7	2.504	3.446	6.2	21.2
3 22	12 45.69	- 5 46.3	2.144	3.127	3.6	18.7	3 22	12 45.86	- 2 48.2	2.461	3.446	3.0	20.9
4 1	12 38.14	- 4 59.0	2.146	3.145	0.3	18.4	4 1	12 38.15	- 2 18.2	2.447	3.446	0.7	20.8
4 11	12 30.79	- 4 11.8	2.178	3.163	4.0	18.8	4 11	12 30.50	- 1 49.7	2.463	3.445	3.9	21.0
4 21	12 24.34	+ 1 29.5	2.237	3.181	7.4	19.0	4 21	12 23.58	- 1 26.2	2.508	3.445	7.1	21.2
5 1	12 19.37	- 2 55.9	2.322	3.199	10.5	19.2	5 1	12 17.95	- 1 10.6	2.579	3.444	10.0	21.4
286501	2002 <i>BB</i> ₃₁		3 31.1 116°25	2°1/2.1	18		22332	1992 <i>DD</i> ₈		3 31.1 210°70	2°1/2.4	18	
2 21	13 8.89	-12 31.9	1.834	2.590	16.8	21.8	2 21	13 2.53	-13 8.4	2.280	3.030	14.1	19.1
3 2	13 4.11	-12 23.5	1.759	2.611	13.6	21.6	3 2	12 58.89	-12 58.6	2.178	3.026	11.5	18.9
3 12	12 56.87	-11 56.7	1.705	2.631	9.7	21.4	3 12	12 53.27	-12 32.8	2.098	3.022	8.4	18.7
3 22	12 47.82	-11 13.3	1.675	2.650	5.5	21.2	3 22	12 46.11	-11 52.2	2.044	3.017	4.9	18.5
4 1	12 37.93	-10 17.4	1.673	2.669	2.2	21.0	4 1	12 38.12	-10 59.7	2.017	3.012	2.2	18.3
4 11	12 28.32	- 9 15.6	1.700	2.687	4.6	21.2	4 11	12 30.15	-10 0.4	2.020	3.007	4.0	18.4
4 21	12 20.00	- 8 15.1	1.754	2.704	8.6	21.5	4 21	12 23.02	- 9 0.2	2.051	3.002	7.5	18.6
5 1	12 13.71	- 7 22.3	1.833	2.720	12.3	21.7	5 1	12 17.41	- 8 4.9	2.107	2.996	10.8	18.8
216735	2005 <i>JN</i> ₂₃		3 31.1 14°69	1°4/30.1	18		455637	2004 <i>XC</i> ₁₅		3 31.1 137°24	1°1/1.2	18	
2 21	13 0.90	- 3 50.2	1.221	2.051	19.6	20.8	2 21	13 8.08	-10 12.3	1.998	2.758	15.5	22.4
3 2	12 59.00	- 3 25.5	1.153	2.054	15.4	20.5	3 2	13 3.31	- 9 53.3	1.916	2.773	12.4	22.2
3 12	12 54.02	- 2 43.5	1.103	2.058	10.4	20.2	3 12	12 56.27	- 9 18.2	1.856	2.788	8.7	22.0
3 22	12 46.64	- 1 49.8	1.075	2.064	5.0	19.9	3 22	12 47.54	- 8 29.6	1.822	2.801	4.6	21.7
4 1	12 38.04	- 0 52.5	1.072	2.070	1.8	19.8	4 1	12 38.00	- 7 31.7	1.816	2.814	1.1	21.5
4 11	12 29.69	- 0 1.4	1.092	2.077	7.1	20.1	4 11	12 28.67	- 6 31.0	1.840	2.826	4.4	21.8
4 21	12 22.90	+ 0 35.6	1.136	2.086	12.3	20.4	4 21	12 20.47	- 5 33.9	1.892	2.838	8.4	22.0
5 1	12 18.64	+ 0 53.2	1.200	2.095	16.8	20.7	5 1	12 14.12	- 4 45.8	1.969	2.848	11.9	22.3
53635	2000 <i>DZ</i> ₃		3 31.1 216°88	2°3/29.2	18		431918	2008 <i>TB</i> ₆₆		3 31.1 185°17	0°4/30.7	17	
2 21	13 8.53	- 1 3.7	1.812	2.607	15.5	19.5	2 21	13 1.97	- 6 8.1	2.191	2.972	13.6	22.0
3 2	13 4.13	- 0 26.8	1.716	2.598	12.3	19.3	3 2	12 58.43	- 5 35.6	2.099	2.972	10.8	21.8
3 12	12 57.14	+ 0 21.6	1.642	2.589	8.3	19.0	3 12	12 52.92	- 4 50.2	2.030	2.972	7.3	21.5
3 22	12 48.10	+ 0 16.9	1.594	2.579	4.1	18.7	3 22	12 45.93	- 3 55.2	1.987	2.972	3.5	21.3
4 1	12 37.89	+ 0 12.6	1.574	2.569	2.6	18.6	4 1	12 38.16	- 2 55.5	1.972	2.971	0.6	21.1
4 11	12 27.69	+ 3 1.2	1.582	2.557	6.6	18.8	4 11	12 30.47	- 1 57.1	1.987	2.970	4.5	21.4
4 21	12 18.59	+ 3 36.8	1.617	2.545	10.9	19.1	4 21	12 23.65	- 1 5.5	2.029	2.969	8.3	21.6
5 1	12 11.51	+ 3 55.4	1.675	2.532	14.8	19.3	5 1	12 18.37	- 0 25.1	2.096	2.968	11.6	21.8
381474	2008 <i>SQ</i> ₅		3 31.1 188°15	2°3/28.4	17		243020	2006 <i>UU</i> ₁₉₂		3 31.1 220°49	3°2/4.5	18	
2 21	13 2.79	+ 0 19.3	2.453	3.245	12.0	21.7	2 21	13 1.08	-18 50.0	2.993	3.698	12.0	21.5
3 2	12 58.80	+ 1 7.8	2.362	3.245	9.4	21.5	3 2	12 57.32	-18 43.2	2.877	3.689	10.0	21.4
3 12	12 53.02	+ 2 4.4	2.296	3.243	6.3	21.3	3 12	12 51.98	-18 21.4	2.783	3.679	7.7	21.2
3 22	12 45.92	+ 3 4.6	2.257	3.242	3.3	21.1	3 22	12 45.43	-17 44.5	2.714	3.668	5.3	21.0
4 1	12 38.12	+ 4 3.1	2.248	3.240	2.7	21.1	4 1	12 38.21	-16 54.3	2.675	3.657	3.4	20.9
4 11	12 30.41	+ 4 54.5	2.269	3.237	5.5	21.3	4 11	12 30.98	-15 54.3	2.665	3.645	3.8	20.9
4 21	12 23.48	+ 5 34.5	2.317	3.234	8.6	21.5	4 21	12 24.36	-14 49.0	2.684	3.633	6.1	21.0
5 1	12 17.95	+ 6 0.4	2.390	3.230	11.5	21.6	5 1	12 18.91	-13 43.5	2.731	3.621	8.6	21.2
255732	2006 <i>QS</i> ₁₃₅		3 31.1 245°42	2°8/28.3	17		200629	2001 <i>SK</i> ₁₆₀		3 31.1 174°66	1°2/1.2	18	
2 21	13 4.72	- 0 2.0	1.993	2.792	14.2	21.3	2 21	13 5.60	-10 51.0	1.756	2.528	16.8	20.8
3 2	13 0.96	+ 0 53.5	1.889	2.775	11.1	21.1	3 2	13 1.85	-10 24.6	1.667	2.531	13.6	20.6
3 12	12 54.89	+ 2 0.7	1.808	2.757	7.6	20.8	3 12	12 55.57	- 9 38.7	1.598	2.533	9.6	20.4
3 22	12 46.98	+ 3 14.4	1.753	2.738	4.0	20.6	3 22	12 47.32	- 8 35.5	1.553	2.534	5.1	20.1
4 1	12 38.00	+ 4 27.6	1.727	2.719	3.3	20.5	4 1	12 38.02	- 7 20.5	1.536	2.535	1.2	19.8
4 11	12 28.95	+ 5 32.5	1.730	2.699	6.8	20.7	4 11	12 28.84	- 6 1.6	1.548	2.535	4.9	20.1
4 21	12 20.80	+ 6 23.0	1.759	2.678	10.8	20.8	4 21	12 20.82	- 4 47.1	1.586	2.535	9.5	20.3
5 1	12 14.39	+ 6 54.8	1.812	2.657	14.4	21.0	5 1	12 14.82	- 3 44.2	1.648	2.534	13.5	20.6
305997	2009 <i>KX</i> ₁₅		3 31.1 313°67	3°9/26.9	17		240291	2003 <i>EO</i> ₅₂		3 31.1 343°20	1°4/1.0	18	
2 21	12 59.98	+ 4 36.1	2.128	2.942	12.9	20.9	2 21	13 13.03	- 5 34.3	2.082	2.846	14.8	19.5
3 2	12 56.99	+ 5 27.1	2.036	2.929	10.1	20.7	3 2	13 7.34	- 6 25.8	1.982	2.841	11.9	19.3
3 12	12 52.01	+ 6 24.4	1.966	2.916	7.0	20.5	3 12	12 59.19	- 7 10.5	1.904	2.837	8.4	19.0
3 22	12 45.50	+ 7 22.4	1.924	2.904	4.3	20.3	3 22	12 49.08	- 7 48.4	1.853	2.833	4.5	18.8
4 1	12 38.16	+ 8 14.7	1.908	2.891	4.4	20.3	4 1	12 37.85	- 8 20.2	1.832	2.830	1.4	18.6
4 11	12 30.85	+ 8 55.4	1.921	2.879	7.1	20.4	4 11	12 26.60	- 8 47.5	1.841	2.827	4.5	18.8
4 21	12 24.38	+ 9 20.1	1.959	2.867	10.4	20.6	4 21	12 16.37	- 9 12.8	1.879	2.824	8.5	19.0
5 1	12 19.45	+ 9 26.7	2.020	2.856	13.5	20.8	5 1	12 8.02	- 9 38.8	1.943	2.822	12.1	19.2
239738	2009 <i>DJ</i> ₁₀		3 31.1 179°22	4°5/25.3	17		301467	2009 <i>DV</i> ₁₂₅		3 31.1 27°99	0		

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2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
460438	2014 <i>SR</i> ₁₆₆		3 31.1 165°61	2.4/ 2.5	16		500241	2012 <i>JT</i> ₂₈		3 31.1 216°45	7.6/10.8	18	
2 21	13 5.24	-13 49.8	1.960	2.713	16.0	22.1	2 21	13 5.27	-34 37.2	2.754	3.348	15.0	21.9
3 2	13 1.31	-13 36.7	1.868	2.717	13.0	21.9	3 2	13 1.05	-34 47.1	2.634	3.338	13.5	21.7
3 12	12 55.06	-13 4.7	1.797	2.721	9.5	21.7	3 12	12 54.77	-34 33.8	2.530	3.327	11.7	21.5
3 22	12 47.03	-12 14.8	1.751	2.724	5.6	21.4	3 22	12 46.88	-33 54.4	2.447	3.315	9.8	21.4
4 1	12 38.06	-11 10.9	1.732	2.727	2.5	21.2	4 1	12 38.10	-32 48.0	2.389	3.303	8.2	21.3
4 11	12 29.19	-9 59.3	1.742	2.729	4.5	21.4	4 11	12 29.32	-31 16.9	2.358	3.290	7.6	21.2
4 21	12 21.39	-8 47.4	1.779	2.731	8.4	21.6	4 21	12 21.38	-29 26.7	2.355	3.276	8.3	21.2
5 1	12 15.42	-7 42.4	1.842	2.732	12.1	21.8	5 1	12 15.02	-27 25.2	2.379	3.261	10.1	21.3
340402	2006 <i>EV</i> ₄₈		3 31.1 285°91	0.7/31.7	17		70928	1999 <i>VS</i> ₂₁₁		3 31.1 272°59	1.2/ 1.3	18	
2 21	13 5.38	-6 45.6	1.996	2.775	14.9	21.1	2 21	13 1.59	-10 15.3	2.002	2.775	15.0	20.4
3 2	13 1.59	-6 52.0	1.885	2.754	12.0	20.9	3 2	12 58.41	-9 57.9	1.907	2.772	12.1	20.1
3 12	12 55.42	-6 46.6	1.795	2.734	8.4	20.6	3 12	12 53.08	-9 24.1	1.834	2.769	8.6	19.9
3 22	12 47.31	-6 30.8	1.730	2.713	4.4	20.3	3 22	12 46.08	-8 36.2	1.786	2.766	4.6	19.7
4 1	12 38.02	-6 7.7	1.693	2.692	0.7	20.0	4 1	12 38.18	-7 38.2	1.765	2.763	1.2	19.4
4 11	12 28.57	-5 41.8	1.684	2.671	4.7	20.3	4 11	12 30.33	-6 36.4	1.773	2.760	4.4	19.6
4 21	12 19.99	-5 18.1	1.702	2.650	9.1	20.5	4 21	12 23.43	-5 37.2	1.807	2.758	8.4	19.9
5 1	12 13.16	-5 1.5	1.745	2.629	13.0	20.7	5 1	12 18.21	-4 46.8	1.867	2.755	12.1	20.1
298976	2004 <i>VB</i> ₉₀		3 31.1 118°58	0.8/31.8	18		488539	2001 <i>SJ</i> ₁₉₈		3 31.1 133°62	0.7/30.6	18	
2 21	13 8.12	-8 44.6	1.763	2.538	16.7	22.1	2 21	13 7.65	-5 10.9	1.602	2.396	17.3	22.0
3 2	13 3.62	-8 28.3	1.687	2.554	13.3	21.9	3 2	13 3.57	-4 46.2	1.524	2.405	13.6	21.8
3 12	12 56.62	-7 55.7	1.633	2.570	9.2	21.7	3 12	12 56.78	-4 6.5	1.467	2.413	9.3	21.6
3 22	12 47.76	-7 9.5	1.603	2.585	4.7	21.5	3 22	12 47.92	-3 15.6	1.434	2.420	4.5	21.3
4 1	12 38.01	-6 15.0	1.601	2.600	0.8	21.2	4 1	12 38.01	-2 20.0	1.429	2.427	1.0	21.1
4 11	12 28.52	-5 18.9	1.627	2.614	4.9	21.6	4 11	12 28.32	-1 27.3	1.451	2.434	5.8	21.4
4 21	12 20.31	-4 28.1	1.681	2.627	9.2	21.8	4 21	12 19.97	-0 44.3	1.498	2.441	10.5	21.7
5 1	12 14.16	-3 48.0	1.759	2.640	13.0	22.1	5 1	12 13.84	-0 16.2	1.569	2.446	14.5	21.9
519291	2011 <i>BT</i> ₁₆₈		3 31.1 84°29	1.0/ 1.0	17		507820	2014 <i>DL</i> ₁₁₇		3 31.1 317°07	3.3/27.4	17	
2 21	13 4.17	-8 57.2	1.824	2.604	16.0	22.1	2 21	13 0.14	+ 3 27.4	2.205	3.016	12.6	21.0
3 2	13 0.54	-8 47.4	1.742	2.612	12.8	21.8	3 2	12 57.02	+ 4 13.4	2.115	3.007	9.8	20.8
3 12	12 54.55	-8 22.0	1.682	2.620	9.0	21.6	3 12	12 51.99	+ 5 5.7	2.048	2.998	6.7	20.5
3 22	12 46.78	-7 43.2	1.646	2.627	4.7	21.4	3 22	12 45.51	+ 5 59.5	2.007	2.989	4.0	20.4
4 1	12 38.11	-6 55.5	1.637	2.635	1.0	21.1	4 1	12 38.25	+ 6 48.9	1.995	2.981	3.8	20.3
4 11	12 29.59	-6 5.2	1.656	2.643	4.7	21.4	4 11	12 31.04	+ 7 28.1	2.010	2.973	6.5	20.5
4 21	12 22.21	-5 18.6	1.701	2.651	8.9	21.7	4 21	12 24.66	+ 7 53.2	2.052	2.965	9.8	20.7
5 1	12 16.72	-4 41.3	1.771	2.659	12.6	21.9	5 1	12 19.76	+ 8 1.8	2.117	2.957	12.8	20.8
241861	2001 <i>TX</i> ₁₇₈		3 31.1 195°01	2.6/ 3.5	18		489511	2007 <i>PM</i> ₂₁		3 31.1 225°39	13.2/ 6.6	18	
2 21	13 0.60	-16 5.2	2.596	3.327	13.0	21.0	2 21	13 17.27	-26 16.0	1.347	2.051	24.1	21.6
3 2	12 57.13	-15 52.3	2.493	3.326	10.7	20.9	3 2	13 13.07	-28 37.8	1.258	2.047	21.6	21.4
3 12	12 51.93	-15 23.5	2.412	3.324	8.0	20.7	3 12	13 4.68	-30 39.3	1.185	2.042	18.6	21.2
3 22	12 45.43	-14 39.6	2.357	3.322	5.1	20.5	3 22	12 52.43	-32 10.0	1.130	2.037	15.6	21.0
4 1	12 38.24	-13 43.0	2.330	3.320	2.8	20.3	4 1	12 37.52	-32 59.9	1.097	2.032	13.6	20.8
4 11	12 31.09	-12 38.4	2.332	3.317	3.7	20.4	4 11	12 22.00	-33 5.6	1.087	2.027	13.4	20.8
4 21	12 24.67	-11 31.0	2.363	3.315	6.6	20.6	4 21	12 8.11	-32 32.2	1.098	2.021	15.4	20.9
5 1	12 19.56	-10 26.5	2.421	3.312	9.5	20.7	5 1	11 57.68	-31 32.4	1.130	2.015	18.4	21.0
123363	2000 <i>WO</i> ₃₀		3 31.1 99°16	0.7/31.8	18		79248	1994 <i>TJ</i>		3 31.1 206°39	1.5/ 1.4	17	
2 21	13 1.81	-10 5.2	1.990	2.764	15.1	20.1	2 21	13 6.41	-9 39.5	1.932	2.700	15.7	19.4
3 2	12 58.45	-9 27.6	1.909	2.776	12.0	19.9	3 2	13 2.32	-9 41.2	1.836	2.697	12.6	19.2
3 12	12 52.98	-8 32.9	1.850	2.787	8.4	19.7	3 12	12 55.84	-9 28.0	1.761	2.694	9.0	19.0
3 22	12 45.96	-7 24.5	1.816	2.798	4.3	19.5	3 22	12 47.47	-9 1.2	1.711	2.690	4.9	18.7
4 1	12 38.19	-6 7.7	1.810	2.809	0.7	19.3	4 1	12 38.06	-8 24.2	1.689	2.686	1.5	18.5
4 11	12 30.60	-4 49.9	1.833	2.820	4.4	19.6	4 11	12 28.66	-7 42.2	1.695	2.682	4.6	18.7
4 21	12 24.03	-3 38.0	1.884	2.831	8.3	19.8	4 21	12 20.30	-7 1.2	1.728	2.677	8.8	18.9
5 1	12 19.14	-2 37.8	1.959	2.841	11.8	20.0	5 1	12 13.81	-6 26.9	1.786	2.672	12.6	19.1
299768	2006 <i>SO</i> ₂₄		3 31.1 78°37	3.4/ 4.0	18		365873	2011 <i>UT</i> ₂₉₅		3 31.1 62°25	0.3/31.3	18	
2 21	13 0.53	-17 16.5	2.324	3.056	14.3	20.2	2 21	13 4.91	-7 44.9	1.389	2.191	19.1	21.2
3 2	12 57.31	-17 14.7	2.227	3.058	11.9	20.0	3 2	13 1.72	-7 23.7	1.322	2.206	15.1	21.0
3 12	12 52.17	-16 55.2	2.150	3.059	9.0	19.8	3 12	12 55.63	-6 43.4	1.275	2.221	10.4	20.7
3 22	12 45.58	-16 18.5	2.099	3.060	5.9	19.6	3 22	12 47.37	-5 47.9	1.251	2.236	5.1	20.5
4 1	12 38.23	-15 26.8	2.074	3.061	3.6	19.5	4 1	12 38.08	-4 44.2	1.252	2.251	0.5	20.1
4 11	12 30.93	-14 24.7	2.079	3.063	4.3	19.5	4 11	12 29.12	-3 41.4	1.280	2.267	5.8	20.6
4 21	12 24.47	-13 18.4	2.111	3.064	7.2	19.7	4 21	12 21.69	-2 47.6	1.332	2.283	10.7	20.9
5 1	12 19.49	-12 13.9	2.169	3.065	10.2	19.9	5 1	12 16.64	-2 9.1	1.406	2.298	15.0	21.2
425882	2011 <i>FL</i> ₃₀		3 31.1 357°02	1.5/ 1.4	17		32993	1997 <i>AX</i> ₆		3 31.1 113°66	4.5/25.2	18	
2 21	13 2.12	-9 28.3	1.639	2.428	17.2	21.2	2 21	12 59.72	+ 7 5.3	2.410	3.222	11.6	19.2
3 2	12 59.32	-9 30.0	1.552	2.426	13.8	21.0	3 2	12 56.43	+ 8 23.4	2.337	3.228	9.0	19.0
3 12	12 53.96	-9 14.7	1.486	2.425	9.8	20.7	3 12	12 51.41	+ 9 45.4	2.289	3.234	6.4	18.8
3 22	12 46.59	-8 44.1	1.443	2.424	5.3	20.5	3 22	12 45.16	+11 5.2	2.268	3.240	4.6	18.7
4 1	12 38.12	-8 2.2	1.425	2.423	1.5	20.2	4 1	12 38.30	+12 16.2	2.276	3.245	5.1	18.8
4 11	12 29.73	-7 15.4	1.435	2.423	5.0	20.4	4 11	12 31.57	+13 12.8	2.312	3.251	7.3	18.9
4 21	12 22.51	-6 30.9	1.470	2.424	9.6	20.7	4 21	12 25.65	+13 51.6	2.375	3.256	10.0	19.1
5 1	12 17.33	-5 55.0	1.528	2.425	13.7	20.9	5 1	12 21.08	+14 11.2	2.460	3.262	12.4	19.3
291900	2006 <i>QU</i> ₄		3 31.1 90°13	1.9/ 2.3	17		430229	2013 <i>VS</i> ₁₈		3 31.1 157°24	4.2/25.8	17	
2 21	13 6.14	-11 45.7											

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3 31.1

2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
510560	2012 <i>PP</i> ₇		3 31.1 259°84	6°2/ 6.5 17			135447	2001 <i>VY</i> ₁₅		3 31.1 152°06	6°6/21.2 18		
2 21	13 4.64	-24 14.3	2.365	3.048	15.3	22.0	2 21	13 3.33	+19 36.4	2.891	3.690	10.2	20.7
3 2	13 0.88	-24 43.7	2.241	3.026	13.3	21.8	3 2	12 58.93	+20 50.4	2.831	3.698	8.5	20.6
3 12	12 54.90	-24 53.9	2.136	3.004	11.0	21.6	3 12	12 52.97	+21 59.6	2.796	3.706	7.1	20.5
3 22	12 47.09	-24 42.4	2.054	2.981	8.5	21.4	3 22	12 45.88	+22 58.2	2.789	3.713	6.6	20.5
4 1	12 38.12	-24 8.5	1.998	2.958	6.5	21.3	4 1	12 38.28	+23 41.3	2.809	3.720	7.3	20.5
4 11	12 28.96	-23 14.4	1.970	2.935	6.4	21.2	4 11	12 30.84	+24 5.4	2.856	3.726	8.7	20.6
4 21	12 20.54	-22 5.4	1.968	2.911	8.4	21.3	4 21	12 24.18	+24 9.6	2.928	3.732	10.5	20.8
5 1	12 13.72	-20 48.7	1.993	2.886	11.2	21.4	5 1	12 18.80	+23 54.6	3.021	3.737	12.1	20.9
255607	2006 <i>PR</i> ₁₃		3 31.1 212°16	0°1/31.1 16			185543	2007 <i>XY</i> ₃₉		3 31.1 15°70	6°6/ 4.8 18		
2 21	13 4.47	- 7 51.7	2.086	2.860	14.5	22.4	2 21	13 3.77	-17 54.6	1.331	2.100	21.4	19.6
3 2	13 0.61	- 7 14.8	1.985	2.853	11.5	22.2	3 2	13 1.39	-18 54.9	1.254	2.104	18.1	19.3
3 12	12 54.58	- 6 22.3	1.906	2.845	8.0	21.9	3 12	12 55.83	-19 31.6	1.195	2.108	14.1	19.1
3 22	12 46.84	- 5 17.2	1.853	2.837	3.9	21.7	3 22	12 47.68	-19 41.3	1.156	2.114	10.0	18.9
4 1	12 38.16	- 4 4.5	1.829	2.828	0.4	21.4	4 1	12 38.09	-19 23.9	1.139	2.120	7.0	18.7
4 11	12 29.49	- 2 51.3	1.834	2.819	4.7	21.7	4 11	12 28.59	-18 44.3	1.146	2.127	7.5	18.8
4 21	12 21.73	- 1 44.2	1.867	2.808	8.8	21.9	4 21	12 20.62	-17 51.0	1.177	2.135	10.9	19.0
5 1	12 15.64	- 0 49.1	1.926	2.797	12.5	22.1	5 1	12 15.28	-16 54.6	1.229	2.144	14.9	19.2
412550	2014 <i>NL</i> ₂₅		3 31.1 307°83	5°0/27.3 17			411246	2010 <i>RM</i> ₇₃		3 31.1 151°61	1°2/29.9 15		
2 21	12 59.19	+ 0 24.3	1.170	2.014	19.3	20.2	2 21	13 6.98	- 3 19.8	2.089	2.872	14.2	22.8
3 2	12 58.33	+ 1 33.4	1.072	1.984	15.3	19.9	3 2	13 2.37	- 2 47.8	2.006	2.881	11.1	22.6
3 12	12 54.19	+ 3 3.9	0.994	1.953	10.6	19.5	3 12	12 55.62	- 2 4.8	1.945	2.890	7.5	22.4
3 22	12 47.12	+ 4 48.3	0.937	1.923	6.0	19.1	3 22	12 47.27	- 1 14.9	1.912	2.898	3.6	22.2
4 1	12 38.10	+ 6 33.8	0.903	1.893	5.9	19.0	4 1	12 38.14	- 0 23.3	1.907	2.905	1.5	22.0
4 11	12 28.71	+ 8 5.0	0.892	1.864	10.9	19.2	4 11	12 29.18	+ 0 24.1	1.932	2.911	5.1	22.3
4 21	12 20.61	+ 9 9.4	0.903	1.836	16.7	19.4	4 21	12 21.24	+ 1 2.3	1.985	2.917	8.9	22.5
5 1	12 15.21	+ 9 39.5	0.930	1.808	22.0	19.6	5 1	12 15.03	+ 1 27.7	2.062	2.922	12.3	22.7
278852	2008 <i>TM</i> ₁₆		3 31.1 160°68	4°4/25.9 18			345051	2005 <i>GD</i> ₇₂		3 31.1 267°68	1°0/29.9 17		
2 21	13 4.35	+ 8 2.5	2.464	3.267	11.7	21.3	2 21	13 0.19	- 4 48.8	2.238	3.027	13.2	21.4
3 2	12 59.97	+ 8 59.0	2.387	3.272	9.2	21.2	3 2	12 57.12	- 4 4.0	2.135	3.014	10.4	21.2
3 12	12 53.80	+ 9 57.9	2.335	3.278	6.5	21.0	3 12	12 52.12	- 3 6.3	2.055	3.000	7.0	21.0
3 22	12 46.32	+10 53.9	2.311	3.282	4.6	20.9	3 22	12 45.63	- 1 59.1	2.001	2.987	3.3	20.7
4 1	12 38.22	+11 41.1	2.315	3.287	4.9	20.9	4 1	12 38.30	- 0 47.9	1.975	2.973	1.3	20.5
4 11	12 30.27	+12 15.0	2.349	3.290	7.1	21.1	4 11	12 30.96	+ 0 20.9	1.979	2.959	4.9	20.8
4 21	12 23.17	+12 32.7	2.409	3.294	9.7	21.2	4 21	12 24.40	+ 1 21.2	2.011	2.946	8.7	21.0
5 1	12 17.50	+12 33.4	2.492	3.297	12.2	21.4	5 1	12 19.30	+ 2 8.3	2.067	2.932	12.1	21.1
400393	2008 <i>AG</i> ₆₂		3 31.1 158°28	2°9/ 2.9 18			446876	2002 <i>AB</i> ₃₀		3 31.1 82°35	4°8/27.0 18		
2 21	13 6.13	-14 33.4	1.971	2.718	16.1	21.7	2 21	13 9.66	+ 3 7.0	1.524	2.337	17.1	21.3
3 2	13 2.02	-14 34.2	1.880	2.723	13.2	21.5	3 2	13 4.81	+ 4 30.7	1.479	2.372	13.2	21.1
3 12	12 55.57	-14 16.6	1.809	2.728	9.8	21.3	3 12	12 57.32	+ 6 2.1	1.456	2.406	9.0	20.9
3 22	12 47.32	-13 41.1	1.763	2.733	6.0	21.1	3 22	12 48.04	+ 7 31.6	1.459	2.439	5.4	20.8
4 1	12 38.12	-12 50.7	1.744	2.737	3.0	20.9	4 1	12 38.10	+ 8 49.5	1.489	2.472	5.4	20.9
4 11	12 29.01	-11 50.9	1.754	2.740	4.6	21.0	4 11	12 28.75	+ 9 47.9	1.546	2.504	8.6	21.1
4 21	12 20.97	-10 48.7	1.791	2.743	8.3	21.2	4 21	12 20.99	+10 22.8	1.629	2.535	12.3	21.4
5 1	12 14.79	- 9 50.9	1.854	2.746	11.9	21.5	5 1	12 15.51	+10 33.6	1.733	2.566	15.5	21.7
244778	2003 <i>SA</i> ₁₆₇		3 31.1 150°54	0°1/31.1 18			246249	2007 <i>TV</i> ₃		3 31.1 114°60	5°3/25.0 18		
2 21	13 6.22	- 7 14.1	2.069	2.842	14.6	21.8	2 21	13 3.24	+10 20.4	2.313	3.123	12.1	20.7
3 2	13 1.82	- 6 40.8	1.984	2.852	11.6	21.6	3 2	12 59.21	+11 22.4	2.245	3.132	9.5	20.6
3 12	12 55.26	- 5 53.3	1.922	2.861	7.9	21.4	3 12	12 53.32	+12 25.2	2.201	3.141	7.0	20.4
3 22	12 47.10	- 4 55.0	1.886	2.870	3.9	21.1	3 22	12 46.11	+13 22.7	2.185	3.150	5.4	20.3
4 1	12 38.14	- 3 51.0	1.879	2.878	0.4	20.9	4 1	12 38.27	+14 8.7	2.196	3.159	5.8	20.4
4 11	12 29.35	- 2 47.8	1.901	2.885	4.6	21.2	4 11	12 30.63	+14 38.6	2.236	3.168	7.9	20.5
4 21	12 21.59	- 1 51.6	1.951	2.891	8.6	21.4	4 21	12 23.91	+14 50.0	2.301	3.176	10.5	20.7
5 1	12 15.56	- 1 7.1	2.027	2.897	12.0	21.7	5 1	12 18.69	+14 42.7	2.388	3.184	12.9	20.9
143565	2003 <i>EW</i> ₄₈		3 31.1 332°93	0°8/30.3 17			236146	2005 <i>UA</i> ₁₀₉		3 31.1 180°72	3°3/28.1 18		
2 21	13 0.03	- 3 54.7	1.950	2.749	14.4	20.1	2 21	13 7.16	+ 0 17.0	1.747	2.550	15.7	21.2
3 2	12 57.28	- 3 35.1	1.854	2.739	11.4	19.8	3 2	13 3.03	+ 1 19.0	1.664	2.552	12.3	21.0
3 12	12 52.37	- 3 3.8	1.780	2.728	7.8	19.6	3 12	12 56.36	+ 2 32.9	1.604	2.553	8.3	20.7
3 22	12 45.78	- 2 24.0	1.732	2.718	3.7	19.3	3 22	12 47.75	+ 3 52.1	1.569	2.553	4.4	20.5
4 1	12 38.27	- 1 40.7	1.711	2.709	1.1	19.1	4 1	12 38.11	+ 5 8.5	1.562	2.553	3.8	20.5
4 11	12 30.76	- 0 59.7	1.717	2.700	5.1	19.4	4 11	12 28.62	+ 6 13.3	1.583	2.551	7.4	20.7
4 21	12 24.17	- 0 26.6	1.749	2.692	9.2	19.6	4 21	12 20.31	+ 7 0.5	1.631	2.549	11.5	20.9
5 1	12 19.24	- 0 5.5	1.806	2.684	12.9	19.8	5 1	12 14.04	+ 7 26.7	1.701	2.546	15.1	21.1
211889	2004 <i>JS</i> ₁₆		3 31.1 17°74	3°0/28.3 17			176070	2000 <i>WR</i> ₇₀		3 31.1 175°42	0°5/31.7 18		
2 21	13 2.05	+ 2 17.2	1.976	2.786	13.9	20.0	2 21	13 3.23	- 7 4.2	2.742	3.505	11.7	20.6
3 2	12 58.65	+ 2 50.4	1.897	2.789	10.8	19.8	3 2	12 59.00	- 6 59.7	2.645	3.506	9.3	20.5
3 12	12 53.16	+ 3 30.3	1.842	2.792	7.3	19.6	3 12	12 53.13	- 6 45.8	2.572	3.507	6.4	20.3
3 22	12 46.09	+ 4 12.1	1.812	2.796	4.0	19.4	3 22	12 46.03	- 6 24.2	2.526	3.508	3.3	20.1
4 1	12 38.25	+ 4 49.9	1.809	2.800	3.3	19.4	4 1	12 38.28	- 5 57.7	2.509	3.508	0.5	19.8
4 11	12 30.56	+ 5 18.2	1.835	2.804	6.4	19.5	4 11	12 30.60	- 5 29.8	2.523	3.508	3.5	20.1
4 21	12 23.87	+ 5 33.3	1.886	2.809	9.9	19.8	4 21	12 23.62	- 5 4.1	2.565	3.509	6.6	20.3
5 1	12 18.86	+ 5 32.8	1.961	2.814	13.1	20.0	5 1	12 17.89	- 4 44.0	2.634	3.508	9.5	20.5
455446	2003 <i>SA</i> ₁₉₃		3 31.1 254°99	3°9/ 3.3 17			344198	2001 <i>PU</i> ₃₄		3 31.1 204°79			

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2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
240704	2005 GY ₅₄		3 31.1 97°25	0°3/31.5	17		322572	2011 YW ₇₃		3 31.1 29°61	5°1/26.9	18	
2 21	13 2.18	- 7 42.1	2.171	2.948	13.9	21.6	2 21	13 1.40	+ 2 57.9	1.326	2.163	17.9	20.1
3 2	12 58.58	- 7 19.4	2.087	2.956	11.0	21.4	3 2	12 59.11	+ 4 10.3	1.264	2.170	13.9	19.9
3 12	12 53.02	- 6 43.5	2.025	2.965	7.6	21.2	3 12	12 53.95	+ 5 33.5	1.222	2.178	9.5	19.7
3 22	12 46.02	- 5 57.2	1.990	2.973	3.8	21.0	3 22	12 46.63	+ 6 58.3	1.204	2.187	5.8	19.5
4 1	12 38.29	- 5 5.0	1.982	2.981	0.4	20.7	4 1	12 38.27	+ 8 13.4	1.210	2.196	5.8	19.5
4 11	12 30.70	- 4 12.4	2.003	2.989	4.2	21.1	4 11	12 30.22	+ 9 9.2	1.241	2.206	9.5	19.7
4 21	12 24.03	- 3 24.7	2.052	2.997	7.9	21.3	4 21	12 23.65	+ 9 40.0	1.296	2.216	13.7	20.0
5 1	12 18.92	- 2 46.6	2.126	3.005	11.2	21.5	5 1	12 19.41	+ 9 44.0	1.370	2.227	17.4	20.2
457580	2008 YV ₁₆₂		3 31.1 167°07	1°3/ 1.3	16		248669	2006 JQ ₂₅		3 31.1 260°76	3°3/28.6	17	
2 21	13 7.66	-10 15.0	1.896	2.661	16.0	22.7	2 21	13 7.24	+ 1 38.3	1.638	2.448	16.3	20.9
3 2	13 3.28	-10 1.6	1.807	2.666	12.9	22.5	3 2	13 3.47	+ 2 11.5	1.544	2.436	12.8	20.6
3 12	12 56.47	- 9 31.4	1.738	2.671	9.1	22.2	3 12	12 56.94	+ 2 54.4	1.472	2.423	8.8	20.4
3 22	12 47.79	- 8 46.4	1.695	2.674	4.9	22.0	3 22	12 48.17	+ 3 41.4	1.425	2.409	4.7	20.1
4 1	12 38.12	- 7 50.9	1.679	2.677	1.3	21.7	4 1	12 38.11	+ 4 25.5	1.404	2.396	3.7	20.0
4 11	12 28.57	- 6 51.3	1.692	2.679	4.6	22.0	4 11	12 28.02	+ 4 59.0	1.410	2.382	7.6	20.2
4 21	12 20.13	- 5 54.5	1.733	2.681	8.9	22.2	4 21	12 19.11	+ 5 16.4	1.441	2.368	12.1	20.4
5 1	12 13.63	- 5 6.5	1.799	2.682	12.7	22.5	5 1	12 12.37	+ 5 14.7	1.494	2.354	16.1	20.6
4716	Urey		3 31.1 53°26	0°9/30.3	18 R		461504	2003 HE ₁₆		3 31.1 346°63	8°3/24.6	17	
2 21	13 4.66	- 2 11.5	2.143	2.933	13.6	16.4	2 21	13 4.55	+13 20.1	1.481	2.315	16.5	20.0
3 2	13 0.47	- 2 5.2	2.066	2.944	10.7	16.2	3 2	13 1.48	+14 21.9	1.411	2.309	13.3	19.7
3 12	12 54.27	- 1 50.6	2.011	2.956	7.2	16.0	3 12	12 55.56	+15 22.8	1.362	2.303	10.3	19.5
3 22	12 46.61	- 1 31.0	1.982	2.968	3.4	15.8	3 22	12 47.44	+16 12.8	1.336	2.299	8.4	19.4
4 1	12 38.25	- 1 10.2	1.982	2.980	1.2	15.6	4 1	12 38.19	+16 42.5	1.334	2.294	9.1	19.4
4 11	12 30.07	- 0 52.4	2.011	2.992	4.7	15.9	4 11	12 29.16	+16 45.2	1.357	2.291	11.8	19.6
4 21	12 22.87	- 0 41.4	2.067	3.005	8.3	16.1	4 21	12 21.54	+16 19.2	1.401	2.288	15.2	19.8
5 1	12 17.30	- 0 39.8	2.148	3.017	11.5	16.4	5 1	12 16.23	+15 26.2	1.465	2.287	18.4	20.0
38961	2000 TG ₁		3 31.1 121°23	0°8/ 1.0	18		231626	2009 SU ₂₅₈		3 31.1 51°70	6°4/ 6.7	17	
2 21	13 4.76	- 9 9.6	2.200	2.964	14.1	20.0	2 21	13 2.67	-23 31.3	1.944	2.652	17.5	20.1
3 2	13 0.54	- 8 52.1	2.117	2.978	11.2	19.8	3 2	12 59.54	-24 0.9	1.855	2.658	15.0	19.9
3 12	12 54.32	- 8 20.9	2.058	2.992	7.8	19.6	3 12	12 54.02	-24 7.4	1.783	2.663	12.2	19.7
3 22	12 46.64	- 7 38.4	2.024	3.005	4.1	19.4	3 22	12 46.64	-23 49.1	1.734	2.669	9.2	19.5
4 1	12 38.26	- 6 48.6	2.019	3.018	0.8	19.2	4 1	12 38.27	-23 6.4	1.709	2.675	6.8	19.4
4 11	12 30.04	- 5 56.8	2.043	3.030	4.0	19.4	4 11	12 29.96	-22 3.5	1.710	2.681	6.7	19.4
4 21	12 22.79	- 5 8.6	2.096	3.042	7.7	19.7	4 21	12 22.74	-20 47.7	1.738	2.687	8.8	19.5
5 1	12 17.14	- 4 28.5	2.174	3.053	11.0	19.9	5 1	12 17.41	-19 27.6	1.790	2.694	11.7	19.7
210846	2001 QF ₂₁₁		3 31.1 245°11	3°1/ 3.3	17		521234	2015 HX ₁₈₈		3 31.1 162°63	2°8/ 3.2	17	
2 21	13 4.23	-14 50.1	2.476	3.209	13.5	21.1	2 21	13 3.91	-14 28.0	2.556	3.289	13.1	21.5
3 2	13 0.18	-15 7.6	2.366	3.199	11.2	20.9	3 2	12 59.75	-14 42.0	2.458	3.292	10.8	21.3
3 12	12 54.19	-15 11.3	2.277	3.188	8.4	20.7	3 12	12 53.77	-14 42.6	2.381	3.294	8.0	21.1
3 22	12 46.66	-15 1.0	2.214	3.178	5.4	20.5	3 22	12 46.41	-14 29.9	2.331	3.296	5.1	21.0
4 1	12 38.25	-14 37.9	2.178	3.167	3.2	20.3	4 1	12 38.30	-14 5.6	2.308	3.298	2.9	20.8
4 11	12 29.77	-14 5.4	2.172	3.156	4.2	20.4	4 11	12 30.23	-13 33.1	2.315	3.299	3.9	20.9
4 21	12 22.03	-13 27.8	2.195	3.145	7.1	20.5	4 21	12 22.93	-12 56.7	2.351	3.301	6.7	21.1
5 1	12 15.73	-12 50.2	2.243	3.133	10.2	20.7	5 1	12 17.02	-12 21.0	2.413	3.302	9.6	21.2
507773	2013 YR ₁₁₆		3 31.1 17°35	8°0/ 7.8	17		273050	2006 DR ₁₅₇		3 31.1 144°22	2°1/28.9	17	
2 21	13 6.45	-26 51.0	2.203	2.871	16.7	21.2	2 21	13 2.49	- 1 8.8	2.101	2.899	13.6	20.8
3 2	13 2.44	-28 2.9	2.106	2.873	14.7	21.0	3 2	12 58.90	- 0 22.1	2.018	2.903	10.6	20.6
3 12	12 56.01	-28 55.6	2.029	2.874	12.4	20.9	3 12	12 53.30	+ 0 34.7	1.958	2.907	7.1	20.4
3 22	12 47.65	-29 25.4	1.973	2.876	10.1	20.7	3 22	12 46.19	+ 1 36.7	1.924	2.910	3.5	20.2
4 1	12 38.15	-29 30.2	1.942	2.878	8.4	20.6	4 1	12 38.32	+ 2 37.9	1.919	2.913	2.5	20.1
4 11	12 28.56	-29 11.4	1.936	2.881	8.1	20.6	4 11	12 30.59	+ 3 32.0	1.943	2.917	5.7	20.3
4 21	12 19.94	-28 33.4	1.956	2.883	9.4	20.7	4 21	12 23.79	+ 4 14.0	1.994	2.919	9.3	20.5
5 1	12 13.15	-27 43.0	2.001	2.886	11.5	20.8	5 1	12 18.58	+ 4 40.7	2.068	2.922	12.5	20.7
5163	Vollmayr-Lee		3 31.1 106°00	0°5/30.6	18		431030	2006 AE ₄₆		3 31.1 303°62	9°4/ 8.2	17	
2 21	13 4.80	- 7 13.4	1.849	2.632	15.7	17.2	2 21	13 3.35	-27 53.5	1.857	2.541	18.9	20.7
3 2	13 0.86	- 6 22.4	1.777	2.652	12.3	17.0	3 2	13 0.67	-29 1.3	1.748	2.524	16.9	20.5
3 12	12 54.66	- 5 15.3	1.728	2.671	8.4	16.8	3 12	12 55.24	-29 46.6	1.655	2.507	14.4	20.3
3 22	12 46.83	- 3 56.9	1.704	2.689	4.0	16.6	3 22	12 47.47	-30 4.2	1.583	2.490	11.9	20.1
4 1	12 38.24	- 2 34.0	1.708	2.707	0.8	16.4	4 1	12 38.18	-29 50.7	1.533	2.473	10.0	19.9
4 11	12 29.94	- 1 14.6	1.742	2.725	5.1	16.7	4 11	12 28.61	-29 7.2	1.507	2.457	9.5	19.9
4 21	12 22.81	- 0 5.8	1.802	2.742	9.2	17.0	4 21	12 20.04	-27 58.9	1.505	2.440	11.0	19.9
5 1	12 17.53	+ 0 47.4	1.887	2.758	12.8	17.2	5 1	12 13.59	-26 35.3	1.526	2.424	13.6	20.0
198225	2004 TR ₁₈₂		3 31.1 104°72	1°6/ 1.6	17		21661	Olgagermani		3 31.1 234°39	1°3/29.9	17	
2 21	13 4.57	-10 24.1	2.004	2.770	15.2	20.9	2 21	13 4.94	- 4 33.0	2.040	2.825	14.4	19.5
3 2	13 0.69	-10 22.1	1.918	2.778	12.3	20.7	3 2	13 1.12	- 3 46.0	1.934	2.810	11.4	19.3
3 12	12 54.60	-10 5.1	1.854	2.786	8.7	20.5	3 12	12 55.04	- 2 44.5	1.850	2.795	7.8	19.0
3 22	12 46.85	- 9 34.7	1.815	2.793	4.8	20.2	3 22	12 47.15	- 1 32.3	1.793	2.779	3.7	18.7
4 1	12 38.24	- 8 54.3	1.804	2.801	1.6	20.0	4 1	12 38.23	- 0 15.6	1.764	2.762	1.6	18.5
4 11	12 29.77	- 8 9.4	1.821	2.808	4.3	20.2	4 11	12 29.23	+ 0 58.1	1.765	2.744	5.6	18.8
4 21	12 22.33	- 7 25.6	1.865	2.815	8.2	20.5	4 21	12 21.13	+ 2 2.1	1.793	2.726	9.7	19.0
5 1	12 16.64	- 6 48.3	1.934	2.823	11.7	20.7	5 1	12 14.73	+ 2 50.8	1.846	2.707	13.5	19.2
306514	1999 VX ₁₇₈		3 31.1 284°01	1°7/ 2.4	16		42615	1998 EV ₁₁		3 31.1 270°98	3°3/28.6	17	
2 21	13 1.62	-14 42.6	2.870	3.600	11.9	21.7							

EPHEMERIDES

3 31.1

3 31.2

2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
215134	1999 <i>TG</i> ₆₅		3 31.1 239°20	0°1/31.3	17		242993	2006 <i>ST</i> ₃₉₉		3 31.2 192°16	2°6/27.8	18	
2 21	13 0.62	- 6 52.0	2.572	3.344	12.1	21.4	2 21	12 59.96	+ 0 54.4	2.460	3.260	11.8	20.7
3 2	12 57.14	- 6 30.5	2.472	3.339	9.6	21.2	3 2	12 56.65	+ 1 54.4	2.372	3.259	9.1	20.6
3 12	12 51.97	- 5 58.0	2.395	3.334	6.6	21.0	3 12	12 51.63	+ 3 2.4	2.309	3.258	6.2	20.4
3 22	12 45.52	- 5 17.0	2.345	3.329	3.3	20.8	3 22	12 45.36	+ 4 13.7	2.273	3.257	3.4	20.2
4 1	12 38.39	- 4 30.9	2.324	3.323	0.3	20.5	4 1	12 38.43	+ 5 22.5	2.267	3.256	3.0	20.1
4 11	12 31.29	- 3 44.4	2.333	3.318	3.8	20.8	4 11	12 31.58	+ 6 23.0	2.290	3.254	5.7	20.3
4 21	12 24.89	- 3 2.0	2.370	3.312	7.1	21.0	4 21	12 25.49	+ 7 10.8	2.340	3.253	8.7	20.5
5 1	12 19.78	- 2 27.4	2.432	3.306	10.1	21.2	5 1	12 20.72	+ 7 43.2	2.414	3.251	11.5	20.7
229586	2006 <i>BN</i> ₁₄₅		3 31.1 93°98	0°8/30.3	18		62359	2000 <i>SB</i> ₁₄₈		3 31.2 134°72	0°0/31.2	18	
2 21	13 2.92	- 5 27.0	1.977	2.766	14.7	20.7	2 21	13 2.68	- 5 53.4	2.823	3.589	11.3	20.5
3 2	12 59.28	- 4 44.1	1.903	2.781	11.5	20.5	3 2	12 58.47	- 5 38.2	2.735	3.599	8.9	20.4
3 12	12 53.55	- 3 47.8	1.851	2.796	7.7	20.3	3 12	12 52.71	- 5 14.2	2.671	3.609	6.1	20.2
3 22	12 46.30	- 2 42.4	1.824	2.810	3.7	20.1	3 22	12 45.83	- 4 43.6	2.634	3.618	3.0	20.0
4 1	12 38.32	- 1 34.1	1.826	2.825	1.1	19.9	4 1	12 38.40	- 4 9.5	2.628	3.627	0.3	19.8
4 11	12 30.56	- 0 29.6	1.857	2.839	5.0	20.2	4 11	12 31.07	- 3 35.6	2.652	3.636	3.5	20.1
4 21	12 23.85	+ 0 25.1	1.915	2.853	8.9	20.5	4 21	12 24.45	- 3 5.5	2.704	3.644	6.5	20.3
5 1	12 18.84	+ 1 5.8	1.997	2.867	12.2	20.7	5 1	12 19.05	- 2 42.3	2.784	3.652	9.2	20.4
285140	1995 <i>TM</i> ₉		3 31.1 35°07	1°0/31.9	18		36899	2000 <i>SW</i> ₁₇₂		3 31.2 264°97	1°9/29.6	18	
2 21	13 3.99	- 8 11.5	1.372	2.176	19.2	20.6	2 21	13 6.55	- 1 34.3	1.685	2.488	16.2	18.4
3 2	13 1.17	- 8 9.9	1.301	2.184	15.3	20.4	3 2	13 2.92	- 1 9.9	1.586	2.472	12.8	18.1
3 12	12 55.41	- 7 49.7	1.249	2.193	10.7	20.2	3 12	12 56.58	- 0 33.4	1.508	2.457	8.8	17.8
3 22	12 47.38	- 7 13.7	1.219	2.203	5.5	19.9	3 22	12 48.03	+ 0 10.8	1.454	2.441	4.3	17.5
4 1	12 38.22	- 6 27.3	1.214	2.213	1.0	19.6	4 1	12 38.18	+ 0 56.6	1.428	2.424	2.3	17.4
4 11	12 29.29	- 5 38.5	1.235	2.224	5.6	19.9	4 11	12 28.23	+ 1 36.8	1.428	2.408	6.6	17.6
4 21	12 21.85	- 4 55.2	1.280	2.235	10.6	20.3	4 21	12 19.38	+ 2 5.1	1.455	2.391	11.3	17.8
5 1	12 16.82	- 4 23.9	1.347	2.246	15.0	20.5	5 1	12 12.62	+ 2 17.1	1.504	2.374	15.5	18.0
289013	2004 <i>TN</i> ₁₀₃		3 31.1 155°06	0°4/31.6	18		428733	2008 <i>RV</i> ₁₀₄		3 31.2 208°52	0°3/31.5	17	
2 21	13 7.44	- 8 40.0	2.034	2.800	15.1	22.2	2 21	13 7.48	- 5 52.6	2.284	3.053	13.5	21.1
3 2	13 2.86	- 8 10.4	1.947	2.810	12.0	22.0	3 2	13 2.76	- 5 55.6	2.184	3.048	10.8	20.9
3 12	12 56.04	- 7 25.4	1.883	2.819	8.3	21.8	3 12	12 55.96	- 5 48.6	2.107	3.044	7.5	20.7
3 22	12 47.55	- 6 28.0	1.845	2.827	4.2	21.6	3 22	12 47.54	- 5 33.5	2.056	3.039	3.8	20.4
4 1	12 38.21	- 5 23.0	1.835	2.835	0.5	21.3	4 1	12 38.23	- 5 13.2	2.034	3.033	0.4	20.1
4 11	12 29.04	- 4 17.3	1.856	2.841	4.5	21.6	4 11	12 28.94	- 4 51.7	2.042	3.028	4.2	20.4
4 21	12 20.92	- 3 17.1	1.904	2.847	8.6	21.9	4 21	12 20.51	- 4 33.1	2.079	3.021	8.0	20.7
5 1	12 14.61	- 2 27.9	1.978	2.851	12.1	22.1	5 1	12 13.67	- 4 21.1	2.141	3.015	11.3	20.8
206169	2002 <i>TH</i> ₂₅₀		3 31.2 120°77	0°6/30.4	17		266325	2007 <i>DF</i> ₆		3 31.2 201°08	0°9/1.1	18	
2 21	13 2.61	- 4 58.7	2.587	3.362	12.0	21.5	2 21	13 5.75	- 8 49.1	2.322	3.083	13.6	21.5
3 2	12 58.51	- 4 25.0	2.507	3.377	9.4	21.4	3 2	13 1.39	- 8 40.4	2.221	3.079	10.9	21.3
3 12	12 52.77	- 3 41.6	2.451	3.393	6.3	21.2	3 12	12 55.01	- 8 19.0	2.142	3.075	7.7	21.0
3 22	12 45.85	- 2 51.5	2.422	3.407	3.0	21.0	3 22	12 47.08	- 7 46.7	2.089	3.070	4.0	20.8
4 1	12 38.38	- 1 59.1	2.423	3.422	0.8	20.8	4 1	12 38.29	- 7 6.7	2.066	3.064	0.9	20.6
4 11	12 31.07	- 1 9.1	2.454	3.436	4.0	21.1	4 11	12 29.51	- 6 23.6	2.072	3.058	4.0	20.8
4 21	12 24.55	- 0 25.8	2.514	3.449	7.2	21.3	4 21	12 21.58	- 5 42.4	2.106	3.052	7.7	21.0
5 1	12 19.35	+ 0 7.8	2.600	3.463	10.0	21.5	5 1	12 15.17	- 5 7.9	2.167	3.044	11.1	21.2
326343	2000 <i>SF</i> ₁₃		3 31.2 226°13	1°2/29.7	18		366422	2001 <i>UZ</i> ₁₂₆		3 31.2 171°64	2°2/28.5	16	
2 21	13 3.72	- 3 31.4	2.496	3.275	12.2	22.0	2 21	13 5.64	+ 0 54.7	2.642	3.426	11.5	22.4
3 2	12 59.67	- 2 47.6	2.388	3.262	9.6	21.8	3 2	13 0.89	+ 1 39.0	2.554	3.431	8.9	22.2
3 12	12 53.78	- 1 52.8	2.304	3.248	6.5	21.6	3 12	12 54.42	+ 2 30.0	2.490	3.435	6.0	22.0
3 22	12 46.45	- 0 50.6	2.248	3.233	3.1	21.3	3 22	12 46.70	+ 3 23.6	2.455	3.438	3.2	21.8
4 1	12 38.31	+ 0 14.2	2.221	3.218	1.5	21.2	4 1	12 38.34	+ 4 15.1	2.450	3.441	2.6	21.8
4 11	12 30.16	+ 1 16.0	2.225	3.202	4.8	21.4	4 11	12 30.08	+ 4 59.7	2.475	3.442	5.2	22.0
4 21	12 22.71	+ 2 9.5	2.257	3.185	8.2	21.6	4 21	12 22.61	+ 5 33.7	2.530	3.443	8.1	22.2
5 1	12 16.64	+ 2 50.8	2.315	3.168	11.4	21.7	5 1	12 16.48	+ 5 54.7	2.609	3.443	10.8	22.3
415162	2012 <i>FR</i> ₃₈		3 31.2 49°27	3°7/3.2	18		76506	2000 <i>GV</i> ₂₈		3 31.2 286°35	0°3/31.4	18	
2 21	13 4.61	- 14 34.7	1.581	2.348	18.6	21.0	2 21	13 2.23	- 7 4.6	2.141	2.920	14.0	19.8
3 2	13 1.43	- 14 52.8	1.500	2.354	15.3	20.8	3 2	12 58.77	- 6 49.3	2.047	2.918	11.1	19.6
3 12	12 55.51	- 14 49.9	1.437	2.361	11.4	20.6	3 12	12 53.28	- 6 21.3	1.976	2.916	7.7	19.4
3 22	12 47.44	- 14 26.1	1.397	2.367	7.2	20.3	3 22	12 46.24	- 5 43.0	1.930	2.913	3.9	19.1
4 1	12 38.22	- 13 43.9	1.382	2.374	3.9	20.1	4 1	12 38.37	- 4 58.6	1.912	2.911	0.4	18.8
4 11	12 29.15	- 12 49.6	1.394	2.381	5.4	20.2	4 11	12 30.56	- 4 13.3	1.923	2.909	4.3	19.1
4 21	12 21.37	- 11 51.4	1.431	2.388	9.5	20.5	4 21	12 23.63	- 3 32.5	1.962	2.907	8.2	19.4
5 1	12 15.82	- 10 57.4	1.492	2.396	13.5	20.7	5 1	12 18.27	- 3 0.7	2.025	2.905	11.6	19.6
173484	2000 <i>SW</i> ₉₁		3 31.2 229°77	4°6/5.6	18		170783	2004 <i>CT</i> ₁₀₅		3 31.2 99°56	4°4/5.5	17	
2 21	13 2.77	- 21 9.1	2.662	3.358	13.5	20.6	2 21	13 2.51	- 20 46.8	2.360	3.068	14.7	20.6
3 2	12 58.97	- 21 30.3	2.551	3.351	11.5	20.5	3 2	12 58.83	- 20 54.4	2.271	3.080	12.4	20.5
3 12	12 53.32	- 21 35.3	2.462	3.344	9.1	20.3	3 12	12 53.22	- 20 43.0	2.203	3.093	9.7	20.3
3 22	12 46.24	- 21 23.1	2.396	3.336	6.7	20.1	3 22	12 46.16	- 20 12.5	2.158	3.105	6.9	20.1
4 1	12 38.34	- 20 54.4	2.358	3.329	4.9	20.0	4 1	12 38.39	- 19 24.6	2.141	3.117	4.7	20.0
4 11	12 30.40	- 20 11.8	2.348	3.321	5.0	20.0	4 11	12 30.73	- 18 23.7	2.152	3.129	4.9	20.1
4 21	12 23.17	- 19 19.9	2.367	3.313	6.9	20.1	4 21	12 23.97	- 17 15.6	2.190	3.141	7.1	20.2
5 1	12 17.30	- 18 24.2	2.411	3.304	9.5	20.2	5 1	12 18.75	- 16 6.9	2.255	3.152	9.9	20.4
327877	2007 <i>AC</i> ₁₈		3 31.2 64°18	2°1/29.4	18		360275	2000 <i>SU</i> ₃₀₀					

EPHEMERIDES

3 31.2

3 31.2

2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
464011	2014 <i>WE</i> ₁₀₇		3 31.2 185°81	2°9/28.4	16		298983	2004 <i>WM</i> ₁₁		3 31.2 148°38	3°5/27.8	18	
2 21	13 5.37	+ 0 17.8	1.923	2.724	14.6	22.3	2 21	13 8.50	+ 2 33.0	1.975	2.773	14.3	21.6
3 2	13 1.41	+ 1 10.1	1.837	2.724	11.4	22.1	3 2	13 3.67	+ 3 28.4	1.900	2.785	11.2	21.4
3 12	12 55.18	+ 2 12.7	1.775	2.724	7.7	21.9	3 12	12 56.58	+ 4 31.4	1.849	2.796	7.6	21.2
3 22	12 47.19	+ 3 20.0	1.738	2.723	4.0	21.6	3 22	12 47.83	+ 5 36.0	1.824	2.806	4.3	21.0
4 1	12 38.30	+ 4 24.9	1.730	2.721	3.3	21.6	4 1	12 38.29	+ 6 35.1	1.828	2.815	3.9	21.0
4 11	12 29.52	+ 5 20.4	1.750	2.719	6.7	21.8	4 11	12 28.97	+ 7 22.2	1.860	2.823	7.0	21.2
4 21	12 21.79	+ 6 1.0	1.796	2.717	10.5	22.0	4 21	12 20.79	+ 7 53.1	1.920	2.831	10.5	21.4
5 1	12 15.86	+ 6 23.6	1.866	2.714	13.9	22.2	5 1	12 14.45	+ 8 5.7	2.003	2.837	13.6	21.7
507512	2012 <i>VA</i> ₂₇		3 31.2 249°42	1°3/29.9	17		166129	2002 <i>CR</i> ₂₃₆		3 31.2 344°38	5°1/28.3	18	
2 21	13 4.58	- 1 54.8	2.352	3.137	12.7	21.9	2 21	13 4.09	+ 5 0.9	1.127	1.973	19.8	18.5
3 2	13 0.48	- 1 35.4	2.247	3.123	10.0	21.7	3 2	13 2.08	+ 5 17.8	1.051	1.961	15.7	18.2
3 12	12 54.41	- 1 7.4	2.165	3.110	6.8	21.5	3 12	12 56.59	+ 5 41.1	0.994	1.951	11.0	17.9
3 22	12 46.81	- 0 34.0	2.110	3.096	3.3	21.2	3 22	12 48.23	+ 6 3.2	0.958	1.942	6.4	17.6
4 1	12 38.34	+ 0 0.7	2.084	3.081	1.5	21.0	4 1	12 38.24	+ 6 15.2	0.944	1.935	5.6	17.6
4 11	12 29.85	+ 0 32.1	2.088	3.067	4.9	21.2	4 11	12 28.34	+ 6 9.3	0.954	1.929	9.8	17.8
4 21	12 22.13	+ 0 55.8	2.120	3.052	8.5	21.4	4 21	12 20.11	+ 5 41.4	0.985	1.924	14.9	18.0
5 1	12 15.87	+ 1 8.8	2.176	3.037	11.7	21.6	5 1	12 14.75	+ 4 51.0	1.035	1.921	19.6	18.3
181414	2006 <i>SX</i> ₁₈₆		3 31.2 187°74	1°8/29.0	18		280252	2002 <i>XK</i> ₁₄		3 31.2 208°05	2°5/28.7	18	
2 21	13 3.43	+ 0 40.8	2.717	3.503	11.2	21.0	2 21	13 7.35	- 1 32.2	1.931	2.723	14.8	21.4
3 2	12 59.17	+ 1 4.9	2.625	3.503	8.7	20.8	3 2	13 3.09	- 0 32.2	1.834	2.716	11.6	21.2
3 12	12 53.27	+ 1 34.8	2.557	3.502	5.9	20.6	3 12	12 56.43	+ 0 41.0	1.761	2.708	7.9	21.0
3 22	12 46.15	+ 2 7.3	2.516	3.501	3.0	20.4	3 22	12 47.88	+ 2 2.0	1.714	2.699	4.0	20.7
4 1	12 38.42	+ 2 38.4	2.506	3.499	2.1	20.4	4 1	12 38.28	+ 3 23.4	1.696	2.689	3.0	20.6
4 11	12 30.76	+ 3 4.3	2.525	3.498	4.7	20.5	4 11	12 28.69	+ 4 36.8	1.707	2.678	6.6	20.8
4 21	12 23.81	+ 3 21.8	2.573	3.496	7.6	20.7	4 21	12 20.13	+ 5 35.7	1.745	2.666	10.7	21.0
5 1	12 18.12	+ 3 28.8	2.647	3.494	10.3	20.9	5 1	12 13.41	+ 6 15.6	1.807	2.653	14.4	21.2
285987	2001 <i>RH</i> ₁₅₀		3 31.2 181°85	0°3/30.9	18		428829	2008 <i>TV</i> ₁₂₇		3 31.2 49°70	2°3/2.3	17	
2 21	13 9.33	- 5 30.6	1.873	2.651	15.7	21.9	2 21	13 4.14	- 11 58.1	1.995	2.757	15.5	21.5
3 2	13 4.65	- 5 12.4	1.782	2.653	12.5	21.7	3 2	13 0.49	- 12 7.0	1.903	2.758	12.6	21.2
3 12	12 57.47	- 4 40.9	1.713	2.654	8.6	21.5	3 12	12 54.59	- 12 0.3	1.832	2.758	9.1	21.0
3 22	12 48.36	- 3 59.1	1.669	2.654	4.2	21.2	3 22	12 46.95	- 11 38.8	1.785	2.759	5.4	20.8
4 1	12 38.21	- 3 11.9	1.654	2.653	0.6	20.9	4 1	12 38.37	- 11 5.2	1.765	2.760	2.4	20.6
4 11	12 28.14	- 2 25.8	1.667	2.651	5.2	21.3	4 11	12 29.84	- 10 24.3	1.774	2.761	4.4	20.7
4 21	12 19.20	- 1 46.5	1.708	2.649	9.6	21.5	4 21	12 22.30	- 9 41.8	1.809	2.762	8.2	21.0
5 1	12 12.23	- 1 19.0	1.774	2.645	13.4	21.7	5 1	12 16.51	- 9 3.7	1.870	2.763	11.8	21.2
346559	2008 <i>UM</i> ₃₅₄		3 31.2 110°94	1°7/29.4	17		168555	1999 <i>WY</i> ₁₇		3 31.2 78°47	0°2/31.3	18	
2 21	13 2.50	- 2 0.0	2.099	2.895	13.7	21.0	2 21	13 5.64	- 7 31.2	1.589	2.380	17.5	20.7
3 2	12 58.93	- 1 23.1	2.016	2.899	10.7	20.8	3 2	13 1.96	- 7 7.3	1.520	2.397	13.9	20.5
3 12	12 53.35	- 0 36.1	1.955	2.903	7.2	20.6	3 12	12 55.67	- 6 26.3	1.471	2.414	9.5	20.3
3 22	12 46.26	+ 0 16.7	1.921	2.907	3.5	20.4	3 22	12 47.46	- 5 32.3	1.446	2.431	4.7	20.0
4 1	12 38.41	+ 1 9.9	1.915	2.911	2.0	20.3	4 1	12 38.34	- 4 31.3	1.449	2.448	0.4	19.7
4 11	12 30.69	+ 1 57.4	1.938	2.915	5.4	20.5	4 11	12 29.52	- 3 31.3	1.478	2.464	5.3	20.1
4 21	12 23.90	+ 2 34.6	1.987	2.919	9.0	20.7	4 21	12 22.06	- 2 39.5	1.533	2.481	9.8	20.4
5 1	12 18.71	+ 2 57.9	2.061	2.923	12.2	20.9	5 1	12 16.74	- 2 1.4	1.612	2.497	13.8	20.7
503607	2016 <i>GG</i> ₁₀₁		3 31.2 134°21	0°8/30.3	17		463132	2011 <i>WS</i> ₄₄		3 31.2 99°21	0°3/31.5	18	
2 21	13 1.79	- 6 33.0	1.857	2.648	15.4	21.6	2 21	13 6.67	- 8 3.0	1.639	2.425	17.3	22.3
3 2	12 58.68	- 5 38.3	1.773	2.652	12.1	21.4	3 2	13 2.72	- 7 39.5	1.567	2.441	13.7	22.1
3 12	12 53.34	- 4 26.9	1.711	2.656	8.2	21.2	3 12	12 56.18	- 6 58.9	1.516	2.457	9.5	21.9
3 22	12 46.31	- 3 3.5	1.674	2.660	3.9	20.9	3 22	12 47.71	- 6 4.6	1.488	2.472	4.7	21.6
4 1	12 38.41	- 1 35.2	1.665	2.664	1.2	20.7	4 1	12 38.32	- 5 2.8	1.488	2.487	0.4	21.3
4 11	12 30.65	- 0 10.4	1.685	2.667	5.4	21.0	4 11	12 29.22	- 4 1.1	1.515	2.502	5.2	21.7
4 21	12 23.93	+ 1 3.5	1.732	2.671	9.6	21.3	4 21	12 21.44	- 3 6.8	1.569	2.516	9.7	22.0
5 1	12 18.99	+ 2 0.8	1.802	2.674	13.2	21.5	5 1	12 15.79	- 2 25.6	1.647	2.531	13.6	22.3
39582	1993 <i>FR</i> ₂₁		3 31.2 67°85	0°3/31.5	17		303912	2005 <i>UC</i> ₂₂		3 31.2 111°90	2°0/2.9	17	
2 21	13 4.93	- 6 30.7	1.909	2.692	15.3	19.7	2 21	13 0.01	- 14 30.0	2.771	3.507	12.2	22.3
3 2	13 1.12	- 6 26.5	1.822	2.695	12.2	19.5	3 2	12 56.51	- 14 12.5	2.680	3.518	9.9	22.1
3 12	12 55.01	- 6 9.6	1.757	2.698	8.4	19.3	3 12	12 51.47	- 13 40.8	2.612	3.528	7.2	22.0
3 22	12 47.13	- 5 42.3	1.717	2.700	4.2	19.0	3 22	12 45.29	- 12 56.5	2.569	3.539	4.4	21.8
4 1	12 38.34	- 5 8.7	1.704	2.703	0.4	18.7	4 1	12 38.55	- 12 2.3	2.556	3.549	2.1	21.6
4 11	12 29.64	- 4 34.1	1.720	2.706	4.7	19.0	4 11	12 31.92	- 11 2.6	2.572	3.559	3.3	21.7
4 21	12 22.00	- 4 4.0	1.762	2.709	8.8	19.3	4 21	12 25.99	- 10 2.1	2.618	3.569	6.1	21.9
5 1	12 16.18	- 3 42.8	1.829	2.712	12.5	19.5	5 1	12 21.28	- 9 5.6	2.690	3.578	8.8	22.1
109984	2001 <i>SB</i> ₅₇		3 31.2 62°53	4°3/28.2	18		187762	1997 <i>WQ</i> ₅		3 31.2 204°25	0°7/30.5	17	
2 21	13 12.12	+ 5 56.3	1.599	2.409	16.6	19.3	2 21	13 4.61	- 5 4.0	2.246	3.024	13.4	22.1
3 2	13 6.76	+ 6 16.0	1.544	2.433	13.0	19.1	3 2	13 0.56	- 4 31.9	2.148	3.020	10.6	21.9
3 12	12 58.73	+ 6 38.6	1.511	2.458	8.9	19.0	3 12	12 54.49	- 3 47.8	2.073	3.015	7.2	21.7
3 22	12 48.84	+ 6 58.2	1.503	2.483	5.2	18.8	3 22	12 46.87	- 2 55.0	2.024	3.009	3.5	21.5
4 1	12 38.21	+ 7 8.7	1.522	2.508	4.6	18.8	4 1	12 38.41	- 1 58.2	2.004	3.003	0.9	21.2
4 11	12 28.10	+ 7 5.5	1.568	2.533	7.7	19.0	4 11	12 29.97	- 1 3.1	2.014	2.996	4.7	21.5
4 21	12 19.55	+ 6 46.8	1.640	2.558	11.4	19.3	4 21	12 22.40	- 0 15.3	2.052	2.989	8.4	21.7
5 1	12 13.30	+ 6 12.6	1.735	2.583	14.7	19.6	5 1	12 16.36	+ 0 21.1	2.116	2.981	11.8	21.9
469128	2015 <i>EL</i> ₁₇		3 31.2 99°23	3°6/27.6	17		463304	2012 <i>JA</i> ₇		3 31.2 340°35	2°9/2		

EPHEMERIDES

3 31.2

3 31.2

2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
300195	2006 <i>WO</i> ₉₆		3 31.2 251°41	3°5/27.2	18		292348	2006 <i>SB</i> ₂₁₁		3 31.2 170°63	0°7/	1.1 18	
2 21	13 2.99	+ 5 41.4	2.434	3.237	11.8	20.4	2 21	12 59.93	-10 30.1	2.780	3.535	11.7	21.4
3 2	12 59.06	+ 6 18.8	2.346	3.233	9.2	20.2	3 2	12 56.47	- 9 50.2	2.682	3.537	9.3	21.2
3 12	12 53.33	+ 6 59.8	2.282	3.228	6.4	20.0	3 12	12 51.46	- 8 57.2	2.608	3.540	6.5	21.0
3 22	12 46.25	+ 7 39.9	2.245	3.223	4.0	19.9	3 22	12 45.31	- 7 53.4	2.561	3.542	3.4	20.8
4 1	12 38.47	+ 8 14.1	2.237	3.219	3.9	19.8	4 1	12 38.59	- 6 42.6	2.544	3.543	0.7	20.6
4 11	12 30.77	+ 8 37.8	2.257	3.214	6.3	20.0	4 11	12 31.93	- 5 30.0	2.558	3.544	3.4	20.8
4 21	12 23.87	+ 8 48.2	2.304	3.209	9.2	20.2	4 21	12 25.95	- 4 20.6	2.601	3.545	6.5	21.0
5 1	12 18.37	+ 8 43.6	2.376	3.204	11.9	20.3	5 1	12 21.15	- 3 19.0	2.670	3.546	9.3	21.2
253178	2002 <i>XY</i> ₉		3 31.2 169°99	1°4/	1.7 16		30955	Weiser		3 31.2 84°63	1°1/	1.4 18	
2 21	13 5.95	-10 59.5	2.276	3.029	14.0	20.4	2 21	13 3.83	- 9 14.0	2.423	3.183	13.1	18.1
3 2	13 1.56	-10 46.8	2.182	3.033	11.3	20.2	3 2	12 59.65	- 9 11.6	2.342	3.200	10.4	17.9
3 12	12 55.13	-10 19.6	2.109	3.037	8.1	20.0	3 12	12 53.67	- 8 57.4	2.285	3.216	7.3	17.8
3 22	12 47.17	- 9 39.4	2.063	3.040	4.5	19.8	3 22	12 46.39	- 8 33.3	2.254	3.233	3.9	17.6
4 1	12 38.40	- 8 49.7	2.045	3.042	1.4	19.6	4 1	12 38.49	- 8 2.3	2.251	3.249	1.1	17.4
4 11	12 29.70	- 7 55.6	2.057	3.044	4.0	19.7	4 11	12 30.76	- 7 28.4	2.278	3.265	3.6	17.6
4 21	12 21.91	- 7 2.6	2.097	3.045	7.6	20.0	4 21	12 23.88	- 6 56.0	2.334	3.281	6.9	17.8
5 1	12 15.70	- 6 16.1	2.164	3.045	10.9	20.2	5 1	12 18.45	- 6 28.9	2.415	3.297	9.9	18.0
271151	2003 <i>SZ</i> ₁₆₉		3 31.2 244°14	1°8/	2.2 18		312180	2007 <i>VB</i> ₁₈		3 31.2 36°35	4°0/	28.6 18	
2 21	13 0.24	-13 53.6	2.139	2.895	14.7	20.4	2 21	13 7.05	+ 3 0.9	1.270	2.100	18.9	20.7
3 2	12 57.32	-13 17.9	2.037	2.889	12.0	20.2	3 2	13 3.68	+ 3 27.2	1.209	2.111	14.8	20.5
3 12	12 52.38	-12 22.7	1.956	2.883	8.7	19.9	3 12	12 57.16	+ 4 1.6	1.168	2.122	10.1	20.2
3 22	12 45.87	-11 9.8	1.901	2.876	5.0	19.7	3 22	12 48.30	+ 4 37.0	1.149	2.134	5.5	20.0
4 1	12 38.51	- 9 43.5	1.873	2.870	1.8	19.5	4 1	12 38.32	+ 5 5.2	1.156	2.147	4.5	20.0
4 11	12 31.18	- 8 10.8	1.875	2.863	4.1	19.6	4 11	12 28.76	+ 5 19.0	1.187	2.161	8.4	20.2
4 21	12 24.71	- 6 39.4	1.904	2.856	7.9	19.8	4 21	12 20.89	+ 5 14.4	1.241	2.175	13.0	20.5
5 1	12 19.80	- 5 16.6	1.960	2.849	11.5	20.0	5 1	12 15.61	+ 4 50.3	1.317	2.190	17.0	20.8
356370	2010 <i>MJ</i> ₉₀		3 31.2 0°60	0°3/30.9	17		46745	1997 <i>WK</i> ₄₇		3 31.2 149°10	1°4/	29.6 18	
2 21	13 2.68	- 4 16.7	2.579	3.355	11.9	20.6	2 21	13 3.01	- 1 51.8	2.554	3.338	11.8	19.5
3 2	12 58.72	- 4 10.6	2.484	3.355	9.4	20.4	3 2	12 58.93	- 1 19.8	2.468	3.345	9.2	19.3
3 12	12 53.06	- 4 56.3	2.414	3.355	6.4	20.2	3 12	12 53.16	- 0 39.8	2.407	3.351	6.2	19.1
3 22	12 46.11	- 3 36.0	2.371	3.355	3.1	20.0	3 22	12 46.15	+ 0 4.8	2.372	3.358	3.0	18.9
4 1	12 38.49	- 3 12.7	2.356	3.355	0.5	19.8	4 1	12 38.52	+ 0 49.7	2.367	3.363	1.6	18.8
4 11	12 30.94	- 2 50.2	2.371	3.355	3.9	20.1	4 11	12 31.00	+ 1 30.2	2.392	3.369	4.5	19.0
4 21	12 24.13	- 2 32.0	2.415	3.355	7.1	20.3	4 21	12 24.26	+ 2 2.6	2.445	3.374	7.7	19.2
5 1	12 18.63	- 2 21.1	2.485	3.355	10.1	20.5	5 1	12 18.85	+ 2 23.9	2.524	3.378	10.5	19.4
46354	2001 <i>TY</i> ₈		3 31.2 153°85	3°8/27.5	18		507647	2013 <i>OV</i> ₁₁		3 31.2 195°26	1°3/	29.7 18	
2 21	13 8.80	+ 5 57.5	2.245	3.040	12.9	18.1	2 21	13 4.52	- 2 22.7	2.474	3.255	12.3	22.5
3 2	13 3.65	+ 6 32.2	2.166	3.048	10.1	17.9	3 2	13 0.25	- 1 48.0	2.378	3.253	9.6	22.3
3 12	12 56.46	+ 7 10.1	2.111	3.055	7.0	17.8	3 12	12 54.16	- 1 4.3	2.305	3.249	6.5	22.1
3 22	12 47.77	+ 7 46.2	2.084	3.062	4.3	17.6	3 22	12 46.68	- 0 14.8	2.260	3.246	3.1	21.8
4 1	12 38.36	+ 8 15.3	2.085	3.068	4.1	17.6	4 1	12 38.47	+ 0 35.8	2.245	3.241	1.6	21.7
4 11	12 29.13	+ 8 32.9	2.116	3.073	6.7	17.8	4 11	12 30.31	+ 1 22.4	2.259	3.236	4.7	21.9
4 21	12 20.91	+ 8 36.2	2.174	3.078	9.7	18.0	4 21	12 22.93	+ 2 0.6	2.302	3.230	8.1	22.1
5 1	12 14.35	+ 8 24.3	2.257	3.082	12.6	18.2	5 1	12 16.95	+ 2 27.2	2.370	3.224	11.1	22.3
335783	2007 <i>FR</i> ₁₀		3 31.2 260°86	1°4/	1.4 17		501093	2013 <i>SP</i> ₇₂		3 31.2 248°05	0°4/	31.6 17	
2 21	13 4.56	- 9 34.4	2.069	2.836	14.8	21.6	2 21	13 5.40	- 7 13.9	1.962	2.740	15.1	22.4
3 2	13 0.87	- 9 33.6	1.962	2.823	12.0	21.3	3 2	13 1.62	- 7 5.0	1.860	2.729	12.1	22.2
3 12	12 54.93	- 9 18.7	1.876	2.809	8.5	21.1	3 12	12 55.49	- 6 42.5	1.779	2.718	8.5	21.9
3 22	12 47.19	- 8 50.8	1.816	2.795	4.7	20.8	3 22	12 47.48	- 6 8.4	1.723	2.706	4.3	21.6
4 1	12 38.40	- 8 13.0	1.783	2.781	1.4	20.6	4 1	12 38.40	- 5 26.6	1.696	2.695	0.5	21.3
4 11	12 29.53	- 7 30.3	1.779	2.766	4.4	20.7	4 11	12 29.26	- 4 42.7	1.696	2.683	4.7	21.6
4 21	12 21.52	- 6 48.3	1.802	2.752	8.5	21.0	4 21	12 21.07	- 4 2.8	1.724	2.670	9.0	21.8
5 1	12 15.20	- 6 12.5	1.850	2.737	12.2	21.2	5 1	12 14.67	- 3 31.9	1.776	2.658	12.9	22.0
102665	1999 <i>VC</i> ₅₉		3 31.2 158°69	0°8/30.4	18		284331	2006 <i>RU</i> ₁₄		3 31.2 64°07	2°4/	3.0 17	
2 21	13 7.24	- 4 29.5	2.137	2.914	14.1	21.0	2 21	12 59.89	-15 10.3	2.185	2.934	14.6	20.8
3 2	13 2.61	- 3 59.7	2.051	2.922	11.1	20.8	3 2	12 56.93	-14 48.2	2.095	2.941	12.0	20.6
3 12	12 55.85	- 3 18.3	1.987	2.929	7.5	20.6	3 12	12 52.02	-14 7.5	2.027	2.947	8.8	20.4
3 22	12 47.52	- 2 29.0	1.951	2.936	3.6	20.3	3 22	12 45.66	-13 9.9	1.983	2.954	5.3	20.2
4 1	12 38.39	- 1 36.7	1.943	2.942	1.0	20.1	4 1	12 38.57	-11 59.1	1.967	2.961	2.5	20.0
4 11	12 29.39	- 0 47.2	1.965	2.947	4.9	20.4	4 11	12 31.60	-10 41.2	1.980	2.968	4.0	20.1
4 21	12 21.40	- 0 5.6	2.015	2.951	8.6	20.7	4 21	12 25.51	- 9 23.0	2.020	2.975	7.4	20.3
5 1	12 15.08	+ 0 24.0	2.091	2.954	12.0	20.9	5 1	12 20.94	- 8 11.0	2.087	2.981	10.7	20.5
177632	2004 <i>JS</i> ₄₈		3 31.2 294°90	2°2/28.8	17		496242	2012 <i>GQ</i> ₂₂		3 31.2 32°37	2°9/	28.2 18	
2 21	13 1.58	+ 0 22.0	2.231	3.031	12.8	20.7	2 21	12 58.46	- 3 34.2	1.506	2.327	17.0	20.7
3 2	12 58.21	+ 0 55.4	2.136	3.022	10.0	20.5	3 2	12 56.54	- 2 2.0	1.435	2.333	13.2	20.5
3 12	12 52.90	+ 1 36.9	2.064	3.012	6.8	20.3	3 12	12 52.12	- 0 11.0	1.386	2.341	8.8	20.3
3 22	12 46.11	+ 2 22.3	2.018	3.003	3.5	20.0	3 22	12 45.81	+ 1 50.2	1.361	2.348	4.4	20.0
4 1	12 38.51	+ 3 6.5	2.001	2.994	2.6	20.0	4 1	12 38.56	+ 3 50.5	1.364	2.357	3.6	20.0
4 11	12 30.94	+ 3 44.2	2.012	2.985	5.6	20.1	4 11	12 31.54	+ 5 37.9	1.393	2.365	7.6	20.2
4 21	12 24.18	+ 4 10.9	2.050	2.976	9.1	20.3	4 21	12 25.74	+ 7 3.6	1.446	2.374	12.0	20.5
5 1	12 18.90	+ 4 23.8	2.112	2.967	12.2	20.5	5 1	12 21.95	+ 8 2.6	1.522	2.384	15.8	20.8
259345	2003 <i>GJ</i> ₁₄		3 31.2 30°98	4°6/27.4	18		425194	2009 <i>UD</i> ₁₃₅		3 31.2 65°90	1°0/	1.2 18	

EPHEMERIDES

3 31.2

3 31.2

2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
206305	2003 <i>HZ</i> ₃	3 31.2 175°77		1°5/ 1.6 18			503151	2015 <i>GJ</i> ₂₆	3 31.2 227°59		4°9/25.5 17		
2 21	13 5.25	-12 10.7	1.813	2.578	16.6	20.2	2 21	13 2.23	+ 8 32.4	2.294	3.105	12.2	21.4
3 2	13 1.59	-11 41.9	1.722	2.581	13.5	20.0	3 2	12 58.60	+ 9 32.4	2.213	3.103	9.6	21.2
3 12	12 55.48	-10 52.6	1.651	2.583	9.6	19.8	3 12	12 53.09	+10 35.3	2.157	3.100	6.9	21.0
3 22	12 47.45	- 9 45.2	1.605	2.584	5.3	19.5	3 22	12 46.18	+11 34.9	2.127	3.098	5.0	20.9
4 1	12 38.42	- 8 24.6	1.586	2.584	1.5	19.3	4 1	12 38.56	+12 25.0	2.125	3.095	5.4	20.9
4 11	12 29.47	- 6 58.8	1.596	2.584	4.7	19.5	4 11	12 31.04	+13 0.4	2.152	3.092	7.7	21.1
4 21	12 21.64	- 5 36.4	1.633	2.584	9.1	19.7	4 21	12 24.37	+13 18.0	2.204	3.089	10.4	21.2
5 1	12 15.76	- 4 24.9	1.695	2.582	13.1	20.0	5 1	12 19.18	+13 16.8	2.278	3.087	13.0	21.4
297471	2000 <i>TA</i> ₅	3 31.2 222°17		0°1/31.1 17			255816	2006 <i>SN</i> ₅₂	3 31.2 167°75		2°6/ 2.6 16		
2 21	13 3.36	- 5 12.4	2.694	3.464	11.7	21.3	2 21	13 7.14	-13 0.4	1.972	2.724	15.9	22.1
3 2	12 59.23	- 5 1.5	2.591	3.458	9.2	21.1	3 2	13 2.90	-13 7.6	1.879	2.727	13.0	21.9
3 12	12 53.42	- 4 41.7	2.512	3.451	6.3	20.9	3 12	12 56.29	-12 58.2	1.808	2.730	9.5	21.7
3 22	12 46.32	- 4 15.1	2.459	3.443	3.1	20.7	3 22	12 47.85	-12 32.6	1.760	2.732	5.7	21.5
4 1	12 38.52	- 3 44.8	2.437	3.436	0.3	20.4	4 1	12 38.41	-11 53.4	1.740	2.734	2.7	21.3
4 11	12 30.73	- 3 14.7	2.444	3.428	3.8	20.7	4 11	12 29.03	-11 5.8	1.749	2.736	4.6	21.4
4 21	12 23.63	- 2 48.4	2.480	3.420	7.0	20.9	4 21	12 20.70	-10 16.0	1.785	2.737	8.4	21.6
5 1	12 17.79	- 2 29.2	2.543	3.412	9.9	21.0	5 1	12 14.23	- 9 30.4	1.847	2.738	12.0	21.8
518154	2016 <i>FA</i> ₆₄	3 31.2 205°65		5°6/24.1 18			102512	1999 <i>TO</i> ₃₀₀	3 31.2 4°75		0°9/30.1 18		
2 21	13 2.91	+10 41.0	2.390	3.199	11.8	21.5	2 21	12 57.51	- 5 57.1	2.087	2.881	13.8	19.7
3 2	12 59.08	+11 59.5	2.309	3.195	9.4	21.4	3 2	12 55.13	- 5 1.6	2.000	2.882	10.8	19.5
3 12	12 53.40	+13 20.2	2.252	3.190	7.0	21.2	3 12	12 50.83	- 3 51.4	1.935	2.882	7.3	19.3
3 22	12 46.33	+14 36.2	2.223	3.185	5.6	21.1	3 22	12 45.11	- 2 31.1	1.897	2.883	3.5	19.0
4 1	12 38.53	+15 40.9	2.223	3.179	6.2	21.1	4 1	12 38.65	- 1 6.8	1.886	2.884	1.2	18.9
4 11	12 30.81	+16 28.6	2.250	3.173	8.4	21.2	4 11	12 32.29	+ 0 14.1	1.904	2.886	4.9	19.1
4 21	12 23.92	+16 56.2	2.303	3.167	10.9	21.4	4 21	12 26.78	+ 1 25.0	1.950	2.888	8.7	19.3
5 1	12 18.46	+17 2.9	2.379	3.160	13.3	21.6	5 1	12 22.76	+ 2 21.0	2.020	2.890	12.0	19.6
266617	2008 <i>OX</i> ₂₃	3 31.2 291°73		4°9/25.8 17			500595	2012 <i>UN</i> ₁₁₀	3 31.2 71°22		9°4/21.1 17		
2 21	12 59.76	+ 3 32.9	1.795	2.617	14.5	20.2	2 21	13 10.10	+26 5.6	2.304	3.092	12.9	20.5
3 2	12 57.37	+ 5 3.6	1.702	2.601	11.4	19.9	3 2	13 4.65	+27 2.7	2.253	3.101	11.1	20.4
3 12	12 52.66	+ 6 46.2	1.634	2.585	7.9	19.7	3 12	12 57.08	+27 48.7	2.224	3.110	9.8	20.3
3 22	12 46.12	+ 8 32.6	1.590	2.570	5.2	19.5	3 22	12 48.04	+28 16.5	2.220	3.119	9.4	20.3
4 1	12 38.54	+10 13.0	1.575	2.554	5.7	19.5	4 1	12 38.41	+28 20.7	2.241	3.128	10.0	20.4
4 11	12 30.94	+11 37.5	1.586	2.538	8.9	19.6	4 11	12 29.15	+27 59.0	2.288	3.137	11.4	20.5
4 21	12 24.31	+12 39.3	1.622	2.523	12.7	19.8	4 21	12 21.09	+27 12.4	2.357	3.146	13.1	20.6
5 1	12 19.47	+13 15.0	1.679	2.507	16.1	20.0	5 1	12 14.84	+26 3.9	2.446	3.155	14.8	20.8
374478	2005 <i>YB</i> ₄₀	3 31.2 132°85		7°5/22.8 17			166875	2002 <i>XH</i> ₆₀	3 31.2 98°86		1°0/ 1.4 17		
2 21	13 3.01	+13 40.1	1.929	2.751	13.7	20.4	2 21	13 1.92	-10 5.0	2.326	3.089	13.5	20.7
3 2	12 59.58	+15 13.5	1.863	2.753	11.1	20.2	3 2	12 58.30	- 9 45.2	2.242	3.101	10.8	20.5
3 12	12 53.93	+16 46.6	1.821	2.755	8.7	20.1	3 12	12 52.85	- 9 11.5	2.179	3.112	7.6	20.3
3 22	12 46.63	+18 10.4	1.804	2.756	7.6	20.0	3 22	12 46.04	- 8 26.4	2.143	3.123	4.0	20.1
4 1	12 38.51	+19 16.4	1.814	2.758	8.4	20.1	4 1	12 38.58	- 7 33.5	2.136	3.134	1.0	19.9
4 11	12 30.58	+19 58.3	1.850	2.760	10.7	20.2	4 11	12 31.25	- 6 38.2	2.157	3.145	3.8	20.1
4 21	12 23.72	+20 13.6	1.909	2.761	13.3	20.4	4 21	12 24.77	- 5 45.7	2.207	3.155	7.2	20.3
5 1	12 18.65	+20 2.8	1.988	2.763	15.8	20.6	5 1	12 19.76	- 5 0.7	2.283	3.166	10.4	20.6
275548	1998 <i>YA</i> ₁₆	3 31.2 143°39		1°7/29.3 18			327225	2005 <i>QD</i> ₁₀₀	3 31.2 288°20		2°9/28.1 17		
2 21	13 5.88	- 2 3.8	2.368	3.149	12.7	20.9	2 21	12 59.39	- 3 8.7	1.695	2.507	15.7	21.0
3 2	13 1.26	- 1 17.5	2.288	3.163	9.9	20.7	3 2	12 57.16	- 1 39.7	1.605	2.499	12.3	20.8
3 12	12 54.78	- 0 21.9	2.232	3.176	6.6	20.6	3 12	12 52.56	+ 0 7.8	1.537	2.490	8.3	20.5
3 22	12 46.95	+ 0 38.7	2.203	3.189	3.2	20.4	3 22	12 46.08	+ 2 6.8	1.495	2.481	4.2	20.2
4 1	12 38.49	+ 1 39.1	2.205	3.200	1.9	20.3	4 1	12 38.57	+ 4 7.4	1.480	2.473	3.5	20.2
4 11	12 30.19	+ 2 33.7	2.237	3.211	5.0	20.5	4 11	12 31.10	+ 5 58.1	1.493	2.464	7.4	20.4
4 21	12 22.80	+ 3 18.0	2.297	3.221	8.3	20.7	4 21	12 24.67	+ 7 29.9	1.532	2.456	11.7	20.6
5 1	12 16.91	+ 3 48.9	2.382	3.230	11.3	20.9	5 1	12 20.11	+ 8 36.7	1.593	2.447	15.6	20.8
16873	1998 <i>BO</i> ₁	3 31.2 107°84		1°5/ 1.4 18			225936	2002 <i>AT</i> ₁₇₆	3 31.2 112°57		2°4/28.9 18		
2 21	13 8.47	- 9 23.4	1.623	2.402	17.8	17.9	2 21	13 3.68	- 0 22.4	1.898	2.702	14.6	20.5
3 2	13 4.31	- 9 28.4	1.545	2.412	14.3	17.7	3 2	13 0.12	+ 0 19.8	1.818	2.706	11.4	20.3
3 12	12 57.42	- 9 16.7	1.486	2.422	10.1	17.4	3 12	12 54.32	+ 1 12.0	1.760	2.709	7.7	20.0
3 22	12 48.42	- 8 50.0	1.452	2.432	5.5	17.2	3 22	12 46.85	+ 2 9.1	1.727	2.713	3.9	19.8
4 1	12 38.35	- 8 12.2	1.443	2.441	1.6	16.9	4 1	12 38.52	+ 3 4.7	1.722	2.716	2.8	19.7
4 11	12 28.48	- 7 29.7	1.463	2.451	5.1	17.2	4 11	12 30.34	+ 3 52.0	1.746	2.719	6.2	20.0
4 21	12 19.95	- 6 49.4	1.508	2.460	9.6	17.5	4 21	12 23.21	+ 4 26.0	1.795	2.723	10.0	20.2
5 1	12 13.64	- 6 17.4	1.578	2.469	13.7	17.7	5 1	12 17.86	+ 4 43.6	1.868	2.726	13.5	20.4
467315	1999 <i>TZ</i> ₂₄₄	3 31.2 201°78		0°7/30.3 17			421156	2013 <i>RW</i> ₃₅	3 31.2 292°34		2°1/29.8 17		
2 21	13 2.68	- 5 19.7	2.639	3.411	11.8	22.4	2 21	13 10.14	+ 1 19.1	1.753	2.552	15.8	20.1
3 2	12 58.73	- 4 36.8	2.538	3.407	9.3	22.2	3 2	13 5.68	+ 1 15.2	1.653	2.537	12.6	19.9
3 12	12 53.09	- 3 42.8	2.460	3.401	6.3	22.0	3 12	12 58.48	+ 1 17.3	1.575	2.522	8.6	19.6
3 22	12 46.17	- 2 40.9	2.410	3.395	3.0	21.8	3 22	12 49.06	+ 1 21.8	1.522	2.507	4.4	19.3
4 1	12 38.56	- 1 35.5	2.390	3.388	0.9	21.6	4 1	12 38.32	+ 1 24.4	1.496	2.492	2.4	19.1
4 11	12 30.98	- 0 31.8	2.400	3.381	4.2	21.8	4 11	12 27.50	+ 1 20.1	1.498	2.477	6.4	19.3
4 21	12 24.10	+ 0 25.1	2.440	3.373	7.5	22.0	4 21	12 17.80	+ 1 5.5	1.527	2.462	10.9	19.6
5 1	12 18.50	+ 1 11.4	2.506	3.364	10.4	22.2	5 1	12 10.20	+ 0 38.4	1.580	2.448	14.9	19.8
102204	1999 <i>SE</i> ₁₉	3 31.2 180°70		3°9/26.2 18			214467	2005 <i>ST</i> ₁₉₆	3 31.2 306°12		0°9/30.3 17		
2 21	13 3.30	+ 5											

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3 31.2

3 31.2

2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
334731	2003 <i>OH</i> ₇		3 31.2 258°11	0°4/30.7	17		212537	2006 <i>RM</i> ₉₅		3 31.2 201°68	0°3/31.6	17	
2 21	13 2.82	- 6 14.3	2.313	3.089	13.2	22.2	2 21	13 2.64	- 6 55.7	2.460	3.231	12.6	21.2
3 2	12 59.27	- 5 37.7	2.198	3.068	10.5	22.0	3 2	12 58.85	- 6 44.1	2.364	3.229	10.0	21.1
3 12	12 53.73	- 4 47.6	2.105	3.046	7.2	21.8	3 12	12 53.26	- 6 21.7	2.291	3.228	6.9	20.9
3 22	12 46.61	- 3 46.8	2.039	3.024	3.5	21.5	3 22	12 46.30	- 5 50.7	2.244	3.227	3.5	20.6
4 1	12 38.55	- 2 39.9	2.002	3.001	0.7	21.2	4 1	12 38.63	- 5 14.3	2.226	3.225	0.3	20.4
4 11	12 30.38	- 1 32.9	1.995	2.978	4.6	21.5	4 11	12 31.00	- 4 37.0	2.237	3.223	3.8	20.6
4 21	12 22.93	- 0 31.9	2.016	2.954	8.5	21.7	4 21	12 24.14	- 4 3.1	2.277	3.221	7.3	20.9
5 1	12 16.93	+ 0 17.9	2.062	2.929	12.0	21.8	5 1	12 18.65	- 3 36.4	2.343	3.219	10.4	21.0
413968	2007 <i>CM</i> ₄₀		3 31.2 24°65	3°3/28.9	18		158289	2001 <i>UB</i> ₈₁		3 31.2 147°67	1°1/30.2	18	
2 21	13 4.27	+ 1 23.8	1.382	2.208	17.9	20.4	2 21	13 4.96	- 3 40.4	1.976	2.766	14.6	20.7
3 2	13 1.32	+ 1 50.1	1.316	2.216	14.0	20.1	3 2	13 1.06	- 3 10.4	1.891	2.770	11.5	20.5
3 12	12 55.50	+ 2 25.9	1.270	2.225	9.5	19.9	3 12	12 54.95	- 2 28.7	1.829	2.775	7.8	20.3
3 22	12 47.52	+ 3 4.8	1.248	2.234	4.9	19.6	3 22	12 47.19	- 1 39.1	1.793	2.779	3.7	20.0
4 1	12 38.48	+ 3 39.5	1.251	2.244	3.7	19.6	4 1	12 38.57	- 0 47.2	1.785	2.783	1.4	19.9
4 11	12 29.75	+ 4 2.6	1.279	2.255	7.6	19.8	4 11	12 30.08	+ 0 0.8	1.806	2.787	5.2	20.1
4 21	12 22.49	+ 4 9.4	1.331	2.267	12.1	20.1	4 21	12 22.61	+ 0 39.7	1.853	2.790	9.2	20.4
5 1	12 17.58	+ 3 57.8	1.404	2.279	16.0	20.4	5 1	12 16.90	+ 1 5.3	1.925	2.793	12.7	20.6
61250	2000 <i>OV</i> ₂₃		3 31.2 187°06	7°1/22.9	17		437221	2012 <i>WF</i> ₂₅		3 31.2 141°17	6°8/22.3	17	
2 21	13 4.66	+13 59.6	2.138	2.951	12.9	19.7	2 21	13 3.61	+18 0.2	2.592	3.397	11.1	21.1
3 2	13 0.68	+15 27.9	2.067	2.951	10.4	19.5	3 2	12 59.43	+19 7.8	2.528	3.402	9.2	21.0
3 12	12 54.60	+16 55.8	2.019	2.950	8.2	19.3	3 12	12 53.52	+20 11.3	2.489	3.407	7.5	20.9
3 22	12 46.96	+18 15.3	1.999	2.949	7.1	19.3	3 22	12 46.37	+21 4.4	2.476	3.411	6.8	20.8
4 1	12 38.53	+19 18.4	2.006	2.947	7.9	19.3	4 1	12 38.64	+21 41.7	2.491	3.416	7.4	20.9
4 11	12 30.24	+19 59.5	2.039	2.945	10.0	19.4	4 11	12 31.09	+21 59.6	2.532	3.420	9.0	21.0
4 21	12 22.94	+20 16.0	2.096	2.943	12.5	19.6	4 21	12 24.38	+21 56.8	2.598	3.424	11.0	21.1
5 1	12 17.31	+20 8.2	2.175	2.940	14.9	19.8	5 1	12 19.07	+21 34.1	2.685	3.428	12.9	21.3
13799	1998 <i>VC</i> ₃₄		3 31.2 121°28	0°5/31.7	18		224684	2006 <i>AU</i> ₈₃		3 31.2 122°15	7°1/22.8	18	
2 21	13 2.83	- 8 4.3	2.175	2.949	14.0	19.5	2 21	13 4.99	+14 46.7	2.170	2.981	12.8	20.9
3 2	12 59.20	- 7 46.9	2.086	2.953	11.1	19.3	3 2	13 0.78	+16 16.9	2.113	2.995	10.3	20.8
3 12	12 53.58	- 7 16.3	2.020	2.957	7.7	19.1	3 12	12 54.56	+17 44.9	2.081	3.009	8.1	20.7
3 22	12 46.46	- 6 35.0	1.979	2.962	3.9	18.9	3 22	12 46.91	+19 2.7	2.075	3.022	7.1	20.6
4 1	12 38.58	- 5 46.9	1.967	2.966	0.5	18.6	4 1	12 38.60	+20 3.1	2.097	3.035	7.9	20.7
4 11	12 30.79	- 4 57.6	1.983	2.970	4.1	18.9	4 11	12 30.54	+20 41.0	2.146	3.047	9.8	20.8
4 21	12 23.90	- 4 12.2	2.027	2.974	7.9	19.2	4 21	12 23.52	+20 54.8	2.219	3.059	12.1	21.0
5 1	12 18.57	- 3 35.5	2.097	2.978	11.2	19.4	5 1	12 18.15	+20 45.3	2.312	3.070	14.3	21.2
362015	2008 <i>WN</i> ₁₂₆		3 31.2 40°30	6°4/26.5	18		183963	2004 <i>DJ</i> ₆₄		3 31.2 322°01	0°1/30.2	13 C	
2 21	13 6.06	+ 6 43.3	1.308	2.143	18.2	20.5	2 21	12 41.97	- 1 48.7	40.172	40.946	0.9	23.0
3 2	13 2.94	+ 7 47.0	1.245	2.148	14.3	20.2	3 2	12 41.37	- 1 44.5	40.072	40.945	0.7	23.0
3 12	12 56.73	+ 8 56.8	1.202	2.154	10.2	20.0	3 12	12 40.70	- 1 39.9	39.999	40.943	0.4	23.0
3 22	12 48.16	+10 3.1	1.182	2.160	6.9	19.8	3 22	12 39.96	- 1 35.0	39.955	40.941	0.2	22.9
4 1	12 38.45	+10 55.2	1.187	2.166	7.1	19.9	4 1	12 39.21	- 1 30.1	39.941	40.939	0.1	22.9
4 11	12 29.07	+11 24.5	1.216	2.173	10.5	20.1	4 11	12 38.45	- 1 25.4	39.956	40.937	0.3	22.9
4 21	12 21.29	+11 27.3	1.267	2.180	14.6	20.3	4 21	12 37.72	- 1 20.9	40.001	40.935	0.5	23.0
5 1	12 16.04	+11 3.6	1.339	2.187	18.3	20.6	5 1	12 37.05	- 1 16.9	40.074	40.933	0.7	23.0
436909	2012 <i>TD</i> ₈₁		3 31.2 76°57	1°3/30.0	17		434801	2006 <i>RJ</i> ₅₂		3 31.2 191°37	0°4/30.8	17	
2 21	13 5.80	- 1 24.4	2.170	2.959	13.5	21.3	2 21	13 2.74	- 4 49.2	2.805	3.575	11.2	22.2
3 2	13 1.39	- 1 13.2	2.093	2.972	10.6	21.1	3 2	12 58.66	- 4 29.5	2.707	3.574	8.8	22.0
3 12	12 54.98	- 0 54.4	2.040	2.985	7.1	20.9	3 12	12 53.00	- 4 1.1	2.632	3.572	6.0	21.8
3 22	12 47.11	- 0 31.1	2.012	2.998	3.4	20.7	3 22	12 46.15	- 3 26.3	2.586	3.570	2.9	21.6
4 1	12 38.55	- 0 7.6	2.014	3.011	1.5	20.6	4 1	12 38.67	- 2 48.6	2.569	3.567	0.5	21.4
4 11	12 30.18	+ 0 11.8	2.044	3.024	4.8	20.9	4 11	12 31.24	- 2 11.8	2.582	3.565	3.7	21.7
4 21	12 22.80	+ 0 23.7	2.102	3.037	8.4	21.1	4 21	12 24.47	- 1 39.7	2.624	3.561	6.8	21.9
5 1	12 17.04	+ 0 25.4	2.185	3.050	11.5	21.3	5 1	12 18.91	- 1 15.3	2.693	3.558	9.6	22.0
145554	2006 <i>MJ</i> ₉		3 31.2 207°20	0°5/30.7	16		178085	2006 <i>ST</i> ₁₇₈		3 31.2 153°46	0°1/31.1	18	
2 21	13 5.80	- 5 51.6	2.209	2.983	13.8	21.3	2 21	13 1.94	- 6 24.5	2.848	3.614	11.2	22.2
3 2	13 1.60	- 5 16.4	2.108	2.977	10.9	21.1	3 2	12 57.97	- 5 59.0	2.757	3.621	8.8	22.0
3 12	12 55.29	- 4 27.9	2.029	2.970	7.5	20.8	3 12	12 52.48	- 5 23.8	2.690	3.628	6.0	21.8
3 22	12 47.36	- 3 29.5	1.977	2.962	3.6	20.6	3 22	12 45.87	- 4 41.5	2.650	3.634	3.0	21.6
4 1	12 38.53	- 2 26.0	1.954	2.953	0.8	20.3	4 1	12 38.71	- 3 55.4	2.640	3.639	0.3	21.4
4 11	12 29.70	- 1 23.7	1.961	2.944	4.7	20.6	4 11	12 31.63	- 3 9.7	2.661	3.645	3.5	21.7
4 21	12 21.74	- 0 28.5	1.997	2.933	8.6	20.8	4 21	12 25.23	- 2 28.4	2.710	3.650	6.5	21.9
5 1	12 15.37	+ 0 15.0	2.057	2.922	12.1	21.0	5 1	12 20.02	- 1 54.6	2.787	3.654	9.2	22.1
135493	2001 <i>XN</i> ₄₈		3 31.2 114°79	5°5/ 7.7	18		494696	2004 <i>RN</i> ₃₃₅		3 31.2 277°15	5°4/26.6	17	
2 21	13 2.84	-25 58.5	2.686	3.350	14.0	19.6	2 21	13 10.68	+ 5 45.6	1.774	2.579	15.4	23.6
3 2	12 58.96	-26 12.6	2.594	3.364	12.1	19.4	3 2	13 6.49	+ 6 47.5	1.653	2.540	12.4	23.4
3 12	12 53.30	-26 7.7	2.522	3.378	9.9	19.3	3 12	12 59.38	+ 7 59.5	1.555	2.501	8.9	23.1
3 22	12 46.30	-25 42.7	2.473	3.391	7.6	19.2	3 22	12 49.73	+ 9 14.5	1.483	2.460	5.9	22.8
4 1	12 38.63	-24 58.6	2.450	3.404	5.9	19.1	4 1	12 38.35	+10 23.3	1.438	2.417	6.1	22.7
4 11	12 31.07	-23 58.7	2.455	3.417	5.6	19.1	4 11	12 26.48	+11 16.3	1.421	2.374	9.7	22.8
4 21	12 24.32	-22 48.1	2.488	3.429	6.9	19.2	4 21	12 15.47	+11 46.5	1.429	2.329	14.1	22.9
5 1	12 18.99	-21 33.0	2.549	3.441	9.1	19.3	5 1	12 6.51	+11 50.4	1.459	2.283	18.3	23.1
323437	2004 <i>GZ</i> ₂₁		3 31.2 339°12	1°9/ 1.9	17		165697	2001 <i>PR</i> ₃₄		3			

EPHEMERIDES

3 31.2

3 31.2

2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
111825	2002 <i>DJ</i> ₁₅		3 31.2 162°01	0°9/29.9	18		278512	2008 <i>CL</i> ₃₉		3 31.2 130°15	2°6/28.7	18	
2 21	13 0.25	- 3 49.8	2.813	3.592	11.0	20.4	2 21	13 4.51	- 1 19.9	1.843	2.645	15.1	21.3
3 2	12 56.70	- 3 9.7	2.722	3.595	8.6	20.2	3 2	13 0.81	- 0 18.9	1.768	2.654	11.7	21.1
3 12	12 51.63	- 2 20.6	2.655	3.599	5.8	20.1	3 12	12 54.83	+ 0 54.1	1.714	2.664	7.9	20.9
3 22	12 45.47	- 1 25.8	2.616	3.602	2.7	19.9	3 22	12 47.15	+ 2 13.1	1.687	2.672	4.0	20.6
4 1	12 38.75	- 0 29.3	2.607	3.605	1.1	19.7	4 1	12 38.63	+ 3 30.3	1.688	2.681	3.0	20.6
4 11	12 32.11	+ 0 24.3	2.628	3.607	4.0	19.9	4 11	12 30.31	+ 4 38.1	1.717	2.689	6.5	20.8
4 21	12 26.12	+ 1 10.8	2.678	3.610	7.0	20.1	4 21	12 23.11	+ 5 30.3	1.772	2.697	10.4	21.1
5 1	12 21.30	+ 1 47.2	2.754	3.611	9.6	20.3	5 1	12 17.75	+ 6 3.6	1.851	2.704	13.8	21.3
91407	1999 <i>NM</i> ₁₁		3 31.2 299°11	4°7/ 3.9	18		39383	2765 <i>P-L</i>		3 31.2 135°20	0°1/31.2	17	
2 21	13 4.13	-16 18.7	1.818	2.567	17.2	19.2	2 21	13 5.12	- 6 36.9	2.288	3.059	13.4	20.7
3 2	13 1.11	-16 52.9	1.708	2.548	14.5	18.9	3 2	13 0.82	- 6 12.8	2.204	3.071	10.6	20.5
3 12	12 55.49	-17 9.0	1.618	2.530	11.2	18.7	3 12	12 54.61	- 5 36.9	2.144	3.082	7.3	20.3
3 22	12 47.70	-17 5.5	1.550	2.512	7.6	18.4	3 22	12 46.98	- 4 51.9	2.109	3.093	3.6	20.1
4 1	12 38.54	-16 42.5	1.508	2.494	4.9	18.2	4 1	12 38.65	- 4 2.4	2.104	3.103	0.3	19.8
4 11	12 29.16	-16 3.6	1.493	2.476	5.8	18.2	4 11	12 30.47	- 3 13.4	2.129	3.113	4.2	20.2
4 21	12 20.73	-15 15.2	1.503	2.458	9.3	18.4	4 21	12 23.20	- 2 29.9	2.181	3.123	7.7	20.4
5 1	12 14.26	-14 24.9	1.537	2.441	13.2	18.5	5 1	12 17.47	- 1 56.0	2.260	3.131	10.9	20.6
303346	2004 <i>TB</i> ₂₂₂		3 31.2 179°00	4°9/26.6	18		520957	2014 <i>YN</i> ₅₉		3 31.2 293°34	8°1/ 7.1	17	
2 21	13 8.44	+ 6 4.1	1.885	2.691	14.6	21.3	2 21	13 3.87	-24 58.2	1.842	2.544	18.5	21.2
3 2	13 3.91	+ 7 7.3	1.805	2.693	11.5	21.1	3 2	13 1.09	-25 52.4	1.731	2.526	16.3	21.0
3 12	12 56.97	+ 8 16.3	1.749	2.695	8.1	20.9	3 12	12 55.60	-26 24.3	1.639	2.509	13.6	20.8
3 22	12 48.21	+ 9 23.9	1.719	2.695	5.3	20.8	3 22	12 47.81	-26 29.9	1.566	2.492	10.7	20.5
4 1	12 38.52	+10 22.2	1.717	2.695	5.5	20.8	4 1	12 38.56	-26 6.8	1.518	2.474	8.6	20.4
4 11	12 28.98	+11 4.3	1.743	2.694	8.4	20.9	4 11	12 29.05	-25 17.0	1.494	2.457	8.3	20.3
4 21	12 20.59	+11 26.3	1.795	2.693	11.8	21.1	4 21	12 20.51	-24 6.5	1.495	2.440	10.3	20.4
5 1	12 14.11	+11 26.7	1.869	2.690	14.9	21.3	5 1	12 14.04	-22 44.8	1.520	2.423	13.4	20.5
373491	2000 <i>WQ</i> ₇₁		3 31.2 132°29	3°1/ 3.7	17		35032	1981 <i>EL</i> ₂₆		3 31.2 314°75	2°4/ 1.6	18	
2 21	13 5.48	-16 24.6	2.384	3.109	14.2	22.0	2 21	13 6.92	- 8 11.0	1.337	2.137	19.8	18.4
3 2	13 1.12	-16 25.1	2.295	3.123	11.7	21.8	3 2	13 4.22	- 8 52.7	1.239	2.118	16.2	18.1
3 12	12 54.82	-16 9.1	2.228	3.136	8.8	21.6	3 12	12 58.18	- 9 20.5	1.160	2.100	11.8	17.7
3 22	12 47.09	-15 37.2	2.186	3.149	5.7	21.4	3 22	12 49.24	- 9 33.8	1.102	2.083	6.7	17.4
4 1	12 38.63	-14 51.6	2.173	3.161	3.3	21.3	4 1	12 38.43	- 9 34.0	1.069	2.066	2.5	17.1
4 11	12 30.30	-13 56.9	2.188	3.172	4.1	21.4	4 11	12 27.31	- 9 25.6	1.060	2.050	6.2	17.3
4 21	12 22.87	-12 58.7	2.232	3.183	7.0	21.6	4 21	12 17.49	- 9 14.7	1.075	2.034	11.7	17.5
5 1	12 16.98	-12 2.6	2.303	3.194	10.0	21.8	5 1	12 10.32	- 9 8.2	1.112	2.019	16.8	17.8
140756	2001 <i>UR</i> ₁₁₈		3 31.2 204°33	2°8/27.5	17		419086	2009 <i>SV</i> ₁₂₇		3 31.2 176°74	5°0/ 5.7	17	
2 21	13 3.01	+ 4 21.2	3.007	3.797	10.1	21.9	2 21	13 7.38	-21 37.7	2.477	3.166	14.5	21.8
3 2	12 58.76	+ 5 1.8	2.911	3.791	7.9	21.8	3 2	13 2.76	-22 4.3	2.375	3.169	12.4	21.6
3 12	12 53.01	+ 5 46.4	2.841	3.785	5.4	21.6	3 12	12 56.07	-22 13.6	2.292	3.171	9.9	21.4
3 22	12 46.15	+ 6 31.2	2.799	3.778	3.2	21.4	3 22	12 47.78	-22 4.0	2.234	3.172	7.3	21.3
4 1	12 38.71	+ 7 12.1	2.788	3.771	3.1	21.4	4 1	12 38.59	-21 36.1	2.204	3.172	5.3	21.2
4 11	12 31.30	+ 7 45.2	2.806	3.764	5.2	21.5	4 11	12 29.40	-20 52.8	2.202	3.172	5.4	21.2
4 21	12 24.53	+ 8 7.6	2.853	3.755	7.7	21.7	4 21	12 21.05	-19 59.1	2.228	3.172	7.4	21.3
5 1	12 18.88	+ 8 17.6	2.925	3.747	10.1	21.9	5 1	12 14.27	-19 1.2	2.281	3.170	10.1	21.4
115517	2003 <i>UL</i> ₃₇		3 31.2 128°97	4°7/ 6.0	18		87659	2000 <i>RD</i> ₉₄		3 31.2 163°20	1°0/ 1.6	18	
2 21	13 3.98	-22 11.4	2.491	3.184	14.4	19.3	2 21	13 1.03	-10 45.0	3.030	3.776	11.0	21.0
3 2	12 59.97	-22 20.7	2.399	3.196	12.2	19.2	3 2	12 57.22	-10 22.5	2.932	3.781	8.8	20.8
3 12	12 54.05	-22 11.2	2.327	3.207	9.7	19.0	3 12	12 51.96	- 9 48.7	2.859	3.786	6.2	20.7
3 22	12 46.72	-21 42.5	2.280	3.219	7.0	18.8	3 22	12 45.63	- 9 5.3	2.813	3.790	3.4	20.5
4 1	12 38.66	-20 56.0	2.259	3.230	5.0	18.7	4 1	12 38.78	- 8 15.3	2.796	3.794	1.0	20.3
4 11	12 30.71	-19 55.6	2.267	3.240	5.0	18.8	4 11	12 31.98	- 7 22.5	2.810	3.797	3.0	20.4
4 21	12 23.62	-18 46.8	2.303	3.250	7.0	18.9	4 21	12 25.81	- 6 31.0	2.854	3.800	5.9	20.6
5 1	12 18.03	-17 36.2	2.365	3.260	9.6	19.1	5 1	12 20.75	- 5 44.8	2.925	3.803	8.5	20.8
346921	2009 <i>XM</i> ₂₁		3 31.2 82°79	3°1/28.2	17		125347	2001 <i>VN</i> ₅₅		3 31.2 98°38	3°5/ 3.2	18	
2 21	13 3.08	+ 1 31.9	1.945	2.753	14.2	20.8	2 21	13 7.04	-15 10.5	1.550	2.312	19.2	20.1
3 2	12 59.62	+ 2 19.3	1.865	2.755	11.0	20.6	3 2	13 3.38	-15 13.9	1.474	2.326	15.7	19.9
3 12	12 53.99	+ 3 15.2	1.808	2.758	7.5	20.4	3 12	12 56.91	-14 54.4	1.417	2.340	11.6	19.7
3 22	12 46.74	+ 4 14.0	1.777	2.760	4.1	20.2	3 22	12 48.27	-14 12.4	1.383	2.353	7.2	19.5
4 1	12 38.66	+ 5 9.2	1.773	2.763	3.5	20.2	4 1	12 38.55	-13 11.9	1.374	2.367	3.7	19.3
4 11	12 30.72	+ 5 54.2	1.797	2.766	6.6	20.4	4 11	12 29.07	-12 0.3	1.392	2.380	5.3	19.4
4 21	12 23.79	+ 6 24.5	1.848	2.768	10.2	20.6	4 21	12 21.00	-10 46.8	1.436	2.392	9.5	19.7
5 1	12 18.58	+ 6 37.3	1.921	2.771	13.5	20.8	5 1	12 15.24	- 9 40.3	1.504	2.405	13.6	20.0
53729	2000 <i>EF</i> ₃₇		3 31.2 33°02	0°8/30.5	18		248163	2004 <i>VW</i> ₅₃		3 31.2 167°66	3°6/26.9	17	
2 21	13 0.56	- 7 52.9	1.232	2.051	20.1	18.6	2 21	13 5.15	+ 5 39.0	2.514	3.310	11.7	21.4
3 2	12 58.86	- 6 57.2	1.162	2.056	15.9	18.4	3 2	13 0.68	+ 6 28.8	2.432	3.315	9.1	21.2
3 12	12 54.11	- 5 36.5	1.110	2.062	10.9	18.1	3 12	12 54.42	+ 7 22.4	2.375	3.319	6.3	21.1
3 22	12 46.98	- 3 57.1	1.081	2.068	5.2	17.8	3 22	12 46.87	+ 8 15.1	2.346	3.323	4.0	20.9
4 1	12 38.64	- 2 9.2	1.076	2.075	1.2	17.5	4 1	12 38.68	+ 9 1.4	2.346	3.326	4.0	20.9
4 11	12 30.53	- 0 26.2	1.096	2.082	6.8	17.9	4 11	12 30.60	+ 9 36.6	2.375	3.328	6.3	21.1
4 21	12 23.94	+ 1 0.3	1.140	2.089	12.2	18.2	4 21	12 23.35	+ 9 57.8	2.432	3.330	9.1	21.3
5 1	12 19.84	+ 2 2.6	1.205	2.097	16.9	18.5	5 1	12 17.50	+10 3.3	2.514	3.331	11.7	21.4
242444	2004 <i>PR</i> ₆₇		3 31.2 294°12	2°5/ 3.1	17		289474	2005 <i>EV</i> ₇₅		3 31.2 42°52	0°1/31.1		

EPHEMERIDES

3 31.2

3 31.3

2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
389970	2012 <i>TU</i> ₂₁₈		3 31.2 84°29	4.3/26.6	18		409839	2006 <i>QQ</i> ₁₆₇		3 31.2 182°21	4.6/25.9	16	
2 21	13 5.21	+ 7 59.7	2.324	3.127	12.3	20.8	2 21	13 3.56	+ 3 47.2	1.975	2.785	13.9	22.0
3 2	13 0.72	+ 8 43.9	2.262	3.147	9.6	20.7	3 2	13 0.02	+ 5 20.8	1.894	2.785	10.8	21.8
3 12	12 54.42	+ 9 29.6	2.223	3.166	6.8	20.5	3 12	12 54.31	+ 7 3.6	1.838	2.786	7.5	21.6
3 22	12 46.83	+10 11.6	2.212	3.186	4.6	20.4	3 22	12 46.95	+ 8 48.0	1.808	2.786	4.9	21.4
4 1	12 38.69	+10 44.5	2.230	3.205	4.7	20.5	4 1	12 38.74	+10 24.8	1.808	2.785	5.3	21.4
4 11	12 30.81	+11 4.3	2.276	3.224	6.9	20.6	4 11	12 30.64	+11 45.8	1.835	2.784	8.2	21.6
4 21	12 23.89	+11 8.8	2.349	3.242	9.6	20.8	4 21	12 23.52	+12 45.3	1.889	2.782	11.5	21.8
5 1	12 18.49	+10 57.5	2.445	3.261	12.0	21.0	5 1	12 18.12	+13 20.9	1.965	2.780	14.6	22.0
186042	2001 <i>RJ</i> ₁₅₅		3 31.2 225°81	3.3/27.9	17		94436	2001 <i>TP</i> ₄₆		3 31.2 66°93	16.2/21.4	17	
2 21	13 7.93	+ 4 5.2	2.315	3.107	12.7	22.1	2 21	13 23.35	+33 54.4	1.377	2.161	20.1	19.0
3 2	13 3.19	+ 4 43.1	2.214	3.095	10.0	21.9	3 2	13 16.20	+35 19.7	1.356	2.185	18.1	18.9
3 12	12 56.37	+ 5 26.5	2.137	3.082	6.9	21.7	3 12	13 5.38	+36 18.7	1.353	2.210	16.7	18.9
3 22	12 47.93	+ 6 10.8	2.088	3.068	4.0	21.5	3 22	12 52.16	+36 39.2	1.369	2.235	16.2	18.9
4 1	12 38.59	+ 6 50.5	2.068	3.054	3.7	21.5	4 1	12 38.35	+36 13.9	1.407	2.260	16.8	19.0
4 11	12 29.24	+ 7 20.4	2.077	3.039	6.4	21.6	4 11	12 25.79	+35 3.6	1.464	2.284	18.1	19.2
4 21	12 20.72	+ 7 36.7	2.114	3.023	9.7	21.8	4 21	12 15.80	+33 15.4	1.541	2.309	19.8	19.3
5 1	12 13.77	+ 7 37.4	2.176	3.006	12.8	21.9	5 1	12 9.07	+30 59.1	1.634	2.333	21.4	19.5
410378	2007 <i>VW</i> ₂₁₆		3 31.2 159°04	1.4/30.0	16		15499	<i>Cloyd</i>		3 31.2 100°37	2.9/27.7	18	
2 21	13 7.67	- 2 51.5	1.844	2.635	15.5	22.3	2 21	13 0.82	+ 1 1.9	2.249	3.052	12.7	17.8
3 2	13 3.37	- 2 23.6	1.760	2.640	12.2	22.1	3 2	12 57.51	+ 2 7.2	2.172	3.061	9.8	17.7
3 12	12 56.66	- 1 44.0	1.699	2.644	8.2	21.8	3 12	12 52.39	+ 3 20.9	2.120	3.069	6.6	17.5
3 22	12 48.09	- 0 56.9	1.663	2.649	4.0	21.6	3 22	12 45.93	+ 4 37.3	2.095	3.078	3.6	17.3
4 1	12 38.58	- 0 8.1	1.655	2.652	1.7	21.4	4 1	12 38.83	+ 5 50.1	2.098	3.087	3.3	17.3
4 11	12 29.21	+ 0 35.9	1.675	2.655	5.7	21.7	4 11	12 31.88	+ 6 53.0	2.131	3.095	6.1	17.5
4 21	12 20.99	+ 1 9.6	1.722	2.658	9.8	21.9	4 21	12 25.78	+ 7 41.4	2.190	3.103	9.2	17.7
5 1	12 14.69	+ 1 29.1	1.794	2.660	13.5	22.2	5 1	12 21.13	+ 8 12.7	2.274	3.112	12.1	17.9
298961	2004 <i>VY</i> ₆		3 31.2 78°31	1°0/30.4	18		319389	2006 <i>EK</i> ₃₃		3 31.2 183°79	1.4/1.7	17	
2 21	13 6.85	- 5 43.3	1.475	2.275	18.2	20.6	2 21	13 4.15	-10 33.5	2.250	3.009	14.0	21.4
3 2	13 3.05	- 4 58.3	1.415	2.299	14.3	20.4	3 2	13 0.28	-10 25.8	2.154	3.009	11.3	21.2
3 12	12 56.51	- 3 56.2	1.375	2.322	9.6	20.2	3 12	12 54.40	-10 4.0	2.080	3.009	8.1	20.9
3 22	12 48.00	- 2 43.0	1.360	2.346	4.6	19.9	3 22	12 46.99	- 9 29.7	2.031	3.009	4.5	20.7
4 1	12 38.62	- 1 26.6	1.371	2.369	1.4	19.7	4 1	12 38.74	- 8 46.0	2.011	3.008	1.4	20.5
4 11	12 29.67	- 0 16.5	1.409	2.392	6.1	20.1	4 11	12 30.55	- 7 57.9	2.019	3.007	3.9	20.7
4 21	12 22.21	+ 0 39.9	1.473	2.415	10.7	20.4	4 21	12 23.21	- 7 10.7	2.056	3.006	7.6	20.9
5 1	12 17.03	+ 1 18.0	1.559	2.437	14.6	20.7	5 1	12 17.42	- 6 29.6	2.119	3.004	10.9	21.1
340736	2006 <i>SD</i> ₁₇₂		3 31.2 80°55	0°3/30.9	17		140662	2001 <i>UU</i> ₄₃		3 31.2 39°24	2.2/29.3	18	
2 21	12 59.48	- 8 2.2	2.299	3.076	13.2	21.5	2 21	13 3.39	- 1 43.8	1.664	2.473	16.1	19.9
3 2	12 56.45	- 7 7.4	2.217	3.087	10.4	21.3	3 2	13 0.27	- 1 4.6	1.586	2.477	12.6	19.7
3 12	12 51.64	- 5 58.3	2.157	3.098	7.1	21.1	3 12	12 54.67	- 0 13.2	1.530	2.480	8.5	19.5
3 22	12 45.54	- 4 38.8	2.124	3.109	3.4	20.9	3 22	12 47.18	+ 0 45.3	1.498	2.485	4.2	19.2
4 1	12 38.82	- 3 14.4	2.121	3.120	0.5	20.7	4 1	12 38.73	+ 1 43.8	1.493	2.489	2.5	19.1
4 11	12 32.24	- 1 51.8	2.147	3.131	4.2	21.0	4 11	12 30.44	+ 2 34.4	1.515	2.493	6.4	19.4
4 21	12 26.49	- 0 37.1	2.201	3.141	7.7	21.2	4 21	12 23.33	+ 3 11.4	1.563	2.498	10.7	19.6
5 1	12 22.14	+ 0 24.9	2.281	3.152	10.8	21.5	5 1	12 18.21	+ 3 30.9	1.633	2.503	14.5	19.9
313621	2003 <i>QP</i> ₁₀₉		3 31.2 255°53	4°0/27.4	16		331895	2004 <i>NW</i>		3 31.3 241°28	2°7/28.3	18	
2 21	13 6.36	+ 2 27.1	1.909	2.713	14.5	21.6	2 21	13 3.75	+ 0 20.8	2.181	2.978	13.2	21.4
3 2	13 2.58	+ 3 30.2	1.803	2.690	11.5	21.3	3 2	13 0.09	+ 1 14.3	2.080	2.964	10.3	21.2
3 12	12 56.35	+ 4 44.3	1.719	2.667	8.0	21.1	3 12	12 54.36	+ 2 18.0	2.002	2.950	7.0	21.0
3 22	12 48.09	+ 6 3.3	1.661	2.643	4.7	20.8	3 22	12 47.01	+ 3 26.7	1.951	2.935	3.7	20.7
4 1	12 38.61	+ 7 19.3	1.632	2.617	4.5	20.7	4 1	12 38.75	+ 4 34.4	1.929	2.919	3.1	20.7
4 11	12 28.97	+ 8 23.8	1.630	2.592	7.9	20.9	4 11	12 30.46	+ 5 34.1	1.935	2.903	6.2	20.8
4 21	12 20.24	+ 9 10.4	1.655	2.565	11.9	21.1	4 21	12 22.98	+ 6 20.7	1.969	2.887	9.8	21.0
5 1	12 13.34	+ 9 35.1	1.702	2.537	15.6	21.2	5 1	12 17.06	+ 6 50.4	2.027	2.870	13.1	21.2
150562	2000 <i>SR</i> ₂₄₉		3 31.2 285°94	2°0/29.2	18		455240	2001 <i>SJ</i> ₂₀₈		3 31.3 192°41	0°4/31.5	16	
2 21	13 1.07	- 3 18.6	1.816	2.619	15.2	20.3	2 21	13 11.00	- 6 30.0	1.857	2.630	16.0	22.2
3 2	12 58.49	- 2 23.1	1.712	2.600	12.0	20.1	3 2	13 6.16	- 6 27.8	1.762	2.628	12.8	22.0
3 12	12 53.55	- 1 11.6	1.630	2.580	8.1	19.8	3 12	12 58.71	- 6 12.5	1.689	2.626	9.0	21.7
3 22	12 46.71	+ 0 10.9	1.574	2.560	4.0	19.5	3 22	12 49.22	- 5 46.2	1.641	2.623	4.5	21.5
4 1	12 38.73	+ 1 37.3	1.545	2.540	2.4	19.3	4 1	12 38.57	- 5 12.8	1.621	2.620	0.4	21.1
4 11	12 30.67	+ 2 58.4	1.543	2.520	6.5	19.5	4 11	12 27.95	- 4 37.9	1.630	2.616	5.0	21.5
4 21	12 23.52	+ 4 6.6	1.568	2.500	10.9	19.7	4 21	12 18.46	- 4 7.1	1.666	2.611	9.5	21.7
5 1	12 18.17	+ 4 55.8	1.615	2.480	14.8	19.9	5 1	12 10.99	- 3 45.5	1.727	2.605	13.4	21.9
132433	2002 <i>GZ</i> ₁₆₂		3 31.2 233°72	0°2/31.1	16		381502	2008 <i>SG</i> ₁₂₄		3 31.3 128°23	1°3/1.6	17	
2 21	13 4.34	- 7 41.4	1.863	2.645	15.7	20.4	2 21	13 2.82	-10 42.5	2.141	2.905	14.5	22.0
3 2	13 0.96	- 7 2.6	1.762	2.634	12.5	20.2	3 2	12 59.31	-10 25.7	2.051	2.910	11.6	21.8
3 12	12 55.18	- 6 6.4	1.682	2.623	8.7	19.9	3 12	12 53.76	- 9 53.5	1.983	2.915	8.2	21.6
3 22	12 47.48	- 4 55.8	1.627	2.612	4.3	19.6	3 22	12 46.67	- 9 8.0	1.940	2.919	4.5	21.4
4 1	12 38.68	- 3 36.7	1.601	2.600	0.5	19.3	4 1	12 38.79	- 8 13.1	1.926	2.924	1.3	21.1
4 11	12 29.84	- 2 17.1	1.602	2.587	5.2	19.6	4 11	12 31.01	- 7 14.4	1.940	2.928	4.0	21.3
4 21	12 21.99	- 1 5.0	1.631	2.574	9.7	19.9	4 21	12 24.14	- 6 18.0	1.982	2.932	7.8	21.6
5 1	12 15.97	- 0 6.8	1.684	2.561	13.7	20.1	5 1	12 18.86	- 5 29.2	2.049	2.936	11.2	21.8
277769	2006 <i>DG</i> ₁₇₂		3 31.2 178°27	2°0/29.0	18		363749	2005 <i>AS</i> ₁₁		3 31.3 117°85	1°4/30.0</		

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2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
337727	2001 UG ₆₀		3 31.3 72 ^o 34	1.6 ^o / 2.1 17			523770	2014 XO ₄₀		3 31.3 354 ^o 77	0.5 ^o / 4.2 18		
2 21	13 1.42	-12 30.8	2.253	3.009	14.1	20.5	2 21	12 44.55	-14 57.1	17.657	18.365	2.2	20.8
3 2	12 57.99	-12 7.3	2.175	3.027	11.3	20.3	3 2	12 43.49	-14 49.7	17.531	18.349	1.8	20.8
503726	2016 JV ₃₈		3 31.3 213 ^o 22	6.1/23.9 17			462630	2009 QL ₅₈		3 31.3 337 ^o 22	0.3/31.5 17		
2 21	13 5.38	+13 3.0	2.411	3.216	11.8	21.1	2 21	13 9.78	-4 17.1	1.642	2.433	17.1	20.8
3 2	13 1.08	+14 12.4	2.328	3.209	9.5	20.9	3 2	13 5.56	-4 41.7	1.552	2.429	13.7	20.6
70591	1999 TU ₁₇₅		3 31.3 41 ^o 94	0.4/31.0 18			20390	1998 KK ₅₅		3 31.3 121 ^o 44	0.7/30.5 18		
2 21	13 8.26	-3 52.3	1.384	2.191	18.9	18.9	2 21	13 1.15	-6 34.6	1.991	2.779	14.6	18.4
3 2	13 4.57	-3 59.5	1.315	2.202	14.9	18.6	3 2	12 58.14	-5 42.8	1.905	2.782	11.5	18.2
498800	2008 UV ₂₆₀		3 31.3 172 ^o 79	3.1/27.9 17			502673	2015 CR ₅₄		3 31.3 127 ^o 09	2.5/ 2.7 17		
2 21	13 4.53	+3 7.2	2.279	3.077	12.6	22.0	2 21	13 8.03	-12 24.7	2.368	3.108	13.9	21.6
3 2	13 0.44	+3 48.6	2.194	3.079	9.9	21.8	3 2	13 3.17	-12 44.8	2.279	3.118	11.3	21.5
87700	2000 SE ₁₈		3 31.3 129 ^o 18	4.9/ 4.4 17			433361	2013 SD ₁₄		3 31.3 115 ^o 89	0.5/30.7 17		
2 21	13 9.29	-17 26.8	2.034	2.758	16.3	19.9	2 21	13 3.09	-6 45.2	2.184	2.962	13.8	22.4
3 2	13 4.70	-18 13.0	1.941	2.763	13.7	19.7	3 2	12 59.35	-5 56.2	2.105	2.977	10.8	22.3
97969	2000 QE ₁₅₀		3 31.3 84 ^o 93	3.8/ 3.5 18			363534	2003 UB ₂₉₀		3 31.3 223 ^o 40	1.0/30.3 16		
2 21	13 5.38	-15 41.8	1.541	2.305	19.2	19.3	2 21	13 6.05	-4 48.5	2.047	2.828	14.5	22.1
3 2	13 2.23	-15 50.1	1.461	2.312	15.9	19.1	3 2	13 2.08	-4 10.1	1.944	2.818	11.5	21.9
8561	Sikoruk		3 31.3 166 ^o 53	0.6/30.5 18			33776	1999 RB ₁₅₈		3 31.3 263 ^o 36	2.5/ 2.7 18		
2 21	13 1.74	-4 34.8	2.983	3.753	10.6	19.2	2 21	13 6.17	-12 3.8	2.523	3.263	13.1	17.7
3 2	12 57.80	-4 3.7	2.890	3.758	8.3	19.1	3 2	13 1.77	-12 29.7	2.413	3.254	10.8	17.6
172877	2005 EL ₁₇₅		3 31.3 204 ^o 93	1.8/ 1.9 18			140553	2001 TQ ₂₀₂		3 31.3 272 ^o 70	4.6/25.6 18		
2 21	13 6.89	-11 20.8	1.981	2.740	15.6	20.7	2 21	13 0.37	+6 11.5	2.239	3.052	12.4	19.6
3 2	13 2.83	-11 17.5	1.882	2.736	12.7	20.5	3 2	12 57.33	+7 26.1	2.153	3.045	9.7	19.4
350357	2012 UO ₁₂₄		3 31.3 60 ^o 66	1.1/ 1.4 18			132830	2002 RQ ₇		3 31.3 210 ^o 91	1.3/29.8 18		
2 21	13 2.34	-9 25.7	2.266	3.032	13.7	20.5	2 21	13 3.19	-2 32.8	2.369	3.155	12.6	20.4
3 2	12 58.83	-9 18.0	2.174	3.035	11.0	20.3	3 2	12 59.41	-2 1.1	2.274	3.151	9.9	20.2

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2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
85828	1998 <i>XN</i> ₅₃		3 31.3 82°35	4.3/ 3.6	18		384774	2012 <i>PF</i>		3 31.3 358°26	16.8/14.8	18	
2 21	13 8.48	-15 28.0	1.456	2.220	20.1	18.8	2 21	13 0.94	-36 6.9	1.131	1.825	28.4	20.0
3 2	13 4.78	-15 52.1	1.383	2.234	16.6	18.5	3 2	13 0.74	-38 6.4	1.058	1.823	26.2	19.8
3 12	12 58.05	-15 53.4	1.329	2.249	12.5	18.3	3 12	12 56.55	-39 28.3	0.995	1.822	23.6	19.6
3 22	12 48.98	-15 31.4	1.295	2.263	8.0	18.1	3 22	12 48.78	-40 1.1	0.945	1.821	20.9	19.4
4 1	12 38.71	-14 48.5	1.287	2.277	4.5	17.9	4 1	12 38.73	-39 35.5	0.910	1.821	18.4	19.2
4 11	12 28.69	-13 51.7	1.305	2.292	5.8	18.0	4 11	12 28.52	-38 10.5	0.892	1.822	16.9	19.2
4 21	12 20.20	-12 49.9	1.348	2.306	9.9	18.3	4 21	12 20.25	-35 55.6	0.893	1.823	17.1	19.2
5 1	12 14.18	-11 52.2	1.415	2.320	14.1	18.6	5 1	12 15.55	-33 9.0	0.912	1.825	19.0	19.3
43412	2000 <i>WH</i> ₁₅₈		3 31.3 116°63	2.0/29.7	18		343010	2009 <i>BO</i> ₈₉		3 31.3 95°53	0.3/30.9	17	
2 21	13 9.25	- 0 51.3	1.668	2.468	16.5	19.5	2 21	13 2.27	- 5 54.9	2.236	3.017	13.4	21.6
3 2	13 4.85	- 0 30.5	1.592	2.477	12.9	19.2	3 2	12 58.74	- 5 27.2	2.152	3.025	10.6	21.4
3 12	12 57.81	+ 0 0.4	1.538	2.485	8.8	19.0	3 12	12 53.31	- 4 47.8	2.091	3.032	7.2	21.2
3 22	12 48.77	+ 0 36.8	1.508	2.494	4.3	18.8	3 22	12 46.48	- 3 59.8	2.055	3.040	3.5	21.0
4 1	12 38.74	+ 1 12.6	1.506	2.502	2.3	18.6	4 1	12 38.95	- 3 7.7	2.049	3.048	0.5	20.8
4 11	12 28.92	+ 1 41.4	1.531	2.510	6.3	18.9	4 11	12 31.54	- 2 17.0	2.071	3.055	4.3	21.1
4 21	12 20.42	+ 1 58.4	1.582	2.517	10.6	19.2	4 21	12 25.00	- 1 32.7	2.121	3.063	7.9	21.3
5 1	12 14.06	+ 2 0.6	1.657	2.525	14.4	19.4	5 1	12 19.95	- 0 58.9	2.196	3.070	11.1	21.5
348419	2005 <i>NZ</i> ₅₅		3 31.3 299°77	3.9/ 4.6	17		368682	2005 <i>RY</i> ₁		3 31.3 122°58	7.6/ 8.4	17	
2 21	13 1.94	-17 58.1	2.300	3.027	14.6	21.2	2 21	13 5.98	-27 38.1	2.065	2.736	17.6	21.1
3 2	12 58.68	-18 11.9	2.197	3.022	12.2	21.0	3 2	13 2.23	-28 15.8	1.975	2.745	15.4	20.9
3 12	12 53.42	-18 8.5	2.115	3.018	9.4	20.8	3 12	12 56.04	-28 29.8	1.902	2.753	12.9	20.8
3 22	12 46.60	-17 47.5	2.058	3.014	6.5	20.7	3 22	12 47.96	-28 17.1	1.850	2.762	10.2	20.6
4 1	12 38.91	-17 10.4	2.026	3.009	4.2	20.5	4 1	12 38.84	-27 37.4	1.823	2.770	8.1	20.5
4 11	12 31.20	-16 21.1	2.023	3.005	4.7	20.5	4 11	12 29.79	-26 34.1	1.822	2.778	7.6	20.5
4 21	12 24.31	-15 24.9	2.048	3.001	7.4	20.7	4 21	12 21.83	-25 13.8	1.847	2.785	9.1	20.6
5 1	12 18.92	-14 28.1	2.098	2.997	10.4	20.9	5 1	12 15.80	-23 45.5	1.897	2.793	11.5	20.7
416152	2002 <i>RX</i> ₆₈		3 31.3 268°61	2.0/ 1.8	17		63451	2001 <i>OB</i>		3 31.3 170°09	5.4/ 5.6	18	
2 21	13 7.61	-10 13.5	1.843	2.610	16.4	21.6	2 21	13 7.57	-21 18.3	2.197	2.897	15.9	19.8
3 2	13 3.84	-10 24.9	1.729	2.588	13.4	21.3	3 2	13 3.24	-21 46.9	2.098	2.901	13.6	19.6
3 12	12 57.43	-10 21.1	1.635	2.566	9.7	21.1	3 12	12 56.63	-21 56.3	2.020	2.904	10.8	19.4
3 22	12 48.78	-10 2.5	1.566	2.544	5.5	20.8	3 22	12 48.22	-21 45.0	1.965	2.906	7.9	19.2
4 1	12 38.73	- 9 31.2	1.524	2.521	2.0	20.5	4 1	12 38.82	-21 13.4	1.937	2.908	5.7	19.1
4 11	12 28.40	- 8 52.2	1.510	2.498	5.0	20.6	4 11	12 29.42	-20 24.9	1.936	2.909	5.8	19.1
4 21	12 18.99	- 8 11.8	1.522	2.474	9.5	20.8	4 21	12 20.99	-19 25.4	1.963	2.910	8.1	19.3
5 1	12 11.54	- 7 36.5	1.559	2.450	13.8	21.0	5 1	12 14.31	-18 22.1	2.016	2.910	11.0	19.4
217485	2006 <i>BT</i> ₂₇₀		3 31.3 90°50	10.8/10.3	18		32358	2000 <i>QS</i> ₁₂₄		3 31.3 47°99	5.1/24.7	18	
2 21	13 14.23	-33 7.3	2.132	2.746	18.4	20.6	2 21	12 59.15	+ 6 43.0	2.153	2.972	12.6	18.3
3 2	13 9.07	-34 53.7	2.046	2.758	16.7	20.4	3 2	12 56.38	+ 8 19.8	2.082	2.977	9.8	18.1
3 12	13 1.01	-36 18.5	1.977	2.770	14.7	20.3	3 12	12 51.74	+10 2.0	2.035	2.982	7.0	17.9
3 22	12 50.53	-37 15.7	1.929	2.782	12.8	20.2	3 22	12 45.73	+11 42.1	2.016	2.987	5.2	17.8
4 1	12 38.59	-37 41.0	1.903	2.794	11.3	20.1	4 1	12 39.02	+13 12.0	2.025	2.992	5.8	17.9
4 11	12 26.52	-37 34.2	1.902	2.806	10.8	20.1	4 11	12 32.45	+14 24.8	2.062	2.998	8.3	18.0
4 21	12 15.62	-36 59.7	1.926	2.817	11.4	20.2	4 21	12 26.75	+15 16.1	2.124	3.003	11.0	18.2
5 1	12 6.97	-36 5.3	1.972	2.829	12.9	20.3	5 1	12 22.51	+15 44.6	2.208	3.009	13.6	18.4
469176	2016 <i>CL</i> ₂₆₁		3 31.3 331°64	0.3/31.5	17		28340	Yukihiko		3 31.3 177°45	4.6/25.5	18	
2 21	12 59.93	- 7 49.6	1.510	2.315	17.7	20.5	2 21	13 3.75	+ 9 45.9	2.665	3.467	10.9	18.0
3 2	12 58.06	- 7 29.3	1.418	2.304	14.2	20.3	3 2	12 59.57	+10 40.2	2.585	3.468	8.6	17.9
3 12	12 53.53	- 6 49.9	1.347	2.293	9.9	20.0	3 12	12 53.71	+11 35.8	2.530	3.469	6.3	17.7
3 22	12 46.84	- 5 54.4	1.298	2.283	5.0	19.7	3 22	12 46.64	+12 27.5	2.503	3.470	4.7	17.6
4 1	12 38.90	- 4 48.5	1.274	2.273	0.4	19.3	4 1	12 38.97	+13 10.0	2.505	3.470	5.0	17.6
4 11	12 30.94	- 3 41.0	1.276	2.264	5.6	19.7	4 11	12 31.40	+13 39.3	2.535	3.470	7.0	17.7
4 21	12 24.12	- 2 40.4	1.303	2.256	10.6	19.9	4 21	12 24.58	+13 52.8	2.592	3.470	9.4	17.9
5 1	12 19.43	- 1 54.2	1.352	2.249	15.1	20.2	5 1	12 19.07	+13 49.8	2.673	3.469	11.7	18.0
152517	2006 <i>AD</i> ₇₂		3 31.3 205°02	0.5/30.1	18		502549	2015 <i>BM</i> ₄₆₇		3 31.3 148°12	3.4/27.6	17	
2 21	12 54.55	- 2 57.2	4.785	5.557	6.9	20.9	2 21	13 3.05	+ 2 27.2	2.078	2.884	13.4	21.7
3 2	12 51.71	- 2 32.1	4.685	5.555	5.3	20.8	3 2	12 59.51	+ 3 24.4	1.998	2.887	10.5	21.5
3 12	12 48.02	- 2 2.4	4.611	5.553	3.6	20.7	3 12	12 53.93	+ 4 29.3	1.941	2.890	7.1	21.3
3 22	12 43.74	- 1 29.8	4.566	5.551	1.7	20.5	3 22	12 46.83	+ 5 36.2	1.911	2.893	4.1	21.1
4 1	12 39.16	- 0 56.4	4.552	5.549	0.7	20.4	4 1	12 38.95	+ 6 38.5	1.909	2.895	3.8	21.1
4 11	12 34.60	- 0 24.4	4.568	5.547	2.4	20.6	4 11	12 31.20	+ 7 29.7	1.935	2.898	6.7	21.2
4 21	12 30.38	+ 0 4.2	4.614	5.545	4.3	20.7	4 21	12 24.39	+ 8 5.4	1.987	2.900	10.0	21.5
5 1	12 26.77	+ 0 27.7	4.687	5.543	6.0	20.8	5 1	12 19.19	+ 8 23.1	2.063	2.902	13.1	21.7
406890	2009 <i>DJ</i> ₂₈		3 31.3 72°97	2.4/ 1.9	18		13781	1998 <i>UO</i> ₁₅		3 31.3 224°84	0.2/31.5	18	
2 21	13 8.48	-10 32.5	1.495	2.276	18.9	21.5	2 21	13 5.57	- 7 28.3	2.076	2.849	14.6	19.6
3 2	13 4.70	-10 51.8	1.418	2.285	15.4	21.3	3 2	13 1.69	- 7 6.0	1.973	2.840	11.6	19.4
3 12	12 57.98	-10 53.2	1.360	2.293	11.1	21.1	3 12	12 55.59	- 6 29.5	1.892	2.830	8.1	19.1
3 22	12 48.97	-10 37.5	1.325	2.302	6.3	20.8	3 22	12 47.73	- 5 41.1	1.837	2.820	4.1	18.8
4 1	12 38.75	-10 7.8	1.315	2.311	2.4	20.6	4 1	12 38.88	- 4 45.4	1.810	2.809	0.3	18.5
4 11	12 28.70	- 9 30.4	1.332	2.320	5.3	20.8	4 11	12 29.99	- 3 48.4	1.812	2.798	4.6	18.8
4 21	12 20.08	- 8 52.5	1.374	2.329	10.0	21.1	4 21	12 21.99	- 2 56.1	1.842	2.786	8.7	19.0
5 1	12 13.86	- 8 20.9	1.439	2.339	14.2	21.3	5 1	12 15.67	- 2 14.1	1.897	2.774	12.4	19.2
337792	2001 <i>UV</i> ₂₀₂		3 31.3 129°11	1.9/ 2.6	18		3227	Hasegawa					

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3 31.3

3 31.3

2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
240733	2005 <i>JS</i> ₃₅		3 31.3 167°90	5°5/24.3 18			2793	Valdaj		3 31.3 8°08	3°4/ 3.2 18		
2 21	13 3.80	+12 42.3	2.590	3.395	11.1	20.7	2 21	13 9.47	-13 25.1	2.339	3.071	14.2	16.5
3 2	12 59.66	+13 43.8	2.516	3.397	8.9	20.6	3 2	13 4.53	-14 12.8	2.239	3.071	11.8	16.3
3 12	12 53.80	+14 44.8	2.467	3.400	6.8	20.4	3 12	12 57.42	-14 48.8	2.161	3.072	8.9	16.1
3 22	12 46.69	+15 39.5	2.445	3.402	5.5	20.3	3 22	12 48.63	-15 12.2	2.109	3.072	5.8	15.9
4 1	12 38.98	+16 22.4	2.452	3.404	6.0	20.4	4 1	12 38.87	-15 23.2	2.085	3.072	3.5	15.8
4 11	12 31.39	+16 49.3	2.486	3.405	7.9	20.5	4 11	12 29.08	-15 23.9	2.091	3.073	4.5	15.8
4 21	12 24.61	+16 58.1	2.547	3.407	10.1	20.6	4 21	12 20.15	-15 17.7	2.126	3.074	7.5	16.0
5 1	12 19.17	+16 48.7	2.630	3.408	12.3	20.8	5 1	12 12.83	-15 9.0	2.187	3.074	10.5	16.2
46311	2001 <i>QF</i> ₂₀		3 31.3 179°16	0°0/31.3 18			501295	2013 <i>WL</i> ₆₂		3 31.3 94°83	3°8/26.9 17		
2 21	13 2.21	- 6 41.4	2.522	3.293	12.3	19.4	2 21	13 3.35	+ 4 24.0	2.224	3.029	12.7	21.9
3 2	12 58.53	- 6 16.2	2.428	3.294	9.8	19.3	3 2	12 59.47	+ 5 27.8	2.159	3.047	9.8	21.7
3 12	12 53.11	- 5 39.9	2.356	3.294	6.7	19.1	3 12	12 53.74	+ 6 36.7	2.118	3.065	6.8	21.6
3 22	12 46.40	- 4 55.1	2.311	3.295	3.3	18.8	3 22	12 46.68	+ 7 44.7	2.104	3.083	4.2	21.4
4 1	12 39.00	- 4 5.5	2.296	3.295	0.3	18.6	4 1	12 39.03	+ 8 45.6	2.119	3.100	4.3	21.5
4 11	12 31.67	- 3 16.1	2.310	3.294	3.8	18.9	4 11	12 31.60	+ 9 33.8	2.163	3.118	6.7	21.7
4 21	12 25.08	- 2 31.3	2.352	3.294	7.2	19.1	4 21	12 25.11	+10 5.9	2.233	3.135	9.6	21.9
5 1	12 19.81	- 1 55.1	2.420	3.293	10.2	19.3	5 1	12 20.13	+10 20.2	2.327	3.151	12.3	22.1
207446	2006 <i>EC</i> ₆₃		3 31.3 306°17	1°8/ 1.6 17			55946	1998 <i>HP</i> ₂₄		3 31.3 230°61	5°9/23.2 18		
2 21	13 2.09	-10 8.0	1.370	2.171	19.4	20.5	2 21	13 4.57	+16 16.8	2.880	3.678	10.3	18.7
3 2	13 0.32	-10 9.7	1.269	2.149	15.9	20.2	3 2	13 0.18	+17 12.5	2.795	3.667	8.4	18.5
3 12	12 55.50	- 9 50.1	1.186	2.127	11.5	19.9	3 12	12 54.15	+18 5.7	2.735	3.656	6.7	18.4
3 22	12 48.03	- 9 9.9	1.124	2.106	6.4	19.6	3 22	12 46.90	+18 51.3	2.702	3.645	5.9	18.3
4 1	12 38.86	- 8 12.9	1.086	2.085	1.8	19.2	4 1	12 39.02	+19 24.2	2.697	3.633	6.4	18.3
4 11	12 29.40	- 7 7.1	1.074	2.064	5.9	19.4	4 11	12 31.19	+19 40.7	2.721	3.621	8.0	18.4
4 21	12 21.13	- 6 2.4	1.084	2.044	11.6	19.6	4 21	12 24.07	+19 39.2	2.770	3.609	10.0	18.5
5 1	12 15.28	- 5 8.4	1.117	2.024	16.8	19.9	5 1	12 18.20	+19 19.7	2.842	3.596	12.0	18.7
286097	2001 <i>TK</i> ₆₈		3 31.3 227°84	1°6/29.9 17			276498	2003 <i>QC</i> ₄₇		3 31.3 172°06	0°9/ 1.4 17		
2 21	13 9.12	- 2 36.9	1.911	2.697	15.2	21.8	2 21	13 3.68	- 9 57.9	2.651	3.403	12.3	21.6
3 2	13 4.74	- 2 5.8	1.808	2.684	12.0	21.6	3 2	12 59.59	- 9 36.2	2.554	3.406	9.8	21.4
3 12	12 57.84	- 1 22.5	1.726	2.671	8.2	21.3	3 12	12 53.80	- 9 2.0	2.480	3.409	6.9	21.3
3 22	12 48.92	- 0 30.8	1.671	2.656	4.0	21.0	3 22	12 46.75	- 8 17.3	2.433	3.412	3.7	21.0
4 1	12 38.81	+ 0 23.5	1.644	2.641	1.9	20.8	4 1	12 39.03	- 7 25.4	2.415	3.413	0.9	20.8
4 11	12 28.60	+ 1 13.4	1.646	2.625	5.9	21.0	4 11	12 31.37	- 6 30.9	2.428	3.415	3.5	21.0
4 21	12 19.39	+ 1 53.0	1.675	2.608	10.3	21.3	4 21	12 24.45	- 5 38.5	2.470	3.415	6.7	21.2
5 1	12 12.08	+ 2 17.7	1.728	2.590	14.2	21.5	5 1	12 18.82	- 4 52.6	2.538	3.416	9.7	21.4
343962	2011 <i>KF</i> ₄₃		3 31.3 315°28	1°2/30.1 17			278698	2008 <i>RH</i> ₁₃₉		3 31.3 172°36	3°4/ 4.3 17		
2 21	13 0.80	- 4 18.9	1.808	2.610	15.3	21.3	2 21	13 2.81	-18 4.7	2.327	3.050	14.5	21.3
3 2	12 58.24	- 3 42.5	1.713	2.599	12.1	21.1	3 2	12 59.28	-17 53.8	2.228	3.053	12.1	21.1
3 12	12 53.38	- 2 51.7	1.640	2.589	8.2	20.8	3 12	12 53.79	-17 24.1	2.150	3.054	9.2	20.9
3 22	12 46.69	- 1 50.6	1.592	2.579	4.0	20.5	3 22	12 46.81	-16 36.1	2.096	3.056	6.1	20.7
4 1	12 38.98	- 0 45.2	1.571	2.569	1.5	20.3	4 1	12 39.03	-15 32.1	2.070	3.057	3.6	20.5
4 11	12 31.27	+ 0 16.7	1.577	2.559	5.7	20.6	4 11	12 31.30	-14 17.5	2.073	3.057	4.2	20.6
4 21	12 24.52	+ 1 8.4	1.609	2.550	10.0	20.8	4 21	12 24.43	-12 58.7	2.104	3.058	7.2	20.8
5 1	12 19.57	+ 1 44.7	1.664	2.541	13.9	21.0	5 1	12 19.06	-11 42.4	2.162	3.058	10.3	21.0
210959	2001 <i>UD</i> ₁₂₈		3 31.3 251°64	2°1/ 2.6 17			361170	2006 <i>KN</i> ₉₂		3 31.3 278°72	1°5/ 1.6 17		
2 21	13 5.02	-12 22.2	2.697	3.435	12.4	21.4	2 21	13 2.46	-11 39.5	1.579	2.362	18.0	21.3
3 2	13 0.82	-12 29.3	2.577	3.416	10.2	21.0	3 2	13 0.06	-11 17.3	1.480	2.350	14.6	21.0
3 12	12 54.78	-12 24.4	2.478	3.397	7.5	21.0	3 12	12 54.95	-10 32.4	1.401	2.337	10.5	20.7
3 22	12 47.30	-12 7.8	2.406	3.377	4.5	20.7	3 22	12 47.61	- 9 26.6	1.345	2.325	5.8	20.4
4 1	12 38.94	-11 41.2	2.363	3.357	2.1	20.5	4 1	12 38.96	- 8 4.8	1.314	2.312	1.6	20.1
4 11	12 30.47	-11 7.9	2.350	3.336	3.6	20.6	4 11	12 30.22	- 6 35.8	1.310	2.300	5.3	20.3
4 21	12 22.61	-10 31.9	2.366	3.315	6.8	20.8	4 21	12 22.60	- 5 9.8	1.332	2.287	10.3	20.6
5 1	12 16.04	- 9 57.6	2.409	3.294	9.8	20.9	5 1	12 17.10	- 3 55.8	1.377	2.274	14.9	20.8
190441	1999 <i>XB</i> ₂₂₀		3 31.3 135°10	0°7/ 1.1 17			362047	2009 <i>BG</i> ₁₄		3 31.3 357°33	24°3/ 1.0 17		
2 21	13 6.61	- 8 10.4	2.461	3.218	13.0	21.2	2 21	12 38.11	-48 28.1	0.964	1.625	34.2	19.1
3 2	13 1.94	- 8 4.7	2.374	3.230	10.3	21.0	3 2	12 43.21	-51 39.0	0.905	1.613	33.4	18.9
3 12	12 55.41	- 7 47.9	2.310	3.242	7.2	20.8	3 12	12 44.86	-54 2.7	0.853	1.605	32.3	18.7
3 22	12 47.52	- 7 21.8	2.273	3.253	3.8	20.6	3 22	12 43.18	-55 26.6	0.807	1.600	30.8	18.6
4 1	12 38.95	- 6 49.5	2.266	3.264	0.7	20.4	4 1	12 39.27	-55 37.8	0.768	1.598	29.1	18.4
4 11	12 30.50	- 6 15.3	2.288	3.275	3.7	20.6	4 11	12 35.29	-54 28.8	0.739	1.600	27.3	18.3
4 21	12 22.91	- 5 43.2	2.340	3.285	7.1	20.8	4 21	12 33.49	-52 0.0	0.719	1.605	25.5	18.2
5 1	12 16.79	- 5 17.1	2.417	3.294	10.1	21.1	5 1	12 35.53	-48 22.0	0.713	1.614	24.3	18.1
165997	2002 <i>AP</i> ₃₁		3 31.3 323°19	9°3/23.3 18			313734	2003 <i>UP</i> ₁₉₈		3 31.3 142°32	1°9/29.5 18		
2 21	12 59.85	+ 9 58.4	1.207	2.060	18.2	18.7	2 21	13 7.36	- 2 0.3	1.967	2.757	14.7	20.9
3 2	12 58.70	+11 44.6	1.132	2.044	14.7	18.4	3 2	13 2.97	- 1 16.9	1.889	2.768	11.5	20.7
3 12	12 54.37	+13 39.3	1.077	2.027	11.2	18.2	3 12	12 56.34	- 0 22.6	1.833	2.779	7.7	20.5
3 22	12 47.42	+15 29.1	1.044	2.012	9.3	18.0	3 22	12 48.05	+ 0 37.8	1.803	2.789	3.8	20.3
4 1	12 38.94	+16 58.8	1.034	1.997	10.6	18.0	4 1	12 38.95	+ 1 38.0	1.802	2.798	2.2	20.2
4 11	12 30.48	+17 55.7	1.046	1.983	14.1	18.2	4 11	12 30.03	+ 2 31.4	1.830	2.806	5.7	20.4
4 21	12 23.46	+18 13.8	1.077	1.970	18.2	18.4	4 21	12 22.20	+ 3 12.8	1.886	2.814	9.6	20.7
5 1	12 19.03	+17 53.0	1.125	1.958	22.0	18.6	5 1	12 16.16	+ 3 38.8	1.965	2.822	12.9	20.9
92458	2000 <i>KO</i> ₃₅		3 31.3 241°78	3°2/28.4 18			345567	2006 <i>RV</i> ₈₁		3 31.3 157°47	0°3/30.9 17		

EPHEMERIDES

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2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
190164	2005 <i>UB</i> ₆₀		3 31.3 183°31'	2.4°/29.3	18		354352	2003 <i>GR</i> ₂₈		3 31.3 352°03'	7.4°/24.9	17	
2 21	13 10.16	- 0 44.3	1.811	2.604	15.6	20.6	2 21	13 1.04	+ 6 4.4	1.247	2.093	18.2	20.7
3 2	13 5.51	- 0 7.9	1.724	2.605	12.3	20.4	3 2	12 59.35	+ 7 47.6	1.180	2.090	14.4	20.5
3 12	12 58.31	+ 0 39.3	1.659	2.606	8.4	20.2	3 12	12 54.61	+ 9 41.6	1.134	2.088	10.3	20.2
3 22	12 49.12	+ 1 32.4	1.620	2.605	4.2	19.9	3 22	12 47.46	+11 34.4	1.110	2.086	7.6	20.1
4 1	12 38.88	+ 2 24.8	1.609	2.604	2.7	19.8	4 1	12 39.05	+13 11.6	1.111	2.085	8.4	20.1
4 11	12 28.73	+ 3 9.4	1.627	2.602	6.4	20.0	4 11	12 30.81	+14 21.4	1.135	2.084	12.0	20.3
4 21	12 19.74	+ 3 41.0	1.671	2.599	10.6	20.3	4 21	12 24.07	+14 57.5	1.180	2.084	16.1	20.5
5 1	12 12.78	+ 3 55.9	1.739	2.595	14.4	20.5	5 1	12 19.78	+14 58.9	1.244	2.085	19.9	20.8
222665	2001 <i>XP</i> ₂₃₄		3 31.3 180°44'	4.9°/25.6	15		183713	2003 <i>YD</i> ₆₄		3 31.3 56°47'	2.4°/29.4	18	
2 21	13 7.48	+10 4.8	2.552	3.348	11.5	21.9	2 21	13 5.22	- 1 52.5	1.441	2.256	17.9	20.1
3 2	13 2.57	+11 2.0	2.470	3.349	9.1	21.7	3 2	13 1.99	- 1 10.7	1.379	2.272	13.9	19.9
3 12	12 55.83	+12 0.6	2.414	3.351	6.7	21.5	3 12	12 56.01	- 0 15.6	1.337	2.288	9.4	19.6
3 22	12 47.75	+12 54.7	2.385	3.351	5.0	21.4	3 22	12 47.99	+ 0 46.6	1.318	2.305	4.6	19.4
4 1	12 38.99	+13 38.9	2.386	3.350	5.3	21.5	4 1	12 39.02	+ 1 47.5	1.326	2.321	2.7	19.3
4 11	12 30.34	+14 8.6	2.416	3.349	7.4	21.6	4 11	12 30.39	+ 2 38.8	1.359	2.338	6.9	19.6
4 21	12 22.53	+14 21.3	2.473	3.347	9.9	21.7	4 21	12 23.20	+ 3 14.3	1.418	2.355	11.4	19.9
5 1	12 16.16	+14 16.4	2.554	3.344	12.3	21.9	5 1	12 18.27	+ 3 30.5	1.498	2.372	15.3	20.2
516687	2008 <i>TY</i> ₁₉₁		3 31.3 275°43'	1.5°/30.1	17		115158	2003 <i>SA</i> ₇₄		3 31.3 236°15'	1.2°/1.3	16	
2 21	13 8.77	- 0 48.4	2.016	2.804	14.4	21.9	2 21	13 6.75	- 8 57.6	1.705	2.484	17.0	20.3
3 2	13 4.42	- 0 43.3	1.905	2.783	11.5	21.6	3 2	13 3.17	- 8 55.5	1.610	2.479	13.7	20.1
3 12	12 57.64	- 0 30.3	1.816	2.761	7.9	21.4	3 12	12 56.94	- 8 37.0	1.536	2.473	9.8	19.8
3 22	12 48.87	- 0 12.4	1.754	2.739	3.9	21.1	3 22	12 48.57	- 8 3.7	1.486	2.467	5.2	19.6
4 1	12 38.89	+ 0 6.2	1.719	2.717	1.7	20.9	4 1	12 38.97	- 7 19.6	1.462	2.460	1.2	19.3
4 11	12 28.74	+ 0 20.6	1.714	2.694	5.6	21.1	4 11	12 29.35	- 6 31.0	1.466	2.454	5.0	19.5
4 21	12 19.47	+ 0 26.6	1.736	2.671	9.8	21.3	4 21	12 20.85	- 5 45.0	1.496	2.447	9.7	19.8
5 1	12 11.97	+ 0 21.0	1.782	2.648	13.6	21.5	5 1	12 14.43	- 5 8.0	1.549	2.440	13.9	20.0
169391	2001 <i>VU</i> ₆₁		3 31.3 159°63'	0.9°/1.4	18		87711	2000 <i>SE</i> ₃₃		3 31.3 103°02'	1.9°/29.4	18	
2 21	13 3.12	- 9 22.1	2.795	3.547	11.7	21.1	2 21	13 3.57	- 2 31.4	1.943	2.739	14.6	20.1
3 2	12 59.06	- 9 10.6	2.699	3.552	9.4	20.9	3 2	13 0.05	- 1 41.2	1.866	2.750	11.4	20.0
3 12	12 53.39	- 8 48.2	2.627	3.557	6.6	20.8	3 12	12 54.37	- 0 39.1	1.813	2.761	7.6	19.7
3 22	12 46.54	- 8 16.6	2.582	3.561	3.5	20.6	3 22	12 47.12	+ 0 29.5	1.785	2.771	3.7	19.5
4 1	12 39.08	- 7 38.6	2.567	3.565	0.9	20.4	4 1	12 39.09	+ 1 38.2	1.786	2.782	2.2	19.4
4 11	12 31.68	- 6 58.1	2.582	3.569	3.3	20.5	4 11	12 31.24	+ 2 39.8	1.815	2.792	5.7	19.7
4 21	12 24.97	- 6 19.0	2.626	3.572	6.3	20.7	4 21	12 24.42	+ 3 28.7	1.871	2.802	9.5	19.9
5 1	12 19.48	- 5 45.1	2.697	3.575	9.1	20.9	5 1	12 19.32	+ 4 1.4	1.951	2.811	12.8	20.2
144257	2004 <i>CH</i> ₈₉		3 31.3 221°93'	7.5°/22.7	17		242369	2004 <i>CC</i> ₆₀		3 31.3 129°28'	0.4°/31.0	18	
2 21	13 5.05	+12 55.5	1.988	2.804	13.6	20.7	2 21	13 8.37	- 5 14.6	1.901	2.682	15.4	21.2
3 2	13 1.37	+14 36.4	1.909	2.796	11.0	20.5	3 2	13 3.88	- 4 57.8	1.821	2.693	12.2	21.0
3 12	12 55.40	+16 19.3	1.854	2.787	8.6	20.4	3 12	12 57.05	- 4 28.7	1.763	2.704	8.4	20.8
3 22	12 47.67	+17 55.0	1.826	2.778	7.5	20.3	3 22	12 48.46	- 3 50.3	1.730	2.715	4.1	20.5
4 1	12 38.99	+19 14.3	1.825	2.769	8.4	20.3	4 1	12 38.99	- 3 7.6	1.726	2.725	0.6	20.3
4 11	12 30.38	+20 9.9	1.850	2.759	10.7	20.4	4 11	12 29.70	- 2 26.5	1.750	2.735	4.9	20.6
4 21	12 22.76	+20 38.3	1.899	2.748	13.5	20.6	4 21	12 21.55	- 1 52.3	1.802	2.744	9.0	20.9
5 1	12 16.91	+20 39.2	1.968	2.737	16.1	20.7	5 1	12 15.28	- 1 29.3	1.878	2.752	12.6	21.1
170393	2003 <i>SA</i> ₃₀₅		3 31.3 317°49'	5.0°/3.9	18		221360	2005 <i>WZ</i> ₁₅₁		3 31.3 211°73'	0.1°/31.2	18	
2 21	13 4.14	-15 51.9	1.460	2.229	19.8	19.6	2 21	13 5.84	- 6 1.8	2.211	2.984	13.8	20.9
3 2	13 1.74	-16 27.5	1.366	2.219	16.6	19.3	3 2	13 1.74	- 5 43.1	2.111	2.979	11.0	20.7
3 12	12 56.34	-16 41.4	1.290	2.210	12.8	19.0	3 12	12 55.55	- 5 12.5	2.033	2.972	7.6	20.5
3 22	12 48.40	-16 31.6	1.235	2.201	8.5	18.8	3 22	12 47.74	- 4 32.4	1.982	2.966	3.7	20.2
4 1	12 38.93	-15 58.9	1.204	2.192	5.2	18.5	4 1	12 39.04	- 3 47.1	1.960	2.959	0.4	19.9
4 11	12 29.31	-15 8.4	1.198	2.184	6.3	18.6	4 11	12 30.33	- 3 1.8	1.966	2.951	4.4	20.2
4 21	12 20.96	-14 8.5	1.216	2.176	10.5	18.8	4 21	12 22.48	- 2 21.6	2.001	2.943	8.3	20.4
5 1	12 15.00	-13 9.2	1.257	2.169	14.9	19.0	5 1	12 16.21	- 1 51.1	2.061	2.934	11.7	20.6
423527	2005 <i>US</i> ₁₃₀		3 31.3 175°52'	1.0°/1.5	17		264579	2001 <i>TU</i> ₁₂₃		3 31.3 192°97'	3.3°/3.5	17	
2 21	13 5.21	-10 30.9	2.489	3.239	13.0	22.8	2 21	13 8.18	-15 8.2	2.283	3.012	14.6	21.3
3 2	13 0.93	-10 9.9	2.392	3.242	10.5	22.6	3 2	13 3.60	-15 26.2	2.180	3.010	12.1	21.1
3 12	12 54.80	- 9 35.3	2.317	3.245	7.4	22.4	3 12	12 56.86	-15 28.9	2.099	3.008	9.1	20.9
3 22	12 47.28	- 8 48.9	2.268	3.247	4.0	22.2	3 22	12 48.41	-15 16.2	2.042	3.005	5.9	20.7
4 1	12 39.03	- 7 54.3	2.249	3.247	1.1	22.0	4 1	12 39.00	-14 49.3	2.013	3.002	3.4	20.5
4 11	12 30.84	- 6 56.4	2.261	3.248	3.7	22.2	4 11	12 29.56	-14 12.0	2.014	2.998	4.4	20.6
4 21	12 23.44	- 6 0.4	2.301	3.247	7.1	22.4	4 21	12 20.99	-13 29.4	2.043	2.993	7.6	20.8
5 1	12 17.46	- 5 11.1	2.368	3.246	10.2	22.6	5 1	12 14.05	-12 47.1	2.099	2.988	10.8	21.0
315898	2008 <i>QD</i> ₄		3 31.3 142°71'	2.9°/14.6	17		522860	2016 <i>NJ</i> ₈₇		3 31.3 190°56'	2.1°/28.3	17	
2 21	12 53.57	-40 11.7	10.469	10.953	4.6	22.0	2 21	13 0.86	+ 1 0.3	2.925	3.714	10.4	22.7
3 2	12 50.63	-40 29.0	10.361	10.961	4.2	22.0	3 2	12 57.22	+ 1 47.7	2.833	3.713	8.0	22.6
3 12	12 47.17	-40 39.8	10.272	10.968	3.8	21.9	3 12	12 52.12	+ 2 41.3	2.766	3.712	5.4	22.4
3 22	12 43.36	-40 43.8	10.204	10.976	3.4	21.9	3 22	12 45.94	+ 3 37.5	2.726	3.710	2.9	22.2
4 1	12 39.35	-40 40.8	10.160	10.983	3.1	21.8	4 1	12 39.19	+ 4 31.9	2.717	3.707	2.4	22.2
4 11	12 35.35	-40 31.5	10.142	10.990	2.9	21.8	4 11	12 32.50	+ 5 20.0	2.738	3.705	4.8	22.3
4 21	12 31.53	-40 16.4	10.150	10.998	2.9	21.8	4 21	12 26.42	+ 5 58.4	2.787	3.702	7.4	22.5
5 1	12 28.05	-39 56.7	10.183	11.005	3.2	21.9	5 1	12 21.46	+ 6 24.6	2.862	3.699	9.9	22.7
503238	2015 <i>HD</i> ₁₄₉		3 31.3 3°03'	0.8°/30.7	17		363333	2002 <i>PQ</i> ₁					

EPHEMERIDES

3 31.3

3 31.3

2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
107652	2001 <i>EP</i> ₂₃	3 31.3 230°39			2°9/ 2.7 17		278375	2007 <i>LJ</i> ₁₀	3 31.3 239°99			0°9/30.2 17	
2 21	13 6.78	-12 46.7	1.761	2.523	17.2	19.8	2 21	13 1.63	- 6 0.2	2.288	3.068	13.2	21.5
3 2	13 3.16	-13 0.6	1.665	2.519	14.1	19.6	3 2	12 58.41	- 5 3.2	2.182	3.056	10.4	21.3
3 12	12 56.92	-12 56.7	1.590	2.515	10.4	19.4	3 12	12 53.27	- 3 51.6	2.100	3.043	7.1	21.1
3 22	12 48.57	-12 35.2	1.538	2.511	6.3	19.1	3 22	12 46.64	- 2 29.1	2.045	3.030	3.4	20.8
4 1	12 39.01	-11 58.5	1.512	2.506	3.0	18.9	4 1	12 39.17	- 1 1.5	2.019	3.017	1.2	20.6
4 11	12 29.41	-11 11.8	1.513	2.501	5.0	19.0	4 11	12 31.68	+ 0 24.0	2.023	3.003	4.8	20.8
4 21	12 20.91	-10 22.2	1.541	2.496	9.2	19.2	4 21	12 24.94	+ 1 40.9	2.055	2.989	8.6	21.0
5 1	12 14.46	- 9 36.7	1.594	2.491	13.2	19.5	5 1	12 19.64	+ 2 43.9	2.112	2.975	11.9	21.2
421199	2013 <i>RW</i> ₈₇	3 31.3 276°85			3°0/ 2.7 17		142525	2002 <i>TA</i> ₄₅	3 31.3 274°31			0°9/30.5 18	
2 21	13 6.89	-12 28.9	1.855	2.615	16.5	21.2	2 21	13 4.62	- 5 27.0	1.839	2.629	15.5	20.8
3 2	13 3.13	-12 54.5	1.757	2.609	13.6	21.0	3 2	13 1.48	- 4 51.3	1.725	2.603	12.4	20.5
3 12	12 56.85	-13 4.5	1.679	2.603	10.1	20.8	3 12	12 55.84	- 3 59.3	1.632	2.577	8.6	20.2
3 22	12 48.52	-12 58.7	1.625	2.597	6.2	20.5	3 22	12 48.11	- 2 54.1	1.564	2.550	4.2	19.9
4 1	12 39.01	-12 38.6	1.598	2.591	3.1	20.3	4 1	12 39.05	- 1 41.5	1.523	2.522	1.2	19.6
4 11	12 29.44	-12 8.5	1.598	2.585	4.9	20.4	4 11	12 29.76	- 0 29.4	1.511	2.494	5.8	19.8
4 21	12 20.89	-11 34.2	1.625	2.579	8.8	20.6	4 21	12 21.34	+ 0 34.3	1.525	2.465	10.5	20.0
5 1	12 14.29	-11 1.9	1.676	2.573	12.7	20.8	5 1	12 14.75	+ 1 23.0	1.562	2.436	14.8	20.2
39732	1996 <i>XK</i> ₁₈	3 31.3 145°59			7°7/19.6 18		458929	2011 <i>UM</i> ₂₉₅	3 31.3 177°96			2°8/ 2.9 17	
2 21	13 2.35	+20 50.8	2.623	3.427	11.0	19.3	2 21	13 6.38	-14 44.9	1.802	2.554	17.2	22.3
3 2	12 58.62	+22 27.5	2.567	3.433	9.3	19.1	3 2	13 2.72	-14 34.5	1.709	2.556	14.1	22.1
3 12	12 53.17	+23 58.8	2.536	3.439	8.0	19.1	3 12	12 56.52	-14 3.0	1.636	2.557	10.4	21.9
3 22	12 46.47	+25 17.6	2.531	3.444	7.7	19.1	3 22	12 48.33	-13 11.1	1.586	2.558	6.3	21.6
4 1	12 39.17	+26 17.8	2.553	3.450	8.5	19.1	4 1	12 39.05	-12 2.4	1.564	2.558	2.9	21.4
4 11	12 32.02	+26 55.4	2.601	3.455	10.1	19.2	4 11	12 29.82	-10 44.0	1.570	2.558	4.8	21.5
4 21	12 25.67	+27 9.3	2.672	3.459	11.8	19.3	4 21	12 21.71	- 9 24.2	1.602	2.557	8.9	21.8
5 1	12 20.69	+27 0.5	2.763	3.464	13.4	19.5	5 1	12 15.60	- 8 11.4	1.660	2.555	12.9	22.0
115375	2003 <i>SG</i> ₂₅₉	3 31.3 128°79			0°2/31.6 18		3997	<i>Taga</i>	3 31.3 142°50			2°0/29.5 18	
2 21	13 3.22	- 7 34.0	2.197	2.971	13.8	20.5	2 21	13 7.49	- 1 42.6	1.960	2.751	14.7	18.1
3 2	12 59.60	- 7 10.2	2.109	2.977	11.0	20.3	3 2	13 3.11	- 1 2.0	1.881	2.761	11.5	17.9
3 12	12 54.01	- 6 33.2	2.044	2.982	7.6	20.1	3 12	12 56.49	- 0 10.9	1.825	2.771	7.8	17.7
3 22	12 46.95	- 5 45.8	2.005	2.988	3.8	19.8	3 22	12 48.19	+ 0 46.2	1.795	2.780	3.8	17.4
4 1	12 39.14	- 4 52.5	1.994	2.993	0.3	19.5	4 1	12 39.07	+ 1 42.9	1.793	2.789	2.3	17.4
4 11	12 31.42	- 3 58.9	2.012	2.998	4.2	19.9	4 11	12 30.12	+ 2 32.7	1.820	2.797	5.8	17.6
4 21	12 24.59	- 3 10.2	2.058	3.003	7.9	20.1	4 21	12 22.26	+ 3 10.7	1.875	2.804	9.6	17.8
5 1	12 19.30	- 2 31.2	2.129	3.008	11.2	20.3	5 1	12 16.21	+ 3 33.3	1.953	2.811	13.0	18.1
301202	2009 <i>AZ</i> ₂₂	3 31.3 55°05			0°6/30.9 18		241247	2007 <i>TG</i> ₂₂₉	3 31.3 240°25			0°6/30.7 17	
2 21	13 6.68	- 5 11.6	1.323	2.133	19.4	21.4	2 21	13 3.05	- 4 29.4	2.268	3.051	13.2	21.4
3 2	13 3.48	- 4 54.8	1.258	2.146	15.3	21.2	3 2	12 59.47	- 4 6.6	2.173	3.047	10.4	21.2
3 12	12 57.24	- 4 21.3	1.212	2.160	10.5	21.0	3 12	12 53.95	- 3 33.2	2.100	3.042	7.1	21.0
3 22	12 48.69	- 3 35.4	1.188	2.174	5.1	20.7	3 22	12 46.95	- 2 52.1	2.053	3.038	3.4	20.7
4 1	12 39.01	- 2 44.4	1.190	2.189	0.9	20.4	4 1	12 39.16	- 2 7.6	2.035	3.033	0.8	20.5
4 11	12 29.67	- 1 56.8	1.217	2.204	6.2	20.8	4 11	12 31.39	- 1 24.8	2.046	3.029	4.5	20.8
4 21	12 21.92	- 1 20.0	1.269	2.219	11.3	21.1	4 21	12 24.43	- 0 48.5	2.084	3.024	8.1	21.0
5 1	12 16.65	- 0 59.0	1.342	2.234	15.6	21.4	5 1	12 18.95	- 0 22.6	2.148	3.019	11.4	21.2
376333	2011 <i>GW</i> ₇₅	3 31.3 185°02			3°5/27.5 17		24772	1993 <i>FL</i> ₃₃	3 31.3 147°81			1°5/29.9 18	
2 21	13 2.89	+ 2 38.7	2.053	2.860	13.5	21.0	2 21	13 7.82	- 2 21.4	2.038	2.824	14.4	19.6
3 2	12 59.48	+ 3 37.9	1.971	2.860	10.5	20.8	3 2	13 3.30	- 1 49.5	1.957	2.833	11.3	19.4
3 12	12 54.01	+ 4 45.0	1.911	2.860	7.2	20.6	3 12	12 56.59	- 1 7.3	1.898	2.842	7.6	19.2
3 22	12 46.98	+ 5 54.2	1.878	2.860	4.2	20.4	3 22	12 48.24	- 0 18.9	1.865	2.850	3.7	19.0
4 1	12 39.14	+ 6 58.6	1.874	2.860	4.0	20.4	4 1	12 39.07	+ 0 30.3	1.861	2.857	1.8	18.8
4 11	12 31.40	+ 7 51.7	1.897	2.859	6.9	20.6	4 11	12 30.06	+ 1 14.2	1.886	2.864	5.3	19.1
4 21	12 24.59	+ 8 28.6	1.946	2.859	10.3	20.8	4 21	12 22.09	+ 1 48.1	1.939	2.871	9.1	19.3
5 1	12 19.40	+ 8 47.0	2.019	2.858	13.3	21.0	5 1	12 15.87	+ 2 8.6	2.016	2.876	12.5	19.6
317148	2001 <i>UZ</i> ₂₂₄	3 31.3 216°91			3°0/28.0 17		35655	1998 <i>OJ</i> ₆	3 31.3 279°93			1°3/29.8 18	
2 21	13 2.52	- 0 22.7	1.972	2.775	14.1	21.0	2 21	13 0.14	- 3 4.2	2.459	3.248	12.1	19.1
3 2	12 59.34	+ 0 48.6	1.883	2.771	11.0	20.8	3 2	12 57.07	- 2 24.5	2.358	3.237	9.5	18.9
3 12	12 54.01	+ 2 12.0	1.817	2.767	7.5	20.5	3 12	12 52.25	- 1 34.7	2.280	3.226	6.4	18.7
3 22	12 47.02	+ 3 41.5	1.778	2.762	4.0	20.3	3 22	12 46.11	- 0 38.2	2.229	3.215	3.1	18.5
4 1	12 39.13	+ 5 9.3	1.767	2.757	3.5	20.3	4 1	12 39.22	+ 0 20.3	2.207	3.204	1.5	18.3
4 11	12 31.30	+ 6 27.2	1.784	2.751	6.8	20.5	4 11	12 32.34	+ 1 15.4	2.214	3.193	4.7	18.5
4 21	12 24.40	+ 7 28.9	1.828	2.746	10.5	20.7	4 21	12 26.15	+ 2 2.2	2.249	3.182	8.0	18.7
5 1	12 19.18	+ 8 10.5	1.895	2.740	13.8	20.9	5 1	12 21.26	+ 2 36.9	2.309	3.171	11.1	18.9
181948	1999 <i>TP</i> ₂₁₆	3 31.3 116°44			1°8/ 1.9 18		255789	2006 <i>RY</i> ₁₀₀	3 31.3 209°91			3°5/28.1 17	
2 21	13 8.40	-10 47.8	1.804	2.569	16.7	21.1	2 21	13 7.52	+ 2 45.6	1.955	2.756	14.4	21.3
3 2	13 4.12	-10 49.5	1.723	2.581	13.5	20.9	3 2	13 3.31	+ 3 29.8	1.865	2.751	11.3	21.0
3 12	12 57.34	-10 34.6	1.663	2.593	9.7	20.7	3 12	12 56.76	+ 4 21.7	1.798	2.746	7.8	20.8
3 22	12 48.66	-10 4.6	1.628	2.605	5.4	20.5	3 22	12 48.41	+ 5 15.9	1.758	2.740	4.4	20.6
4 1	12 39.02	- 9 23.1	1.619	2.616	1.9	20.3	4 1	12 39.07	+ 6 5.6	1.745	2.733	3.9	20.6
4 11	12 29.56	- 8 36.1	1.639	2.627	4.6	20.5	4 11	12 29.78	+ 6 44.5	1.761	2.726	7.0	20.7
4 21	12 21.30	- 7 50.1	1.686	2.638	8.8	20.7	4 21	12 21.51	+ 7 7.9	1.803	2.719	10.7	20.9
5 1	12 15.05	- 7 11.0	1.758	2.648	12.6	21.0	5 1	12 15.06	+ 7 13.5	1.868	2.711	14.1	21.1
286082	2001 <i>TG</i> ₁₂	3 31.3 116°67			0°5/30.9 18		505610	2014 <i>EZ</i> ₄	3 31.3 311°97			2°0/ 2.3 17	
2 21	13 10.91	- 5 13.9	1.715	2.49									

EPHEMERIDES

3 31.3

3 31.3

2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
323753	2005 <i>OL</i> _m		3 31.3 192°66'	2°3'/29.0	17		422225	2014 <i>RL</i> ₆₂		3 31.3 166°97'	2°5'/28.2	17	
2 21	13 5.33	- 0 50.5	2.089	2.882	13.8	21.2	2 21	13 4.22	- 3 46.7	2.095	2.883	14.0	21.6
3 2	13 1.40	- 0 4.7	1.999	2.881	10.8	21.0	3 2	13 0.48	- 2 4.6	2.008	2.888	10.9	21.4
3 12	12 55.35	+ 0 51.2	1.932	2.879	7.3	20.8	3 12	12 54.67	- 0 6.7	1.946	2.893	7.3	21.2
3 22	12 47.67	+ 1 52.6	1.892	2.877	3.7	20.5	3 22	12 47.32	+ 2 0.2	1.912	2.897	3.7	21.0
4 1	12 39.13	+ 2 53.4	1.880	2.874	2.6	20.4	4 1	12 39.17	+ 4 7.3	1.908	2.900	3.0	20.9
4 11	12 30.65	+ 3 47.1	1.897	2.871	5.9	20.6	4 11	12 31.14	+ 6 4.8	1.935	2.902	6.3	21.1
4 21	12 23.10	+ 4 28.5	1.942	2.867	9.5	20.9	4 21	12 24.04	+ 7 45.2	1.991	2.904	10.0	21.4
5 1	12 17.20	+ 4 54.2	2.010	2.863	12.9	21.1	5 1	12 18.56	+ 9 3.5	2.071	2.905	13.2	21.6
230085	2000 <i>WX</i> ₁₀₆		3 31.3 214°35'	5°3'/7.1	18		21309	1996 <i>XH</i> ₅		3 31.3 123°71'	1°6'/1.6	18	
2 21	13 6.00	-25 33.1	2.855	3.511	13.4	21.2	2 21	13 9.15	- 9 16.9	1.707	2.480	17.2	19.0
3 2	13 1.63	-25 47.7	2.736	3.501	11.7	21.0	3 2	13 4.93	- 9 26.2	1.624	2.488	13.9	18.8
3 12	12 55.39	-25 44.4	2.636	3.490	9.6	20.8	3 12	12 58.04	- 9 19.8	1.561	2.495	9.9	18.6
3 22	12 47.68	-25 21.8	2.560	3.479	7.4	20.7	3 22	12 49.09	- 8 59.3	1.522	2.501	5.4	18.3
4 1	12 39.12	-24 39.8	2.511	3.466	5.7	20.6	4 1	12 39.04	- 8 28.1	1.510	2.508	1.6	18.1
4 11	12 30.49	-23 41.3	2.491	3.453	5.5	20.5	4 11	12 29.12	- 7 51.7	1.526	2.514	4.9	18.3
4 21	12 22.54	-22 30.6	2.499	3.439	7.0	20.6	4 21	12 20.44	- 7 16.6	1.568	2.520	9.3	18.6
5 1	12 15.94	-21 14.0	2.536	3.424	9.3	20.7	5 1	12 13.89	- 6 48.5	1.635	2.526	13.3	18.9
26398	1999 <i>VL</i> ₁₈₈		3 31.3 318°34'	1°9'/29.8	18		134393	1997 <i>AU</i> ₁₉		3 31.3 112°91'	1°5'/2.3	18	
2 21	13 0.43	- 3 49.9	1.381	2.203	18.1	18.6	2 21	13 3.00	-11 50.8	2.641	3.386	12.5	20.3
3 2	12 58.82	- 3 11.1	1.289	2.186	14.4	18.3	3 2	12 59.05	-11 39.9	2.554	3.400	10.1	20.1
3 12	12 54.33	- 2 13.9	1.216	2.170	9.9	17.9	3 12	12 53.45	-11 16.2	2.491	3.414	7.2	20.0
3 22	12 47.45	- 1 3.1	1.167	2.154	4.8	17.6	3 22	12 46.63	-10 41.3	2.453	3.428	4.1	19.8
4 1	12 39.13	+ 0 13.1	1.142	2.139	2.2	17.4	4 1	12 39.23	- 9 58.1	2.445	3.441	1.6	19.6
4 11	12 30.72	+ 1 24.3	1.142	2.124	7.2	17.7	4 11	12 31.93	- 9 10.7	2.467	3.454	3.3	19.8
4 21	12 23.52	+ 2 21.0	1.165	2.111	12.5	17.9	4 21	12 25.41	- 8 23.7	2.517	3.467	6.4	20.0
5 1	12 18.61	+ 2 56.4	1.209	2.098	17.2	18.1	5 1	12 20.18	- 7 41.4	2.594	3.479	9.2	20.2
207995	1998 <i>FM</i> ₁₂₇		3 31.3 31°34'	1°7'/30.3	18		296695	2009 <i>SY</i> ₂₅₄		3 31.3 187°47'	5°3'/24.5	17	
2 21	13 7.78	- 1 22.0	1.239	2.062	19.8	19.7	2 21	13 4.01	+ 8 45.9	2.363	3.169	12.0	21.3
3 2	13 4.59	- 1 20.7	1.174	2.071	15.6	19.5	3 2	13 0.10	+10 15.2	2.282	3.168	9.5	21.1
3 12	12 58.15	- 1 7.5	1.128	2.080	10.6	19.2	3 12	12 54.31	+11 48.5	2.227	3.167	7.0	21.0
3 22	12 49.20	- 0 47.1	1.104	2.091	5.2	18.9	3 22	12 47.12	+13 18.6	2.200	3.166	5.4	20.9
4 1	12 39.02	- 0 25.8	1.104	2.102	2.0	18.8	4 1	12 39.19	+14 38.3	2.202	3.163	6.0	20.9
4 11	12 29.16	- 0 10.8	1.130	2.114	6.9	19.1	4 11	12 31.34	+15 41.3	2.233	3.160	8.2	21.0
4 21	12 20.99	- 0 7.5	1.179	2.127	12.1	19.4	4 21	12 24.32	+16 24.0	2.289	3.157	10.8	21.2
5 1	12 15.49	- 0 19.1	1.249	2.140	16.5	19.7	5 1	12 18.75	+16 44.9	2.368	3.152	13.3	21.3
86439	2000 <i>CW</i> ₁₈		3 31.3 286°00'	3°6'/2.8	18		336395	2008 <i>UQ</i> ₁₁₁		3 31.3 196°67'	0°7'/1.0	17	
2 21	13 5.72	-13 13.1	1.456	2.234	19.5	18.9	2 21	13 4.94	- 7 53.5	2.193	2.962	14.0	21.6
3 2	13 3.24	-13 33.4	1.347	2.210	16.3	18.6	3 2	13 1.05	- 7 46.8	2.098	2.961	11.2	21.4
3 12	12 57.63	-13 32.9	1.256	2.185	12.2	18.3	3 12	12 55.09	- 7 27.8	2.024	2.960	7.8	21.1
3 22	12 49.24	-13 10.2	1.187	2.161	7.5	18.0	3 22	12 47.55	- 6 58.2	1.977	2.958	4.1	20.9
4 1	12 39.00	-12 26.5	1.142	2.136	3.7	17.7	4 1	12 39.16	- 6 21.6	1.958	2.957	0.7	20.6
4 11	12 28.33	-11 27.7	1.123	2.111	6.0	17.7	4 11	12 30.80	- 5 42.8	1.968	2.955	4.1	20.9
4 21	12 18.76	-10 22.7	1.127	2.087	11.2	18.0	4 21	12 23.31	- 5 6.8	2.006	2.953	7.9	21.1
5 1	12 11.61	- 9 21.8	1.154	2.062	16.3	18.2	5 1	12 17.40	- 4 38.0	2.069	2.951	11.3	21.3
217859	2001 <i>QC</i> ₁₁₅		3 31.3 235°88'	3°5'/3.7	17		85075	1444 <i>T</i> ₂		3 31.3 292°53'	0°1'/31.5	18	
2 21	13 6.79	-16 8.0	2.239	2.968	14.9	21.4	2 21	12 58.74	- 9 33.9	2.250	3.024	13.5	19.3
3 2	13 2.72	-16 19.4	2.125	2.953	12.5	21.0	3 2	12 56.19	- 8 40.1	2.147	3.014	10.8	19.1
3 12	12 56.41	-16 14.1	2.031	2.939	9.5	21.0	3 12	12 51.77	- 7 29.3	2.066	3.005	7.5	18.9
3 22	12 48.29	-15 51.6	1.961	2.923	6.2	20.8	3 22	12 45.92	- 6 4.7	2.012	2.995	3.8	18.7
4 1	12 39.09	-15 13.1	1.920	2.907	3.7	20.6	4 1	12 39.28	- 4 31.7	1.986	2.985	0.2	18.3
4 11	12 29.74	-14 22.6	1.907	2.891	4.6	20.6	4 11	12 32.64	- 2 57.5	1.989	2.975	4.2	18.6
4 21	12 21.20	-13 25.9	1.922	2.874	7.9	20.8	4 21	12 26.77	- 1 29.4	2.021	2.966	8.0	18.9
5 1	12 14.28	-12 29.5	1.963	2.856	11.3	20.9	5 1	12 22.30	- 0 13.3	2.079	2.956	11.5	19.0
116193	2003 <i>XK</i> ₁₁		3 31.3 67°57'	4°5'/26.5	18		140717	2001 <i>UQ</i> ₉₂		3 31.3 112°39'	3°9'/26.9	18	
2 21	13 3.46	+ 5 3.0	1.947	2.760	13.9	19.5	2 21	13 4.08	+ 6 41.7	2.378	3.181	12.0	19.9
3 2	12 59.82	+ 6 15.6	1.891	2.784	10.8	19.4	3 2	13 0.05	+ 7 24.9	2.301	3.187	9.4	19.8
3 12	12 54.12	+ 7 33.2	1.859	2.807	7.5	19.2	3 12	12 54.20	+ 8 11.0	2.249	3.193	6.6	19.6
3 22	12 46.97	+ 8 48.6	1.853	2.830	4.9	19.1	3 22	12 47.03	+ 8 54.9	2.223	3.199	4.3	19.4
4 1	12 39.20	+ 9 54.5	1.875	2.853	5.0	19.2	4 1	12 39.22	+ 9 31.5	2.226	3.205	4.3	19.5
4 11	12 31.72	+10 44.7	1.924	2.876	7.6	19.4	4 11	12 31.54	+ 9 56.3	2.258	3.211	6.6	19.6
4 21	12 25.34	+11 15.6	1.999	2.899	10.6	19.6	4 21	12 24.73	+10 6.5	2.316	3.216	9.4	19.8
5 1	12 20.64	+11 26.2	2.097	2.922	13.4	19.8	5 1	12 19.35	+10 1.0	2.398	3.222	12.0	20.0
498828	2008 <i>VN</i> ₄₈		3 31.3 199°43'	7°0'/22.3	17		424628	2008 <i>KD</i> ₅		3 31.3 270°20'	8°8'/21.9	17	
2 21	13 8.25	+19 34.8	2.730	3.521	11.0	22.1	2 21	13 6.03	+16 45.7	1.885	2.702	14.2	21.1
3 2	13 3.15	+20 37.7	2.654	3.516	9.2	22.0	3 2	13 2.41	+18 14.6	1.803	2.685	11.8	20.9
3 12	12 56.25	+21 36.0	2.603	3.512	7.6	21.9	3 12	12 56.31	+19 42.1	1.744	2.669	9.7	20.8
3 22	12 48.02	+22 23.6	2.579	3.506	7.0	21.8	3 22	12 48.26	+20 58.7	1.711	2.652	8.8	20.7
4 1	12 39.12	+22 54.9	2.583	3.500	7.6	21.8	4 1	12 39.13	+21 54.9	1.703	2.635	9.7	20.7
4 11	12 30.35	+23 6.5	2.614	3.494	9.1	21.9	4 11	12 30.02	+22 24.0	1.720	2.618	12.0	20.8
4 21	12 22.40	+22 57.2	2.671	3.486	11.0	22.0	4 21	12 21.97	+22 23.4	1.759	2.601	14.8	20.9
5 1	12 15.88	+22 27.8	2.749	3.478	12.9	22.2	5 1	12 15.85	+21 53.9	1.818	2.583	17.4	21.1
250074	2002 <i>EE</i> ₁₁₇		3 31.3 292°10'	1°5'/29.5	18		385895	2006 <i>SO</i> ₂₃₄		3 31.3 340°51'	2°2'/2.5	18	
2 21	13 1.08	- 1 38.1	2.445	3.236	12.1	21.3	2 21	13 4.54	-11 44.1	2.279	3.031	14.0	20.6
3 2	12 57.75	- 1 4.8	2.352	3.232	9.5	21.1	3 2	13 0.70	-11 57.5	2.182	3.031	11.4	20.4
3 12	12 52.69	- 0 22.9	2.283	3.229	6.4	20.9	3 12	12 54.85	-11 57.7	2.107	3.030	8.3	20.2
3 22	12 46.31	+ 0 24.0	2.240	3.226	3.1	20.7	3 22	12 47.45	-11 45.3	2.057	3.030	5.0	20.0
4 1	12 39.24	+ 1 11.2	2.227	3.222	1.8	20.6	4 1	12 39.20	-11 22.3	2.035	3.029	2.3	19.8
4 11	12 32.22	+ 1 53.9	2.242	3.219	4.8	20.8	4 11	12 30.96	-10 52.7	2.042	3.029		

EPHEMERIDES

3 31.4

3 31.4

2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
272934	2006 <i>BZ</i> ₂₃₆		3 31.4 144°01	1°0/30.3	17		338279	2002 <i>TQ</i> ₃₂₈		3 31.4 13°00	0°9/30.3	17	
2 21	13 4.96	- 3 36.7	2.097	2.883	14.0	21.0	2 21	12 59.93	- 6 13.0	2.046	2.836	14.2	21.4
3 2	13 1.07	- 3 9.1	2.011	2.888	11.0	20.8	3 2	12 57.23	- 5 17.3	1.958	2.836	11.2	21.2
3 12	12 55.09	- 2 30.6	1.949	2.893	7.5	20.6	3 12	12 52.53	- 4 6.5	1.892	2.837	7.6	21.0
3 22	12 47.54	- 1 44.9	1.912	2.897	3.6	20.4	3 22	12 46.32	- 2 44.8	1.852	2.838	3.6	20.7
4 1	12 39.20	- 0 56.9	1.904	2.901	1.3	20.2	4 1	12 39.31	- 1 18.7	1.840	2.838	1.2	20.6
4 11	12 30.96	- 0 12.4	1.924	2.905	4.9	20.5	4 11	12 32.39	+ 0 4.2	1.857	2.839	5.0	20.8
4 21	12 23.67	+ 0 23.7	1.972	2.909	8.7	20.7	4 21	12 26.35	+ 1 17.1	1.902	2.840	8.9	21.1
5 1	12 18.01	+ 0 47.7	2.045	2.913	12.0	20.9	5 1	12 21.87	+ 2 14.7	1.970	2.841	12.3	21.3
61041	2000 <i>KR</i> ₆₀		3 31.4 225°09	2°2/28.8	18		106438	2000 <i>VK</i> ₅₂		3 31.4 239°83	1°4/29.7	18	
2 21	13 4.94	- 0 44.8	2.359	3.146	12.6	20.3	2 21	13 4.54	- 0 39.4	2.842	3.620	10.9	20.2
3 2	13 0.95	+ 0 5.7	2.255	3.134	9.9	20.1	3 2	13 0.26	- 0 20.2	2.733	3.606	8.6	20.1
3 12	12 55.00	+ 1 6.1	2.176	3.121	6.7	19.9	3 12	12 54.34	+ 0 5.4	2.649	3.592	5.8	19.9
3 22	12 47.53	+ 2 12.1	2.123	3.108	3.5	19.6	3 22	12 47.16	+ 0 34.5	2.593	3.577	2.9	19.6
4 1	12 39.20	+ 3 18.1	2.101	3.093	2.5	19.5	4 1	12 39.27	+ 1 3.8	2.567	3.562	1.6	19.5
4 11	12 30.85	+ 4 17.8	2.107	3.078	5.6	19.7	4 11	12 31.35	+ 1 29.4	2.571	3.547	4.3	19.7
4 21	12 23.25	+ 5 6.4	2.142	3.063	9.0	19.9	4 21	12 24.04	+ 1 48.1	2.604	3.531	7.3	19.9
5 1	12 17.10	+ 5 40.0	2.202	3.046	12.2	20.1	5 1	12 17.93	+ 1 57.6	2.663	3.515	10.1	20.0
468660	2008 <i>WS</i> ₇₈		3 31.4 169°37	2°2/28.7	18		389696	2011 <i>QK</i> ₅₂		3 31.4 113°93	1°8/29.1	17	
2 21	13 3.59	+ 0 9.6	2.435	3.225	12.2	21.8	2 21	13 0.77	- 1 59.6	2.442	3.233	12.1	21.3
3 2	12 59.68	+ 0 54.4	2.348	3.228	9.5	21.6	3 2	12 57.45	- 1 4.6	2.360	3.241	9.4	21.1
3 12	12 53.98	+ 1 47.1	2.285	3.231	6.4	21.4	3 12	12 52.44	- 0 0.1	2.302	3.249	6.3	21.0
3 22	12 46.96	+ 2 43.4	2.249	3.233	3.3	21.2	3 22	12 46.20	+ 1 9.5	2.271	3.257	3.1	20.8
4 1	12 39.26	+ 3 38.0	2.243	3.235	2.5	21.2	4 1	12 39.33	+ 2 18.8	2.270	3.264	2.1	20.7
4 11	12 31.64	+ 4 25.7	2.266	3.236	5.3	21.4	4 11	12 32.59	+ 3 21.9	2.298	3.272	5.0	20.9
4 21	12 24.82	+ 5 2.4	2.317	3.238	8.4	21.6	4 21	12 26.61	+ 4 14.3	2.354	3.279	8.1	21.1
5 1	12 19.39	+ 5 25.4	2.393	3.238	11.3	21.7	5 1	12 21.96	+ 4 52.7	2.435	3.286	10.9	21.3
212416	2006 <i>KV</i> ₁₀₀		3 31.4 290°68	1°0/ 1.1	17		341158	2007 <i>PD</i> ₄₅		3 31.4 262°25	0°3/31.1	17	
2 21	13 4.81	- 8 26.6	1.516	2.309	18.1	21.4	2 21	13 2.37	- 6 13.7	2.098	2.881	14.1	21.5
3 2	13 2.19	- 8 24.3	1.414	2.291	14.7	21.1	3 2	12 59.13	- 5 45.9	2.005	2.879	11.2	21.3
3 12	12 56.65	- 8 4.0	1.331	2.273	10.5	20.8	3 12	12 53.85	- 5 4.9	1.934	2.876	7.7	21.1
3 22	12 48.66	- 7 27.2	1.272	2.254	5.6	20.4	3 22	12 46.99	- 4 13.9	1.889	2.873	3.8	20.8
4 1	12 39.12	- 6 37.9	1.237	2.236	1.0	20.1	4 1	12 39.28	- 3 17.6	1.871	2.871	0.5	20.5
4 11	12 29.37	- 5 43.5	1.229	2.218	5.6	20.3	4 11	12 31.62	- 2 22.1	1.883	2.868	4.6	20.9
4 21	12 20.74	- 4 52.4	1.245	2.200	10.9	20.6	4 21	12 24.83	- 1 33.0	1.921	2.865	8.5	21.1
5 1	12 14.36	- 4 12.2	1.284	2.182	15.7	20.8	5 1	12 19.62	- 0 55.2	1.985	2.862	11.9	21.3
435317	2007 <i>UE</i> ₁₂₂		3 31.4 91°95	1°8/ 2.5	17		106807	2000 <i>XE</i> ₃₇		3 31.4 209°09	3°6/ 4.9	18 R	
2 21	13 2.16	-13 5.9	2.353	3.102	13.7	22.0	2 21	13 4.58	-18 43.3	3.045	3.743	11.9	20.3
3 2	12 58.62	-12 45.1	2.270	3.117	11.1	21.8	3 2	13 0.29	-19 2.9	2.933	3.737	10.0	20.1
3 12	12 53.27	-12 8.6	2.209	3.133	8.0	21.7	3 12	12 54.37	-19 9.2	2.842	3.731	7.8	20.0
3 22	12 46.60	-11 18.4	2.174	3.148	4.6	21.5	3 22	12 47.18	-19 2.0	2.777	3.725	5.5	19.8
4 1	12 39.28	-10 18.3	2.167	3.163	1.8	21.3	4 1	12 39.27	-18 42.0	2.741	3.718	3.8	19.7
4 11	12 32.11	- 9 13.5	2.189	3.177	3.6	21.5	4 11	12 31.32	-18 11.5	2.734	3.710	4.1	19.7
4 21	12 25.80	- 8 9.8	2.240	3.192	6.9	21.7	4 21	12 23.97	-17 34.0	2.756	3.703	6.1	19.8
5 1	12 20.92	- 7 12.4	2.317	3.206	10.0	21.9	5 1	12 17.79	-16 54.0	2.806	3.694	8.5	20.0
64973	2002 <i>AC</i> ₁₀		3 31.4 346°61	3°2/ 1.9	18		457372	2008 <i>TU</i> ₁₆		3 31.4 201°71	2°7/28.8	17	
2 21	12 58.08	- 8 14.9	0.977	1.816	22.7	18.1	2 21	13 8.30	- 0 53.3	1.889	2.682	15.1	22.6
3 2	12 58.13	- 9 11.0	0.897	1.799	18.6	17.8	3 2	13 4.07	+ 0 2.2	1.796	2.678	11.8	22.3
3 12	12 54.58	- 9 50.0	0.834	1.784	13.6	17.4	3 12	12 57.39	+ 1 10.1	1.726	2.672	8.1	22.1
3 22	12 47.88	-10 10.9	0.789	1.772	7.9	17.1	3 22	12 48.80	+ 2 24.7	1.682	2.666	4.2	21.8
4 1	12 39.17	-10 14.8	0.764	1.761	3.3	16.8	4 1	12 39.16	+ 3 38.8	1.666	2.659	3.1	21.7
4 11	12 30.26	-10 7.2	0.760	1.753	6.9	16.9	4 11	12 29.54	+ 4 44.4	1.680	2.651	6.7	21.9
4 21	12 22.97	- 9 56.0	0.777	1.747	12.9	17.2	4 21	12 20.96	+ 5 35.1	1.720	2.642	10.7	22.2
5 1	12 18.76	- 9 49.7	0.812	1.744	18.5	17.5	5 1	12 14.27	+ 6 7.0	1.783	2.632	14.4	22.4
341140	2007 <i>PL</i> ₅		3 31.4 271°05	5°0/ 4.7	18		300	Geraldina		3 31.4 182°04	0°2/31.2	18	
2 21	13 8.24	-18 54.8	2.333	3.040	14.9	21.0	2 21	13 1.82	- 5 57.4	2.615	3.387	11.9	15.3
3 2	13 3.98	-19 36.7	2.206	3.016	12.7	20.8	3 2	12 58.22	- 5 35.0	2.520	3.387	9.4	15.1
3 12	12 57.42	-20 3.7	2.101	2.991	10.1	20.5	3 12	12 52.97	- 5 2.5	2.448	3.388	6.5	14.9
3 22	12 48.90	-20 13.7	2.019	2.965	7.3	20.3	3 22	12 46.47	- 4 22.4	2.404	3.387	3.2	14.7
4 1	12 39.11	-20 6.0	1.964	2.939	5.2	20.1	4 1	12 39.33	- 3 38.3	2.388	3.387	0.3	14.4
4 11	12 29.01	-19 42.4	1.938	2.913	5.6	20.1	4 11	12 32.23	- 2 54.6	2.402	3.387	3.7	14.7
4 21	12 19.58	-19 7.0	1.940	2.886	8.2	20.2	4 21	12 25.83	- 2 15.6	2.445	3.386	7.0	14.9
5 1	12 11.74	-18 25.8	1.967	2.858	11.4	20.4	5 1	12 20.70	- 1 44.9	2.513	3.386	9.9	15.1
500229	2012 <i>JA</i> ₂		3 31.4 336°85	1°6/ 1.9	17		38121	1999 <i>JO</i> ₄₂		3 31.4 228°70	1°6/29.9	18	
2 21	12 59.29	-12 34.9	1.564	2.350	18.0	21.0	2 21	13 8.17	- 2 33.3	1.979	2.765	14.7	19.8
3 2	12 57.53	-12 6.0	1.473	2.343	14.6	20.7	3 2	13 3.95	- 2 2.2	1.876	2.753	11.7	19.6
3 12	12 53.20	-11 13.3	1.401	2.337	10.5	20.4	3 12	12 57.34	- 1 19.4	1.796	2.740	8.0	19.3
3 22	12 46.81	- 9 58.7	1.352	2.332	5.9	20.2	3 22	12 48.81	- 0 28.7	1.742	2.727	3.9	19.0
4 1	12 39.27	- 8 28.1	1.329	2.327	1.7	19.9	4 1	12 39.16	+ 0 24.3	1.716	2.713	1.8	18.9
4 11	12 31.74	- 6 50.9	1.332	2.322	5.0	20.1	4 11	12 29.45	+ 1 13.0	1.719	2.698	5.7	19.1
4 21	12 25.35	- 5 17.4	1.360	2.318	9.9	20.3	4 21	12 20.68	+ 1 51.8	1.749	2.682	9.9	19.3
5 1	12 20.99	- 3 56.9	1.412	2.314	14.3	20.6	5 1	12 13.70	+ 2 16.2	1.804	2.665	13.7	19.5
202419	2005 <i>UP</i> ₂₅₁		3 31.4 217°14	2°6/29.7	18		470049	2006 <i>SZ</i> ₁₆₉		3 31.4 255°56	0°7/ 1.2	17	

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2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
124476	2001 <i>RB</i> ₇		3 31.4 178°01	0°5/30.8	17		249150	2008 <i>AA</i> ₇₂		3 31.4 318°10	4°3/5.0	17	
2 21	13 6.97	- 4 50.1	2.296	3.068	13.4	21.4	2 21	13 1.11	-18 59.3	2.213	2.939	15.1	20.1
3 2	13 2.50	- 4 28.4	2.202	3.070	10.6	21.2	3 2	12 58.25	-19 12.6	2.108	2.931	12.8	19.9
3 12	12 56.03	- 3 56.1	2.132	3.072	7.2	21.0	3 12	12 53.34	-19 7.3	2.024	2.923	9.9	19.7
3 22	12 48.04	- 3 15.9	2.088	3.072	3.5	20.8	3 22	12 46.81	-18 42.9	1.962	2.916	6.9	19.5
4 1	12 39.24	- 2 32.1	2.074	3.073	0.7	20.5	4 1	12 39.36	-18 0.6	1.928	2.909	4.6	19.3
4 11	12 30.51	- 1 49.9	2.089	3.072	4.4	20.8	4 11	12 31.86	-17 4.5	1.920	2.902	4.9	19.3
4 21	12 22.64	- 1 13.8	2.133	3.071	8.1	21.0	4 21	12 25.17	-16 0.6	1.940	2.895	7.6	19.5
5 1	12 16.32	- 0 47.7	2.202	3.069	11.3	21.2	5 1	12 20.04	-14 55.5	1.985	2.888	10.7	19.7
211517	2003 <i>QV</i> ₅₁		3 31.4 148°15	0°9/30.6	18		122234	2000 <i>OO</i> ₇		3 31.4 201°44	10°6/13.4	18	
2 21	13 8.95	- 4 3.4	1.833	2.618	15.8	21.0	2 21	13 15.96	-42 16.0	2.962	3.463	15.3	20.6
3 2	13 4.52	- 3 42.6	1.750	2.626	12.4	20.8	3 2	13 10.19	-43 42.7	2.850	3.457	14.3	20.5
3 12	12 57.64	- 3 9.6	1.689	2.633	8.5	20.5	3 12	13 1.79	-44 50.1	2.754	3.451	13.2	20.4
3 22	12 48.89	- 2 28.1	1.654	2.639	4.1	20.3	3 22	12 51.15	-45 33.1	2.677	3.444	12.0	20.2
4 1	12 39.18	- 1 43.3	1.647	2.645	1.1	20.1	4 1	12 39.05	-45 47.5	2.622	3.436	11.1	20.2
4 11	12 29.62	- 1 1.6	1.668	2.651	5.3	20.4	4 11	12 26.62	-45 32.1	2.590	3.428	10.6	20.1
4 21	12 21.22	- 0 28.5	1.716	2.656	9.6	20.6	4 21	12 14.99	-44 49.4	2.582	3.419	10.8	20.1
5 1	12 14.78	- 0 8.1	1.788	2.660	13.3	20.9	5 1	12 5.21	-43 44.8	2.598	3.408	11.5	20.1
255244	2005 <i>UC</i> ₄₈₅		3 31.4 276°15	0°1/31.2	18		344245	2001 <i>SQ</i> ₁₅₅		3 31.4 167°82	0°2/31.6	18	
2 21	12 59.66	- 8 20.3	2.534	3.304	12.3	20.7	2 21	13 3.51	- 6 54.2	3.171	3.925	10.4	22.1
3 2	12 56.76	- 7 29.8	2.416	3.282	9.8	20.4	3 2	12 59.19	- 6 36.0	3.074	3.930	8.2	22.0
3 12	12 52.13	- 6 24.4	2.322	3.261	6.8	20.2	3 12	12 53.46	- 6 9.1	3.002	3.935	5.7	21.8
3 22	12 46.14	- 5 7.0	2.256	3.239	3.4	19.9	3 22	12 46.69	- 5 35.5	2.957	3.939	2.9	21.6
4 1	12 39.37	- 3 42.3	2.218	3.217	0.3	19.6	4 1	12 39.38	- 4 57.9	2.943	3.942	0.2	21.4
4 11	12 32.52	- 2 16.3	2.211	3.195	4.0	19.9	4 11	12 32.13	- 4 19.9	2.960	3.945	3.1	21.6
4 21	12 26.30	- 0 55.3	2.232	3.173	7.6	20.1	4 21	12 25.49	- 3 44.7	3.007	3.947	5.9	21.8
5 1	12 21.33	+ 0 15.1	2.280	3.150	10.9	20.3	5 1	12 19.91	- 3 15.5	3.081	3.949	8.4	22.0
374081	2004 <i>RJ</i> ₁₆₇		3 31.4 190°05	0°7/30.7	17		200153	1998 <i>QY</i> ₇₀		3 31.4 207°04	1°7/2.5	18	
2 21	13 8.92	- 3 0.8	2.263	3.038	13.5	21.7	2 21	13 3.21	-13 18.5	2.753	3.489	12.2	20.9
3 2	13 4.08	- 2 55.6	2.168	3.037	10.6	21.5	3 2	12 59.33	-12 57.1	2.643	3.482	10.0	20.8
3 12	12 57.15	- 2 41.8	2.095	3.036	7.3	21.2	3 12	12 53.77	-12 21.4	2.556	3.475	7.3	20.6
3 22	12 48.61	- 2 22.2	2.050	3.034	3.5	21.0	3 22	12 46.92	-11 32.9	2.496	3.468	4.3	20.4
4 1	12 39.21	- 2 0.2	2.033	3.032	0.9	20.8	4 1	12 39.37	-10 34.2	2.464	3.460	1.8	20.2
4 11	12 29.85	- 1 40.2	2.047	3.029	4.5	21.1	4 11	12 31.81	- 9 29.9	2.464	3.451	3.4	20.3
4 21	12 21.38	- 1 25.9	2.089	3.026	8.3	21.3	4 21	12 24.91	- 8 25.0	2.492	3.442	6.4	20.5
5 1	12 14.51	- 1 20.5	2.156	3.023	11.6	21.5	5 1	12 19.25	- 7 24.7	2.548	3.432	9.4	20.6
345973	2007 <i>TN</i> ₁₀₅		3 31.4 202°50	2°8/3.7	18		179394	2001 <i>YM</i> ₁₁₄		3 31.4 175°23	0°5/30.9	18	
2 21	13 2.83	-16 6.8	2.512	3.240	13.5	21.8	2 21	13 4.45	- 4 0.7	2.775	3.545	11.4	20.8
3 2	12 59.23	-16 0.2	2.407	3.237	11.1	21.6	3 2	13 0.16	- 3 48.0	2.680	3.546	8.9	20.6
3 12	12 53.79	-15 37.4	2.324	3.234	8.4	21.5	3 12	12 54.24	- 3 27.2	2.608	3.548	6.1	20.4
3 22	12 46.94	-14 59.1	2.266	3.230	5.4	21.3	3 22	12 47.12	- 3 1.0	2.565	3.549	3.0	20.2
4 1	12 39.33	-14 7.5	2.236	3.226	3.0	21.1	4 1	12 39.36	- 2 32.2	2.551	3.549	0.6	20.0
4 11	12 31.71	-13 7.0	2.236	3.221	3.9	21.1	4 11	12 31.65	- 2 4.8	2.567	3.550	3.7	20.2
4 21	12 24.84	-12 3.0	2.264	3.217	6.8	21.3	4 21	12 24.64	- 1 41.9	2.612	3.550	6.8	20.4
5 1	12 19.35	-11 1.3	2.319	3.212	9.8	21.5	5 1	12 18.85	- 1 26.5	2.684	3.550	9.6	20.6
90599	4542 <i>P-L</i>		3 31.4 244°74	0°1/31.5	18		388397	2006 <i>VT</i> ₃₂		3 31.4 157°95	0°2/31.2	17	
2 21	13 2.15	- 6 57.9	2.871	3.634	11.2	20.7	2 21	13 2.13	- 6 8.9	2.932	3.696	10.9	22.4
3 2	12 58.44	- 6 36.0	2.757	3.618	8.9	20.5	3 2	12 58.25	- 5 41.7	2.839	3.702	8.6	22.2
3 12	12 53.13	- 6 3.8	2.666	3.602	6.2	20.3	3 12	12 52.88	- 5 5.2	2.770	3.708	5.9	22.0
3 22	12 46.59	- 5 23.5	2.603	3.586	3.1	20.1	3 22	12 46.42	- 4 21.8	2.730	3.713	2.9	21.8
4 1	12 39.36	- 4 38.1	2.570	3.569	0.2	19.8	4 1	12 39.42	- 3 34.9	2.719	3.718	0.3	21.6
4 11	12 32.07	- 3 51.8	2.567	3.552	3.5	20.0	4 11	12 32.48	- 2 48.7	2.738	3.722	3.4	21.9
4 21	12 25.37	- 3 8.6	2.593	3.534	6.6	20.2	4 21	12 26.19	- 2 6.8	2.787	3.726	6.4	22.1
5 1	12 19.80	- 2 32.4	2.645	3.516	9.5	20.4	5 1	12 21.03	- 1 32.6	2.862	3.730	9.0	22.2
471831	2012 <i>XQ</i> ₆₁		3 31.4 102°22	4°5/6.2	18		97118	1999 <i>VS</i> ₉₄		3 31.4 108°98	0°6/30.8	18	
2 21	13 0.55	-22 31.3	2.439	3.138	14.5	20.9	2 21	13 5.55	- 4 26.6	2.068	2.852	14.3	20.0
3 2	12 57.53	-22 22.9	2.340	3.141	12.3	20.8	3 2	13 1.56	- 4 8.2	1.986	2.860	11.2	19.8
3 12	12 52.66	-21 54.1	2.261	3.145	9.8	20.6	3 12	12 55.46	- 3 38.7	1.926	2.869	7.7	19.6
3 22	12 46.38	-21 4.7	2.205	3.148	7.0	20.4	3 22	12 47.79	- 3 1.5	1.892	2.877	3.7	19.3
4 1	12 39.37	-19 56.7	2.176	3.151	4.8	20.3	4 1	12 39.33	- 2 21.0	1.886	2.885	0.8	19.1
4 11	12 32.43	-18 34.9	2.176	3.154	4.8	20.3	4 11	12 31.00	- 1 42.8	1.909	2.893	4.7	19.4
4 21	12 26.29	-17 5.5	2.204	3.157	6.9	20.4	4 21	12 23.65	- 1 11.5	1.959	2.900	8.5	19.7
5 1	12 21.58	-15 35.8	2.259	3.160	9.7	20.6	5 1	12 17.96	- 0 50.9	2.035	2.908	11.9	19.9
297424	2000 <i>SC</i> ₆₈		3 31.4 119°81	0°7/30.8	18		231339	2006 <i>DS</i> ₂₀₁		3 31.4 93°01	4°5/27.2	18	
2 21	13 9.77	- 5 4.7	1.860	2.639	15.8	21.6	2 21	13 6.00	+ 5 57.9	1.920	2.730	14.2	20.2
3 2	13 4.99	- 4 37.1	1.786	2.658	12.4	21.4	3 2	13 2.07	+ 6 43.9	1.845	2.735	11.2	20.0
3 12	12 57.84	- 3 56.5	1.735	2.677	8.5	21.2	3 12	12 55.89	+ 7 34.3	1.793	2.739	7.8	19.8
3 22	12 48.93	- 3 6.9	1.709	2.694	4.1	21.0	3 22	12 48.03	+ 8 23.1	1.766	2.744	5.0	19.6
4 1	12 39.21	- 2 13.8	1.712	2.711	0.9	20.8	4 1	12 39.33	+ 9 3.4	1.767	2.748	4.9	19.6
4 11	12 29.75	- 1 23.8	1.744	2.727	5.1	21.1	4 11	12 30.80	+ 9 29.7	1.795	2.752	7.6	19.8
4 21	12 21.50	- 0 42.6	1.803	2.742	9.2	21.4	4 21	12 23.35	+ 9 38.4	1.849	2.757	11.0	20.0
5 1	12 15.21	- 0 14.3	1.887	2.757	12.8	21.6	5 1	12 17.69	+ 9 28.6	1.926	2.761	14.0	20.2
130138	1999 <i>XT</i> ₁₄₅		3 31.4 245°43	2°2/29.2	18		380058	2013 <i>RB</i> ₈₂		3 31.4 178°05	0°3/31.8	17	

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2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
200165	1999 <i>CH</i> ₁₄₄		3 31.4	4°82	0°1/31.4	17	121231	1999 <i>RD</i> ₃₁		3 31.4	133°65	7°2/	3.0 18
2 21	13 1.91	- 6 33.9	1.967	2.754	14.8	20.9	2 21	13 28.20	-13 17.2	1.315	2.059	22.8	19.6
3 2	12 58.92	- 6 17.3	1.879	2.754	11.7	20.7	3 2	13 21.53	-15 20.3	1.231	2.067	19.2	19.3
3 12	12 53.80	- 5 47.3	1.812	2.754	8.1	20.5	3 12	13 10.56	-17 11.9	1.165	2.074	14.9	19.0
3 22	12 47.04	- 5 6.9	1.771	2.755	4.0	20.2	3 22	12 55.85	-18 44.8	1.123	2.081	10.3	18.8
4 1	12 39.40	- 4 20.6	1.757	2.756	0.3	19.9	4 1	12 38.83	-19 52.4	1.107	2.087	7.3	18.6
4 11	12 31.84	- 3 34.3	1.771	2.758	4.5	20.2	4 11	12 21.66	-20 32.8	1.118	2.093	8.7	18.7
4 21	12 25.22	- 2 53.5	1.812	2.759	8.6	20.5	4 21	12 6.45	-20 50.3	1.156	2.099	12.8	19.0
5 1	12 20.25	- 2 23.0	1.877	2.761	12.1	20.7	5 1	11 54.80	-20 53.8	1.217	2.104	17.2	19.2
69757	1998 <i>OD</i> ₇		3 31.4	17°89	4°6/	4.5 18	88118	2000 <i>WQ</i> ₁₃₄		3 31.4	224°13	3°6/	5.2 18
2 21	13 4.13	-17 9.3	1.815	2.560	17.3	18.4	2 21	13 2.86	-19 49.2	3.031	3.726	12.0	20.1
3 2	13 1.04	-17 39.3	1.726	2.562	14.5	18.2	3 2	12 59.01	-19 56.5	2.914	3.716	10.2	19.9
3 12	12 55.47	-17 49.8	1.656	2.565	11.2	18.0	3 12	12 53.55	-19 49.2	2.819	3.706	8.0	19.8
3 22	12 47.94	-17 39.8	1.609	2.568	7.6	17.8	3 22	12 46.85	-19 27.2	2.749	3.695	5.6	19.6
4 1	12 39.34	-17 10.5	1.587	2.572	4.9	17.7	4 1	12 39.44	-18 51.4	2.707	3.684	3.9	19.5
4 11	12 30.76	-16 26.5	1.592	2.575	5.5	17.7	4 11	12 31.98	-18 4.7	2.695	3.672	4.0	19.4
4 21	12 23.27	-15 34.4	1.623	2.579	8.7	17.9	4 21	12 25.10	-17 11.0	2.711	3.660	6.0	19.6
5 1	12 17.71	-14 41.8	1.679	2.584	12.2	18.1	5 1	12 19.38	-16 15.3	2.756	3.647	8.5	19.7
285287	1998 <i>ST</i> ₇₈		3 31.4	221°04	1°7/	1.8 17	364744	2007 <i>VB</i> ₂₆₈		3 31.4	228°70	4°9/27.0	16
2 21	13 9.31	-10 28.0	1.753	2.519	17.1	21.7	2 21	13 7.68	+ 5 10.2	1.791	2.601	15.1	21.4
3 2	13 5.28	-10 29.0	1.652	2.511	13.9	21.5	3 2	13 3.77	+ 6 9.8	1.703	2.592	11.9	21.1
3 12	12 58.52	-10 12.8	1.572	2.503	10.0	21.2	3 12	12 57.32	+ 7 16.9	1.636	2.583	8.4	20.9
3 22	12 49.54	- 9 40.4	1.515	2.493	5.6	20.9	3 22	12 48.87	+ 8 24.4	1.595	2.573	5.4	20.7
4 1	12 39.23	- 8 55.1	1.486	2.483	1.8	20.7	4 1	12 39.30	+ 9 24.1	1.582	2.563	5.4	20.7
4 11	12 28.82	- 8 2.9	1.484	2.473	5.0	20.8	4 11	12 29.75	+10 8.4	1.596	2.552	8.5	20.8
4 21	12 19.51	- 7 11.1	1.510	2.461	9.6	21.1	4 21	12 21.29	+10 32.2	1.635	2.541	12.2	21.0
5 1	12 12.29	- 6 26.8	1.559	2.449	13.9	21.3	5 1	12 14.80	+10 33.7	1.696	2.529	15.7	21.2
109673	2001 <i>RF</i> ₂₃		3 31.4	99°36	0°6/30.8	18	114556	2003 <i>BR</i> ₅₀		3 31.4	250°91	7°4/	6.8 18 R
2 21	13 5.71	- 5 55.5	1.881	2.666	15.4	20.3	2 21	13 8.68	-24 49.9	2.149	2.828	16.8	20.1
3 2	13 1.83	- 5 20.3	1.808	2.682	12.1	20.1	3 2	13 4.66	-25 44.3	2.032	2.812	14.7	19.9
3 12	12 55.70	- 4 31.1	1.756	2.699	8.3	19.9	3 12	12 58.09	-26 19.9	1.935	2.795	12.2	19.7
3 22	12 47.92	- 3 32.1	1.730	2.715	4.0	19.6	3 22	12 49.37	-26 32.8	1.859	2.778	9.7	19.5
4 1	12 39.35	- 2 29.1	1.732	2.731	0.8	19.4	4 1	12 39.26	-26 21.0	1.808	2.761	7.7	19.3
4 11	12 31.01	- 1 29.1	1.762	2.746	5.0	19.7	4 11	12 28.87	-25 45.7	1.784	2.743	7.6	19.3
4 21	12 23.79	- 0 38.1	1.820	2.761	9.0	20.0	4 21	12 19.31	-24 51.9	1.787	2.725	9.4	19.4
5 1	12 18.38	- 0 0.6	1.901	2.776	12.5	20.3	5 1	12 11.60	-23 47.1	1.814	2.706	12.2	19.5
511897	2015 <i>HG</i> ₂₆		3 31.4	290°54	0°7/30.6	17	177360	2004 <i>BU</i> ₄		3 31.4	131°89	1°1/30.4	18
2 21	13 1.67	- 4 55.8	2.191	2.978	13.5	21.7	2 21	13 8.15	- 3 43.7	1.982	2.765	14.8	20.9
3 2	12 58.51	- 4 23.8	2.098	2.974	10.6	21.4	3 2	13 3.65	- 3 13.9	1.903	2.778	11.6	20.7
3 12	12 53.40	- 3 39.9	2.027	2.971	7.3	21.2	3 12	12 56.92	- 2 32.7	1.847	2.791	7.9	20.5
3 22	12 46.81	- 2 47.3	1.983	2.968	3.5	21.0	3 22	12 48.53	- 1 44.0	1.817	2.803	3.8	20.3
4 1	12 39.42	- 1 51.1	1.966	2.965	0.9	20.8	4 1	12 39.33	- 0 53.1	1.816	2.814	1.3	20.1
4 11	12 32.08	- 0 56.9	1.979	2.962	4.6	21.0	4 11	12 30.32	- 0 6.4	1.844	2.825	5.1	20.4
4 21	12 25.56	- 0 10.3	2.018	2.958	8.3	21.3	4 21	12 22.40	+ 0 31.1	1.899	2.835	9.0	20.7
5 1	12 20.52	+ 0 24.6	2.083	2.955	11.7	21.5	5 1	12 16.27	+ 0 55.7	1.979	2.845	12.5	20.9
379878	2012 <i>HN</i> ₄₇		3 31.4	310°36	3°9/	4.1 17	160324	2003 <i>ME</i> ₁₀		3 31.4	306°14	6°7/	5.5 17
2 21	12 58.64	-17 53.2	1.617	2.379	18.5	20.7	2 21	13 3.77	-20 33.2	1.780	2.511	18.1	20.2
3 2	12 57.21	-17 40.2	1.509	2.358	15.6	20.4	3 2	13 1.33	-21 21.7	1.658	2.480	15.7	19.9
3 12	12 53.18	-16 59.7	1.418	2.337	11.9	20.1	3 12	12 56.15	-21 50.5	1.555	2.449	12.8	19.7
3 22	12 46.96	-15 50.9	1.350	2.317	7.8	19.8	3 22	12 48.55	-21 56.1	1.473	2.418	9.5	19.4
4 1	12 39.40	-14 16.7	1.306	2.297	4.2	19.6	4 1	12 39.31	-21 36.5	1.414	2.388	7.1	19.2
4 11	12 31.68	-12 24.8	1.288	2.277	5.4	19.6	4 11	12 29.60	-20 53.5	1.382	2.357	7.3	19.1
4 21	12 24.96	-10 26.6	1.296	2.258	9.7	19.8	4 21	12 20.72	-19 53.1	1.374	2.327	10.2	19.2
5 1	12 20.29	- 8 34.1	1.328	2.240	14.3	20.0	5 1	12 13.85	-18 44.2	1.389	2.297	14.0	19.3
21361	Carsonmark		3 31.4	112°05	1°2/	1.6 18	204564	2005 <i>EQ</i> ₂₈₁		3 31.4	248°68	5°3/25.1	18
2 21	13 4.53	-11 15.3	1.769	2.541	16.7	18.2	2 21	13 2.49	+ 8 51.3	2.220	3.033	12.5	20.3
3 2	13 1.20	-10 47.1	1.687	2.551	13.5	17.9	3 2	12 59.12	+10 2.9	2.137	3.027	9.9	20.1
3 12	12 55.45	- 9 59.5	1.626	2.560	9.5	17.7	3 12	12 53.81	+11 18.0	2.078	3.021	7.2	19.9
3 22	12 47.87	- 8 55.1	1.589	2.569	5.2	17.5	3 22	12 47.01	+12 30.0	2.046	3.014	5.4	19.8
4 1	12 39.36	- 7 39.5	1.579	2.577	1.2	17.2	4 1	12 39.43	+13 31.7	2.042	3.008	5.9	19.8
4 11	12 31.00	- 6 20.4	1.597	2.586	4.6	17.5	4 11	12 31.92	+14 17.3	2.065	3.001	8.2	19.9
4 21	12 23.79	- 5 6.0	1.642	2.594	9.0	17.8	4 21	12 25.25	+14 43.2	2.114	2.995	11.0	20.1
5 1	12 18.49	- 4 3.3	1.712	2.602	12.8	18.0	5 1	12 20.08	+14 48.2	2.185	2.988	13.7	20.3
128412	2004 <i>LZ</i> ₁₆		3 31.4	250°58	3°1/27.5	18	242202	2003 <i>QE</i> ₂₀		3 31.4	218°19	2°7/28.6	17
2 21	13 3.84	+ 4 59.0	2.772	3.566	10.8	20.4	2 21	13 6.92	- 0 11.9	2.094	2.885	13.9	21.7
3 2	12 59.79	+ 5 36.4	2.668	3.550	8.5	20.2	3 2	13 2.80	+ 0 42.3	1.994	2.875	10.9	21.5
3 12	12 54.09	+ 6 17.8	2.589	3.533	5.9	20.0	3 12	12 56.47	+ 1 47.4	1.919	2.865	7.4	21.2
3 22	12 47.10	+ 6 59.4	2.538	3.516	3.6	19.8	3 22	12 48.40	+ 2 58.3	1.869	2.853	3.9	21.0
4 1	12 39.41	+ 7 36.6	2.516	3.499	3.4	19.8	4 1	12 39.34	+ 4 8.4	1.849	2.841	3.0	20.9
4 11	12 31.70	+ 8 5.2	2.523	3.481	5.7	19.9	4 11	12 30.26	+ 5 10.5	1.858	2.828	6.3	21.1
4 21	12 24.61	+ 8 22.1	2.559	3.463	8.4	20.0	4 21	12 22.07	+ 5 59.1	1.894	2.814	10.1	21.3
5 1	12 18.74	+ 8 25.4	2.619	3.445	11.0	20.2	5 1	12 15.54	+ 6 30.2	1.955	2.799	13.5	21.5
100356	1995 <i>TC</i> ₇		3 31.4	247°36	0°5/31.8	17	463581	2013 <i>SX</i> ₁₈		3 31.4	107°81		

EPHEMERIDES

3 31.4

3 31.4

2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
503216	2015 <i>HB</i> ₄₀		3 31.4 45°91	1.9/	2.9	18	177894	2005 <i>QY</i> ₁₇₇		3 31.4 253°04	2.2/	28.6	17
2 21	12 59.13	-17 33.2	1.946	2.694	16.3	20.3	2 21	13 1.35	+ 0 27.5	2.600	3.392	11.4	20.5
3 2	12 56.71	-16 16.8	1.864	2.709	13.2	20.1	3 2	12 57.97	+ 1 12.5	2.499	3.381	8.9	20.3
3 12	12 52.22	-14 34.4	1.803	2.724	9.6	19.9	3 12	12 52.91	+ 2 5.3	2.422	3.369	6.1	20.1
3 22	12 46.22	-12 29.9	1.767	2.740	5.6	19.7	3 22	12 46.56	+ 3 1.8	2.373	3.357	3.2	19.9
4 1	12 39.50	-10 10.5	1.759	2.756	2.1	19.5	4 1	12 39.52	+ 3 57.1	2.353	3.345	2.5	19.9
4 11	12 33.00	-7 46.5	1.782	2.772	4.1	19.6	4 11	12 32.47	+ 4 46.3	2.363	3.333	5.2	20.0
4 21	12 27.52	-5 28.7	1.834	2.788	8.0	19.9	4 21	12 26.07	+ 5 25.1	2.400	3.320	8.2	20.2
5 1	12 23.67	-3 26.0	1.913	2.805	11.6	20.2	5 1	12 20.92	+ 5 50.6	2.463	3.307	11.0	20.3
273658	2007 <i>DA</i> ₈₇		3 31.4 0°68	0°5/	31.8	17	105755	2000 <i>SA</i> ₉₉		3 31.4 117°81	2°4/	2.4	18
2 21	13 1.76	- 7 17.2	1.418	2.226	18.5	21.1	2 21	13 6.80	-12 34.0	1.629	2.398	18.1	20.3
3 2	12 59.70	- 7 13.1	1.338	2.224	14.8	20.9	3 2	13 3.30	-12 31.6	1.547	2.406	14.7	20.1
3 12	12 54.83	- 6 51.4	1.277	2.223	10.3	20.6	3 12	12 57.10	-12 9.0	1.484	2.413	10.7	19.8
3 22	12 47.73	- 6 15.0	1.238	2.223	5.3	20.3	3 22	12 48.80	-11 27.5	1.444	2.419	6.2	19.6
4 1	12 39.40	- 5 29.1	1.224	2.223	0.5	20.0	4 1	12 39.38	-10 30.9	1.430	2.426	2.5	19.4
4 11	12 31.15	- 4 41.6	1.236	2.225	5.5	20.3	4 11	12 30.08	- 9 26.6	1.443	2.432	4.9	19.5
4 21	12 24.20	- 4 0.1	1.272	2.228	10.6	20.6	4 21	12 22.05	- 8 22.8	1.483	2.438	9.4	19.8
5 1	12 19.49	- 3 31.2	1.329	2.231	15.0	20.9	5 1	12 16.18	- 7 27.0	1.546	2.444	13.5	20.1
181447	2006 <i>TD</i> ₁₉		3 31.4 57°05	1°1/	30.3	18	383655	2007 <i>TD</i> ₉₉		3 31.4 136°45	0°6/	30.8	17
2 21	13 4.99	- 1 54.2	2.208	2.996	13.3	20.4	2 21	13 2.89	- 5 14.7	2.388	3.165	12.8	22.0
3 2	13 0.95	- 1 43.0	2.129	3.007	10.4	20.2	3 2	12 59.23	- 4 43.5	2.300	3.171	10.0	21.9
3 12	12 54.97	- 1 23.8	2.073	3.017	7.1	20.0	3 12	12 53.77	- 4 1.3	2.236	3.177	6.8	21.7
3 22	12 47.55	- 0 59.8	2.043	3.028	3.4	19.8	3 22	12 46.98	- 3 11.3	2.199	3.183	3.3	21.5
4 1	12 39.42	- 0 35.0	2.042	3.039	1.3	19.6	4 1	12 39.50	- 2 18.1	2.190	3.189	0.7	21.2
4 11	12 31.45	- 0 13.9	2.069	3.050	4.6	19.9	4 11	12 32.13	- 1 26.9	2.211	3.194	4.2	21.5
4 21	12 24.40	+ 0 0.1	2.124	3.062	8.1	20.1	4 21	12 25.55	- 0 42.3	2.260	3.199	7.6	21.7
5 1	12 18.90	+ 0 4.2	2.204	3.073	11.3	20.4	5 1	12 20.37	- 0 8.1	2.335	3.204	10.7	21.9
140454	2001 <i>TB</i> ₁₂₄		3 31.4 120°51	3°6/	4.7	17	140316	2001 <i>SE</i> ₃₂₂		3 31.4 101°94	3°3/	28.1	18
2 21	13 4.53	-18 2.9	2.573	3.286	13.5	20.4	2 21	13 5.97	+ 1 36.4	1.905	2.708	14.6	20.4
3 2	13 0.48	-18 16.8	2.481	3.297	11.3	20.3	3 2	13 1.97	+ 2 33.9	1.838	2.725	11.3	20.2
3 12	12 54.61	-18 15.2	2.410	3.307	8.7	20.1	3 12	12 55.78	+ 3 39.6	1.793	2.741	7.7	20.0
3 22	12 47.38	-17 58.1	2.363	3.317	5.9	19.9	3 22	12 47.99	+ 4 47.4	1.775	2.757	4.3	19.8
4 1	12 39.44	-17 26.8	2.345	3.326	3.9	19.8	4 1	12 39.45	+ 5 50.2	1.784	2.773	3.7	19.8
4 11	12 31.57	-16 45.0	2.356	3.336	4.2	19.9	4 11	12 31.17	+ 6 41.2	1.822	2.789	6.8	20.0
4 21	12 24.49	-15 57.2	2.395	3.345	6.6	20.0	4 21	12 24.00	+ 7 16.0	1.886	2.804	10.2	20.3
5 1	12 18.80	-15 8.7	2.460	3.354	9.3	20.2	5 1	12 18.61	+ 7 32.3	1.974	2.818	13.4	20.5
403815	2011 <i>UA</i> ₁₃₀		3 31.4 325°64	1°6/	30.3	18	324478	2006 <i>UQ</i> ₁₀₀		3 31.4 23°33	4°0/	28.3	18
2 21	13 2.19	- 4 16.4	1.240	2.065	19.6	20.8	2 21	13 2.06	+ 1 6.3	1.285	2.120	18.5	20.2
3 2	13 0.56	- 3 46.8	1.156	2.055	15.6	20.5	3 2	12 59.99	+ 1 58.1	1.223	2.128	14.4	20.0
3 12	12 55.76	- 2 58.0	1.091	2.045	10.7	20.2	3 12	12 55.00	+ 3 1.9	1.181	2.137	9.8	19.7
3 22	12 48.33	- 1 54.9	1.048	2.035	5.2	19.9	3 22	12 47.78	+ 4 9.8	1.161	2.147	5.3	19.5
4 1	12 39.37	- 0 45.6	1.029	2.027	1.9	19.6	4 1	12 39.46	+ 5 11.8	1.166	2.157	4.5	19.5
4 11	12 30.37	+ 0 18.8	1.034	2.019	7.3	19.9	4 11	12 31.45	+ 5 58.6	1.195	2.169	8.4	19.8
4 21	12 22.79	+ 1 8.9	1.061	2.011	12.9	20.2	4 21	12 24.91	+ 6 24.3	1.248	2.182	12.9	20.0
5 1	12 17.76	+ 1 37.8	1.109	2.005	17.8	20.5	5 1	12 20.74	+ 6 26.4	1.320	2.195	16.9	20.3
337420	2001 <i>QX</i> ₃₃₃		3 31.4 221°49	2°5/	5.1	18	7277	Klass		3 31.4 224°87	1°8/	29.4	18
2 21	12 59.45	-18 23.2	4.796	5.482	8.0	20.3	2 21	13 5.37	- 1 29.3	2.336	3.121	12.8	19.0
3 2	12 55.68	-18 41.8	4.683	5.479	6.7	20.1	3 2	13 1.35	- 0 49.7	2.233	3.110	10.1	18.8
3 12	12 50.92	-18 52.1	4.593	5.477	5.2	20.0	3 12	12 55.36	- 0 0.4	2.154	3.099	6.8	18.5
3 22	12 45.45	-18 54.2	4.531	5.474	3.7	19.9	3 22	12 47.84	+ 0 54.7	2.102	3.087	3.4	18.3
4 1	12 39.58	-18 48.7	4.497	5.471	2.6	19.8	4 1	12 39.46	+ 1 50.6	2.079	3.074	2.1	18.2
4 11	12 33.70	-18 36.9	4.494	5.468	2.7	19.8	4 11	12 31.05	+ 2 41.4	2.086	3.061	5.2	18.4
4 21	12 28.16	-18 20.6	4.521	5.466	4.0	19.9	4 21	12 23.41	+ 3 22.4	2.121	3.047	8.8	18.5
5 1	12 23.29	-18 2.2	4.577	5.463	5.5	20.0	5 1	12 17.24	+ 3 50.0	2.180	3.033	12.0	18.7
452381	2002 <i>CR</i> ₁₅₉		3 31.4 42°48	10°2/	4.6	18	189828	2002 <i>TD</i> ₂₆₆		3 31.4 178°97	2°5/	29.3	18
2 21	13 24.99	-17 51.6	1.249	1.987	24.1	20.2	2 21	13 11.68	- 0 4.4	1.899	2.687	15.2	21.0
3 2	13 18.99	-20 34.9	1.182	2.005	20.7	20.0	3 2	13 6.67	+ 0 31.2	1.812	2.690	12.0	20.8
3 12	13 8.74	-23 1.4	1.134	2.025	16.7	19.8	3 12	12 59.18	+ 1 16.3	1.747	2.692	8.2	20.5
3 22	12 54.88	-25 1.0	1.107	2.045	12.8	19.6	3 22	12 49.77	+ 2 6.3	1.708	2.692	4.2	20.3
4 1	12 38.96	-26 25.0	1.105	2.066	10.4	19.6	4 1	12 39.34	+ 2 54.9	1.698	2.692	2.8	20.2
4 11	12 23.13	-27 11.2	1.128	2.087	10.8	19.6	4 11	12 29.01	+ 3 35.5	1.717	2.691	6.3	20.4
4 21	12 9.47	-27 25.2	1.175	2.109	13.5	19.9	4 21	12 19.81	+ 4 3.1	1.764	2.689	10.3	20.6
5 1	11 59.45	-27 18.3	1.244	2.132	16.8	20.1	5 1	12 12.58	+ 4 14.8	1.834	2.686	13.9	20.9
200477	2000 <i>YY</i> ₅		3 31.4 49°28	22°9/	9.2	18	203324	2001 <i>TM</i> ₁₁₃		3 31.4 241°50	2°8/	2.7	18
2 21	13 14.56	+39 38.8	1.028	1.834	24.0	19.2	2 21	13 5.54	-13 23.5	1.517	2.291	19.0	20.7
3 2	13 11.52	+42 34.4	1.014	1.840	23.1	19.2	3 2	13 2.67	-13 24.6	1.428	2.289	15.6	20.4
3 12	13 3.62	+44 51.3	1.015	1.846	22.9	19.2	3 12	12 56.92	-13 3.5	1.357	2.286	11.5	20.2
3 22	12 52.11	+46 12.3	1.031	1.853	23.5	19.2	3 22	12 48.83	-12 20.5	1.309	2.283	6.9	19.9
4 1	12 39.17	+46 26.8	1.061	1.860	24.7	19.3	4 1	12 39.40	-11 19.5	1.285	2.281	3.0	19.6
4 11	12 27.33	+45 34.8	1.103	1.867	26.1	19.5	4 11	12 29.97	-10 7.8	1.288	2.278	5.3	19.8
4 21	12 18.45	+43 45.6	1.156	1.874	27.6	19.6	4 21	12 21.81	- 8 55.0	1.317	2.275	10.1	20.0
5 1	12 13.46	+41 11.7	1.219	1.882	29.0	19.8	5 1	12 15.93	- 7 50.2	1.368	2.272	14.5	20.3
130653	2000 <i>SO</i> ₈₈		3 31.4 203°52	2°6/	29.1	18	522909	2016 <i>PM</i> ₁₀₇		3 31.4			

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3 31.4

3 31.4

2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
58103	1979 <i>MQ</i> ₅		3 31.4 187°69	3°6/ 4.8	18		360339	2001 <i>UY</i> ₁₃		3 31.4 85°76	4°2/28.1	18	
2 21	13 2.67	-18 35.4	2.532	3.247	13.7	20.2	2 21	13 10.53	+ 2 26.5	1.491	2.303	17.5	21.0
3 2	12 59.15	-18 39.6	2.430	3.247	11.5	20.0	3 2	13 6.02	+ 3 24.6	1.437	2.328	13.6	20.8
3 12	12 53.80	-18 27.0	2.348	3.246	8.8	19.8	3 12	12 58.75	+ 4 31.3	1.403	2.353	9.3	20.6
3 22	12 47.04	-17 57.7	2.292	3.245	6.1	19.6	3 22	12 49.50	+ 5 38.6	1.395	2.378	5.2	20.4
4 1	12 39.52	-17 13.4	2.262	3.245	3.9	19.5	4 1	12 39.42	+ 6 37.7	1.414	2.402	4.6	20.5
4 11	12 32.02	-16 17.9	2.262	3.243	4.3	19.5	4 11	12 29.81	+ 7 21.0	1.459	2.425	8.1	20.7
4 21	12 25.26	-15 16.5	2.290	3.242	6.7	19.7	4 21	12 21.76	+ 7 44.0	1.529	2.449	12.0	21.0
5 1	12 19.87	-14 14.9	2.344	3.241	9.6	19.8	5 1	12 16.02	+ 7 45.6	1.621	2.471	15.5	21.3
190044	2004 <i>RB</i> ₁₁₃		3 31.4 209°17	4°6/ 6.0	18		66397	1999 <i>KP</i> ₁₄		3 31.4 257°02	0°1/31.4	18	
2 21	13 5.95	-22 17.8	2.716	3.398	13.6	21.1	2 21	13 6.17	- 7 30.8	1.884	2.663	15.7	20.2
3 2	13 1.70	-22 30.0	2.601	3.390	11.6	20.9	3 2	13 2.72	- 7 1.0	1.771	2.641	12.6	19.9
3 12	12 55.56	-22 25.0	2.507	3.382	9.3	20.8	3 12	12 56.77	- 6 14.2	1.680	2.619	8.8	19.6
3 22	12 47.94	-22 1.8	2.437	3.373	6.8	20.6	3 22	12 48.75	- 5 12.9	1.613	2.597	4.5	19.3
4 1	12 39.47	-21 21.0	2.394	3.363	4.9	20.4	4 1	12 39.45	- 4 2.2	1.574	2.573	0.3	18.9
4 11	12 30.94	-20 25.7	2.381	3.353	4.9	20.4	4 11	12 29.94	- 2 49.4	1.563	2.549	5.2	19.2
4 21	12 23.11	-19 20.7	2.396	3.342	6.9	20.5	4 21	12 21.32	- 1 42.4	1.580	2.524	9.9	19.4
5 1	12 16.65	-18 11.9	2.439	3.330	9.5	20.7	5 1	12 14.52	- 0 47.9	1.621	2.499	14.1	19.6
209125	2003 <i>SK</i> ₁₉₂		3 31.4 206°83	0°2/31.5	16		241914	2002 <i>AZ</i> ₅₄		3 31.4 243°70	6°7/ 8.5	18	
2 21	13 8.95	- 6 20.3	1.913	2.689	15.5	20.6	2 21	13 4.17	-28 0.1	2.657	3.305	14.5	20.3
3 2	13 4.65	- 6 12.3	1.817	2.685	12.4	20.4	3 2	13 0.52	-28 39.9	2.546	3.299	12.8	20.2
3 12	12 57.90	- 5 51.2	1.742	2.680	8.7	20.1	3 12	12 54.88	-29 1.4	2.454	3.291	10.8	20.0
3 22	12 49.20	- 5 19.4	1.692	2.675	4.4	19.9	3 22	12 47.67	-29 2.2	2.384	3.284	8.8	19.9
4 1	12 39.40	- 4 40.9	1.670	2.669	0.3	19.5	4 1	12 39.54	-28 41.3	2.340	3.277	7.2	19.7
4 11	12 29.59	- 4 1.5	1.677	2.663	4.8	19.9	4 11	12 31.31	-28 0.7	2.322	3.269	6.8	19.7
4 21	12 20.80	- 3 26.9	1.711	2.656	9.2	20.1	4 21	12 23.81	-27 4.5	2.331	3.262	7.9	19.8
5 1	12 13.90	- 3 1.9	1.770	2.649	13.1	20.3	5 1	12 17.75	-25 58.7	2.366	3.254	9.8	19.9
200665	2001 <i>TQ</i> ₉₀		3 31.4 110°98	2°4/ 2.2	18		406491	2007 <i>VS</i> ₂₉		3 31.4 357°70	2°8/29.5	18	
2 21	13 10.46	-11 13.6	1.580	2.349	18.5	20.9	2 21	13 8.77	+ 0 51.9	1.436	2.251	17.9	20.5
3 2	13 6.23	-11 26.2	1.502	2.362	15.0	20.7	3 2	13 5.20	+ 1 7.9	1.357	2.250	14.2	20.2
3 12	12 59.13	-11 20.7	1.444	2.373	10.9	20.5	3 12	12 58.62	+ 1 33.5	1.299	2.249	9.7	20.0
3 22	12 49.82	-10 57.7	1.409	2.385	6.2	20.2	3 22	12 49.66	+ 2 3.4	1.263	2.249	5.0	19.7
4 1	12 39.36	-10 20.8	1.400	2.396	2.4	20.0	4 1	12 39.42	+ 2 30.8	1.254	2.249	3.1	19.6
4 11	12 29.09	- 9 36.3	1.418	2.407	5.1	20.2	4 11	12 29.30	+ 2 48.6	1.270	2.249	7.3	19.8
4 21	12 20.21	- 8 51.5	1.463	2.417	9.6	20.5	4 21	12 20.59	+ 2 52.1	1.311	2.249	12.0	20.1
5 1	12 13.64	- 8 13.3	1.531	2.427	13.7	20.7	5 1	12 14.31	+ 2 38.4	1.374	2.250	16.3	20.3
265376	2004 <i>RG</i> ₂₂₇		3 31.4 343°60	1°4/ 1.3	17		437339	2013 <i>ST</i> ₇₆		3 31.4 170°39	10°0/26.8	16	
2 21	13 9.31	- 6 25.7	1.651	2.436	17.2	19.8	2 21	13 27.78	+17 9.4	1.309	2.110	20.1	21.5
3 2	13 5.39	- 7 1.8	1.560	2.431	13.9	19.6	3 2	13 20.59	+17 46.3	1.240	2.113	16.7	21.3
3 12	12 58.66	- 7 27.1	1.488	2.426	9.9	19.3	3 12	13 9.36	+18 15.6	1.190	2.116	13.0	21.1
3 22	12 49.67	- 7 42.1	1.441	2.422	5.3	19.1	3 22	12 54.99	+18 25.6	1.164	2.119	10.4	20.9
4 1	12 39.37	- 7 48.8	1.420	2.418	1.4	18.8	4 1	12 39.10	+18 6.1	1.163	2.120	10.5	20.9
4 11	12 29.03	- 7 51.0	1.427	2.415	5.1	19.0	4 11	12 23.72	+17 12.8	1.188	2.121	13.2	21.1
4 21	12 19.87	- 7 52.9	1.459	2.412	9.7	19.3	4 21	12 10.62	+15 48.3	1.237	2.121	16.9	21.3
5 1	12 12.90	- 7 59.1	1.515	2.410	13.9	19.5	5 1	12 0.94	+13 59.2	1.306	2.120	20.6	21.5
229538	2005 <i>YM</i> ₇₅		3 31.4 31°88	0°8/ 1.1	17		281052	2006 <i>HH</i> ₁₅₃		3 31.4 118°25	1°7/29.7	18	
2 21	13 4.64	- 8 7.0	1.773	2.557	16.3	21.0	2 21	13 3.90	- 1 58.6	2.131	2.923	13.6	21.2
3 2	13 1.36	- 8 1.8	1.688	2.560	13.0	20.7	3 2	13 0.27	- 1 23.9	2.048	2.928	10.7	21.0
3 12	12 55.65	- 7 41.6	1.624	2.563	9.2	20.5	3 12	12 54.62	- 0 39.3	1.987	2.933	7.2	20.8
3 22	12 48.07	- 7 8.5	1.584	2.566	4.8	20.3	3 22	12 47.48	+ 0 10.9	1.952	2.938	3.5	20.5
4 1	12 39.48	- 6 26.8	1.571	2.570	0.8	20.0	4 1	12 39.57	+ 1 1.5	1.946	2.942	1.9	20.4
4 11	12 30.98	- 5 42.7	1.585	2.573	4.7	20.3	4 11	12 31.77	+ 1 46.7	1.969	2.947	5.2	20.6
4 21	12 23.58	- 5 2.4	1.626	2.577	9.0	20.5	4 21	12 24.88	+ 2 21.9	2.019	2.951	8.8	20.9
5 1	12 18.09	- 4 31.4	1.690	2.582	12.9	20.8	5 1	12 19.55	+ 2 43.7	2.093	2.956	12.0	21.1
209096	2003 <i>SW</i> ₄₉		3 31.4 247°81	3°8/ 3.4	17		480462	2015 <i>LA</i> ₄		3 31.4 262°08	4°7/26.4	16	
2 21	13 7.41	-15 0.0	1.774	2.524	17.5	21.1	2 21	13 9.81	+11 41.2	2.688	3.477	11.2	21.8
3 2	13 3.89	-15 19.0	1.669	2.513	14.6	20.8	3 2	13 4.57	+12 8.0	2.584	3.458	9.0	21.7
3 12	12 57.67	-15 19.0	1.584	2.501	11.0	20.6	3 12	12 57.44	+12 34.1	2.506	3.439	6.7	21.5
3 22	12 49.22	-14 59.1	1.522	2.489	7.1	20.3	3 22	12 48.87	+12 54.9	2.455	3.419	5.0	21.3
4 1	12 39.40	-14 20.7	1.486	2.477	4.0	20.1	4 1	12 39.49	+13 5.7	2.433	3.399	5.1	21.3
4 11	12 29.42	-13 28.6	1.477	2.464	5.3	20.1	4 11	12 30.10	+13 2.9	2.442	3.379	7.1	21.4
4 21	12 20.47	-12 30.2	1.495	2.450	9.3	20.3	4 21	12 21.44	+12 44.8	2.477	3.358	9.6	21.5
5 1	12 13.57	-11 33.5	1.537	2.437	13.4	20.5	5 1	12 14.17	+12 11.2	2.538	3.337	12.1	21.7
237568	2001 <i>BG</i> ₇		3 31.4 120°61	3°0/ 3.6	17		469135	2015 <i>EE</i> ₆₅		3 31.4 263°76	1°3/ 1.9	17	
2 21	13 7.31	-15 24.9	2.357	3.084	14.3	21.5	2 21	13 0.54	-12 17.2	2.317	3.074	13.7	20.6
3 2	13 2.76	-15 33.5	2.271	3.100	11.7	21.4	3 2	12 57.66	-11 43.5	2.210	3.064	11.1	20.3
3 12	12 56.22	-15 26.5	2.207	3.116	8.8	21.2	3 12	12 52.89	-10 52.7	2.125	3.054	8.0	20.1
3 22	12 48.22	-15 4.4	2.168	3.132	5.6	21.0	3 22	12 46.67	- 9 46.8	2.066	3.043	4.4	19.9
4 1	12 39.48	-14 29.3	2.158	3.147	3.2	20.9	4 1	12 39.62	- 8 29.8	2.035	3.033	1.3	19.6
4 11	12 30.87	-13 45.4	2.176	3.161	4.1	21.0	4 11	12 32.56	- 7 7.9	2.034	3.022	3.8	19.8
4 21	12 23.18	-12 57.9	2.224	3.175	7.0	21.2	4 21	12 26.24	- 5 47.6	2.060	3.012	7.5	20.0
5 1	12 17.05	-12 12.0	2.297	3.188	10.0	21.4	5 1	12 21.33	- 4 35.3	2.113	3.001	10.9	20.2
208486	2001 <i>VX</i> ₅₀		3 31.4 188°26	1°2/ 1.9	18		98618	2000 <i>WZ</i> ₈₁		3 31.4 220°17	2°9		

EPHEMERIDES

3 31.4

3 31.4

2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
415989	2002 AC ₁₉		3 31.4 135°87	1°9/29.7	18		113049	2002 RM ₅₂		3 31.4 185°18	1°2/30.0	18	R
2 21	13 9.93	+ 0 18.2	2.161	2.945	13.7	21.2	2 21	13 3.21	- 3 6.4	2.410	3.193	12.5	20.2
3 2	13 4.89	+ 0 35.3	2.080	2.956	10.7	21.0	3 2	12 59.53	- 2 31.0	2.317	3.193	9.8	20.0
3 12	12 57.73	+ 0 59.2	2.022	2.966	7.3	20.8	3 12	12 54.04	- 1 45.9	2.249	3.192	6.6	19.8
3 22	12 49.00	+ 1 26.2	1.992	2.976	3.7	20.6	3 22	12 47.20	- 0 54.5	2.207	3.192	3.2	19.6
4 1	12 39.49	+ 1 51.8	1.990	2.985	2.1	20.5	4 1	12 39.63	- 0 1.5	2.194	3.191	1.4	19.4
4 11	12 30.16	+ 2 11.4	2.018	2.994	5.3	20.7	4 11	12 32.12	+ 0 47.8	2.211	3.190	4.6	19.6
4 21	12 21.84	+ 2 21.6	2.074	3.003	8.8	21.0	4 21	12 25.38	+ 1 29.0	2.255	3.188	8.0	19.8
5 1	12 15.22	+ 2 20.1	2.155	3.010	12.0	21.2	5 1	12 20.03	+ 1 58.4	2.325	3.187	11.0	20.0
211886	2004 JD ₇		3 31.4 300°98	0°3/31.1	17		521332	2015 LV ₄₃		3 31.4 285°25	2°8/28.0	17	
2 21	12 58.37	-10 26.2	2.183	2.956	13.9	20.3	2 21	13 0.34	+ 1 11.4	2.370	3.171	12.1	21.4
3 2	12 56.13	- 9 5.8	2.068	2.935	11.1	20.1	3 2	12 57.39	+ 2 7.1	2.273	3.160	9.5	21.2
3 12	12 51.95	- 7 23.8	1.976	2.915	7.7	19.9	3 12	12 52.65	+ 3 11.4	2.200	3.148	6.4	21.0
3 22	12 46.25	- 5 24.1	1.910	2.894	3.8	19.6	3 22	12 46.54	+ 4 19.4	2.154	3.137	3.6	20.8
4 1	12 39.66	- 3 13.3	1.875	2.874	0.5	19.3	4 1	12 39.67	+ 5 25.3	2.137	3.126	3.2	20.7
4 11	12 33.00	- 1 0.8	1.870	2.854	4.7	19.5	4 11	12 32.80	+ 6 23.1	2.148	3.114	5.9	20.9
4 21	12 27.07	+ 1 4.0	1.894	2.834	8.8	19.7	4 21	12 26.65	+ 7 8.1	2.187	3.103	9.1	21.1
5 1	12 22.58	+ 2 53.1	1.943	2.814	12.5	19.9	5 1	12 21.84	+ 7 37.2	2.249	3.092	12.0	21.2
424030	2006 YE ₇		3 31.4 132°03	2°0/ 2.7	18		79549	1998 QH ₄₄		3 31.4 241°07	3°7/28.1	18	
2 21	13 5.58	-14 30.8	2.170	2.911	15.0	22.0	2 21	13 6.24	+ 0 3.2	1.661	2.469	16.2	19.4
3 2	13 1.56	-14 1.7	2.084	2.925	12.2	21.9	3 2	13 2.98	+ 1 12.1	1.565	2.456	12.8	19.2
3 12	12 55.49	-13 14.1	2.020	2.939	8.9	21.7	3 12	12 57.04	+ 2 35.8	1.492	2.442	8.8	18.9
3 22	12 47.90	-12 9.9	1.981	2.953	5.2	21.5	3 22	12 48.92	+ 4 7.5	1.443	2.427	4.8	18.6
4 1	12 39.56	-10 53.4	1.971	2.966	2.1	21.3	4 1	12 39.53	+ 5 37.9	1.422	2.412	4.2	18.6
4 11	12 31.38	- 9 31.0	1.990	2.978	3.9	21.4	4 11	12 30.05	+ 6 56.9	1.428	2.396	8.0	18.7
4 21	12 24.18	- 8 9.8	2.038	2.989	7.5	21.7	4 21	12 21.65	+ 7 56.7	1.460	2.380	12.4	18.9
5 1	12 18.60	- 6 56.3	2.112	3.000	10.8	21.9	5 1	12 15.32	+ 8 32.5	1.513	2.363	16.4	19.2
368752	2005 UB ₄₈₁		3 31.4 127°89	5°8/24.4	18		365173	2009 EX ₁₁		3 31.4 13°30	3°2/29.2	18	
2 21	13 6.97	+11 41.7	2.338	3.141	12.2	21.8	2 21	13 3.45	- 0 23.6	1.233	2.066	19.3	21.0
3 2	13 2.35	+13 1.5	2.278	3.159	9.7	21.6	3 2	13 1.36	+ 0 13.3	1.165	2.068	15.1	20.7
3 12	12 55.85	+14 21.3	2.243	3.176	7.3	21.5	3 12	12 56.16	+ 1 4.1	1.115	2.071	10.3	20.5
3 22	12 48.01	+15 34.0	2.236	3.193	5.9	21.4	3 22	12 48.51	+ 2 1.9	1.087	2.074	5.3	20.2
4 1	12 39.56	+16 33.2	2.257	3.209	6.4	21.5	4 1	12 39.57	+ 2 57.5	1.084	2.079	3.6	20.1
4 11	12 31.34	+17 13.9	2.306	3.224	8.4	21.6	4 11	12 30.85	+ 3 41.1	1.105	2.084	8.0	20.4
4 21	12 24.09	+17 34.1	2.380	3.239	10.8	21.8	4 21	12 23.66	+ 4 6.0	1.149	2.090	13.0	20.7
5 1	12 18.37	+17 33.6	2.477	3.253	13.0	22.0	5 1	12 18.99	+ 4 8.7	1.213	2.097	17.4	20.9
243775	2000 RA ₁₀₁		3 31.4 294°41	4°9/ 5.3	17		272458	2005 UE ₅₄		3 31.4 189°24	0°8/30.6	17	
2 21	12 59.89	-22 38.6	1.534	2.274	20.2	20.5	2 21	13 5.60	- 4 48.6	2.297	3.073	13.3	22.1
3 2	12 58.64	-22 4.2	1.410	2.242	17.4	20.2	3 2	13 1.53	- 4 15.2	2.202	3.072	10.5	21.9
3 12	12 54.51	-20 52.1	1.304	2.210	13.8	19.9	3 12	12 55.50	- 3 30.3	2.130	3.071	7.2	21.7
3 22	12 47.86	-18 58.6	1.219	2.178	9.5	19.5	3 22	12 47.96	- 2 37.1	2.084	3.069	3.5	21.5
4 1	12 39.54	-16 24.6	1.158	2.146	5.5	19.2	4 1	12 39.61	- 1 40.5	2.068	3.066	1.0	21.3
4 11	12 30.86	-13 19.8	1.125	2.114	6.0	19.2	4 11	12 31.31	- 0 46.1	2.081	3.063	4.5	21.5
4 21	12 23.20	-10 0.6	1.118	2.081	10.8	19.3	4 21	12 23.84	+ 0 0.9	2.122	3.059	8.2	21.7
5 1	12 17.80	- 6 46.4	1.136	2.049	16.1	19.5	5 1	12 17.87	+ 0 36.6	2.189	3.055	11.5	21.9
347733	2001 YU ₉₀		3 31.4 145°25	5°2/ 8.1	17		416851	2005 MM ₁₃		3 31.4 186°96	16°1/15.6	16	
2 21	13 4.09	-26 47.1	3.131	3.776	12.5	21.6	2 21	13 22.20	+29 28.3	1.441	2.232	19.0	22.4
3 2	12 59.93	-27 3.8	3.032	3.786	10.9	21.5	3 2	13 16.37	+32 17.9	1.395	2.234	17.2	22.3
3 12	12 54.17	-27 3.8	2.952	3.796	9.0	21.4	3 12	13 6.61	+34 52.0	1.371	2.234	16.2	22.2
3 22	12 47.20	-26 46.2	2.897	3.806	7.1	21.2	3 22	12 53.74	+36 52.9	1.368	2.232	16.4	22.2
4 1	12 39.62	-26 11.5	2.868	3.815	5.6	21.1	4 1	12 39.27	+38 6.5	1.387	2.228	17.7	22.3
4 11	12 32.08	-25 22.1	2.868	3.823	5.2	21.1	4 11	12 25.19	+38 26.7	1.426	2.222	19.7	22.4
4 21	12 25.23	-24 22.1	2.896	3.831	6.3	21.2	4 21	12 13.22	+37 56.5	1.482	2.214	21.9	22.5
5 1	12 19.59	-23 16.6	2.951	3.839	8.1	21.3	5 1	12 4.54	+36 43.9	1.551	2.205	23.9	22.7
392132	2009 FO ₇₁		3 31.4 328°66	8°4/21.9	17		297660	2001 UE ₂₅		3 31.4 245°31	3°2/ 4.5	17	
2 21	13 0.93	+15 54.6	1.894	2.721	13.7	20.3	2 21	13 2.87	-18 18.7	2.826	3.535	12.5	21.4
3 2	12 58.42	+17 21.9	1.816	2.706	11.3	20.2	3 2	12 59.23	-18 11.8	2.703	3.517	10.5	21.3
3 12	12 53.64	+18 48.0	1.761	2.691	9.3	20.0	3 12	12 53.88	-17 49.0	2.601	3.498	8.1	21.1
3 22	12 47.11	+20 3.9	1.731	2.677	8.4	19.9	3 22	12 47.17	-17 10.3	2.524	3.480	5.5	20.9
4 1	12 39.62	+21 0.8	1.726	2.663	9.3	19.9	4 1	12 39.67	-16 17.4	2.476	3.460	3.4	20.7
4 11	12 32.18	+21 32.2	1.746	2.650	11.5	20.0	4 11	12 32.09	-15 13.9	2.457	3.440	3.9	20.7
4 21	12 25.72	+21 35.3	1.788	2.637	14.2	20.2	4 21	12 25.10	-14 4.6	2.468	3.420	6.4	20.8
5 1	12 21.00	+21 10.6	1.849	2.625	16.8	20.3	5 1	12 19.32	-12 55.3	2.506	3.399	9.2	21.0
436014	2009 HX ₂₂		3 31.4 283°85	0°1/31.3	16		344299	2001 UB ₇₇		3 31.4 143°84	1°2/29.9	18	
2 21	12 59.73	- 8 28.0	2.459	3.230	12.6	21.1	2 21	13 2.83	- 2 35.6	2.728	3.507	11.3	21.7
3 2	12 56.97	- 7 37.8	2.340	3.207	10.1	20.9	3 2	12 58.94	- 2 0.1	2.642	3.515	8.8	21.5
3 12	12 52.41	- 6 32.1	2.245	3.184	7.0	20.7	3 12	12 53.49	- 1 16.6	2.580	3.523	6.0	21.4
3 22	12 46.45	- 5 13.8	2.177	3.160	3.5	20.4	3 22	12 46.88	- 0 28.2	2.546	3.530	2.9	21.2
4 1	12 39.66	- 3 47.6	2.137	3.137	0.3	20.1	4 1	12 39.70	+ 0 20.9	2.541	3.538	1.4	21.1
4 11	12 32.78	- 2 19.9	2.128	3.113	4.1	20.4	4 11	12 32.61	+ 1 6.2	2.567	3.545	4.2	21.3
4 21	12 26.54	- 0 57.1	2.147	3.089	7.8	20.6	4 21	12 26.22	+ 1 43.9	2.621	3.551	7.1	21.5
5 1	12 21.58	+ 0 14.8	2.192	3.065	11.1	20.7	5 1	12 21.06	+ 2 11.3	2.701	3.557	9.8	21.7
33914	2000 LN ₁₄		3 31.4 178°07	5°2/23.5	18		407701	2011 UH ₁₂₈		3 31.4 78°22	3°3/ 3.3	18	
2 21	13 4.60	+15 30.8	3.193	3									

EPHEMERIDES

3 31.4

3 31.5

2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
105852	2000 <i>SV</i> ₁₆₅		3 31.4 208°21	3°3/ 4.1	18		337588	2001 <i>SH</i> ₃₄₂		3 31.5 107°46	0°4/30.9	17	
2 21	13 4.69	-16 15.7	2.650	3.370	13.0	20.1	2 21	13 2.50	-5 55.7	2.477	3.251	12.5	21.8
3 2	13 0.69	-16 33.8	2.545	3.367	10.8	19.9	3 2	12 58.85	-5 19.5	2.396	3.264	9.8	21.6
3 12	12 54.87	-16 38.2	2.461	3.364	8.3	19.8	3 12	12 53.51	-4 32.2	2.338	3.278	6.7	21.4
3 22	12 47.65	-16 28.7	2.403	3.361	5.5	19.6	3 22	12 46.92	-3 37.3	2.307	3.291	3.2	21.2
4 1	12 39.65	-16 6.4	2.373	3.358	3.4	19.4	4 1	12 39.74	-2 39.1	2.305	3.304	0.6	21.0
4 11	12 31.62	-15 34.5	2.372	3.354	4.0	19.5	4 11	12 32.69	-1 42.9	2.333	3.317	4.0	21.3
4 21	12 24.29	-14 56.8	2.400	3.350	6.6	19.6	4 21	12 26.43	-0 53.3	2.390	3.329	7.3	21.5
5 1	12 18.28	-14 18.4	2.454	3.346	9.4	19.8	5 1	12 21.50	-0 14.0	2.472	3.342	10.2	21.7
460352	2014 <i>RM</i> ₄₀		3 31.4 267°89	5°8/26.4	18		403235	2008 <i>UL</i> ₃₅₁		3 31.5 327°91	2°0/30.2	18	
2 21	13 5.73	+5 9.7	1.542	2.365	16.5	20.9	2 21	13 5.89	-1 55.7	1.247	2.071	19.6	20.9
3 2	13 2.81	+6 24.5	1.452	2.350	13.1	20.6	3 2	13 3.53	-1 41.4	1.165	2.063	15.6	20.7
3 12	12 57.06	+7 49.7	1.384	2.334	9.3	20.4	3 12	12 57.88	-1 12.7	1.102	2.055	10.7	20.4
3 22	12 48.99	+9 16.8	1.341	2.318	6.2	20.1	3 22	12 49.52	-0 34.5	1.061	2.048	5.3	20.0
4 1	12 39.57	+10 35.2	1.323	2.302	6.5	20.1	4 1	12 39.58	+0 6.0	1.044	2.041	2.3	19.8
4 11	12 30.08	+11 34.6	1.331	2.286	10.0	20.3	4 11	12 29.63	+0 39.8	1.051	2.035	7.4	20.1
4 21	12 21.76	+12 8.7	1.363	2.270	14.1	20.5	4 21	12 21.15	+0 59.7	1.081	2.029	12.9	20.4
5 1	12 15.65	+12 14.8	1.415	2.253	18.0	20.7	5 1	12 15.32	+1 0.9	1.132	2.025	17.7	20.6
471226	2011 <i>AT</i> ₁₂		3 31.5 2°06	7°5/24.6	17		308670	2006 <i>BV</i> ₂₈₂		3 31.5 270°01	3°9/ 3.3	16	
2 21	13 0.26	+8 27.3	1.393	2.236	16.9	20.7	2 21	13 7.75	-14 1.8	1.570	2.334	18.9	20.8
3 2	12 58.52	+9 59.5	1.328	2.234	13.3	20.4	3 2	13 4.58	-14 30.7	1.470	2.322	15.7	20.5
3 12	12 54.40	+11 37.6	1.284	2.234	9.8	20.2	3 12	12 58.43	-14 40.5	1.389	2.311	11.8	20.3
3 22	12 47.02	+13 10.7	1.263	2.234	7.6	20.1	3 22	12 49.78	-14 29.7	1.330	2.299	7.5	20.0
4 1	12 39.68	+14 27.1	1.267	2.235	8.4	20.1	4 1	12 39.56	-13 59.5	1.296	2.287	4.1	19.7
4 11	12 32.15	+15 17.4	1.294	2.238	11.4	20.3	4 11	12 29.15	-13 14.9	1.288	2.275	5.7	19.8
4 21	12 25.94	+15 37.1	1.344	2.241	15.0	20.5	4 21	12 19.89	-12 23.4	1.305	2.263	10.2	20.0
5 1	12 21.93	+15 26.1	1.412	2.244	18.4	20.8	5 1	12 12.93	-11 33.8	1.346	2.251	14.6	20.2
82209	2001 <i>HA</i> ₄₅		3 31.5 198°23	0°4/31.7	18		387609	2002 <i>EW</i> ₃₂		3 31.5 13°50	1°3/ 1.5	17	
2 21	13 11.67	-6 37.5	1.688	2.466	17.2	19.9	2 21	13 7.09	-7 23.1	2.054	2.825	14.8	20.5
3 2	13 7.20	-6 35.9	1.595	2.464	13.8	19.7	3 2	13 2.98	-7 50.5	1.965	2.828	11.9	20.3
3 12	12 59.91	-6 19.9	1.523	2.461	9.7	19.4	3 12	12 56.65	-8 7.6	1.897	2.831	8.4	20.1
3 22	12 50.36	-5 51.7	1.475	2.457	5.0	19.1	3 22	12 48.61	-8 15.2	1.855	2.835	4.6	19.9
4 1	12 39.50	-5 15.6	1.454	2.453	0.4	18.7	4 1	12 39.65	-8 15.3	1.841	2.839	1.3	19.7
4 11	12 28.64	-4 37.6	1.461	2.448	5.3	19.1	4 11	12 30.73	-8 11.4	1.856	2.844	4.2	19.9
4 21	12 18.98	-4 4.2	1.495	2.442	10.1	19.4	4 21	12 22.78	-8 7.2	1.897	2.849	8.0	20.1
5 1	12 11.52	-3 41.0	1.553	2.436	14.3	19.6	5 1	12 16.55	-8 6.4	1.965	2.854	11.5	20.3
416968	2005 <i>TP</i> ₁		3 31.5 95°24	2°3/29.5	18		241043	2006 <i>RQ</i> ₃₀		3 31.5 125°83	0°1/31.6	17	
2 21	13 10.66	+1 9.3	1.900	2.693	15.0	21.0	2 21	13 1.39	-8 52.5	2.852	3.609	11.4	21.3
3 2	13 5.69	+1 25.4	1.829	2.709	11.7	20.8	3 2	12 57.75	-8 2.3	2.766	3.624	9.0	21.1
3 12	12 58.39	+1 48.3	1.780	2.725	8.0	20.6	3 12	12 52.64	-7 0.1	2.704	3.639	6.2	20.9
3 22	12 49.38	+2 13.6	1.757	2.741	4.1	20.4	3 22	12 46.46	-5 48.9	2.670	3.652	3.1	20.8
4 1	12 39.57	+2 36.2	1.763	2.757	2.6	20.3	4 1	12 39.78	-4 33.1	2.667	3.666	0.2	20.5
4 11	12 30.03	+2 51.3	1.797	2.773	5.9	20.6	4 11	12 33.21	-3 17.8	2.694	3.679	3.3	20.8
4 21	12 21.68	+2 55.5	1.858	2.788	9.6	20.8	4 21	12 27.32	-2 7.8	2.751	3.692	6.4	21.0
5 1	12 15.25	+2 46.8	1.944	2.803	13.0	21.0	5 1	12 22.58	-1 7.1	2.835	3.704	9.0	21.2
242950	2006 <i>RB</i> ₆₉		3 31.5 319°42	0°6/31.9	17		109765	2001 <i>RT</i> ₇₇		3 31.5 165°52	1°6/29.1	18	
2 21	13 2.09	-7 37.5	1.943	2.727	15.0	20.8	2 21	13 2.19	-0 51.6	3.136	3.914	10.0	21.1
3 2	12 59.31	-7 29.8	1.841	2.713	12.1	20.5	3 2	12 58.25	-0 7.3	3.046	3.920	7.8	20.9
3 12	12 54.30	-7 8.2	1.761	2.701	8.5	20.3	3 12	12 52.93	+0 43.6	2.982	3.925	5.2	20.8
3 22	12 47.51	-6 34.6	1.706	2.688	4.4	20.0	3 22	12 46.60	+1 37.8	2.946	3.930	2.6	20.6
4 1	12 39.68	-5 53.0	1.677	2.676	0.6	19.7	4 1	12 39.77	+2 31.5	2.940	3.934	1.8	20.5
4 11	12 31.78	-5 9.0	1.676	2.665	4.5	19.9	4 11	12 33.01	+3 20.4	2.965	3.937	4.1	20.7
4 21	12 24.77	-4 28.4	1.702	2.653	8.7	20.2	4 21	12 26.83	+4 1.4	3.019	3.940	6.7	20.9
5 1	12 19.44	-3 56.6	1.752	2.642	12.6	20.4	5 1	12 21.71	+4 31.8	3.100	3.942	9.1	21.0
140681	2001 <i>UL</i> ₅₃		3 31.5 137°49	4°3/25.7	17		330419	2007 <i>CX</i> ₂₅		3 31.5 42°86	3°7/28.6	18	
2 21	13 3.41	+8 56.1	2.725	3.526	10.7	20.4	2 21	13 6.46	+2 31.5	1.519	2.337	16.9	20.4
3 2	12 59.38	+9 54.3	2.653	3.535	8.4	20.2	3 2	13 3.03	+3 6.7	1.453	2.348	13.2	20.1
3 12	12 53.77	+10 54.0	2.606	3.545	6.1	20.1	3 12	12 56.90	+3 49.8	1.408	2.359	9.0	19.9
3 22	12 47.02	+11 50.1	2.586	3.554	4.5	20.0	3 22	12 48.76	+4 34.6	1.387	2.371	5.0	19.7
4 1	12 39.73	+12 37.7	2.596	3.563	4.7	20.0	4 1	12 39.65	+5 13.4	1.392	2.383	4.1	19.7
4 11	12 32.56	+13 12.5	2.634	3.571	6.6	20.2	4 11	12 30.81	+5 39.5	1.423	2.395	7.6	19.9
4 21	12 26.14	+13 32.0	2.700	3.579	9.0	20.3	4 21	12 23.35	+5 48.7	1.479	2.408	11.7	20.2
5 1	12 20.96	+13 35.5	2.789	3.587	11.2	20.5	5 1	12 18.07	+5 39.0	1.557	2.421	15.3	20.4
471443	2011 <i>UY</i> ₁₁₇		3 31.5 230°93	2°6/ 4.3	16		393507	2002 <i>RL</i> ₂₂₅		3 31.5 288°53	2°0/ 1.9	17	
2 21	13 1.70	-17 56.4	3.066	3.774	11.6	22.5	2 21	13 3.63	-11 39.6	1.346	2.140	20.0	21.3
3 2	12 58.12	-17 36.7	2.945	3.760	9.7	22.4	3 2	13 1.87	-11 32.0	1.241	2.117	16.5	21.0
3 12	12 53.00	-17 1.6	2.846	3.746	7.4	22.2	3 12	12 56.93	-10 59.7	1.155	2.093	12.1	20.6
3 22	12 46.71	-16 11.9	2.774	3.732	4.9	22.0	3 22	12 49.19	-10 2.7	1.089	2.069	6.9	20.3
4 1	12 39.74	-15 9.5	2.730	3.717	2.8	21.8	4 1	12 39.60	-8 45.0	1.047	2.045	2.1	19.9
4 11	12 32.74	-13 58.3	2.717	3.701	3.4	21.8	4 11	12 29.63	-7 15.6	1.031	2.021	6.0	20.1
4 21	12 26.31	-12 43.0	2.733	3.685	5.8	22.0	4 21	12 20.81	-5 46.3	1.038	1.997	11.9	20.3
5 1	12 20.97	-11 28.9	2.778	3.669	8.5	22.1	5 1	12 14.51	-4 29.0	1.066	1.974	17.4	20.5
205451	2001 <i>PC</i> ₃₉		3 31.5 181°16	4°3/26.9	18		65885	Lubenow		3 31.5 26°95	4°0/ 3.5	18	
2 21	13 7.36	+8 47.5	2.444	3.241	11.9								

EPHEMERIDES

3 31.5

3 31.5

2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
116834	2004 <i>FB</i> ₃₆		3 31.5 180°81	1.4/29.9	17		257621	1999 <i>TR</i> ₁₂₀		3 31.5 123°37	0.9/1.2	18	
2 21	13 5.56	- 3 33.8	2.196	2.978	13.6	20.1	2 21	13 9.48	- 8 36.9	1.896	2.663	16.0	21.1
3 2	13 1.59	- 2 49.1	2.105	2.980	10.7	19.9	3 2	13 4.93	- 8 29.2	1.816	2.678	12.8	20.9
3 12	12 55.59	- 1 52.8	2.037	2.980	7.2	19.6	3 12	12 58.00	- 8 6.8	1.758	2.692	9.0	20.7
3 22	12 48.05	- 0 48.8	1.995	2.981	3.5	19.4	3 22	12 49.27	- 7 32.0	1.725	2.705	4.7	20.4
4 1	12 39.70	+ 0 17.1	1.983	2.980	1.6	19.3	4 1	12 39.65	- 6 49.0	1.719	2.718	0.9	20.2
4 11	12 31.40	+ 1 18.7	2.000	2.979	5.1	19.5	4 11	12 30.21	- 6 3.5	1.743	2.730	4.5	20.5
4 21	12 23.99	+ 2 10.5	2.045	2.977	8.7	19.7	4 21	12 21.93	+ 5 21.6	1.794	2.742	8.6	20.7
5 1	12 18.14	+ 2 48.4	2.115	2.975	12.0	19.9	5 1	12 15.55	- 4 48.4	1.870	2.753	12.2	21.0
287455	2002 <i>YM</i> ₁₃		3 31.5 97°93	0.5/31.9	18		150668	2001 <i>MP</i> ₄		3 31.5 205°21	3.4/27.7	18	
2 21	13 6.27	- 8 37.9	1.843	2.619	16.0	21.2	2 21	13 7.55	+ 4 3.1	2.425	3.216	12.2	20.8
3 2	13 2.43	- 8 14.0	1.768	2.635	12.8	21.0	3 2	13 2.98	+ 4 51.8	2.330	3.210	9.6	20.6
3 12	12 56.28	- 7 34.2	1.713	2.651	8.9	20.8	3 12	12 56.47	+ 5 46.3	2.259	3.203	6.6	20.4
3 22	12 48.40	- 6 41.6	1.684	2.666	4.6	20.6	3 22	12 48.49	+ 6 41.7	2.216	3.195	4.0	20.2
4 1	12 39.68	- 5 41.4	1.682	2.681	0.5	20.3	4 1	12 39.70	+ 7 32.4	2.202	3.186	3.8	20.2
4 11	12 31.17	- 4 40.6	1.709	2.696	4.6	20.6	4 11	12 30.93	+ 8 13.0	2.218	3.177	6.3	20.3
4 21	12 23.80	- 3 45.7	1.762	2.711	8.7	20.9	4 21	12 22.95	+ 8 39.9	2.262	3.167	9.4	20.5
5 1	12 18.30	- 3 2.1	1.841	2.725	12.4	21.1	5 1	12 16.43	+ 8 50.7	2.330	3.156	12.2	20.7
330046	2005 <i>UR</i> ₃₁₅		3 31.5 179°04	1.0/1.6	17		499804	2011 <i>CX</i> ₈₈		3 31.5 86°46	5.8/5.9	18	
2 21	13 3.61	-11 6.6	2.068	2.832	14.9	21.3	2 21	13 8.33	-21 8.7	1.931	2.642	17.5	21.6
3 2	13 0.26	-10 35.6	1.974	2.833	12.0	21.1	3 2	13 4.22	-21 47.3	1.850	2.658	14.9	21.4
3 12	12 54.79	- 9 47.3	1.902	2.833	8.5	20.8	3 12	12 57.63	-22 5.0	1.788	2.675	11.8	21.2
3 22	12 47.69	- 8 44.1	1.854	2.834	4.6	20.6	3 22	12 49.14	-22 0.1	1.749	2.691	8.6	21.1
4 1	12 39.72	- 7 30.5	1.835	2.834	1.1	20.3	4 1	12 39.66	-21 33.1	1.735	2.706	6.2	20.9
4 11	12 31.80	- 6 13.3	1.845	2.833	4.2	20.6	4 11	12 30.31	-20 47.9	1.748	2.722	6.2	21.0
4 21	12 24.80	- 4 59.6	1.882	2.833	8.1	20.8	4 21	12 22.11	-19 51.3	1.788	2.737	8.5	21.1
5 1	12 19.43	- 3 55.7	1.945	2.832	11.7	21.0	5 1	12 15.88	-18 50.9	1.853	2.753	11.5	21.3
253515	2003 <i>SO</i> ₁₅₉		3 31.5 299°03	4.4/5.5	16		453702	2010 <i>XH</i> ₂₈		3 31.5 337°15	17.6/17.1	18	
2 21	13 1.05	-20 29.3	2.465	3.175	14.1	21.1	2 21	13 0.81	-39 33.7	1.193	1.857	28.5	20.5
3 2	12 58.24	-20 37.2	2.335	3.145	12.1	20.9	3 2	13 0.88	-41 25.5	1.114	1.852	26.6	20.3
3 12	12 53.48	-20 27.1	2.226	3.116	9.6	20.6	3 12	12 56.98	-42 38.4	1.045	1.847	24.4	20.1
3 22	12 47.11	-19 57.6	2.139	3.087	6.9	20.4	3 22	12 49.47	-43 0.9	0.987	1.842	21.9	19.9
4 1	12 39.75	-19 9.6	2.080	3.057	4.7	20.2	4 1	12 39.62	-42 22.5	0.944	1.838	19.5	19.7
4 11	12 32.19	-18 6.2	2.049	3.028	4.9	20.2	4 11	12 29.51	-40 41.0	0.918	1.835	17.9	19.6
4 21	12 25.25	-16 52.9	2.045	2.998	7.4	20.3	4 21	12 21.29	-38 4.3	0.909	1.833	17.7	19.5
5 1	12 19.68	-15 36.4	2.067	2.969	10.4	20.4	5 1	12 16.63	-34 50.7	0.920	1.831	19.1	19.6
93079	2000 <i>SX</i> ₂₈		3 31.5 140°95	4.3/5.4	18 R		437257	2012 <i>XA</i> ₉₆		3 31.5 113°18	4.8/25.6	17	
2 21	13 2.74	-20 39.1	2.038	2.758	16.4	19.7	2 21	13 3.14	+ 9 28.8	2.470	3.277	11.5	21.4
3 2	12 59.73	-20 29.3	1.943	2.761	13.9	19.5	3 2	12 59.38	+10 26.8	2.397	3.283	9.1	21.3
3 12	12 54.51	-19 56.4	1.867	2.764	10.8	19.3	3 12	12 53.90	+11 26.2	2.349	3.289	6.6	21.1
3 22	12 47.57	-19 0.3	1.814	2.767	7.4	19.1	3 22	12 47.15	+12 21.5	2.328	3.295	4.9	21.0
4 1	12 39.73	-17 43.6	1.788	2.770	4.7	19.0	4 1	12 39.79	+13 7.0	2.335	3.302	5.3	21.1
4 11	12 31.95	-16 12.4	1.789	2.773	5.0	19.0	4 11	12 32.56	+13 38.3	2.371	3.308	7.3	21.2
4 21	12 25.14	-14 34.9	1.819	2.775	7.9	19.2	4 21	12 26.13	+13 52.8	2.432	3.313	9.8	21.4
5 1	12 20.05	-12 59.6	1.874	2.777	11.2	19.4	5 1	12 21.07	+13 49.8	2.517	3.319	12.1	21.5
71291	2000 <i>AS</i> ₅₆		3 31.5 60°24	6.6/24.7	18		346135	2007 <i>VF</i> ₂₀₂		3 31.5 106°32	2.3/29.0	18	
2 21	13 4.05	+10 44.0	1.841	2.662	14.3	19.1	2 21	13 6.85	+ 2 9.6	2.403	3.192	12.4	21.0
3 2	13 0.62	+12 5.4	1.785	2.678	11.3	18.9	3 2	13 2.27	+ 2 31.4	2.326	3.204	9.6	20.8
3 12	12 54.96	+13 27.5	1.753	2.693	8.5	18.8	3 12	12 55.86	+ 2 58.3	2.272	3.217	6.5	20.6
3 22	12 47.71	+14 42.0	1.746	2.709	6.7	18.7	3 22	12 48.12	+ 3 26.4	2.246	3.229	3.5	20.4
4 1	12 39.73	+15 40.8	1.765	2.725	7.3	18.7	4 1	12 39.74	+ 3 51.5	2.249	3.240	2.6	20.4
4 11	12 32.03	+16 17.9	1.811	2.741	9.6	18.9	4 11	12 31.52	+ 4 9.5	2.281	3.252	5.2	20.6
4 21	12 25.47	+16 30.9	1.881	2.757	12.4	19.1	4 21	12 24.18	+ 4 17.6	2.341	3.263	8.3	20.8
5 1	12 20.71	+16 20.3	1.972	2.773	15.0	19.3	5 1	12 18.31	+ 4 14.1	2.427	3.275	11.1	21.0
114880	2003 <i>QE</i> ₁₃		3 31.5 140°53	1.0/30.5	18		237043	2008 <i>SM</i> ₁₁₇		3 31.5 13°34	1.1/1.4	18	
2 21	13 6.74	- 2 40.9	2.181	2.963	13.7	20.0	2 21	13 3.71	-10 44.9	1.383	2.178	19.5	21.0
3 2	13 2.49	- 2 25.7	2.094	2.968	10.7	19.8	3 2	13 1.44	-10 18.7	1.301	2.178	15.8	20.7
3 12	12 56.19	- 2 1.5	2.030	2.973	7.3	19.6	3 12	12 56.20	- 9 28.5	1.238	2.179	11.2	20.4
3 22	12 48.34	- 1 31.5	1.993	2.978	3.6	19.4	3 22	12 48.61	- 8 17.3	1.197	2.179	6.0	20.2
4 1	12 39.69	- 0 59.7	1.984	2.982	1.2	19.2	4 1	12 39.70	- 6 51.6	1.181	2.180	1.1	19.8
4 11	12 31.15	- 0 31.2	2.004	2.986	4.7	19.5	4 11	12 30.88	- 5 21.7	1.191	2.180	5.6	20.1
4 21	12 23.52	- 0 10.0	2.053	2.990	8.4	19.7	4 21	12 23.42	- 3 58.7	1.225	2.181	10.9	20.4
5 1	12 17.49	+ 0 0.9	2.126	2.994	11.6	19.9	5 1	12 18.32	- 2 51.4	1.282	2.182	15.5	20.7
165457	2000 <i>YE</i> ₁₂₇		3 31.5 161°49	0.7/1.2	18		371012	2005 <i>UT</i> ₁₆		3 31.5 246°64	0.2/31.7	17	
2 21	13 8.34	- 9 6.1	2.071	2.833	15.0	21.6	2 21	13 5.46	- 8 10.6	2.216	2.983	14.0	22.2
3 2	13 3.91	- 8 45.7	1.982	2.840	12.0	21.4	3 2	13 1.74	- 7 43.1	2.102	2.964	11.2	22.0
3 12	12 57.25	- 8 10.2	1.914	2.846	8.4	21.2	3 12	12 55.89	- 7 0.8	2.009	2.945	7.9	21.7
3 22	12 48.91	- 7 22.3	1.872	2.852	4.4	20.9	3 22	12 48.32	- 6 6.0	1.943	2.925	4.0	21.4
4 1	12 39.67	- 6 26.1	1.858	2.857	0.7	20.6	4 1	12 39.72	- 5 2.9	1.906	2.905	0.3	21.1
4 11	12 30.53	- 5 27.7	1.874	2.861	4.3	20.9	4 11	12 30.99	- 3 57.4	1.898	2.884	4.4	21.4
4 21	12 22.38	- 4 33.2	1.918	2.864	8.3	21.2	4 21	12 23.02	- 2 55.9	1.918	2.862	8.4	21.6
5 1	12 15.98	- 3 48.0	1.988	2.867	11.8	21.4	5 1	12 16.58	- 2 4.0	1.963	2.840	12.1	21.8
105290	2000 <i>QX</i> ₄₇		3 31.5 170°83	2.6/3.5	18		249244	2008 <i>QE</i> ₁₃		3 31.5 190°15	1.0/3		

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2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
162557	2000 <i>RP</i> ₂₀		3 31.5 223°39	2°2/ 2.5 18			371262	2006 <i>BY</i> ₂₆₆		3 31.5 54°29	3°7/27.4 18		
2 21	13 5.78	-13 19.4	1.780	2.541	17.1	19.9	2 21	13 1.05	-1 10.0	1.634	2.450	16.0	20.5
3 2	13 2.51	-13 4.9	1.681	2.535	14.0	19.6	3 2	12 58.54	+ 0 33.1	1.574	2.470	12.4	20.3
3 12	12 56.68	-12 29.6	1.601	2.527	10.2	19.4	3 12	12 53.69	+ 2 29.9	1.537	2.490	8.3	20.1
3 22	12 48.79	-11 34.5	1.545	2.520	6.0	19.1	3 22	12 47.14	+ 4 31.6	1.526	2.510	4.6	19.9
4 1	12 39.70	-10 23.4	1.516	2.512	2.3	18.9	4 1	12 39.83	+ 6 27.1	1.542	2.530	4.3	19.9
4 11	12 30.56	- 9 3.5	1.514	2.503	4.7	19.0	4 11	12 32.79	+ 8 6.4	1.586	2.551	7.7	20.2
4 21	12 22.47	- 7 43.5	1.539	2.494	9.2	19.2	4 21	12 26.95	+ 9 22.5	1.655	2.571	11.5	20.4
5 1	12 16.35	- 6 31.7	1.589	2.485	13.4	19.5	5 1	12 22.96	+10 12.4	1.746	2.592	14.8	20.7
413080	2001 <i>TH</i> ₁₇		3 31.5 222°48	2°2/ 2.5 17			298985	2004 <i>XZ</i> ₈		3 31.5 84°69	2°4/ 2.5 18		
2 21	13 7.57	-13 24.0	1.888	2.640	16.5	22.0	2 21	13 10.03	-12 23.9	1.567	2.334	18.8	20.8
3 2	13 3.82	-13 10.8	1.782	2.630	13.6	21.7	3 2	13 5.80	-12 25.3	1.500	2.357	15.2	20.6
3 12	12 57.55	-12 37.7	1.696	2.620	10.0	21.5	3 12	12 58.80	-12 6.7	1.452	2.380	11.0	20.4
3 22	12 49.23	-11 45.5	1.634	2.608	5.9	21.2	3 22	12 49.73	-11 29.5	1.428	2.403	6.3	20.2
4 1	12 39.68	-10 37.5	1.600	2.596	2.4	21.0	4 1	12 39.70	-10 38.1	1.430	2.426	2.5	20.0
4 11	12 30.03	- 9 20.5	1.594	2.582	4.7	21.1	4 11	12 29.99	- 9 39.9	1.459	2.448	4.9	20.2
4 21	12 21.36	- 8 2.4	1.616	2.568	9.0	21.3	4 21	12 21.75	- 8 42.8	1.514	2.469	9.3	20.5
5 1	12 14.59	- 6 51.3	1.662	2.554	13.1	21.5	5 1	12 15.78	- 7 54.0	1.594	2.491	13.2	20.8
77090	2001 <i>DY</i> ₄₄		3 31.5 119°37	1°5/30.4 18			42768	1998 <i>SA</i> ₁₆₈		3 31.5 268°38	3°3/ 3.9 18		
2 21	13 8.62	- 4 31.5	1.422	2.225	18.7	19.9	2 21	13 4.14	-16 48.6	2.348	3.075	14.3	19.4
3 2	13 5.05	- 3 53.4	1.349	2.234	14.7	19.6	3 2	13 0.74	-16 47.6	2.222	3.050	12.0	19.2
3 12	12 58.51	- 2 58.4	1.296	2.244	10.0	19.4	3 12	12 55.24	-16 29.1	2.118	3.025	9.2	18.9
3 22	12 49.67	- 1 51.8	1.267	2.253	4.9	19.1	3 22	12 48.04	-15 52.6	2.037	2.999	6.0	18.7
4 1	12 39.67	- 0 41.5	1.263	2.261	1.7	18.9	4 1	12 39.78	-14 59.7	1.985	2.973	3.5	18.5
4 11	12 29.89	+ 0 22.7	1.287	2.270	6.5	19.2	4 11	12 31.32	-13 54.6	1.961	2.946	4.4	18.5
4 21	12 21.59	+ 1 13.2	1.335	2.278	11.5	19.5	4 21	12 23.53	-12 43.2	1.965	2.919	7.6	18.6
5 1	12 15.69	+ 1 44.6	1.405	2.285	15.8	19.8	5 1	12 17.21	-11 32.5	1.996	2.891	11.0	18.8
269764	1999 <i>TZ</i> ₃₈		3 31.5 109°58	3°2/ 4.5 18			47063	1998 <i>XX</i> ₅₂		3 31.5 205°34	1°5/29.8 18		
2 21	13 3.99	-18 57.6	2.334	3.050	14.7	21.0	2 21	13 3.65	- 2 2.9	2.380	3.166	12.6	18.6
3 2	13 0.22	-18 31.0	2.249	3.069	12.2	20.8	3 2	12 59.96	- 1 28.5	2.286	3.163	9.8	18.4
3 12	12 54.55	-17 44.4	2.186	3.088	9.2	20.7	3 12	12 54.43	- 0 44.9	2.215	3.160	6.7	18.2
3 22	12 47.50	-16 39.3	2.147	3.106	6.0	20.5	3 22	12 47.50	+ 0 4.3	2.172	3.157	3.3	18.0
4 1	12 39.79	-15 19.0	2.136	3.123	3.4	20.4	4 1	12 39.82	+ 0 54.3	2.157	3.153	1.7	17.9
4 11	12 32.25	-13 49.5	2.155	3.140	4.0	20.4	4 11	12 32.17	+ 1 39.8	2.172	3.150	4.8	18.1
4 21	12 25.63	-12 17.9	2.203	3.157	6.9	20.6	4 21	12 25.30	+ 2 16.6	2.214	3.146	8.2	18.3
5 1	12 20.53	-10 51.2	2.278	3.173	9.9	20.8	5 1	12 19.82	+ 2 41.2	2.282	3.141	11.3	18.5
64621	2001 <i>XE</i> ₃₀		3 31.5 138°74	5°8/24.6 18			43934	1996 <i>TC</i>		3 31.5 73°54	0°2/31.7 18		
2 21	13 5.85	+10 30.1	2.258	3.064	12.5	19.1	2 21	13 3.08	- 7 3.9	2.197	2.973	13.8	18.8
3 2	13 1.66	+11 52.9	2.192	3.076	9.9	19.0	3 2	12 59.67	- 6 45.2	2.108	2.977	10.9	18.6
3 12	12 55.52	+13 17.1	2.151	3.087	7.4	18.8	3 12	12 54.29	- 6 14.1	2.042	2.981	7.6	18.4
3 22	12 47.98	+14 35.5	2.137	3.098	5.8	18.8	3 22	12 47.44	- 5 33.2	2.002	2.985	3.8	18.1
4 1	12 39.77	+15 41.1	2.152	3.109	6.4	18.8	4 1	12 39.82	- 4 46.6	1.990	2.989	0.2	17.8
4 11	12 31.74	+16 28.3	2.194	3.118	8.5	19.0	4 11	12 32.28	- 3 59.7	2.007	2.994	4.1	18.2
4 21	12 24.66	+16 54.4	2.262	3.128	11.0	19.1	4 21	12 25.60	- 3 17.6	2.051	2.998	7.8	18.4
5 1	12 19.12	+16 59.1	2.353	3.136	13.4	19.3	5 1	12 20.43	- 2 44.5	2.121	3.002	11.1	18.6
347110	2010 <i>JD</i> ₃₇		3 31.5 162°13	4°3/26.5 17			224484	2005 <i>VB</i> ₁₀₀		3 31.5 10°28	1°7/30.4 17		
2 21	13 6.84	+ 9 27.2	2.595	3.391	11.4	21.1	2 21	13 7.48	- 0 25.6	1.405	2.221	18.2	20.6
3 2	13 2.19	+10 5.3	2.515	3.394	9.0	21.0	3 2	13 4.25	- 0 32.5	1.330	2.222	14.4	20.4
3 12	12 55.78	+10 44.1	2.460	3.398	6.5	20.8	3 12	12 58.04	- 0 30.3	1.275	2.225	9.9	20.1
3 22	12 48.09	+11 18.9	2.432	3.401	4.6	20.7	3 22	12 49.49	- 0 22.9	1.243	2.229	4.9	19.8
4 1	12 39.77	+11 45.0	2.433	3.404	4.7	20.7	4 1	12 39.71	- 0 15.4	1.236	2.233	1.9	19.6
4 11	12 31.57	+11 58.5	2.463	3.406	6.7	20.8	4 11	12 30.09	- 0 13.6	1.255	2.239	6.5	19.9
4 21	12 24.19	+11 57.4	2.521	3.408	9.2	21.0	4 21	12 21.90	- 0 21.8	1.298	2.245	11.3	20.2
5 1	12 18.18	+11 41.2	2.602	3.410	11.6	21.2	5 1	12 16.11	- 0 42.6	1.364	2.253	15.6	20.5
142435	2002 <i>SC</i> ₄₇		3 31.5 262°31	0°3/31.8 18			249436	2009 <i>FL</i> ₃₁		3 31.5 316°26	0°5/31.0 17		
2 21	13 4.42	- 8 46.8	1.856	2.635	15.8	20.8	2 21	13 6.10	- 3 10.1	2.196	2.978	13.6	19.8
3 2	13 1.39	- 8 15.4	1.747	2.616	12.8	20.6	3 2	13 2.12	- 3 12.5	2.098	2.971	10.8	19.6
3 12	12 55.91	- 7 25.8	1.659	2.598	9.0	20.3	3 12	12 56.05	- 3 6.7	2.023	2.965	7.4	19.3
3 22	12 48.43	- 6 20.3	1.595	2.578	4.6	20.0	3 22	12 48.36	- 2 54.8	1.974	2.959	3.7	19.1
4 1	12 39.74	- 5 4.1	1.559	2.559	0.3	19.6	4 1	12 39.78	- 2 40.3	1.954	2.952	0.7	18.8
4 11	12 30.88	- 3 44.7	1.551	2.538	5.0	19.9	4 11	12 31.19	- 2 27.2	1.962	2.947	4.5	19.1
4 21	12 22.93	- 2 30.4	1.570	2.518	9.6	20.1	4 21	12 23.44	- 2 19.1	1.998	2.941	8.2	19.3
5 1	12 16.80	- 1 28.4	1.613	2.497	13.8	20.3	5 1	12 17.26	- 2 19.1	2.059	2.935	11.6	19.5
186172	2001 <i>UR</i> ₁₅₀		3 31.5 213°74	1°5/ 2.2 18 R			253039	2002 <i>SC</i> ₂₄		3 31.5 221°54	0°7/ 1.2 17		
2 21	13 5.23	-12 23.3	2.417	3.161	13.5	21.5	2 21	13 7.19	- 8 45.7	2.117	2.880	14.6	21.9
3 2	13 1.31	-12 1.4	2.308	3.153	11.0	21.3	3 2	13 3.16	- 8 30.3	2.011	2.871	11.8	21.7
3 12	12 55.43	-11 23.9	2.220	3.144	8.0	21.1	3 12	12 56.89	- 8 0.4	1.928	2.861	8.3	21.5
3 22	12 48.03	-10 32.1	2.159	3.134	4.6	20.8	3 22	12 48.83	- 7 17.9	1.870	2.850	4.4	21.2
4 1	12 39.77	- 9 29.4	2.127	3.123	1.6	20.6	4 1	12 39.75	- 6 26.7	1.840	2.839	0.7	20.9
4 11	12 31.47	- 8 21.0	2.124	3.112	3.7	20.8	4 11	12 30.60	- 5 32.3	1.840	2.827	4.3	21.2
4 21	12 23.91	- 7 12.8	2.151	3.100	7.3	21.0	4 21	12 22.32	- 4 40.8	1.867	2.814	8.4	21.4
5 1	12 17.80	- 6 10.7	2.204	3.088	10.6	21.1	5 1	12 15.70	- 3 57.8	1.920	2.801	12.1	21.6
40653	1999 <i>RS</i> ₁₉₀		3 31.5 275°89	1°1/ 1.4 18			214439	2005 <i>QS</i> ₁₂₁		3 31.5 312°67	1°		

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2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
63872	2001 RT ₁₃₄		3 31.5	76°30'	2°5'/29.3	18	152469	2005 VG ₁₂₄		3 31.5	267°78'	8°2'/23.4	17
2 21	13 8.18	+ 0 0.3	1.716	2.518	16.0	19.6	2 21	13 8.17	+15 45.7	1.911	2.723	14.2	20.4
3 2	13 3.99	+ 0 34.4	1.652	2.538	12.5	19.5	3 2	13 4.19	+16 58.1	1.827	2.708	11.7	20.2
3 12	12 57.36	+ 1 17.7	1.610	2.558	8.4	19.3	3 12	12 57.72	+18 8.9	1.765	2.693	9.4	20.0
3 22	12 48.96	+ 2 4.8	1.593	2.578	4.3	19.0	3 22	12 49.29	+19 9.6	1.729	2.677	8.2	19.9
4 1	12 39.76	+ 2 49.2	1.604	2.598	2.8	19.0	4 1	12 39.78	+19 51.6	1.719	2.661	8.9	19.9
4 11	12 30.88	+ 3 24.4	1.642	2.618	6.3	19.3	4 11	12 30.30	+20 8.5	1.735	2.646	11.2	20.0
4 21	12 23.27	+ 3 46.1	1.706	2.637	10.2	19.5	4 21	12 21.89	+19 58.1	1.774	2.630	14.0	20.1
5 1	12 17.67	+ 3 51.8	1.794	2.657	13.7	19.8	5 1	12 15.39	+19 21.2	1.833	2.614	16.7	20.3
467785	2009 WZ ₁₈₇		3 31.5	256°39'	1°0'/1.4	17	496839	1998 WR ₃₀		3 31.5	199°44'	1°2'/30.3	17
2 21	13 5.07	- 9 20.5	2.000	2.770	15.2	22.2	2 21	13 4.33	- 3 5.2	2.317	3.100	12.9	22.0
3 2	13 1.65	- 9 9.9	1.895	2.757	12.3	21.9	3 2	13 0.57	- 2 36.3	2.224	3.099	10.2	21.8
3 12	12 55.95	- 8 44.1	1.811	2.745	8.7	21.7	3 12	12 54.90	- 1 57.6	2.153	3.096	6.9	21.6
3 22	12 48.41	- 8 4.6	1.752	2.732	4.7	21.4	3 22	12 47.78	- 1 12.4	2.109	3.094	3.4	21.4
4 1	12 39.78	- 7 15.2	1.721	2.719	1.0	21.1	4 1	12 39.87	- 0 25.4	2.094	3.091	1.3	21.2
4 11	12 31.07	- 6 21.6	1.718	2.706	4.4	21.3	4 11	12 32.01	+ 0 18.3	2.108	3.089	4.7	21.5
4 21	12 23.23	- 5 30.0	1.742	2.692	8.6	21.5	4 21	12 24.95	+ 0 54.1	2.150	3.085	8.2	21.7
5 1	12 17.11	- 4 46.5	1.791	2.679	12.5	21.7	5 1	12 19.34	+ 1 18.4	2.217	3.082	11.3	21.9
370976	2005 SA ₂₃₃		3 31.5	246°21'	0°9'/1.4	17	446609	2015 MJ ₆₇		3 31.5	275°96'	8°0'/11.6	16
2 21	13 4.90	- 9 55.5	2.131	2.894	14.5	22.3	2 21	13 2.60	-34 51.3	2.746	3.343	14.9	21.3
3 2	13 1.40	- 9 32.6	2.019	2.879	11.8	22.0	3 2	12 59.49	-35 13.9	2.619	3.322	13.6	21.2
3 12	12 55.71	- 8 53.6	1.930	2.863	8.4	21.8	3 12	12 54.36	-35 14.4	2.508	3.301	11.9	21.0
3 22	12 48.27	- 8 0.4	1.866	2.846	4.5	21.5	3 22	12 47.60	-34 49.8	2.417	3.279	10.2	20.8
4 1	12 39.80	- 6 56.8	1.830	2.829	0.9	21.2	4 1	12 39.88	-33 58.4	2.350	3.257	8.7	20.7
4 11	12 31.21	- 5 49.1	1.823	2.811	4.3	21.4	4 11	12 32.03	-32 41.7	2.309	3.235	8.0	20.6
4 21	12 23.42	- 4 43.7	1.845	2.793	8.4	21.6	4 21	12 24.91	-31 4.3	2.294	3.213	8.6	20.6
5 1	12 17.24	- 3 47.0	1.891	2.775	12.1	21.8	5 1	12 19.25	-29 13.2	2.305	3.191	10.2	20.7
417820	2007 FX ₂₀		3 31.5	88°23'	1°7'/30.0	18	157612	2005 WU ₆₅		3 31.5	189°00'	2°0'/29.2	17
2 21	13 8.06	- 1 29.0	1.852	2.645	15.3	21.3	2 21	13 6.37	- 0 30.8	2.408	3.191	12.5	21.6
3 2	13 3.81	- 1 7.7	1.779	2.659	12.0	21.1	3 2	13 2.07	+ 0 9.4	2.314	3.190	9.8	21.4
3 12	12 57.23	- 0 36.9	1.727	2.673	8.1	20.9	3 12	12 55.87	+ 0 58.1	2.245	3.189	6.6	21.2
3 22	12 48.92	- 0 0.8	1.702	2.687	4.0	20.7	3 22	12 48.25	+ 1 51.0	2.203	3.187	3.4	21.0
4 1	12 39.78	+ 0 35.3	1.704	2.700	1.9	20.5	4 1	12 39.86	+ 2 43.3	2.190	3.184	2.3	20.9
4 11	12 30.85	+ 1 5.6	1.734	2.714	5.5	20.8	4 11	12 31.51	+ 3 29.5	2.207	3.180	5.2	21.1
4 21	12 23.08	+ 1 25.7	1.791	2.727	9.5	21.1	4 21	12 23.97	+ 4 5.5	2.253	3.176	8.5	21.3
5 1	12 17.19	+ 1 32.7	1.872	2.740	13.0	21.3	5 1	12 17.86	+ 4 28.1	2.323	3.171	11.5	21.4
31340	1998 KW ₅₃		3 31.5	64°98'	10°1'/18.4	18	300154	2006 VW ₈₉		3 31.5	145°48'	1°5'/29.7	18
2 21	13 6.76	+27 50.1	2.296	3.087	12.8	17.6	2 21	13 3.42	- 1 3.9	2.769	3.550	11.1	21.8
3 2	13 2.50	+29 14.0	2.250	3.094	11.3	17.5	3 2	12 59.44	- 0 35.0	2.682	3.556	8.7	21.6
3 12	12 56.15	+30 26.3	2.228	3.102	10.3	17.5	3 12	12 53.89	+ 0 0.6	2.619	3.563	5.9	21.4
3 22	12 48.31	+31 19.2	2.229	3.109	10.2	17.5	3 22	12 47.19	+ 0 39.9	2.584	3.569	2.9	21.2
4 1	12 39.82	+31 46.6	2.255	3.117	10.9	17.5	4 1	12 39.92	+ 1 18.9	2.579	3.575	1.6	21.1
4 11	12 31.60	+31 45.9	2.304	3.125	12.3	17.6	4 11	12 32.73	+ 1 53.5	2.604	3.580	4.2	21.3
4 21	12 24.48	+31 17.6	2.373	3.132	13.9	17.8	4 21	12 26.23	+ 2 20.6	2.657	3.585	7.2	21.5
5 1	12 19.06	+30 24.4	2.461	3.140	15.4	17.9	5 1	12 20.93	+ 2 37.6	2.736	3.590	9.8	21.7
267455	2002 EY ₂₀		3 31.5	344°73'	7°3'/24.9	18	439127	2011 SO ₁₉₆		3 31.5	290°47'	0°8'/30.5	17
2 21	13 1.13	+ 9 15.7	1.477	2.315	16.3	19.4	2 21	13 0.03	- 5 57.5	2.305	3.089	13.0	21.6
3 2	12 59.17	+10 33.9	1.403	2.306	13.0	19.2	3 2	12 57.24	- 5 5.0	2.211	3.086	10.2	21.4
3 12	12 54.52	+11 57.0	1.350	2.299	9.7	19.0	3 12	12 52.63	- 3 59.0	2.140	3.083	7.0	21.2
3 22	12 47.76	+13 15.1	1.321	2.292	7.4	18.8	3 22	12 46.66	- 2 43.5	2.095	3.080	3.4	21.0
4 1	12 39.84	+14 17.5	1.317	2.286	8.1	18.9	4 1	12 39.95	- 1 23.8	2.079	3.078	1.0	20.8
4 11	12 32.03	+14 55.8	1.337	2.281	11.1	19.0	4 11	12 33.29	- 0 6.7	2.093	3.075	4.5	21.0
4 21	12 25.46	+15 5.5	1.379	2.277	14.7	19.2	4 21	12 27.38	+ 1 2.1	2.134	3.072	8.1	21.3
5 1	12 21.01	+14 46.3	1.441	2.273	18.0	19.4	5 1	12 22.84	+ 1 57.6	2.201	3.070	11.3	21.4
1255	Schilowa		3 31.5	181°29'	2°2'/3.6	18	388638	2007 TR ₁₃₁		3 31.5	125°84'	2°3'/29.1	17
2 21	13 2.00	-15 21.3	2.965	3.688	11.7	16.2	2 21	13 6.31	+ 1 40.0	2.399	3.188	12.4	21.6
3 2	12 58.35	-15 7.9	2.860	3.689	9.6	16.0	3 2	13 1.93	+ 2 4.5	2.317	3.196	9.7	21.4
3 12	12 53.17	-14 40.8	2.779	3.689	7.2	15.9	3 12	12 55.71	+ 2 34.6	2.259	3.203	6.6	21.2
3 22	12 46.84	-14 1.1	2.724	3.689	4.5	15.7	3 22	12 48.13	+ 3 6.5	2.228	3.211	3.5	21.0
4 1	12 39.91	-13 10.9	2.697	3.688	2.3	15.6	4 1	12 39.88	+ 3 35.8	2.226	3.218	2.5	21.0
4 11	12 32.99	-12 14.1	2.701	3.687	3.2	15.6	4 11	12 31.75	+ 3 58.3	2.254	3.225	5.2	21.1
4 21	12 26.70	-11 15.1	2.734	3.686	5.8	15.8	4 21	12 24.48	+ 4 10.8	2.309	3.232	8.3	21.3
5 1	12 21.55	-10 18.5	2.795	3.685	8.5	15.9	5 1	12 18.65	+ 4 11.3	2.390	3.239	11.2	21.5
371067	2005 UD ₂₇₆		3 31.5	180°24'	0°9'/1.4	17	491097	2011 ST ₂₅		3 31.5	188°62'	3°3'/4.6	18
2 21	13 4.91	- 9 23.0	1.939	2.711	15.5	22.2	2 21	13 3.46	-17 48.2	2.740	3.452	12.8	21.6
3 2	13 1.47	- 9 7.3	1.847	2.711	12.4	21.9	3 2	12 59.70	-17 55.8	2.635	3.451	10.7	21.5
3 12	12 55.75	- 8 35.7	1.776	2.711	8.8	21.7	3 12	12 54.22	-17 48.7	2.553	3.450	8.2	21.3
3 22	12 48.27	- 7 50.5	1.731	2.711	4.7	21.5	3 22	12 47.43	-17 26.8	2.495	3.449	5.6	21.1
4 1	12 39.83	- 6 55.9	1.713	2.711	0.9	21.2	4 1	12 39.92	-16 51.6	2.465	3.448	3.6	21.0
4 11	12 31.43	- 5 58.3	1.723	2.711	4.4	21.4	4 11	12 32.40	-16 6.3	2.465	3.446	4.0	21.0
4 21	12 24.01	- 5 4.1	1.760	2.711	8.6	21.7	4 21	12 25.56	-15 15.5	2.493	3.444	6.3	21.2
5 1	12 18.35	- 4 19.1	1.822	2.710	12.3	21.9	5 1	12 19.99	-14 24.2	2.548	3.442	9.0	21.3
309986	2009 HP ₈₅		3 31.5	267°30'	0°1'/31.3	16	284122	2005 UM ₂₁₉		3 31.5	247°26'	1	

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2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
65052	2002 AA ₁₅₇		3 31.5 326°18	3°7/27.8	18		430151	2013 TJ ₅₁		3 31.5 120°10	0°2/31.7	17	
2 21	13 0.92	+ 0 24.1	1.711	2.528	15.4	19.0	2 21	13 6.39	- 7 0.2	2.273	3.040	13.6	22.1
3 2	12 58.61	+ 1 36.7	1.627	2.522	12.0	18.8	3 2	13 2.12	- 6 42.9	2.191	3.054	10.8	21.9
3 12	12 53.95	+ 3 2.4	1.565	2.517	8.2	18.5	3 12	12 55.91	- 6 13.9	2.132	3.068	7.5	21.7
3 22	12 47.44	+ 4 34.1	1.528	2.512	4.6	18.3	3 22	12 48.26	- 5 35.7	2.099	3.081	3.8	21.5
4 1	12 39.92	+ 6 2.8	1.518	2.507	4.2	18.3	4 1	12 39.91	- 4 52.4	2.095	3.094	0.2	21.2
4 11	12 32.45	+ 7 19.2	1.535	2.502	7.7	18.5	4 11	12 31.70	- 4 9.0	2.120	3.106	4.0	21.6
4 21	12 26.01	+ 8 16.5	1.576	2.498	11.6	18.7	4 21	12 24.40	- 3 30.1	2.174	3.119	7.6	21.8
5 1	12 21.42	+ 8 50.7	1.640	2.493	15.2	18.9	5 1	12 18.63	- 2 59.8	2.254	3.130	10.7	22.0
274451	2008 SK ₅₂		3 31.5 215°55	0°0/31.5	17		317407	2002 PY ₁₅₀		3 31.5 258°63	1°5/30.2	17	
2 21	13 3.68	- 7 36.0	2.346	3.115	13.2	21.7	2 21	13 4.72	- 4 1.4	1.705	2.504	16.2	21.1
3 2	13 0.11	- 7 2.7	2.244	3.109	10.5	21.5	3 2	13 1.71	- 3 22.1	1.612	2.496	12.8	20.9
3 12	12 54.63	- 6 15.9	2.165	3.102	7.3	21.3	3 12	12 56.17	- 2 27.7	1.540	2.487	8.8	20.6
3 22	12 47.68	- 5 18.4	2.112	3.095	3.7	21.0	3 22	12 48.61	- 1 22.5	1.493	2.479	4.3	20.3
4 1	12 39.91	- 4 14.7	2.088	3.087	0.2	20.7	4 1	12 39.88	- 0 13.4	1.473	2.471	1.8	20.1
4 11	12 32.13	- 3 10.3	2.094	3.079	4.1	21.0	4 11	12 31.15	+ 0 51.5	1.480	2.462	6.0	20.4
4 21	12 25.12	- 2 11.1	2.128	3.071	7.8	21.2	4 21	12 23.47	+ 1 44.8	1.513	2.453	10.6	20.6
5 1	12 19.53	- 1 21.9	2.187	3.062	11.1	21.4	5 1	12 17.75	+ 2 21.1	1.569	2.445	14.6	20.8
156409	2002 AO ₄₆		3 31.5 238°83	5°8/25.1	17		148801	2001 UR ₉₃		3 31.5 57°77	8°0/24.8	18	
2 21	13 3.51	+ 7 51.7	1.960	2.776	13.7	20.0	2 21	13 8.24	+13 31.3	1.605	2.427	16.0	19.5
3 2	13 0.33	+ 9 16.3	1.878	2.770	10.9	19.8	3 2	13 4.28	+14 41.7	1.551	2.441	12.9	19.3
3 12	12 54.95	+10 46.5	1.820	2.765	7.9	19.6	3 12	12 57.69	+15 49.8	1.520	2.456	9.9	19.2
3 22	12 47.88	+12 14.4	1.789	2.758	5.9	19.4	3 22	12 49.20	+16 46.3	1.513	2.471	8.1	19.1
4 1	12 39.90	+13 31.4	1.785	2.752	6.5	19.4	4 1	12 39.87	+17 22.7	1.531	2.486	8.6	19.2
4 11	12 31.97	+14 29.9	1.808	2.746	9.1	19.6	4 11	12 30.91	+17 33.4	1.574	2.501	11.0	19.4
4 21	12 25.00	+15 5.7	1.855	2.739	12.2	19.8	4 21	12 23.38	+17 17.6	1.640	2.517	13.9	19.6
5 1	12 19.72	+15 17.1	1.924	2.732	15.1	19.9	5 1	12 18.00	+16 37.1	1.727	2.532	16.7	19.8
108960	2001 PD ₃₃		3 31.5 194°77	4°0/26.6	18		473017	2015 HX ₅₅		3 31.5 276°76	5°0/6.3	18	
2 21	13 4.70	+ 7 22.3	2.601	3.399	11.3	20.2	2 21	13 2.26	-22 35.2	2.466	3.160	14.5	21.4
3 2	13 0.60	+ 8 10.7	2.515	3.398	8.9	20.1	3 2	12 59.20	-22 46.7	2.345	3.141	12.5	21.2
3 12	12 54.78	+ 9 1.9	2.454	3.395	6.3	19.9	3 12	12 54.16	-22 39.3	2.244	3.122	10.1	21.0
3 22	12 47.68	+ 9 51.0	2.420	3.393	4.3	19.8	3 22	12 47.53	-22 11.5	2.166	3.103	7.5	20.8
4 1	12 39.92	+10 33.0	2.415	3.390	4.4	19.8	4 1	12 39.94	-21 23.9	2.114	3.084	5.4	20.6
4 11	12 32.22	+11 3.3	2.439	3.387	6.5	19.9	4 11	12 32.22	-20 19.6	2.090	3.064	5.3	20.6
4 21	12 25.27	+11 19.2	2.490	3.383	9.1	20.0	4 21	12 25.18	-19 4.2	2.094	3.045	7.4	20.7
5 1	12 19.63	+11 19.3	2.566	3.379	11.6	20.2	5 1	12 19.57	-17 44.5	2.124	3.025	10.2	20.8
407705	2011 UB ₁₅₃		3 31.5 163°10	1°6/2.0	18		287693	Hugonnaivilma		3 31.5 202°25	0°7/1.2	17	
2 21	13 6.42	-12 17.5	1.813	2.576	16.7	21.6	2 21	13 7.73	- 9 8.0	2.091	2.853	14.8	22.6
3 2	13 2.83	-11 51.8	1.724	2.580	13.6	21.4	3 2	13 3.59	- 8 46.2	1.990	2.849	11.9	22.4
3 12	12 56.79	-11 6.1	1.655	2.584	9.8	21.2	3 12	12 57.20	- 8 8.9	1.911	2.843	8.4	22.2
3 22	12 48.84	-10 2.3	1.611	2.588	5.4	20.9	3 22	12 49.03	- 7 18.5	1.857	2.837	4.4	21.9
4 1	12 39.86	- 8 45.4	1.593	2.591	1.6	20.7	4 1	12 39.87	- 6 19.2	1.832	2.831	0.7	21.6
4 11	12 30.97	- 7 23.2	1.604	2.593	4.6	20.9	4 11	12 30.69	- 5 17.0	1.836	2.823	4.3	21.9
4 21	12 23.18	- 6 3.8	1.643	2.595	8.9	21.2	4 21	12 22.42	- 4 18.3	1.868	2.815	8.4	22.1
5 1	12 17.32	- 4 54.9	1.706	2.597	12.9	21.4	5 1	12 15.84	- 3 28.9	1.926	2.806	12.1	22.3
208377	2001 SO ₇₅		3 31.5 220°62	2°0/2.8	18		144867	2004 LA ₁₇		3 31.5 302°96	2°3/2.4	17	
2 21	13 4.97	-12 44.8	2.827	3.560	12.0	21.5	2 21	13 4.03	-11 30.1	1.668	2.445	17.4	19.9
3 2	13 0.83	-12 47.2	2.715	3.551	9.8	21.4	3 2	13 1.43	-11 37.9	1.566	2.430	14.3	19.6
3 12	12 54.98	-12 37.5	2.625	3.541	7.2	21.2	3 12	12 56.17	-11 27.5	1.483	2.415	10.5	19.3
3 22	12 47.83	-12 16.5	2.562	3.532	4.4	21.0	3 22	12 48.70	-10 59.3	1.423	2.400	6.1	19.0
4 1	12 39.92	-11 46.0	2.528	3.521	2.1	20.8	4 1	12 39.89	-10 16.3	1.389	2.385	2.4	18.8
4 11	12 31.96	-11 9.3	2.524	3.510	3.4	20.9	4 11	12 30.91	- 9 24.3	1.381	2.371	5.0	18.9
4 21	12 24.61	-10 30.3	2.549	3.499	6.3	21.0	4 21	12 22.96	- 8 30.8	1.399	2.357	9.6	19.1
5 1	12 18.49	- 9 53.4	2.601	3.487	9.1	21.2	5 1	12 17.03	- 7 43.5	1.441	2.343	14.0	19.3
431883	2008 SE ₂₁₈		3 31.5 214°94	2°9/3.5	17		509022	2005 NX ₇₆		3 31.5 216°74	0°1/31.7	17	
2 21	13 7.94	-14 28.9	2.515	3.241	13.5	21.7	2 21	13 1.31	- 8 11.2	2.756	3.518	11.6	22.1
3 2	13 3.44	-14 46.9	2.405	3.234	11.2	21.5	3 2	12 57.94	- 7 35.4	2.651	3.512	9.2	22.0
3 12	12 56.94	-14 51.4	2.317	3.226	8.4	21.3	3 12	12 52.98	- 6 47.7	2.571	3.506	6.4	21.8
3 22	12 48.86	-14 42.3	2.254	3.218	5.4	21.1	3 22	12 46.82	- 5 50.4	2.517	3.499	3.3	21.5
4 1	12 39.87	-14 21.0	2.220	3.209	3.0	21.0	4 1	12 40.00	- 4 47.4	2.493	3.492	0.2	21.2
4 11	12 30.79	-13 50.4	2.215	3.199	4.0	21.0	4 11	12 33.19	- 3 43.5	2.499	3.484	3.5	21.5
4 21	12 22.45	-13 14.9	2.239	3.190	7.0	21.2	4 21	12 27.00	- 2 43.7	2.534	3.477	6.7	21.7
5 1	12 15.54	-12 39.4	2.290	3.179	10.1	21.4	5 1	12 21.98	- 1 52.1	2.595	3.469	9.6	21.9
499221	2009 UC ₈₄		3 31.5 180°52	2°2/3.2	17		148363	2000 SX ₉₀		3 31.5 181°00	4°8/7.7	18	
2 21	13 4.29	-15 10.0	2.380	3.114	14.0	22.8	2 21	13 3.90	-25 48.1	3.295	3.943	11.9	21.1
3 2	13 0.57	-14 46.6	2.280	3.116	11.5	22.7	3 2	12 59.82	-26 2.9	3.186	3.944	10.3	21.0
3 12	12 54.93	-14 5.7	2.201	3.116	8.5	22.5	3 12	12 54.20	-26 2.1	3.096	3.945	8.5	20.8
3 22	12 47.82	-13 8.6	2.147	3.116	5.1	22.3	3 22	12 47.40	-25 45.0	3.031	3.945	6.6	20.7
4 1	12 39.93	-11 58.5	2.123	3.116	2.4	22.1	4 1	12 39.97	-25 11.9	2.994	3.944	5.1	20.6
4 11	12 32.07	-10 41.0	2.127	3.115	3.8	22.2	4 11	12 32.54	-24 25.0	2.985	3.943	4.9	20.6
4 21	12 25.02	- 9 22.5	2.161	3.114	7.1	22.4	4 21	12 25.70	-23 28.2	3.004	3.942	6.0	20.6
5 1	12 19.43	- 8 9.3	2.221	3.112	10.3	22.6	5 1	12 19.99	-22 26.1	3.052	3.940	7.9	20.8
521169	2015 FX ₄₀₈		3 31.5 24°43	0°8/1.3	17		39066	2000 US ₁₁₂		3 31.5 286°80	0°2/31.4	17	

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3 31.5

2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
55931	1998 <i>FM</i> ₆₇		3 31.5 271°37	1°9/29.2	18		255684	2006 <i>QF</i> ₅₃		3 31.5 278°85	2°4/29.5	17	
2 21	13 0.64	- 2 4.2	2.330	3.124	12.6	19.3	2 21	13 5.33	- 1 54.2	1.666	2.471	16.3	21.2
3 2	12 57.68	- 1 9.4	2.240	3.122	9.8	19.1	3 2	13 2.44	- 1 12.8	1.562	2.450	12.9	20.9
3 12	12 52.92	- 0 4.2	2.173	3.120	6.6	18.9	3 12	12 56.88	- 0 16.9	1.479	2.429	8.9	20.6
3 22	12 46.82	+ 1 7.0	2.133	3.118	3.3	18.6	3 22	12 49.09	+ 0 48.7	1.421	2.407	4.5	20.3
4 1	12 40.01	+ 2 18.6	2.122	3.117	2.2	18.6	4 1	12 39.91	+ 1 57.0	1.389	2.384	2.7	20.1
4 11	12 33.24	+ 3 24.3	2.140	3.115	5.2	18.7	4 11	12 30.54	+ 2 59.2	1.384	2.362	6.9	20.3
4 21	12 27.24	+ 4 18.9	2.186	3.113	8.5	18.9	4 21	12 22.16	+ 3 47.5	1.404	2.340	11.6	20.5
5 1	12 22.59	+ 4 58.9	2.256	3.111	11.5	19.1	5 1	12 15.79	+ 4 16.6	1.447	2.317	16.0	20.7
411315	2010 <i>TJ</i> ₁₆₂		3 31.5 47°11	0°7/30.7	18		91478	1999 <i>RO</i> ₉₉		3 31.5 128°11	1°8/2.8	18	
2 21	13 4.28	-14 44.2	1.333	2.114	20.8	20.2	2 21	13 5.51	-13 56.7	2.660	3.390	12.8	20.6
3 2	13 1.36	-12 10.7	1.284	2.156	16.3	20.0	3 2	13 1.15	-13 33.9	2.574	3.409	10.4	20.5
3 12	12 55.68	- 9 5.6	1.257	2.199	11.0	19.8	3 12	12 55.11	-12 56.5	2.511	3.427	7.5	20.3
3 22	12 48.14	- 5 40.7	1.256	2.241	5.2	19.6	3 22	12 47.84	-12 6.3	2.474	3.445	4.4	20.1
4 1	12 39.96	- 2 13.6	1.285	2.284	1.0	19.4	4 1	12 39.99	-11 6.5	2.467	3.462	1.9	20.0
4 11	12 32.39	+ 0 57.5	1.343	2.326	6.3	19.9	4 11	12 32.28	-10 1.7	2.490	3.478	3.3	20.1
4 21	12 26.43	+ 3 38.8	1.429	2.369	11.1	20.2	4 21	12 25.36	- 8 57.3	2.543	3.493	6.3	20.3
5 1	12 22.71	+ 5 43.6	1.539	2.411	15.1	20.6	5 1	12 19.77	- 7 58.0	2.624	3.508	9.1	20.5
432794	2011 <i>FD</i> ₁₄₉		3 31.5 311°76	1°7/1.7	16		163598	2002 <i>TQ</i> ₂₃₀		3 31.5 195°89	4°8/24.1	18	
2 21	13 5.80	- 8 24.7	1.682	2.466	17.0	21.2	2 21	13 3.08	+10 37.8	2.954	3.753	10.0	21.6
3 2	13 3.04	- 8 47.4	1.563	2.433	14.0	20.9	3 2	12 59.18	+11 59.5	2.870	3.750	8.0	21.4
3 12	12 57.49	- 8 56.8	1.465	2.401	10.2	20.6	3 12	12 53.75	+13 23.1	2.812	3.746	6.0	21.3
3 22	12 49.50	- 8 53.1	1.389	2.369	5.7	20.2	3 22	12 47.19	+14 43.1	2.783	3.741	4.8	21.2
4 1	12 39.86	- 8 38.1	1.340	2.338	1.8	19.9	4 1	12 40.02	+15 53.8	2.783	3.736	5.4	21.2
4 11	12 29.77	- 8 16.4	1.317	2.306	5.2	20.0	4 11	12 32.89	+16 50.4	2.813	3.730	7.1	21.3
4 21	12 20.51	- 7 53.6	1.319	2.275	10.3	20.2	4 21	12 26.38	+17 30.1	2.869	3.723	9.3	21.5
5 1	12 13.28	- 7 36.2	1.345	2.245	15.0	20.4	5 1	12 21.01	+17 51.6	2.949	3.716	11.3	21.6
146502	2001 <i>SF</i> ₄₁		3 31.5 17°20	2°4/2.4	18		253368	2003 <i>GV</i> ₄₂		3 31.5 348°48	10°2/22.3	17	
2 21	13 6.19	-11 0.4	1.598	2.376	18.0	19.5	2 21	13 4.28	+16 44.1	1.484	2.318	16.5	19.9
3 2	13 3.05	-11 18.4	1.513	2.378	14.7	19.3	3 2	13 1.70	+18 17.2	1.420	2.313	13.6	19.7
3 12	12 57.18	-11 19.1	1.448	2.380	10.7	19.1	3 12	12 56.28	+19 47.0	1.378	2.309	11.2	19.5
3 22	12 49.14	-11 3.0	1.406	2.382	6.2	18.8	3 22	12 48.68	+21 2.1	1.359	2.305	10.2	19.4
4 1	12 39.89	-10 33.0	1.389	2.385	2.5	18.6	4 1	12 39.94	+21 51.5	1.363	2.302	11.1	19.5
4 11	12 30.70	- 9 54.9	1.399	2.388	5.0	18.7	4 11	12 31.41	+22 8.2	1.391	2.299	13.6	19.6
4 21	12 22.72	- 9 15.6	1.434	2.392	9.5	19.0	4 21	12 24.25	+21 50.6	1.439	2.298	16.5	19.8
5 1	12 16.89	- 8 41.9	1.493	2.396	13.6	19.3	5 1	12 19.34	+21 1.4	1.505	2.297	19.3	20.0
113031	2002 <i>RL</i> ₄₇		3 31.5 167°06	1°6/29.9	16		466058	2011 <i>SF</i> ₂₁₁		3 31.5 161°65	1°0/1.2	18	
2 21	13 7.60	- 2 33.6	2.160	2.942	13.8	21.3	2 21	13 19.87	- 5 35.2	1.838	2.596	16.7	21.6
3 2	13 3.24	- 1 56.1	2.072	2.947	10.8	21.1	3 2	13 13.45	- 6 11.4	1.746	2.601	13.5	21.4
3 12	12 56.80	- 1 8.1	2.008	2.951	7.4	20.9	3 12	13 4.16	- 6 38.3	1.676	2.607	9.5	21.1
3 22	12 48.77	- 0 13.7	1.970	2.955	3.6	20.7	3 22	12 52.59	- 6 56.6	1.631	2.611	5.0	20.9
4 1	12 39.92	+ 0 41.7	1.962	2.958	1.8	20.5	4 1	12 39.76	- 7 7.9	1.616	2.615	1.0	20.6
4 11	12 31.17	+ 1 32.2	1.982	2.961	5.2	20.8	4 11	12 26.97	- 7 15.2	1.632	2.618	4.9	20.9
4 21	12 23.35	+ 2 12.7	2.031	2.962	8.8	21.0	4 21	12 15.47	- 7 22.3	1.676	2.621	9.4	21.1
5 1	12 17.16	+ 2 39.7	2.105	2.963	12.1	21.2	5 1	12 6.24	- 7 32.9	1.746	2.623	13.3	21.4
275184	2009 <i>WG</i> ₆₅		3 31.5 164°95	1°0/30.5	17		337572	2001 <i>SW</i> ₃₁₅		3 31.5 130°56	1°4/2.6	17	
2 21	13 6.65	- 3 15.3	2.067	2.852	14.2	21.1	2 21	13 5.54	-11 55.2	3.317	4.042	10.5	22.4
3 2	13 2.63	- 2 55.1	1.979	2.854	11.2	20.9	3 2	13 0.81	-11 51.0	3.228	4.061	8.5	22.3
3 12	12 56.45	- 2 24.5	1.913	2.856	7.7	20.6	3 12	12 54.70	-11 36.6	3.163	4.079	6.1	22.1
3 22	12 48.63	- 1 46.8	1.873	2.858	3.7	20.4	3 22	12 47.60	-11 13.3	3.126	4.097	3.6	22.0
4 1	12 39.93	- 1 7.0	1.861	2.859	1.2	20.2	4 1	12 40.02	-10 43.1	3.119	4.114	1.5	21.8
4 11	12 31.31	- 0 30.3	1.878	2.861	4.9	20.5	4 11	12 32.54	-10 9.0	3.143	4.130	2.8	22.0
4 21	12 23.64	- 0 1.5	1.923	2.862	8.8	20.7	4 21	12 25.68	- 9 34.3	3.198	4.145	5.3	22.1
5 1	12 17.63	+ 0 15.8	1.992	2.862	12.2	20.9	5 1	12 19.89	- 9 2.2	3.281	4.160	7.6	22.3
10915	1997 <i>YU</i> ₁₆		3 31.5 331°91	1°7/30.0	18		390173	2012 <i>VS</i> ₁₀₉		3 31.5 29°58	2°5/3.4	17	
2 21	13 4.96	- 2 24.3	1.785	2.585	15.6	18.6	2 21	13 0.19	-15 4.7	2.052	2.805	15.3	20.8
3 2	13 1.69	- 1 54.4	1.699	2.584	12.3	18.3	3 2	12 57.65	-14 46.9	1.964	2.812	12.6	20.7
3 12	12 56.02	- 1 12.5	1.635	2.583	8.4	18.1	3 12	12 53.07	-14 9.9	1.898	2.818	9.3	20.5
3 22	12 48.48	- 0 23.1	1.596	2.582	4.1	17.8	3 22	12 46.96	-13 15.2	1.855	2.826	5.7	20.3
4 1	12 39.94	+ 0 27.7	1.584	2.581	1.9	17.7	4 1	12 40.05	-12 6.7	1.840	2.833	2.7	20.1
4 11	12 31.47	+ 1 13.1	1.599	2.580	5.8	17.9	4 11	12 33.23	-10 50.6	1.852	2.841	4.0	20.2
4 21	12 24.05	+ 1 47.3	1.640	2.579	10.0	18.2	4 21	12 27.32	- 9 34.0	1.892	2.850	7.5	20.4
5 1	12 18.51	+ 2 6.4	1.705	2.578	13.8	18.4	5 1	12 22.99	- 8 23.7	1.957	2.858	11.0	20.6
238711	2005 <i>GD</i> ₃₅		3 31.5 98°73	1°3/1.8	17		175806	1999 <i>RE</i> ₁₆₅		3 31.5 224°64	3°7/4.7	18	
2 21	13 5.05	- 9 43.4	2.191	2.953	14.2	20.9	2 21	13 5.82	-17 49.5	2.845	3.550	12.5	20.7
3 2	13 1.28	- 9 42.3	2.101	2.958	11.5	20.7	3 2	13 1.58	-18 15.4	2.733	3.543	10.5	20.5
3 12	12 55.48	- 9 27.8	2.033	2.964	8.2	20.5	3 12	12 55.57	-18 28.1	2.643	3.535	8.2	20.3
3 22	12 48.13	- 9 1.7	1.991	2.969	4.5	20.3	3 22	12 48.18	-18 27.1	2.578	3.528	5.7	20.2
4 1	12 39.97	- 8 27.0	1.977	2.974	1.3	20.0	4 1	12 40.00	-18 13.0	2.541	3.520	3.9	20.0
4 11	12 31.87	- 7 48.4	1.991	2.979	3.9	20.2	4 11	12 31.74	-17 48.1	2.534	3.512	4.2	20.0
4 21	12 24.66	- 7 10.8	2.033	2.985	7.5	20.5	4 21	12 24.10	-17 15.9	2.555	3.503	6.4	20.1
5 1	12 19.02	- 6 39.1	2.101	2.990	10.9	20.7	5 1	12 17.71	-16 41.0	2.604	3.495	9.0	20.3
496460	2014 <i>QS</i> ₄₁₄		3 31.5 270°01	2°5/29									

EPHEMERIDES

3 31.5

3 31.5

2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
430754	2004 <i>QQ</i> ₁₃		3 31.5 257°77	0°2/31.4 17			153597	2001 <i>SE</i> ₂₇₉		3 31.5 69°18	3°2/3.9 18		
2 21	13 9.93	- 4 13.4	2.072	2.847	14.5	21.2	2 21	13 4.93	-17 52.2	1.738	2.482	18.0	19.8
3 2	13 5.47	- 4 17.5	1.963	2.831	11.6	20.9	3 2	13 1.58	-17 23.2	1.671	2.510	14.8	19.6
3 12	12 58.63	- 4 12.1	1.876	2.815	8.1	20.7	3 12	12 55.82	-16 29.7	1.623	2.537	11.0	19.5
3 22	12 49.86	- 3 59.1	1.815	2.798	4.1	20.4	3 22	12 48.32	-15 13.7	1.598	2.564	6.9	19.3
4 1	12 39.92	- 3 41.8	1.782	2.781	0.4	20.1	4 1	12 40.04	-13 40.6	1.600	2.592	3.5	19.1
4 11	12 29.83	- 3 24.7	1.778	2.764	4.7	20.4	4 11	12 32.09	-11 59.1	1.630	2.618	4.6	19.2
4 21	12 20.60	- 3 11.9	1.803	2.746	8.9	20.6	4 21	12 25.39	-10 18.7	1.687	2.645	8.3	19.5
5 1	12 13.09	- 3 7.3	1.852	2.728	12.7	20.8	5 1	12 20.65	- 8 48.0	1.770	2.672	11.9	19.8
28765	Katherinewu		3 31.5 225°61	0°6/31.0 18			84434	2002 <i>TD</i> ₂₂₇		3 31.5 65°45	1°2/30.5 18		
2 21	13 8.14	- 5 25.4	1.690	2.479	16.8	18.8	2 21	13 5.44	- 5 17.9	1.559	2.359	17.4	19.9
3 2	13 4.50	- 5 2.0	1.595	2.472	13.4	18.6	3 2	13 2.17	- 4 32.2	1.496	2.380	13.6	19.7
3 12	12 58.18	- 4 23.3	1.521	2.464	9.3	18.3	3 12	12 56.33	- 3 30.6	1.454	2.401	9.2	19.5
3 22	12 49.68	- 3 32.7	1.471	2.456	4.6	18.0	3 22	12 48.61	- 2 18.6	1.436	2.422	4.4	19.3
4 1	12 39.93	- 2 35.8	1.449	2.448	0.8	17.7	4 1	12 40.03	- 1 3.9	1.444	2.443	1.4	19.1
4 11	12 30.14	- 1 40.2	1.454	2.439	5.6	18.0	4 11	12 31.77	+ 0 4.6	1.480	2.464	5.8	19.5
4 21	12 21.45	- 0 53.1	1.485	2.429	10.4	18.2	4 21	12 24.83	+ 1 0.0	1.542	2.484	10.2	19.8
5 1	12 14.84	- 0 20.2	1.540	2.420	14.6	18.5	5 1	12 19.97	+ 1 37.6	1.626	2.505	14.0	20.0
427547	2002 <i>SJ</i> ₄		3 31.5 167°37	6°2/7.9 15			429213	2009 <i>WD</i> ₂₃₃		3 31.5 189°96	1°1/30.3 17		
2 21	13 9.79	-26 52.3	2.590	3.237	14.8	23.1	2 21	13 5.33	- 4 2.8	2.391	3.167	12.8	22.5
3 2	13 4.94	-27 20.1	2.487	3.244	13.0	23.0	3 2	13 1.33	- 3 23.3	2.295	3.166	10.1	22.3
3 12	12 58.00	-27 28.5	2.404	3.249	10.7	22.8	3 12	12 55.45	- 2 33.0	2.223	3.164	6.9	22.0
3 22	12 49.43	-27 15.4	2.344	3.254	8.4	22.7	3 22	12 48.14	- 1 35.2	2.177	3.162	3.3	21.8
4 1	12 39.95	-26 40.6	2.311	3.258	6.6	22.6	4 1	12 40.06	- 0 34.9	2.161	3.159	1.3	21.6
4 11	12 30.49	-25 46.7	2.306	3.261	6.3	22.6	4 11	12 32.01	+ 0 22.3	2.175	3.155	4.6	21.9
4 21	12 21.88	-24 38.9	2.328	3.264	7.7	22.7	4 21	12 24.74	+ 1 11.4	2.218	3.151	8.1	22.1
5 1	12 14.85	-23 23.9	2.378	3.265	9.9	22.8	5 1	12 18.90	+ 1 48.6	2.286	3.147	11.2	22.3
8739	Morihisa		3 31.5 240°57	1°5/29.7 18			141304	2001 <i>YS</i> ₁₀₈		3 31.5 146°51	3°4/4.7 18		
2 21	13 3.40	- 1 11.7	2.893	3.672	10.7	18.1	2 21	13 3.30	-18 1.8	2.659	3.372	13.1	20.3
3 2	12 59.54	- 0 40.4	2.784	3.657	8.4	17.9	3 2	12 59.63	-18 5.7	2.561	3.377	11.0	20.2
3 12	12 54.08	- 0 1.8	2.698	3.641	5.7	17.7	3 12	12 54.22	-17 54.0	2.484	3.382	8.4	20.0
3 22	12 47.42	+ 0 41.2	2.641	3.625	2.9	17.5	3 22	12 47.50	-17 26.9	2.432	3.387	5.7	19.8
4 1	12 40.06	+ 1 24.7	2.613	3.609	1.6	17.4	4 1	12 40.09	-16 46.2	2.408	3.391	3.6	19.7
4 11	12 32.66	+ 2 4.6	2.616	3.592	4.3	17.5	4 11	12 32.71	-15 55.5	2.413	3.395	4.0	19.7
4 21	12 25.84	+ 2 37.1	2.648	3.574	7.2	17.7	4 21	12 26.04	-14 59.7	2.447	3.399	6.4	19.9
5 1	12 20.14	+ 2 59.6	2.705	3.557	10.0	17.9	5 1	12 20.69	-14 3.9	2.507	3.403	9.1	20.1
336234	2008 <i>SJ</i> ₉₉		3 31.5 250°41	1°6/29.8 17			305945	2009 <i>HX</i> ₁₆		3 31.5 56°72	1°7/30.2 18		
2 21	13 3.40	- 2 45.2	2.071	2.864	13.9	21.0	2 21	13 5.36	- 4 16.4	1.377	2.189	18.7	21.0
3 2	13 0.17	- 2 4.4	1.977	2.858	11.0	20.7	3 2	13 2.51	- 3 33.8	1.313	2.204	14.7	20.7
3 12	12 54.84	- 1 12.0	1.905	2.851	7.5	20.5	3 12	12 56.80	- 2 34.4	1.268	2.218	9.9	20.5
3 22	12 47.88	- 0 12.2	1.859	2.844	3.7	20.3	3 22	12 48.93	- 1 24.3	1.247	2.234	4.8	20.2
4 1	12 40.03	+ 0 49.5	1.841	2.838	1.9	20.1	4 1	12 40.02	- 0 11.9	1.251	2.249	1.9	20.1
4 11	12 32.00	+ 1 46.3	1.852	2.831	5.4	20.3	4 11	12 31.41	+ 0 52.9	1.281	2.264	6.6	20.4
4 21	12 25.22	+ 2 32.7	1.890	2.824	9.2	20.6	4 21	12 24.26	+ 1 42.6	1.336	2.280	11.3	20.7
5 1	12 19.83	+ 3 4.6	1.952	2.817	12.6	20.8	5 1	12 19.42	+ 2 12.5	1.413	2.296	15.5	21.0
135211	2001 <i>RL</i> ₇₂		3 31.5 152°15	1°4/2.5 18			468462	2004 <i>BS</i> ₁₀₂		3 31.5 160°39	14°0/17.1 16 C		
2 21	13 1.99	-13 1.1	2.716	3.456	12.3	20.1	2 21	13 20.13	+24 0.7	1.508	2.307	18.0	22.8
3 2	12 58.47	-12 32.4	2.620	3.463	9.9	19.9	3 2	13 14.34	+27 11.1	1.467	2.321	15.6	22.7
3 12	12 53.34	-11 49.5	2.547	3.468	7.2	19.8	3 12	13 5.06	+30 10.4	1.450	2.333	14.2	22.7
3 22	12 47.02	-10 54.1	2.500	3.474	4.1	19.6	3 22	12 53.10	+32 41.3	1.457	2.343	14.2	22.7
4 1	12 40.09	- 9 49.6	2.483	3.479	1.5	19.4	4 1	12 39.82	+34 29.2	1.489	2.351	15.5	22.8
4 11	12 33.22	- 8 40.9	2.496	3.484	3.2	19.5	4 11	12 26.93	+35 27.7	1.544	2.357	17.6	22.9
4 21	12 27.04	- 7 33.1	2.538	3.488	6.3	19.7	4 21	12 15.92	+35 38.5	1.616	2.361	19.9	23.1
5 1	12 22.09	- 6 31.0	2.607	3.492	9.1	19.9	5 1	12 7.82	+35 8.1	1.704	2.363	21.9	23.3
380395	2002 <i>XK</i> ₇₈		3 31.5 58°58	6°0/25.7 18			361154	2006 <i>JX</i> ₁		3 31.5 316°91	3°0/3.2 17		
2 21	13 6.53	+11 10.4	1.984	2.797	13.8	20.3	2 21	12 58.92	-15 34.4	1.356	2.142	20.3	20.4
3 2	13 2.37	+12 7.9	1.932	2.819	10.9	20.2	3 2	12 58.00	-15 15.6	1.260	2.127	16.8	20.1
3 12	12 56.11	+13 4.7	1.903	2.841	8.0	20.0	3 12	12 54.17	-14 26.8	1.181	2.112	12.6	19.8
3 22	12 48.38	+13 53.9	1.899	2.863	6.2	20.0	3 22	12 47.87	-13 8.1	1.123	2.098	7.7	19.5
4 1	12 40.03	+14 29.0	1.923	2.886	6.5	20.0	4 1	12 40.06	-11 24.0	1.089	2.085	3.3	19.2
4 11	12 32.00	+14 45.7	1.974	2.909	8.6	20.2	4 11	12 32.11	- 9 25.0	1.080	2.072	5.6	19.3
4 21	12 25.11	+14 42.2	2.049	2.931	11.3	20.4	4 21	12 25.39	- 7 24.7	1.095	2.059	10.9	19.5
5 1	12 19.95	+14 19.2	2.147	2.954	13.8	20.6	5 1	12 21.00	- 5 36.5	1.132	2.047	15.9	19.8
33205	Graigmarx		3 31.5 348°11	0°0/31.6 18			85643	1998 <i>OC</i> ₁₀		3 31.5 317°52	6°0/24.1 18		
2 21	13 1.95	- 6 34.2	2.034	2.819	14.4	18.9	2 21	12 58.44	+ 7 35.6	1.981	2.806	13.3	18.7
3 2	12 59.07	- 6 17.9	1.942	2.816	11.5	18.7	3 2	12 56.50	+ 9 14.0	1.886	2.783	10.5	18.5
3 12	12 54.10	- 5 48.6	1.871	2.813	8.0	18.5	3 12	12 52.47	+11 0.6	1.815	2.761	7.8	18.3
3 22	12 47.52	- 5 9.0	1.826	2.810	4.0	18.2	3 22	12 46.79	+12 47.2	1.770	2.739	6.0	18.1
4 1	12 40.07	- 4 23.6	1.808	2.808	0.2	17.9	4 1	12 40.13	+14 24.4	1.752	2.717	6.9	18.1
4 11	12 32.65	- 3 37.8	1.818	2.806	4.4	18.2	4 11	12 33.39	+15 43.5	1.761	2.695	9.6	18.2
4 21	12 26.10	- 2 57.3	1.856	2.804	8.4	18.5	4 21	12 27.46	+16 38.6	1.795	2.674	12.7	18.4
5 1	12 21.13	- 2 26.7	1.917	2.803	11.9	18.7	5 1	12 23.09	+17 7.2	1.849	2.654	15.7	18.5
417708	2007 <i>BQ</i> ₉₀		3 31.5 312°78	5°9/5.2 17			210472	1995 <i>SX</i> ₂₄		3 31.5 80°34	1°1/30.5 17		
2 21													

EPHEMERIDES

3 31.5

3 31.6

2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
211959	2004 <i>YT</i> ₁₇		3 31.5	7°22	4.7/ 4.1	18	499945	2011 <i>HU</i> ₆₉		3 31.6	316°74	5°8/26.5	17
2 21	13 3.96	-15 55.1	1.359	2.134	20.7	20.1	2 21	13 4.64	+ 7 55.6	1.696	2.518	15.3	20.8
3 2	13 1.89	-16 23.6	1.277	2.135	17.3	19.9	3 2	13 1.73	+ 8 47.4	1.607	2.503	12.2	20.6
3 12	12 56.76	-16 28.0	1.213	2.135	13.2	19.6	3 12	12 56.27	+ 9 43.9	1.540	2.487	8.8	20.3
3 22	12 49.11	-16 6.9	1.169	2.137	8.7	19.4	3 22	12 48.76	+10 37.8	1.498	2.473	6.2	20.1
4 1	12 40.02	-15 22.3	1.149	2.139	5.0	19.2	4 1	12 40.08	+11 20.6	1.482	2.458	6.4	20.1
4 11	12 30.95	-14 20.9	1.153	2.141	6.1	19.2	4 11	12 31.38	+11 45.2	1.491	2.444	9.3	20.2
4 21	12 23.28	-13 12.4	1.182	2.144	10.4	19.5	4 21	12 23.75	+11 47.5	1.525	2.431	13.0	20.4
5 1	12 18.08	-12 7.1	1.232	2.148	14.8	19.7	5 1	12 18.10	+11 26.3	1.579	2.418	16.4	20.6
101586	1999 <i>BN</i> ₁₁		3 31.5	142°14	13°6/ 8.3	18	502469	2015 <i>BD</i> ₃₂₀		3 31.6	218°43	0°7/ 1.3	17
2 21	13 21.45	-28 25.5	1.339	2.024	25.0	20.1	2 21	13 5.51	- 8 37.2	2.100	2.868	14.6	22.3
3 2	13 16.81	-30 46.0	1.261	2.032	22.4	19.9	3 2	13 1.86	- 8 24.0	2.002	2.864	11.7	22.1
3 12	13 7.87	-32 42.1	1.197	2.040	19.4	19.7	3 12	12 56.05	- 7 56.8	1.925	2.859	8.3	21.9
3 22	12 55.05	-34 3.1	1.152	2.047	16.4	19.5	3 22	12 48.55	- 7 17.6	1.874	2.854	4.4	21.6
4 1	12 39.72	-34 39.5	1.127	2.054	14.1	19.4	4 1	12 40.10	- 6 30.1	1.850	2.849	0.7	21.3
4 11	12 24.03	-34 29.4	1.125	2.059	13.7	19.4	4 11	12 31.63	- 5 39.9	1.856	2.843	4.2	21.6
4 21	12 10.22	-33 39.5	1.145	2.065	15.2	19.5	4 21	12 24.05	- 4 52.8	1.889	2.838	8.2	21.8
5 1	12 0.00	-32 24.1	1.186	2.069	17.8	19.7	5 1	12 18.09	- 4 13.9	1.947	2.832	11.8	22.0
268363	2005 <i>TX</i> ₉₉		3 31.5	93°06	1°8/30.1	18	12801	Somekawa		3 31.6	119°80	3°7/28.4	18
2 21	13 11.69	- 0 10.7	1.917	2.704	15.1	20.5	2 21	13 9.08	+ 3 1.0	1.813	2.615	15.2	18.6
3 2	13 6.58	- 0 1.6	1.845	2.722	11.8	20.3	3 2	13 4.75	+ 3 44.2	1.740	2.626	11.9	18.4
3 12	12 59.13	+ 0 15.0	1.796	2.740	8.0	20.1	3 12	12 58.01	+ 4 34.5	1.690	2.637	8.2	18.2
3 22	12 49.96	+ 0 35.2	1.774	2.758	4.0	19.9	3 22	12 49.47	+ 5 25.8	1.666	2.647	4.7	18.0
4 1	12 40.00	+ 0 54.4	1.779	2.776	2.0	19.8	4 1	12 40.06	+ 6 11.3	1.669	2.658	4.0	18.0
4 11	12 30.30	+ 1 8.0	1.814	2.793	5.4	20.1	4 11	12 30.86	+ 6 44.6	1.701	2.667	7.1	18.2
4 21	12 21.80	+ 1 12.4	1.876	2.810	9.3	20.3	4 21	12 22.85	+ 7 1.9	1.758	2.677	10.8	18.4
5 1	12 15.22	+ 1 5.5	1.962	2.827	12.6	20.6	5 1	12 16.77	+ 7 1.1	1.838	2.686	14.1	18.7
415911	2001 <i>UY</i> ₄₁		3 31.5	104°67	1°8/29.8	18	253232	2002 <i>YZ</i> ₂₁		3 31.6	86°62	4°0/ 4.5	18
2 21	13 8.31	- 1 41.2	2.025	2.812	14.4	21.4	2 21	13 8.92	-17 57.1	1.884	2.613	17.3	21.2
3 2	13 3.79	- 1 6.8	1.955	2.832	11.3	21.2	3 2	13 4.58	-18 1.4	1.814	2.641	14.3	21.0
3 12	12 57.15	- 0 23.0	1.907	2.852	7.6	21.0	3 12	12 57.84	-17 44.6	1.763	2.668	10.9	20.8
3 22	12 48.96	+ 0 25.8	1.886	2.871	3.8	20.8	3 22	12 49.36	-17 7.0	1.736	2.695	7.2	20.7
4 1	12 40.05	+ 1 14.1	1.894	2.890	2.0	20.7	4 1	12 40.07	-16 11.6	1.735	2.721	4.3	20.6
4 11	12 31.39	+ 1 56.0	1.931	2.908	5.3	21.0	4 11	12 31.06	-15 4.6	1.763	2.747	4.9	20.6
4 21	12 23.81	+ 2 27.0	1.995	2.926	9.0	21.2	4 21	12 23.28	-13 53.6	1.818	2.773	8.0	20.9
5 1	12 17.96	+ 2 44.5	2.083	2.944	12.2	21.5	5 1	12 17.46	-12 46.1	1.898	2.797	11.3	21.1
433504	2013 <i>WH</i> ₄₇		3 31.5	173°88	1°7/29.4	17	213198	2000 <i>SJ</i> ₃₅₃		3 31.6	186°91	0°2/31.2	18
2 21	13 5.05	- 1 21.9	2.601	3.381	11.8	22.1	2 21	13 1.47	- 6 45.4	3.162	3.922	10.3	21.5
3 2	13 0.90	- 0 38.4	2.510	3.384	9.2	22.0	3 2	12 57.83	- 6 6.5	3.061	3.921	8.1	21.4
3 12	12 55.04	+ 0 13.4	2.444	3.387	6.2	21.8	3 12	12 52.81	- 5 17.8	2.984	3.920	5.6	21.2
3 22	12 47.91	+ 1 9.7	2.405	3.389	3.1	21.6	3 22	12 46.77	- 4 21.8	2.936	3.919	2.8	21.0
4 1	12 40.11	+ 2 5.8	2.396	3.391	2.0	21.5	4 1	12 40.19	- 3 22.2	2.918	3.917	0.3	20.8
4 11	12 32.38	+ 2 56.8	2.417	3.391	4.7	21.7	4 11	12 33.64	- 2 22.9	2.930	3.914	3.2	21.0
4 21	12 25.38	+ 3 38.3	2.467	3.392	7.8	21.9	4 21	12 27.65	- 1 28.2	2.973	3.911	6.0	21.2
5 1	12 19.68	+ 4 7.6	2.543	3.391	10.6	22.0	5 1	12 22.67	- 0 41.2	3.042	3.908	8.6	21.4
232933	2005 <i>AM</i> ₇₂		3 31.5	138°86	1°5/29.9	17	497385	2005 <i>UB</i> ₅₂₆		3 31.6	227°24	0°7/ 1.3	17
2 21	13 4.45	- 2 28.3	2.216	3.003	13.3	21.2	2 21	13 6.19	- 8 54.7	2.210	2.973	14.1	22.4
3 2	13 0.74	- 1 52.2	2.131	3.008	10.4	21.0	3 2	13 2.33	- 8 39.7	2.104	2.963	11.4	22.2
3 12	12 55.09	- 1 6.2	2.069	3.014	7.1	20.8	3 12	12 56.36	- 8 10.8	2.020	2.952	8.1	21.9
3 22	12 47.97	- 0 14.3	2.034	3.019	3.5	20.6	3 22	12 48.71	- 7 29.8	1.962	2.942	4.3	21.7
4 1	12 40.11	+ 0 38.5	2.027	3.023	1.7	20.5	4 1	12 40.10	- 6 40.3	1.932	2.930	0.8	21.4
4 11	12 32.35	+ 1 26.5	2.049	3.028	5.0	20.7	4 11	12 31.42	- 5 47.6	1.931	2.919	4.1	21.6
4 21	12 25.45	+ 2 4.9	2.099	3.032	8.5	20.9	4 21	12 23.54	- 4 57.4	1.958	2.906	8.0	21.8
5 1	12 20.06	+ 2 30.5	2.174	3.036	11.6	21.1	5 1	12 17.23	- 4 15.0	2.011	2.894	11.6	22.0
15313	1993 <i>FM</i> ₂₈		3 31.5	59°58	1°2/ 1.6	18	85217	Bilzingsleben		3 31.6	152°35	1°4/ 1.8	18
2 21	13 6.59	- 9 38.8	1.481	2.269	18.8	19.2	2 21	13 10.54	-10 46.5	1.828	2.588	16.7	20.1
3 2	13 3.37	- 9 31.0	1.412	2.285	15.0	19.0	3 2	13 6.05	-10 32.2	1.743	2.598	13.5	19.9
3 12	12 57.36	- 9 4.1	1.362	2.300	10.6	18.8	3 12	12 59.02	-10 0.3	1.678	2.607	9.6	19.6
3 22	12 49.23	- 8 20.8	1.335	2.317	5.7	18.5	3 22	12 50.04	- 9 12.8	1.637	2.615	5.3	19.4
4 1	12 40.06	- 7 26.5	1.334	2.333	1.3	18.2	4 1	12 40.04	- 8 14.0	1.625	2.623	1.4	19.1
4 11	12 31.14	- 6 29.1	1.360	2.349	5.1	18.5	4 11	12 30.16	- 7 10.7	1.641	2.629	4.6	19.4
4 21	12 23.63	- 5 36.5	1.410	2.366	9.8	18.9	4 21	12 21.45	- 6 10.1	1.685	2.635	8.9	19.6
5 1	12 18.37	- 4 55.3	1.484	2.382	13.9	19.1	5 1	12 14.75	- 5 18.9	1.754	2.640	12.8	19.9
94927	2001 <i>YT</i> ₆₇		3 31.5	148°58	0°2/31.4	18	337260	2000 <i>SJ</i> ₁₉₅		3 31.6	125°84	2°0/ 2.8	17
2 21	13 8.73	- 6 35.0	1.700	2.484	16.9	20.5	2 21	13 6.87	-12 5.9	2.791	3.523	12.2	21.4
3 2	13 4.80	- 6 13.1	1.617	2.490	13.4	20.3	3 2	13 2.23	-12 18.4	2.699	3.535	9.9	21.2
3 12	12 58.25	- 5 35.7	1.555	2.496	9.3	20.1	3 12	12 55.90	-12 19.7	2.630	3.547	7.2	21.1
3 22	12 49.68	- 4 46.0	1.518	2.501	4.6	19.8	3 22	12 48.34	-12 10.5	2.588	3.558	4.3	20.9
4 1	12 40.03	- 3 49.7	1.507	2.506	0.3	19.5	4 1	12 40.13	-11 52.5	2.576	3.569	2.1	20.8
4 11	12 30.51	- 2 54.2	1.525	2.511	5.2	19.8	4 11	12 31.99	-11 28.9	2.593	3.580	3.3	20.9
4 21	12 22.19	- 2 6.2	1.569	2.515	9.8	20.1	4 21	12 24.57	-11 3.1	2.641	3.590	6.1	21.1
5 1	12 15.94	- 1 31.3	1.637	2.519	13.8	20.4	5 1	12 18.43	-10 39.0	2.715	3.600	8.8	21.2
143473	2003 <i>CR</i> ₆		3 31.6	120°66	2°3/29.2	18	248641	2006 <i>GF</i> ₄₀		3 31.6	328°15	1°2/ 1.5	17

EPHEMERIDES

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2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
123520	2000 XY ₃		3 31.6 78°48	1°5/ 1.8 18			18295	Borispetrov		3 31.6 216°81	4°4/26.3 18		
2 21	13 8.71	- 8 52.3	1.892	2.660	16.0	19.9	2 21	13 6.68	+ 7 43.9	2.512	3.307	11.7	18.3
3 2	13 4.50	- 9 6.6	1.809	2.670	12.8	19.7	3 2	13 2.36	+ 8 41.4	2.417	3.298	9.2	18.1
3 12	12 57.89	- 9 7.4	1.748	2.680	9.1	19.5	3 12	12 56.17	+ 9 42.5	2.348	3.288	6.6	17.9
3 22	12 49.46	- 8 56.0	1.711	2.690	5.0	19.2	3 22	12 48.55	+10 41.8	2.306	3.277	4.7	17.8
4 1	12 40.07	- 8 35.4	1.702	2.699	1.5	19.0	4 1	12 40.15	+11 33.4	2.294	3.266	4.9	17.8
4 11	12 30.80	- 8 10.1	1.721	2.709	4.4	19.2	4 11	12 31.75	+12 12.1	2.310	3.254	7.1	17.9
4 21	12 22.63	- 7 45.4	1.767	2.719	8.4	19.5	4 21	12 24.10	+12 34.6	2.354	3.241	9.8	18.1
5 1	12 16.35	- 7 26.0	1.838	2.729	12.1	19.7	5 1	12 17.84	+12 39.4	2.421	3.227	12.4	18.2
39397	6514 P-L		3 31.6 196°61	1°0/ 1.5 18			496930	2001 UF ₂₀₃		3 31.6 112°17	0°9/ 1.7 17		
2 21	13 9.78	- 7 51.6	2.298	3.054	13.8	19.5	2 21	13 3.78	-10 14.2	2.719	3.468	12.1	22.2
3 2	13 5.00	- 8 1.3	2.198	3.052	11.1	19.3	3 2	12 59.79	- 9 52.9	2.636	3.486	9.6	22.0
3 12	12 58.10	- 8 0.3	2.119	3.049	7.9	19.1	3 12	12 54.21	- 9 19.7	2.577	3.504	6.8	21.9
3 22	12 49.55	- 7 49.7	2.067	3.046	4.2	18.9	3 22	12 47.48	- 8 36.7	2.544	3.521	3.7	21.7
4 1	12 40.07	- 7 32.0	2.045	3.043	1.0	18.6	4 1	12 40.20	- 7 47.2	2.540	3.538	0.9	21.5
4 11	12 30.57	- 7 11.0	2.051	3.039	3.9	18.8	4 11	12 33.05	- 6 55.5	2.567	3.555	3.2	21.7
4 21	12 21.92	- 6 50.7	2.087	3.035	7.6	19.1	4 21	12 26.63	- 6 6.0	2.623	3.571	6.2	21.9
5 1	12 14.84	- 6 35.2	2.149	3.030	11.0	19.3	5 1	12 21.46	- 5 22.8	2.706	3.587	9.0	22.1
303436	2005 AH ₅₀		3 31.6 49°17	1°6/ 1.9 18			382884	2004 NZ ₂₂		3 31.6 216°85	4°8/ 5.7 17		
2 21	13 4.41	-12 7.2	1.257	2.053	21.0	20.4	2 21	13 8.25	-21 2.0	2.576	3.264	14.1	21.3
3 2	13 2.02	-11 40.9	1.199	2.075	16.9	20.2	3 2	13 3.82	-21 27.8	2.461	3.255	12.0	21.1
3 12	12 56.58	-10 49.1	1.159	2.098	12.0	20.0	3 12	12 57.33	-21 37.2	2.366	3.245	9.6	21.0
3 22	12 48.87	- 9 35.5	1.140	2.121	6.5	19.7	3 22	12 49.22	-21 29.0	2.296	3.234	7.0	20.8
4 1	12 40.11	- 8 8.0	1.146	2.144	1.7	19.5	4 1	12 40.12	-21 3.2	2.253	3.223	5.1	20.6
4 11	12 31.76	- 6 37.8	1.178	2.168	5.4	19.8	4 11	12 30.89	-20 22.4	2.238	3.211	5.1	20.6
4 21	12 25.03	- 5 15.9	1.233	2.192	10.5	20.1	4 21	12 22.38	-19 31.2	2.253	3.198	7.3	20.7
5 1	12 20.75	- 4 10.5	1.311	2.217	14.9	20.4	5 1	12 15.33	-18 35.3	2.294	3.185	10.0	20.9
464132	2014 WP ₄₉₈		3 31.6 161°74	3°7/28.1 16			17545	1993 RZ ₃		3 31.6 317°79	1°7/ 1.7 18		
2 21	13 8.64	+ 3 33.3	1.979	2.778	14.3	21.7	2 21	13 5.08	- 8 37.2	1.321	2.124	19.8	17.9
3 2	13 4.28	+ 4 20.2	1.899	2.783	11.2	21.5	3 2	13 3.02	- 8 54.3	1.228	2.109	16.2	17.6
3 12	12 57.65	+ 5 13.8	1.842	2.787	7.7	21.3	3 12	12 57.77	- 8 53.4	1.153	2.095	11.7	17.3
3 22	12 49.31	+ 6 8.2	1.811	2.791	4.5	21.1	3 22	12 49.78	- 8 35.3	1.099	2.081	6.4	17.0
4 1	12 40.10	+ 6 56.9	1.808	2.795	4.1	21.1	4 1	12 40.08	- 8 3.3	1.070	2.068	1.7	16.6
4 11	12 31.01	+ 7 33.8	1.834	2.798	7.0	21.3	4 11	12 30.17	- 7 24.2	1.065	2.056	5.8	16.9
4 21	12 22.98	+ 7 54.7	1.886	2.800	10.5	21.5	4 21	12 21.54	- 6 46.5	1.084	2.044	11.4	17.1
5 1	12 16.73	+ 7 57.8	1.962	2.802	13.6	21.7	5 1	12 15.46	- 6 17.9	1.123	2.033	16.5	17.4
291206	2006 AQ ₈₀		3 31.6 86°08	5°4/ 4.8 18			69446	1996 SL ₄		3 31.6 279°15	0°3/31.3 18		
2 21	13 8.43	-17 57.9	1.484	2.235	20.3	21.1	2 21	13 9.04	- 4 31.9	1.576	2.371	17.5	19.5
3 2	13 5.16	-18 30.2	1.405	2.244	17.1	20.9	3 2	13 5.59	- 4 33.3	1.477	2.356	14.1	19.2
3 12	12 58.85	-18 38.6	1.343	2.252	13.2	20.7	3 12	12 59.22	- 4 21.8	1.397	2.341	9.9	18.9
3 22	12 50.12	-18 21.2	1.302	2.261	9.0	20.5	3 22	12 50.40	- 3 59.7	1.341	2.326	5.0	18.6
4 1	12 40.05	-17 39.4	1.285	2.270	5.7	20.3	4 1	12 40.07	- 3 31.5	1.312	2.311	0.5	18.2
4 11	12 30.08	-16 39.2	1.294	2.278	6.3	20.3	4 11	12 29.55	- 3 3.6	1.309	2.296	5.8	18.5
4 21	12 21.53	-15 29.8	1.328	2.286	10.0	20.6	4 21	12 20.17	- 2 42.1	1.332	2.281	10.9	18.8
5 1	12 15.42	-14 21.2	1.385	2.295	14.0	20.8	5 1	12 13.02	- 2 32.2	1.377	2.266	15.5	19.0
217893	2001 RY ₁₂₁		3 31.6 202°20	1°2/30.3 17			455218	2001 QL ₁₉₆		3 31.6 199°24	2°5/29.3 17		
2 21	13 6.60	- 3 26.9	2.119	2.902	14.0	21.3	2 21	13 10.74	- 0 8.0	1.989	2.775	14.7	22.1
3 2	13 2.64	- 2 55.2	2.024	2.898	11.1	21.1	3 2	13 6.07	+ 0 32.5	1.894	2.772	11.6	21.9
3 12	12 56.54	- 2 12.2	1.952	2.895	7.6	20.9	3 12	12 59.01	+ 1 22.9	1.823	2.767	7.9	21.7
3 22	12 48.79	- 1 21.6	1.905	2.890	3.7	20.7	3 22	12 50.07	+ 2 18.5	1.778	2.761	4.1	21.4
4 1	12 40.12	- 0 28.4	1.888	2.886	1.4	20.5	4 1	12 40.09	+ 3 13.2	1.761	2.755	2.8	21.3
4 11	12 31.47	+ 0 21.2	1.899	2.880	5.0	20.7	4 11	12 30.12	+ 4 0.1	1.774	2.747	6.2	21.5
4 21	12 23.71	+ 1 2.1	1.939	2.875	8.9	20.9	4 21	12 21.15	+ 4 34.1	1.814	2.738	10.1	21.7
5 1	12 17.57	+ 1 30.2	2.002	2.868	12.3	21.1	5 1	12 14.01	+ 4 51.9	1.878	2.729	13.7	21.9
500735	2012 XA ₁₂₃		3 31.6 191°55	0°6/30.8 17			286603	2002 CJ ₃₁₃		3 31.6 99°70	6°2/24.5 18		
2 21	13 1.56	- 5 51.0	2.592	3.365	12.0	22.2	2 21	13 4.93	+ 9 8.0	1.968	2.782	13.8	20.9
3 2	12 58.25	- 5 8.3	2.495	3.364	9.4	22.0	3 2	13 1.28	+10 46.6	1.910	2.799	10.8	20.7
3 12	12 53.29	- 4 14.2	2.423	3.363	6.4	21.8	3 12	12 55.50	+12 27.8	1.876	2.817	8.0	20.6
3 22	12 47.07	- 3 11.9	2.377	3.362	3.1	21.6	3 22	12 48.20	+14 3.1	1.869	2.834	6.3	20.5
4 1	12 40.20	- 2 5.9	2.362	3.360	0.7	21.4	4 1	12 40.18	+15 23.9	1.890	2.850	6.9	20.6
4 11	12 33.37	- 1 1.6	2.375	3.358	4.0	21.7	4 11	12 32.41	+16 23.7	1.938	2.866	9.2	20.7
4 21	12 27.22	- 0 3.9	2.418	3.356	7.3	21.9	4 21	12 25.71	+16 59.2	2.011	2.882	11.9	20.9
5 1	12 22.31	+ 0 43.3	2.486	3.354	10.2	22.1	5 1	12 20.70	+17 10.2	2.105	2.898	14.5	21.1
356495	2011 SE ₂₂		3 31.6 181°16	2°8/ 4.6 17			128312	2004 CN ₇₅		3 31.6 202°55	3°5/27.2 18		
2 21	13 3.49	-17 44.0	3.230	3.931	11.2	22.8	2 21	13 1.98	+ 3 3.8	2.332	3.135	12.3	20.3
3 2	12 59.47	-17 44.7	3.122	3.932	9.4	22.7	3 2	12 58.77	+ 4 12.2	2.246	3.133	9.6	20.1
3 12	12 53.97	-17 32.5	3.038	3.933	7.2	22.5	3 12	12 53.74	+ 5 27.9	2.184	3.132	6.6	19.9
3 22	12 47.38	-17 7.5	2.979	3.933	4.8	22.4	3 22	12 47.34	+ 6 45.4	2.150	3.130	4.0	19.7
4 1	12 40.19	-16 31.4	2.949	3.932	3.0	22.2	4 1	12 40.22	+ 7 58.3	2.144	3.127	4.0	19.7
4 11	12 33.01	-15 46.9	2.949	3.931	3.4	22.3	4 11	12 33.16	+ 9 0.2	2.167	3.125	6.5	19.8
4 21	12 26.40	-14 57.9	2.979	3.929	5.5	22.4	4 21	12 26.86	+ 9 46.7	2.217	3.123	9.5	20.0
5 1	12 20.86	-14 8.5	3.037	3.927	7.8	22.5	5 1	12 21.95	+10 15.2	2.291	3.120	12.3	20.2
316764	1999 TG ₄₄		3 31.6 184°43	0°9/ 1.4 16			180557	2004 ET ₃₄		3 31.6 13°13	3°6/28.6 18		
2 21	13 8.81	- 8 44.3	1.989	2.754	15.4	22.0							

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2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
372537	2009 <i>TN</i> ₆	3 31.6 197°98		0°5/ 1.1 17			221113	2005 <i>SW</i> ₁₇₂	3 31.6 342°08		2°9/ 2.6 17		
2 21	13 6.87	- 8 16.7	2.402	3.160	13.2	23.0	2 21	13 3.64	-11 11.5	1.419	2.211	19.3	19.7
3 2	13 2.63	- 7 59.0	2.300	3.157	10.6	22.8	3 2	13 1.58	-11 38.8	1.330	2.201	15.8	19.4
3 12	12 56.43	- 7 28.9	2.220	3.152	7.5	22.6	3 12	12 56.57	-11 47.7	1.259	2.193	11.7	19.1
3 22	12 48.72	- 6 48.3	2.167	3.148	3.9	22.3	3 22	12 49.10	-11 38.0	1.209	2.186	7.0	18.8
4 1	12 40.17	- 6 0.8	2.143	3.142	0.5	22.0	4 1	12 40.16	-11 12.0	1.184	2.179	3.1	18.6
4 11	12 31.61	- 5 11.3	2.150	3.136	3.8	22.3	4 11	12 31.12	-10 35.5	1.183	2.174	5.5	18.7
4 21	12 23.83	- 4 24.8	2.184	3.130	7.5	22.5	4 21	12 23.32	- 9 56.1	1.207	2.169	10.3	18.9
5 1	12 17.51	- 3 45.9	2.246	3.122	10.8	22.7	5 1	12 17.86	- 9 21.7	1.253	2.165	14.9	19.2
127776	2003 <i>FP</i> ₅₃	3 31.6 337°64		7°7/25.7 18			419774	2010 <i>VT</i> ₁₄₇	3 31.6 167°73		1°2/30.3 14 C		
2 21	13 9.70	+13 22.2	1.634	2.453	15.9	19.6	2 21	13 7.28	- 3 52.4	2.202	2.979	13.7	22.7
3 2	13 5.72	+14 10.6	1.560	2.448	12.9	19.4	3 2	13 3.02	- 3 14.1	2.113	2.984	10.8	22.5
3 12	12 58.97	+14 57.4	1.507	2.444	9.9	19.2	3 12	12 56.71	- 2 24.4	2.047	2.989	7.3	22.3
3 22	12 50.09	+15 34.0	1.479	2.440	7.9	19.0	3 22	12 48.85	- 1 27.2	2.008	2.992	3.6	22.0
4 1	12 40.11	+15 52.3	1.475	2.437	8.2	19.1	4 1	12 40.18	- 0 27.8	1.998	2.996	1.4	21.9
4 11	12 30.29	+15 46.5	1.498	2.434	10.7	19.2	4 11	12 31.60	+ 0 27.9	2.018	2.998	4.8	22.1
4 21	12 21.80	+15 15.2	1.543	2.431	14.0	19.4	4 21	12 23.91	+ 1 14.6	2.065	2.999	8.5	22.3
5 1	12 15.51	+14 19.9	1.610	2.429	17.1	19.6	5 1	12 17.81	+ 1 48.5	2.138	3.000	11.8	22.6
303916	2005 <i>UH</i> ₁₂₂	3 31.6 253°87		0°8/ 1.2 17			226882	2004 <i>TY</i> ₁₂₂	3 31.6 118°10		1°5/30.1 17		
2 21	13 7.63	- 9 14.9	1.617	2.397	17.7	21.9	2 21	13 4.66	- 3 16.6	2.031	2.820	14.3	21.0
3 2	13 4.48	- 8 57.3	1.511	2.380	14.4	21.6	3 2	13 1.11	- 2 36.4	1.949	2.828	11.2	20.8
3 12	12 58.46	- 8 20.1	1.425	2.363	10.3	21.3	3 12	12 55.46	- 1 44.7	1.890	2.835	7.6	20.6
3 22	12 50.04	- 7 25.0	1.363	2.344	5.5	21.0	3 22	12 48.24	- 0 45.7	1.857	2.842	3.7	20.4
4 1	12 40.10	- 6 16.7	1.326	2.325	0.8	20.6	4 1	12 40.22	+ 0 14.7	1.852	2.849	1.7	20.2
4 11	12 29.92	- 5 3.2	1.317	2.306	5.4	20.9	4 11	12 32.31	+ 1 10.1	1.876	2.856	5.2	20.5
4 21	12 20.80	- 3 53.7	1.334	2.286	10.6	21.1	4 21	12 25.36	+ 1 55.1	1.927	2.862	9.0	20.7
5 1	12 13.84	- 2 56.4	1.374	2.265	15.3	21.3	5 1	12 20.06	+ 2 25.8	2.002	2.869	12.3	20.9
466788	2015 <i>BW</i> ₁₇	3 31.6 71°89		5°2/25.7 18			500923	2013 <i>PP</i> ₃₀	3 31.6 143°33		0°1/31.7 17		
2 21	13 3.75	+ 4 49.7	1.846	2.661	14.5	20.5	2 21	13 5.31	- 7 52.2	2.147	2.917	14.2	22.7
3 2	13 0.40	+ 6 34.7	1.793	2.686	11.2	20.3	3 2	13 1.53	- 7 22.8	2.060	2.925	11.3	22.5
3 12	12 54.91	+ 8 26.0	1.764	2.711	7.9	20.2	3 12	12 55.72	- 6 39.5	1.995	2.932	7.9	22.3
3 22	12 47.90	+10 14.5	1.762	2.736	5.4	20.1	3 22	12 48.36	- 5 45.1	1.956	2.939	4.0	22.1
4 1	12 40.21	+11 50.9	1.788	2.761	5.9	20.1	4 1	12 40.22	- 4 44.5	1.946	2.945	0.2	21.7
4 11	12 32.83	+13 7.5	1.841	2.786	8.5	20.3	4 11	12 32.17	- 3 43.6	1.965	2.951	4.2	22.1
4 21	12 26.56	+14 0.1	1.920	2.810	11.5	20.6	4 21	12 25.03	- 2 48.4	2.011	2.957	8.0	22.3
5 1	12 22.02	+14 27.8	2.021	2.834	14.3	20.8	5 1	12 19.48	- 2 3.6	2.084	2.962	11.4	22.6
411232	2010 <i>PX</i> ₆₁	3 31.6 177°43		2°6/ 2.8 16			78522	2002 <i>RM</i> ₀₆	3 31.6 156°70		0°2/31.3 18		
2 21	13 9.78	-12 34.5	1.948	2.697	16.2	21.6	2 21	13 2.20	- 7 35.3	2.414	3.184	12.8	19.5
3 2	13 5.46	-12 47.8	1.853	2.699	13.3	21.4	3 2	12 58.88	- 6 50.8	2.322	3.188	10.2	19.3
3 12	12 58.67	-12 45.0	1.779	2.700	9.8	21.1	3 12	12 53.78	- 5 52.9	2.254	3.192	7.0	19.1
3 22	12 49.94	-12 26.5	1.729	2.701	5.9	20.9	3 22	12 47.37	- 4 45.1	2.212	3.195	3.5	18.9
4 1	12 40.12	-11 54.4	1.707	2.701	2.7	20.7	4 1	12 40.26	- 3 32.0	2.199	3.198	0.3	18.6
4 11	12 30.29	-11 13.6	1.713	2.701	4.5	20.8	4 11	12 33.22	- 2 19.7	2.216	3.201	4.0	18.9
4 21	12 21.49	-10 30.1	1.747	2.700	8.4	21.0	4 21	12 26.95	- 1 13.8	2.262	3.203	7.5	19.1
5 1	12 14.59	- 9 50.1	1.806	2.699	12.1	21.3	5 1	12 22.02	- 0 19.0	2.333	3.206	10.6	19.3
240321	2003 <i>JC</i> ₁₀	3 31.6 265°97		5°0/27.7 18			309307	2007 <i>RG</i> ₂₆₉	3 31.6 276°79		0°9/ 1.3 16		
2 21	13 8.49	+ 4 38.0	1.539	2.356	16.8	20.2	2 21	13 3.95	-10 8.9	1.552	2.340	18.1	21.3
3 2	13 5.08	+ 5 27.3	1.451	2.345	13.3	19.9	3 2	13 1.59	- 9 43.9	1.453	2.326	14.7	21.1
3 12	12 58.78	+ 6 25.1	1.384	2.333	9.4	19.7	3 12	12 56.46	- 8 57.1	1.373	2.312	10.5	20.8
3 22	12 50.13	+ 7 24.0	1.341	2.321	5.8	19.4	3 22	12 49.02	- 7 50.6	1.316	2.298	5.6	20.5
4 1	12 40.10	+ 8 15.1	1.324	2.309	5.5	19.4	4 1	12 40.18	- 6 29.8	1.284	2.283	0.9	20.1
4 11	12 30.04	+ 8 50.1	1.333	2.297	9.0	19.5	4 11	12 31.20	- 5 3.7	1.280	2.269	5.4	20.4
4 21	12 21.21	+ 9 3.4	1.366	2.285	13.3	19.7	4 21	12 23.32	- 3 42.3	1.301	2.255	10.6	20.6
5 1	12 14.64	+ 8 53.0	1.421	2.272	17.2	20.0	5 1	12 17.59	- 2 34.7	1.344	2.240	15.2	20.8
320468	2007 <i>VV</i> ₂₈₂	3 31.6 105°83		2°6/ 3.0 18			36089	1999 <i>RN</i> ₉₂	3 31.6 247°33		0°6/30.8 18		
2 21	13 5.97	-14 21.8	1.689	2.449	17.9	21.2	2 21	13 2.29	- 4 46.1	2.707	3.480	11.5	19.8
3 2	13 2.70	-14 9.5	1.607	2.459	14.6	21.0	3 2	12 58.83	- 4 17.7	2.600	3.469	9.1	19.6
3 12	12 56.85	-13 35.3	1.545	2.469	10.7	20.8	3 12	12 53.72	- 3 39.5	2.517	3.457	6.3	19.4
3 22	12 49.02	-12 40.6	1.506	2.479	6.4	20.6	3 22	12 47.35	- 2 54.2	2.461	3.445	3.1	19.2
4 1	12 40.16	-11 29.9	1.493	2.488	2.8	20.3	4 1	12 40.27	- 2 5.6	2.434	3.433	0.7	18.9
4 11	12 31.43	-10 10.7	1.508	2.498	4.7	20.5	4 11	12 33.16	- 1 18.2	2.437	3.420	3.9	19.2
4 21	12 23.92	- 8 51.8	1.550	2.507	8.9	20.7	4 21	12 26.67	- 0 36.2	2.469	3.407	7.1	19.3
5 1	12 18.44	- 7 41.4	1.615	2.515	12.9	21.0	5 1	12 21.37	- 0 3.2	2.526	3.394	10.0	19.5
3368	Duncombe	3 31.6 199°25		1°1/ 1.8 18			145076	2005 <i>GY</i> ₃₆	3 31.6 310°24		1°9/30.1 17		
2 21	13 6.41	- 8 32.4	2.934	3.680	11.3	16.9	2 21	13 3.57	- 2 57.5	1.456	2.271	17.7	20.2
3 2	13 1.86	- 8 44.5	2.830	3.678	9.1	16.7	3 2	13 1.43	- 2 28.7	1.361	2.254	14.1	19.9
3 12	12 55.69	- 8 48.0	2.750	3.676	6.5	16.5	3 12	12 56.43	- 1 44.4	1.287	2.238	9.7	19.6
3 22	12 48.28	- 8 43.7	2.697	3.674	3.6	16.3	3 22	12 49.04	- 0 48.8	1.235	2.222	4.8	19.3
4 1	12 40.20	- 8 33.5	2.674	3.671	1.1	16.1	4 1	12 40.19	+ 0 10.7	1.209	2.206	2.1	19.1
4 11	12 32.10	- 8 20.0	2.681	3.669	3.1	16.3	4 11	12 31.21	+ 1 5.2	1.208	2.191	6.8	19.3
4 21	12 24.63	- 8 6.3	2.718	3.666	6.1	16.5	4 21	12 23.37	+ 1 46.6	1.231	2.176	12.0	19.6
5 1	12 18.34	- 7 55.2	2.783	3.663	8.8	16.6	5 1	12 17.77	+ 2 9.2	1.275	2.162	16.6	19.8
305838	2009 <i>DM</i> ₁₃₈	3 31.6 280°78		0°0/31.5 17			61824	2000 <i>QU</i> ₁₉₃					

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2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
366454	2002 AQ ₁₁₃		3 31.6 149°70	1°9/ 2.8 16			212643	2006 UW ₃₅		3 31.6 314°64	0°3/31.9 17		
2 21	13 7.31	-12 58.2	2.507	3.241	13.3	22.1	2 21	13 3.12	- 7 13.3	2.232	3.006	13.6	20.8
3 2	13 2.81	-12 49.3	2.415	3.252	10.9	22.0	3 2	12 59.86	- 7 1.9	2.135	3.001	10.9	20.6
3 12	12 56.44	-12 26.2	2.345	3.263	7.9	21.8	3 12	12 54.63	- 6 38.5	2.059	2.997	7.6	20.4
3 22	12 48.69	-11 50.2	2.301	3.272	4.7	21.6	3 22	12 47.88	- 6 5.2	2.010	2.992	3.9	20.2
4 1	12 40.23	-11 4.0	2.287	3.281	2.0	21.4	4 1	12 40.29	- 5 25.7	1.988	2.988	0.3	19.8
4 11	12 31.85	-10 12.1	2.302	3.290	3.5	21.5	4 11	12 32.70	- 4 44.9	1.996	2.983	4.0	20.1
4 21	12 24.28	- 9 19.5	2.347	3.297	6.7	21.7	4 21	12 25.90	- 4 7.6	2.031	2.979	7.7	20.4
5 1	12 18.15	- 8 31.3	2.418	3.304	9.8	21.9	5 1	12 20.58	- 3 38.2	2.091	2.975	11.1	20.6
187792	1999 AV ₃		3 31.6 45°73	4°1/28.4 18			102736	1999 VE ₁₀₅		3 31.6 190°19	1°9/29.6 17		
2 21	13 6.43	+ 2 27.3	1.416	2.239	17.7	19.2	2 21	13 5.92	- 0 45.8	2.284	3.071	13.0	20.6
3 2	13 3.22	+ 3 14.1	1.359	2.257	13.8	19.0	3 2	13 1.92	- 0 14.4	2.193	3.070	10.2	20.4
3 12	12 57.23	+ 4 9.6	1.323	2.275	9.4	18.8	3 12	12 55.96	+ 0 25.3	2.125	3.069	6.9	20.2
3 22	12 49.18	+ 5 6.4	1.310	2.293	5.3	18.6	3 22	12 48.52	+ 1 9.6	2.083	3.068	3.5	20.0
4 1	12 40.21	+ 5 55.8	1.322	2.312	4.5	18.6	4 1	12 40.27	+ 1 53.6	2.071	3.066	2.1	19.9
4 11	12 31.60	+ 6 30.3	1.361	2.332	8.0	18.9	4 11	12 32.08	+ 2 31.9	2.088	3.064	5.1	20.1
4 21	12 24.47	+ 6 45.5	1.423	2.351	12.1	19.2	4 21	12 24.71	+ 3 0.5	2.132	3.061	8.6	20.3
5 1	12 19.59	+ 6 39.9	1.507	2.371	15.7	19.4	5 1	12 18.83	+ 3 16.4	2.202	3.059	11.7	20.5
169394	2001 VQ ₉₃		3 31.6 110°20	7°1/21.7 18			429214	2009 WX ₂₄₇		3 31.6 112°44	1°8/29.7 17		
2 21	13 5.55	+19 48.7	2.698	3.495	10.9	20.2	2 21	13 5.85	- 2 0.4	2.070	2.859	14.1	22.3
3 2	13 1.19	+21 6.7	2.649	3.514	9.1	20.1	3 2	13 1.95	- 1 19.3	1.993	2.872	11.0	22.1
3 12	12 55.16	+22 19.1	2.625	3.532	7.6	20.0	3 12	12 55.99	- 0 28.0	1.940	2.885	7.4	21.9
3 22	12 47.98	+23 19.7	2.627	3.550	7.1	20.0	3 22	12 48.51	+ 0 28.9	1.912	2.897	3.7	21.7
4 1	12 40.27	+24 3.2	2.657	3.567	7.7	20.0	4 1	12 40.28	+ 1 25.5	1.913	2.909	2.0	21.6
4 11	12 32.78	+24 26.3	2.714	3.584	9.1	20.2	4 11	12 32.21	+ 2 15.9	1.944	2.921	5.3	21.8
4 21	12 26.13	+24 28.4	2.794	3.601	10.8	20.3	4 21	12 25.12	+ 2 55.2	2.001	2.932	8.9	22.0
5 1	12 20.84	+24 10.4	2.896	3.617	12.5	20.4	5 1	12 19.67	+ 3 20.1	2.083	2.943	12.1	22.3
352371	2007 VL ₂₅₄		3 31.6 177°35	5°2/24.6 18			258208	2001 ST ₃₃₅		3 31.6 327°52	1°3/ 1.7 18		
2 21	13 3.95	+11 24.3	2.645	3.447	11.0	21.4	2 21	13 5.59	- 9 25.7	1.679	2.460	17.2	20.4
3 2	13 0.06	+12 33.0	2.568	3.449	8.7	21.2	3 2	13 2.54	- 9 25.5	1.589	2.457	13.9	20.2
3 12	12 54.50	+13 42.4	2.516	3.450	6.6	21.1	3 12	12 56.88	- 9 8.4	1.519	2.455	9.9	19.9
3 22	12 47.71	+14 46.8	2.491	3.451	5.3	21.0	3 22	12 49.15	- 8 36.2	1.472	2.452	5.4	19.6
4 1	12 40.29	+15 40.5	2.496	3.451	5.7	21.0	4 1	12 40.24	- 7 52.8	1.452	2.450	1.4	19.3
4 11	12 32.95	+16 18.8	2.528	3.451	7.6	21.1	4 11	12 31.33	- 7 4.5	1.458	2.448	4.8	19.6
4 21	12 26.35	+16 39.4	2.587	3.450	9.9	21.3	4 21	12 23.53	- 6 18.5	1.490	2.445	9.4	19.8
5 1	12 21.03	+16 41.5	2.669	3.450	12.0	21.4	5 1	12 17.75	- 5 41.0	1.546	2.444	13.6	20.1
268573	2006 BY ₉₇		3 31.6 45°35	2°8/29.4 18			498200	2007 TM ₃₆₂		3 31.6 110°12	3°5/27.8 17		
2 21	13 8.44	+ 1 46.7	1.680	2.486	16.1	20.1	2 21	13 5.75	+ 5 8.5	2.359	3.156	12.3	21.4
3 2	13 4.48	+ 2 3.3	1.609	2.497	12.6	19.9	3 2	13 1.60	+ 5 46.9	2.282	3.165	9.6	21.2
3 12	12 57.97	+ 2 27.0	1.560	2.508	8.6	19.7	3 12	12 55.62	+ 6 29.0	2.230	3.174	6.7	21.1
3 22	12 49.55	+ 2 52.9	1.535	2.519	4.5	19.4	3 22	12 48.28	+ 7 10.3	2.205	3.183	4.1	20.9
4 1	12 40.21	+ 3 15.3	1.537	2.531	3.1	19.4	4 1	12 40.29	+ 7 45.5	2.208	3.192	3.8	20.9
4 11	12 31.09	+ 3 28.5	1.567	2.543	6.5	19.6	4 11	12 32.44	+ 8 10.2	2.240	3.200	6.2	21.1
4 21	12 23.24	+ 3 29.0	1.622	2.555	10.5	19.9	4 21	12 25.45	+ 8 21.5	2.300	3.208	9.1	21.2
5 1	12 17.43	+ 3 14.9	1.700	2.567	14.1	20.1	5 1	12 19.92	+ 8 18.1	2.383	3.216	11.7	21.4
350774	2002 BO ₃₂		3 31.6 281°26	6°1/ 7.5 18			110470	2001 TJ ₅₄		3 31.6 357°10	3°6/ 3.8 17		
2 21	13 4.17	-24 49.2	2.482	3.158	14.8	20.4	2 21	13 1.09	-15 58.5	1.520	2.291	19.1	19.2
3 2	13 0.75	-25 26.3	2.374	3.151	12.9	20.2	3 2	12 59.31	-15 56.0	1.432	2.289	15.8	18.9
3 12	12 55.32	-25 45.2	2.285	3.145	10.7	20.1	3 12	12 54.83	-15 28.6	1.363	2.287	11.9	18.7
3 22	12 48.26	-25 43.9	2.218	3.138	8.3	19.9	3 22	12 48.17	-14 36.4	1.316	2.286	7.5	18.4
4 1	12 40.26	-25 22.2	2.178	3.132	6.5	19.8	4 1	12 40.30	-13 23.1	1.293	2.286	3.9	18.2
4 11	12 32.16	-24 42.0	2.164	3.125	6.2	19.7	4 11	12 32.44	-11 56.9	1.296	2.286	5.2	18.3
4 21	12 24.80	-23 48.1	2.177	3.119	7.7	19.8	4 21	12 25.77	-10 27.8	1.324	2.287	9.5	18.5
5 1	12 18.92	-22 46.6	2.216	3.112	10.1	19.9	5 1	12 21.24	- 9 5.9	1.375	2.288	13.8	18.8
176171	2001 KD ₄₃		3 31.6 284°54	0°0/31.6 18			43124	1999 XJ ₅₃		3 31.6 205°81	0°9/30.6 18		
2 21	13 2.70	- 8 38.1	1.703	2.492	16.7	20.1	2 21	13 4.64	- 4 16.2	2.215	2.997	13.5	19.9
3 2	13 0.37	- 7 59.9	1.596	2.472	13.4	19.9	3 2	13 1.03	- 3 46.3	2.121	2.994	10.7	19.7
3 12	12 55.50	- 7 1.3	1.510	2.451	9.5	19.6	3 12	12 55.42	- 3 5.1	2.049	2.991	7.3	19.5
3 22	12 48.53	- 5 45.0	1.447	2.431	4.8	19.2	3 22	12 48.28	- 2 16.0	2.004	2.988	3.6	19.2
4 1	12 40.25	- 4 17.0	1.411	2.410	0.2	18.8	4 1	12 40.30	- 1 23.8	1.987	2.985	1.1	19.0
4 11	12 31.79	- 2 46.2	1.403	2.390	5.4	19.2	4 11	12 32.35	- 0 34.0	1.999	2.982	4.6	19.3
4 21	12 24.27	- 1 22.1	1.420	2.369	10.3	19.4	4 21	12 25.22	+ 0 8.1	2.039	2.978	8.3	19.5
5 1	12 18.68	- 0 13.0	1.461	2.349	14.8	19.6	5 1	12 19.60	+ 0 38.5	2.104	2.974	11.7	19.7
150832	2001 SM ₃₀		3 31.6 193°41	0°6/30.9 17			229568	2006 AA ₄₁		3 31.6 332°91	1°3/30.5 17		
2 21	13 6.47	- 5 30.7	2.312	3.083	13.3	22.0	2 21	13 4.47	- 3 21.3	1.786	2.585	15.6	20.5
3 2	13 2.37	- 4 59.4	2.214	3.081	10.6	21.8	3 2	13 1.42	- 2 58.0	1.698	2.581	12.3	20.2
3 12	12 56.29	- 4 16.3	2.139	3.078	7.3	21.6	3 12	12 55.97	- 2 22.4	1.631	2.577	8.5	20.0
3 22	12 48.69	- 3 24.3	2.091	3.075	3.6	21.4	3 22	12 48.64	- 1 38.3	1.588	2.574	4.2	19.7
4 1	12 40.25	- 2 28.2	2.072	3.071	0.7	21.1	4 1	12 40.28	- 0 51.3	1.573	2.571	1.4	19.5
4 11	12 31.83	- 1 33.3	2.083	3.066	4.4	21.4	4 11	12 31.95	- 0 8.2	1.585	2.568	5.5	19.8
4 21	12 24.22	- 0 45.0	2.122	3.061	8.1	21.6	4 21	12 24.65	+ 0 25.4	1.623	2.565	9.8	20.0
5 1	12 18.10	- 0 7.5	2.187	3.055	11.4	21.8	5 1	12 19.19	+ 0 45.2	1.684	2.563	13.6	20.3
498809	2008 UW ₃₁₁		3 31.6 186°81	1°8/ 2.3 17			194251	2001 TS ₂₀₄		3 31.6 75°85	5°5/27.4 18		
2 21	13 6.21	-11 8.7	2.234	2.987									

EPHEMERIDES

3 31.6

3 31.6

2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
181572	2006 <i>VF</i> ₂₇		3 31.6 148°62	0°6/30.9	18		371138	2005 <i>WV</i> ₁₃₁		3 31.6 130°87	1°0/30.6	17	
2 21	13 3.27	- 4 31.9	2.862	3.631	11.1	21.6	2 21	13 6.82	- 3 54.0	2.137	2.917	14.0	22.5
3 2	12 59.38	- 4 5.3	2.771	3.638	8.7	21.4	3 2	13 2.69	- 3 23.2	2.055	2.928	11.0	22.3
3 12	12 53.97	- 3 30.2	2.706	3.645	5.9	21.2	3 12	12 56.51	- 2 41.5	1.997	2.939	7.5	22.1
3 22	12 47.45	- 2 49.2	2.667	3.651	2.9	21.0	3 22	12 48.79	- 1 52.6	1.964	2.949	3.6	21.9
4 1	12 40.35	- 2 5.8	2.659	3.657	0.7	20.9	4 1	12 40.32	- 1 1.6	1.961	2.959	1.2	21.7
4 11	12 33.33	- 1 24.2	2.681	3.663	3.6	21.1	4 11	12 31.97	- 0 14.1	1.987	2.968	4.7	22.0
4 21	12 26.96	- 0 48.0	2.731	3.669	6.6	21.3	4 21	12 24.58	+ 0 25.0	2.040	2.977	8.4	22.2
5 1	12 21.74	- 0 20.1	2.809	3.674	9.2	21.5	5 1	12 18.80	+ 0 51.9	2.118	2.986	11.7	22.4
340636	2006 <i>QC</i> ₁₄₈		3 31.6 135°35	0°6/ 1.3	18		165487	2001 <i>BS</i> ₂₀		3 31.6 71°66	4°4/28.2	18	
2 21	13 6.11	- 7 36.6	2.555	3.313	12.5	20.9	2 21	13 9.42	+ 2 56.5	1.466	2.282	17.6	20.0
3 2	13 1.83	- 7 35.7	2.463	3.319	10.0	20.7	3 2	13 5.44	+ 3 50.9	1.411	2.304	13.7	19.8
3 12	12 55.78	- 7 24.7	2.394	3.326	7.0	20.5	3 12	12 58.69	+ 4 53.3	1.376	2.326	9.4	19.6
3 22	12 48.39	- 7 5.2	2.352	3.332	3.7	20.3	3 22	12 49.92	+ 5 56.1	1.366	2.348	5.4	19.5
4 1	12 40.31	- 6 40.0	2.340	3.338	0.7	20.1	4 1	12 40.27	+ 6 50.5	1.382	2.370	4.8	19.5
4 11	12 32.29	- 6 12.9	2.357	3.344	3.5	20.3	4 11	12 31.04	+ 7 28.8	1.424	2.392	8.1	19.7
4 21	12 25.03	- 5 47.6	2.403	3.350	6.8	20.5	4 21	12 23.32	+ 7 46.9	1.491	2.413	12.1	20.0
5 1	12 19.12	- 5 27.8	2.475	3.355	9.8	20.7	5 1	12 17.88	+ 7 43.7	1.580	2.435	15.6	20.3
48450	1991 <i>NA</i>		3 31.6 270°91	7°2/ 6.7	18		169013	2001 <i>DP</i> ₅₃		3 31.6 34°15	2°4/ 2.3	18	
2 21	13 8.60	-24 24.8	2.022	2.709	17.5	20.1	2 21	13 7.08	-10 8.8	1.262	2.061	20.8	20.5
3 2	13 5.13	-25 4.0	1.892	2.679	15.4	19.9	3 2	13 4.36	-10 33.4	1.196	2.073	16.9	20.3
3 12	12 58.95	-25 22.3	1.780	2.649	12.7	19.6	3 12	12 58.43	-10 38.3	1.148	2.086	12.2	20.0
3 22	12 50.39	-25 15.5	1.689	2.617	9.9	19.4	3 22	12 49.99	-10 24.2	1.120	2.099	6.9	19.8
4 1	12 40.21	-24 41.3	1.624	2.585	7.7	19.2	4 1	12 40.26	- 9 55.0	1.117	2.114	2.6	19.5
4 11	12 29.54	-23 41.4	1.584	2.551	7.5	19.1	4 11	12 30.79	- 9 17.9	1.138	2.129	5.6	19.8
4 21	12 19.62	-22 21.4	1.572	2.518	9.8	19.1	4 21	12 22.92	- 8 41.0	1.184	2.145	10.6	20.1
5 1	12 11.58	-20 50.4	1.584	2.483	13.2	19.2	5 1	12 17.66	- 8 11.8	1.251	2.161	15.1	20.4
329966	2005 <i>RL</i> ₄₅		3 31.6 234°90	3°8/ 3.8	17		201209	2002 <i>PY</i> ₁₇₁		3 31.6 268°30	1°0/30.7	17	
2 21	13 10.50	-15 4.9	2.164	2.892	15.4	21.2	2 21	13 4.53	- 3 47.1	2.080	2.867	14.1	21.0
3 2	13 6.01	-15 37.8	2.052	2.881	12.8	21.0	3 2	13 1.08	- 3 23.5	1.989	2.866	11.1	20.8
3 12	12 59.12	-15 56.1	1.962	2.869	9.8	20.8	3 12	12 55.53	- 2 48.8	1.920	2.864	7.6	20.5
3 22	12 50.28	-15 58.8	1.896	2.857	6.5	20.6	3 22	12 48.37	- 2 6.5	1.877	2.862	3.7	20.3
4 1	12 40.23	-15 46.3	1.857	2.844	3.9	20.4	4 1	12 40.34	- 1 21.4	1.862	2.860	1.1	20.1
4 11	12 29.99	-15 21.5	1.848	2.831	4.9	20.4	4 11	12 32.34	- 0 39.0	1.875	2.858	4.8	20.4
4 21	12 20.58	-14 49.2	1.866	2.817	8.1	20.6	4 21	12 25.22	- 0 4.4	1.916	2.856	8.7	20.6
5 1	12 12.90	-14 15.1	1.911	2.803	11.6	20.8	5 1	12 19.71	+ 0 18.4	1.981	2.855	12.1	20.8
466176	2012 <i>JG</i> ₅₇		3 31.6 296°28	6°1/26.0	17		228353	2000 <i>SL</i> ₃₀₆		3 31.6 245°57	2°9/ 3.8	18	
2 21	13 4.80	+ 7 26.4	1.698	2.519	15.3	21.2	2 21	13 3.48	-16 37.8	2.130	2.867	15.3	21.0
3 2	13 2.01	+ 8 32.9	1.602	2.497	12.2	20.9	3 2	13 0.43	-16 20.3	2.020	2.855	12.8	20.8
3 12	12 56.62	+ 9 46.4	1.528	2.475	8.9	20.7	3 12	12 55.22	-15 42.4	1.931	2.843	9.6	20.5
3 22	12 49.09	+10 59.1	1.479	2.453	6.4	20.5	3 22	12 48.28	-14 44.6	1.865	2.831	6.1	20.3
4 1	12 40.28	+12 1.7	1.457	2.431	6.7	20.5	4 1	12 40.34	-13 29.6	1.827	2.819	3.2	20.1
4 11	12 31.34	+12 45.4	1.460	2.409	9.8	20.6	4 11	12 32.32	-12 3.5	1.818	2.806	4.3	20.1
4 21	12 23.41	+13 5.1	1.486	2.388	13.6	20.7	4 21	12 25.13	-10 33.8	1.837	2.793	7.8	20.3
5 1	12 17.45	+12 58.6	1.534	2.366	17.2	20.9	5 1	12 19.54	- 9 8.4	1.881	2.779	11.5	20.5
369375	2009 <i>UH</i> ₁₃₂		3 31.6 148°48	3°7/ 5.0	16		261949	2006 <i>PK</i> ₂		3 31.6 247°43	0°6/ 1.2	17	
2 21	13 5.71	-19 25.6	2.377	3.086	14.6	21.8	2 21	13 7.26	- 8 48.6	1.959	2.728	15.5	21.8
3 2	13 1.78	-19 18.6	2.283	3.095	12.3	21.7	3 2	13 3.63	- 8 30.1	1.848	2.711	12.5	21.5
3 12	12 55.88	-18 52.6	2.209	3.104	9.4	21.5	3 12	12 57.58	- 7 55.4	1.758	2.693	8.9	21.3
3 22	12 48.48	-18 7.9	2.159	3.112	6.4	21.3	3 22	12 49.54	- 7 6.5	1.694	2.675	4.7	21.0
4 1	12 40.31	-17 6.7	2.137	3.120	4.0	21.2	4 1	12 40.29	- 6 7.4	1.657	2.656	0.6	20.6
4 11	12 32.22	-15 54.0	2.144	3.127	4.3	21.2	4 11	12 30.86	- 5 4.5	1.648	2.636	4.6	20.9
4 21	12 24.99	-14 36.0	2.180	3.133	7.0	21.4	4 21	12 22.29	- 4 4.8	1.668	2.616	9.1	21.1
5 1	12 19.28	-13 19.5	2.243	3.139	9.9	21.6	5 1	12 15.50	- 3 14.8	1.711	2.595	13.2	21.3
169581	2002 <i>GW</i> ₂₀		3 31.6 324°93	2°7/29.8	18		222288	2000 <i>SJ</i> ₁₃₀		3 31.6 164°91	4°8/ 6.3	18	R
2 21	13 8.47	+ 0 19.9	1.430	2.245	18.0	19.8	2 21	13 6.24	-22 28.6	2.446	3.134	14.7	20.8
3 2	13 5.25	+ 0 34.3	1.347	2.239	14.3	19.5	3 2	13 2.25	-22 36.5	2.346	3.139	12.6	20.7
3 12	12 59.01	+ 0 58.8	1.283	2.233	9.8	19.2	3 12	12 56.25	-22 25.1	2.266	3.143	10.0	20.5
3 22	12 50.32	+ 1 28.6	1.242	2.228	5.0	18.9	3 22	12 48.71	-21 53.5	2.209	3.147	7.3	20.3
4 1	12 40.23	+ 1 56.9	1.227	2.223	2.9	18.8	4 1	12 40.34	-21 3.0	2.180	3.151	5.2	20.2
4 11	12 30.16	+ 2 16.6	1.238	2.218	7.2	19.0	4 11	12 31.99	-19 57.5	2.179	3.154	5.1	20.2
4 21	12 21.44	+ 2 22.2	1.273	2.214	12.1	19.3	4 21	12 24.48	-18 42.8	2.207	3.156	7.2	20.3
5 1	12 15.11	+ 2 10.8	1.329	2.210	16.4	19.5	5 1	12 18.49	-17 25.8	2.261	3.158	9.9	20.5
431993	2008 <i>UV</i> ₂₆₅		3 31.6 230°70	2°4/ 3.1	17		146211	2000 <i>UV</i> ₉₇		3 31.6 140°33	4°5/ 7.1	18	
2 21	13 3.91	-13 52.4	2.135	2.884	15.0	21.7	2 21	13 2.71	-23 59.4	2.914	3.586	12.9	20.5
3 2	13 0.66	-13 47.1	2.036	2.881	12.3	21.5	3 2	12 59.11	-24 0.1	2.814	3.594	11.0	20.3
3 12	12 55.29	-13 24.7	1.957	2.877	9.1	21.3	3 12	12 53.89	-23 43.4	2.735	3.602	8.9	20.2
3 22	12 48.27	-12 46.1	1.903	2.874	5.5	21.0	3 22	12 47.45	-23 9.0	2.680	3.609	6.6	20.0
4 1	12 40.32	-11 54.2	1.876	2.870	2.6	20.8	4 1	12 40.39	-22 18.1	2.652	3.617	4.8	19.9
4 11	12 32.37	-10 54.1	1.878	2.867	4.1	20.9	4 11	12 33.38	-21 14.3	2.653	3.624	4.6	19.9
4 21	12 25.27	- 9 52.2	1.908	2.863	7.7	21.1	4 21	12 27.06	-20 2.1	2.683	3.630	6.2	20.0
5 1	12 19.76	- 8 54.8	1.962	2.859	11.1	21.3	5 1	12 21.97	-18 47.3	2.740	3.637	8.4	20.2
57678	2001 <i>UL</i> ₄₄		3 31.6 55°33	1°8/29.8	18		427371	2014 <i>WF</i> ₄₈₄		3 31.6 119°50	7°2/23.		

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2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
173920	2001 VS ₅₈		3 31.6 81°75	0°8/ 1.4 18			386125	2007 RV ₂₉₉		3 31.6 136°64	2°8/ 4.2 17		
2 21	13 6.22	- 8 8.7	2.343	3.105	13.4	20.7	2 21	13 6.00	-16 25.3	2.831	3.543	12.4	22.5
3 2	13 2.01	- 8 6.9	2.264	3.122	10.7	20.5	3 2	13 1.61	-16 29.6	2.738	3.557	10.3	22.4
3 12	12 55.93	- 7 53.8	2.208	3.140	7.5	20.3	3 12	12 55.57	-16 20.0	2.668	3.569	7.8	22.2
3 22	12 48.48	- 7 31.2	2.177	3.157	4.0	20.2	3 22	12 48.29	-15 57.1	2.623	3.582	5.1	22.1
4 1	12 40.35	- 7 2.4	2.175	3.174	0.8	19.9	4 1	12 40.39	-15 22.6	2.607	3.593	3.0	22.0
4 11	12 32.37	- 6 31.6	2.203	3.191	3.6	20.2	4 11	12 32.55	-14 40.0	2.621	3.605	3.6	22.0
4 21	12 25.28	- 6 2.8	2.259	3.208	7.1	20.4	4 21	12 25.44	-13 53.4	2.664	3.615	6.0	22.2
5 1	12 19.66	- 5 40.0	2.341	3.225	10.1	20.6	5 1	12 19.59	-13 7.5	2.735	3.626	8.6	22.4
471135	2010 ER ₂₅		3 31.6 256°88	0°2/31.9 17			93640	2000 UU ₈₆		3 31.6 223°70	2°8/28.6 18		
2 21	13 1.87	- 8 12.7	2.412	3.180	12.9	21.8	2 21	13 5.63	+ 1 10.6	2.228	3.022	13.1	20.6
3 2	12 58.75	- 7 43.5	2.308	3.172	10.3	21.6	3 2	13 1.84	+ 1 58.0	2.132	3.013	10.2	20.4
3 12	12 53.82	- 7 1.0	2.228	3.164	7.2	21.4	3 12	12 56.02	+ 2 53.9	2.059	3.005	7.0	20.2
3 22	12 47.50	- 6 7.7	2.173	3.155	3.7	21.1	3 22	12 48.63	+ 3 53.5	2.013	2.996	3.8	20.0
4 1	12 40.39	- 5 7.7	2.147	3.147	0.2	20.8	4 1	12 40.37	+ 4 50.9	1.996	2.986	3.1	19.9
4 11	12 33.26	- 4 6.4	2.151	3.138	3.8	21.1	4 11	12 32.10	+ 5 40.1	2.007	2.976	6.0	20.1
4 21	12 26.84	- 3 9.2	2.183	3.129	7.4	21.3	4 21	12 24.64	+ 6 16.4	2.046	2.966	9.5	20.2
5 1	12 21.76	- 2 20.9	2.240	3.120	10.6	21.5	5 1	12 18.69	+ 6 36.8	2.110	2.955	12.6	20.4
8858	Cornus		3 31.6 294°15	0°0/31.6 18 R			288901	2004 RC ₃₁₁		3 31.6 266°06	1°3/30.6 17		
2 21	13 5.74	- 6 19.1	1.554	2.351	17.6	18.1	2 21	13 7.19	- 4 41.1	1.659	2.453	16.8	21.3
3 2	13 3.14	- 6 11.2	1.449	2.329	14.2	17.8	3 2	13 4.09	- 4 6.8	1.551	2.431	13.5	21.1
3 12	12 57.66	- 5 47.2	1.364	2.308	10.1	17.5	3 12	12 58.22	- 3 15.7	1.464	2.409	9.4	20.8
3 22	12 49.75	- 5 9.2	1.302	2.286	5.2	17.2	3 22	12 50.01	- 2 11.3	1.400	2.386	4.6	20.4
4 1	12 40.29	- 4 22.0	1.266	2.265	0.2	16.7	4 1	12 40.31	- 1 0.2	1.364	2.362	1.5	20.1
4 11	12 30.55	- 3 32.9	1.256	2.244	5.7	17.1	4 11	12 30.34	+ 0 9.2	1.355	2.338	6.3	20.4
4 21	12 21.86	- 2 49.6	1.271	2.223	11.0	17.3	4 21	12 21.35	+ 1 8.2	1.372	2.313	11.3	20.6
5 1	12 15.33	- 2 19.1	1.308	2.202	15.7	17.6	5 1	12 14.43	+ 1 50.2	1.411	2.288	15.9	20.8
345100	2005 NS ₂₄		3 31.6 118°88	3°5/ 4.7 17			343156	2009 HP ₆₆		3 31.6 46°18	1°1/30.4 18		
2 21	13 2.61	-17 47.3	2.403	3.127	14.1	21.1	2 21	13 0.22	- 7 23.4	1.879	2.670	15.2	20.8
3 2	12 59.39	-17 49.7	2.304	3.128	11.8	20.9	3 2	12 57.73	- 6 7.2	1.811	2.690	11.9	20.7
3 12	12 54.29	-17 35.0	2.226	3.129	9.0	20.7	3 12	12 53.19	- 4 34.0	1.766	2.711	8.0	20.5
3 22	12 47.73	-17 3.4	2.172	3.130	6.1	20.5	3 22	12 47.16	- 2 49.9	1.747	2.733	3.8	20.3
4 1	12 40.39	-16 16.8	2.146	3.131	3.7	20.4	4 1	12 40.44	- 1 2.9	1.756	2.754	1.3	20.1
4 11	12 33.06	-15 19.4	2.147	3.131	4.2	20.4	4 11	12 33.94	+ 0 37.9	1.794	2.776	5.1	20.4
4 21	12 26.50	-14 16.8	2.177	3.132	6.9	20.6	4 21	12 28.45	+ 2 5.2	1.859	2.799	9.0	20.7
5 1	12 21.35	-13 14.9	2.233	3.133	9.8	20.8	5 1	12 24.59	+ 3 13.8	1.949	2.821	12.4	20.9
501029	2013 RL ₆₇		3 31.6 184°48	0°3/31.3 17			172017	2001 UA ₁₂₅		3 31.6 57°73	8°3/22.8 18		
2 21	13 4.93	- 7 9.7	2.398	3.164	13.0	23.0	2 21	13 6.96	+18 38.0	2.026	2.836	13.6	19.2
3 2	13 1.10	- 6 28.0	2.301	3.164	10.3	22.8	3 2	13 2.77	+19 56.4	1.986	2.861	11.2	19.1
3 12	12 55.39	- 5 33.2	2.227	3.164	7.1	22.6	3 12	12 56.48	+21 7.9	1.968	2.885	9.2	19.0
3 22	12 48.26	- 4 28.2	2.180	3.163	3.5	22.3	3 22	12 48.72	+22 4.8	1.976	2.910	8.3	19.0
4 1	12 40.38	- 3 18.0	2.163	3.162	0.4	22.1	4 1	12 40.38	+22 40.5	2.010	2.935	9.0	19.1
4 11	12 32.52	- 2 8.4	2.175	3.160	4.1	22.4	4 11	12 32.41	+22 51.5	2.069	2.960	10.7	19.2
4 21	12 25.45	- 1 5.1	2.217	3.157	7.7	22.6	4 21	12 25.60	+22 37.6	2.152	2.984	12.7	19.4
5 1	12 19.78	- 0 12.8	2.284	3.153	10.9	22.8	5 1	12 20.55	+22 1.0	2.254	3.009	14.7	19.6
32451	2000 SP ₂₅		3 31.6 253°20	3°4/ 8.2 18			226846	2004 SJ ₄₅		3 31.6 119°80	0°9/ 1.6 17		
2 21	12 56.57	-25 53.1	4.797	5.438	8.5	19.5	2 21	13 6.03	- 9 39.9	2.156	2.917	14.5	21.2
3 2	12 53.72	-25 54.1	4.679	5.431	7.3	19.4	3 2	13 2.12	- 9 23.7	2.072	2.929	11.6	21.0
3 12	12 49.91	-25 43.9	4.581	5.425	6.0	19.2	3 12	12 56.16	- 8 53.2	2.009	2.940	8.2	20.8
3 22	12 45.39	-25 22.5	4.508	5.418	4.7	19.1	3 22	12 48.66	- 8 10.7	1.972	2.951	4.4	20.6
4 1	12 40.50	-24 50.5	4.463	5.411	3.7	19.1	4 1	12 40.39	- 7 20.1	1.964	2.962	1.0	20.4
4 11	12 35.60	-24 9.6	4.447	5.405	3.4	19.0	4 11	12 32.24	- 6 26.9	1.984	2.973	3.9	20.6
4 21	12 31.06	-23 22.2	4.460	5.398	4.2	19.1	4 21	12 25.02	- 5 36.6	2.033	2.983	7.6	20.9
5 1	12 27.19	-22 31.0	4.500	5.391	5.5	19.2	5 1	12 19.39	- 4 54.4	2.107	2.992	11.0	21.1
435053	2006 WH ₉₉		3 31.6 217°87	2°7/ 4.1 17			104966	2000 JU ₅₇		3 31.6 249°28	3°8/ 4.7 18		
2 21	13 2.11	-16 27.6	2.658	3.382	12.9	21.4	2 21	13 4.49	-18 51.6	2.146	2.868	15.6	19.7
3 2	12 58.81	-16 18.5	2.551	3.378	10.7	21.3	3 2	13 1.31	-18 43.3	2.030	2.852	13.2	19.5
3 12	12 53.79	-15 53.8	2.467	3.374	8.1	21.1	3 12	12 55.91	-18 13.8	1.934	2.836	10.2	19.3
3 22	12 47.46	-15 14.1	2.407	3.369	5.2	20.9	3 22	12 48.69	-17 22.6	1.862	2.820	6.9	19.0
4 1	12 40.41	-14 21.7	2.376	3.364	2.9	20.7	4 1	12 40.39	-16 11.7	1.817	2.803	4.1	18.8
4 11	12 33.35	-13 20.7	2.373	3.360	3.6	20.8	4 11	12 31.95	-14 46.2	1.800	2.785	4.7	18.8
4 21	12 26.96	-12 16.2	2.400	3.354	6.4	20.9	4 21	12 24.32	-13 13.7	1.811	2.767	7.9	19.0
5 1	12 21.82	-11 13.7	2.454	3.349	9.2	21.1	5 1	12 18.32	-11 42.5	1.848	2.748	11.5	19.1
208667	2002 GD ₁₇		3 31.6 303°43	2°6/29.7 17			128702	2004 RN ₁₀₁		3 31.6 262°19	3°1/ 2.8 16		
2 21	13 5.28	- 1 7.9	1.439	2.256	17.8	20.0	2 21	13 9.07	-12 31.5	1.608	2.374	18.4	20.6
3 2	13 2.86	- 0 38.0	1.346	2.240	14.2	19.7	3 2	13 5.75	-12 53.0	1.504	2.360	15.3	20.3
3 12	12 57.49	+ 0 5.8	1.272	2.224	9.8	19.4	3 12	12 59.48	-12 56.3	1.419	2.345	11.4	20.0
3 22	12 49.65	+ 0 58.4	1.222	2.208	5.0	19.1	3 22	12 50.69	-12 40.7	1.357	2.329	6.9	19.7
4 1	12 40.32	+ 1 52.2	1.197	2.193	2.9	18.9	4 1	12 40.30	-12 7.9	1.320	2.314	3.3	19.4
4 11	12 30.84	+ 2 38.2	1.197	2.178	7.4	19.1	4 11	12 29.65	-11 23.1	1.309	2.298	5.4	19.5
4 21	12 22.56	+ 3 9.1	1.222	2.163	12.4	19.4	4 21	12 20.08	-10 33.6	1.325	2.282	10.1	19.8
5 1	12 16.57	+ 3 19.9	1.267	2.149	17.0	19.6	5 1	12 12.75	- 9 47.8	1.364	2.266	14.7	20.0
346552	2008 UA ₃₂₇		3 31.6 92°39	5°6/24.8 18			371028	2005 UK ₉₀		3 31.6 37°63	0°2/31.5 17		
2 21	13 5.83	+11 22.6	2.369	3.173	12.0	21.1							

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2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
497358	2005 <i>UV</i> ₂₂₁		3 31.6 229°88	1.2/ 1.8	17		249156	2008 <i>AK</i> ₁₃₆		3 31.6 260°94	1.0/30.6	17	
2 21	13 6.83	-10 22.8	2.325	3.077	13.8	22.9	2 21	13 5.64	-2 10.5	2.458	3.237	12.4	20.7
3 2	13 2.83	-10 8.7	2.213	3.064	11.2	22.7	3 2	13 1.65	-1 59.8	2.356	3.229	9.8	20.5
3 12	12 56.77	-9 40.2	2.123	3.050	8.0	22.4	3 12	12 55.80	-1 41.4	2.279	3.220	6.7	20.3
3 22	12 49.06	-8 58.9	2.058	3.036	4.4	22.2	3 22	12 48.51	-1 18.0	2.228	3.212	3.3	20.1
4 1	12 40.38	-8 7.7	2.023	3.021	1.2	21.9	4 1	12 40.42	-0 53.2	2.206	3.203	1.1	19.9
4 11	12 31.59	-7 11.8	2.017	3.005	3.9	22.1	4 11	12 32.30	-0 31.1	2.213	3.195	4.3	20.1
4 21	12 23.55	-6 16.8	2.039	2.988	7.7	22.3	4 21	12 24.92	-0 15.2	2.249	3.186	7.8	20.3
5 1	12 17.00	-5 28.2	2.088	2.971	11.2	22.5	5 1	12 18.90	-0 8.4	2.310	3.177	10.9	20.5
147345	2003 <i>BG</i> ₆₉		3 31.6 309°55	0.7/ 1.3	17		471387	2011 <i>SG</i> ₁₂₆		3 31.6 215°17	1.4/30.0	17	
2 21	13 3.27	-7 58.0	2.166	2.939	14.0	20.0	2 21	13 5.33	-0 51.4	2.814	3.590	11.1	22.0
3 2	13 0.16	-7 54.6	2.061	2.926	11.3	19.8	3 2	13 1.12	-0 32.4	2.713	3.584	8.7	21.8
3 12	12 54.99	-7 38.6	1.978	2.913	8.0	19.6	3 12	12 55.27	-0 7.1	2.636	3.578	5.9	21.6
3 22	12 48.18	-7 11.9	1.920	2.901	4.3	19.3	3 22	12 48.19	+0 21.9	2.587	3.571	3.0	21.4
4 1	12 40.41	-6 37.6	1.889	2.888	0.7	19.0	4 1	12 40.44	+0 50.9	2.568	3.564	1.5	21.3
4 11	12 32.57	-6 0.4	1.888	2.876	4.0	19.2	4 11	12 32.68	+1 16.3	2.579	3.556	4.2	21.5
4 21	12 25.51	-5 25.4	1.913	2.864	7.9	19.5	4 21	12 25.56	+1 34.9	2.619	3.549	7.2	21.7
5 1	12 19.96	-4 57.3	1.963	2.853	11.5	19.6	5 1	12 19.64	+1 44.3	2.685	3.541	9.9	21.8
337836	2001 <i>VE</i> ₆₉		3 31.6 268°91	3.2/28.3	17		143396	2003 <i>BP</i> ₃₀		3 31.6 104°46	0.3/31.9	18	
2 21	13 5.53	+4 7.2	2.292	3.090	12.6	20.4	2 21	13 3.11	-7 50.3	2.337	3.106	13.2	20.8
3 2	13 1.64	+4 38.3	2.203	3.086	9.9	20.2	3 2	12 59.71	-7 30.1	2.246	3.110	10.5	20.6
3 12	12 55.81	+5 14.1	2.137	3.082	6.8	20.0	3 12	12 54.46	-6 57.5	2.178	3.114	7.4	20.4
3 22	12 48.50	+5 50.3	2.097	3.077	4.0	19.8	3 22	12 47.82	-6 15.0	2.136	3.117	3.8	20.2
4 1	12 40.40	+6 21.7	2.086	3.073	3.5	19.8	4 1	12 40.45	-5 26.5	2.122	3.121	0.3	19.9
4 11	12 32.35	+6 43.7	2.103	3.069	6.1	19.9	4 11	12 33.13	-4 37.1	2.137	3.125	3.8	20.2
4 21	12 25.12	+6 53.0	2.148	3.064	9.2	20.1	4 21	12 26.61	-3 51.6	2.181	3.128	7.3	20.4
5 1	12 19.36	+6 47.9	2.217	3.060	12.2	20.3	5 1	12 21.49	-3 14.4	2.250	3.132	10.5	20.6
420462	2012 <i>DN</i> ₇₇		3 31.6 240°24	2.9/28.9	17		522824	2016 <i>NA</i> ₈₂		3 31.6 223°49	1.0/30.3	17	
2 21	13 7.93	+1 27.4	1.974	2.770	14.4	21.3	2 21	13 3.14	-3 9.7	2.782	3.557	11.2	23.3
3 2	13 3.99	+2 3.3	1.877	2.759	11.4	21.1	3 2	12 59.46	-2 38.2	2.679	3.549	8.8	23.1
3 12	12 57.70	+2 47.7	1.802	2.748	7.8	20.8	3 12	12 54.17	-1 58.1	2.599	3.541	6.0	22.9
3 22	12 49.56	+3 35.8	1.754	2.737	4.2	20.6	3 22	12 47.65	-1 12.2	2.547	3.531	2.9	22.7
4 1	12 40.36	+4 21.5	1.733	2.725	3.3	20.5	4 1	12 40.46	-0 24.5	2.525	3.522	1.2	22.5
4 11	12 31.12	+4 58.4	1.741	2.712	6.5	20.7	4 11	12 33.26	+0 20.7	2.532	3.512	4.0	22.7
4 21	12 22.80	+5 21.8	1.775	2.700	10.3	20.9	4 21	12 26.67	+0 59.3	2.569	3.502	7.1	22.9
5 1	12 16.25	+5 28.7	1.833	2.687	13.9	21.1	5 1	12 21.25	+1 28.2	2.631	3.492	9.9	23.1
415948	2001 <i>WE</i> ₁₀₂		3 31.6 106°64	1.4/30.3	18		333830	2012 <i>JB</i> ₂₅		3 31.6 326°18	1.1/ 1.6	17	
2 21	13 9.37	-2 7.6	2.043	2.826	14.4	21.9	2 21	12 59.65	-10 3.6	1.442	2.244	18.5	20.0
3 2	13 4.71	-1 43.3	1.970	2.845	11.3	21.7	3 2	12 58.43	-9 48.1	1.345	2.226	15.1	19.7
3 12	12 57.89	-1 9.6	1.921	2.863	7.7	21.6	3 12	12 54.46	-9 10.5	1.266	2.209	10.8	19.4
3 22	12 49.50	-0 30.6	1.897	2.881	3.8	21.3	3 22	12 48.16	-8 12.6	1.210	2.192	5.9	19.1
4 1	12 40.37	+0 8.9	1.902	2.899	1.6	21.2	4 1	12 40.44	-6 59.5	1.178	2.176	1.1	18.7
4 11	12 31.46	+0 43.3	1.936	2.916	5.0	21.5	4 11	12 32.56	-5 40.2	1.171	2.161	5.4	19.0
4 21	12 23.63	+1 8.5	1.998	2.933	8.7	21.7	4 21	12 25.79	-4 24.8	1.188	2.147	10.7	19.2
5 1	12 17.53	+1 21.5	2.085	2.949	12.0	22.0	5 1	12 21.18	-3 22.7	1.227	2.134	15.6	19.4
108976	2001 <i>PK</i> ₄₅		3 31.6 241°98	1.9/29.3	18		106315	2000 <i>UP</i> ₉₄		3 31.6 138°93	1.8/ 2.9	18	
2 21	13 1.57	-2 27.7	2.313	3.104	12.7	20.1	2 21	13 3.84	-12 44.3	2.779	3.515	12.1	19.6
3 2	12 58.56	-1 31.8	2.218	3.099	10.0	19.9	3 2	12 59.98	-12 40.5	2.684	3.523	9.9	19.4
3 12	12 53.71	-0 24.8	2.147	3.094	6.7	19.7	3 12	12 54.49	-12 24.2	2.612	3.530	7.2	19.3
3 22	12 47.46	+0 49.0	2.103	3.088	3.4	19.5	3 22	12 47.80	-11 56.7	2.566	3.537	4.3	19.1
4 1	12 40.45	+2 3.8	2.088	3.083	2.1	19.4	4 1	12 40.48	-11 20.2	2.549	3.543	1.9	18.9
4 11	12 33.46	+3 13.0	2.102	3.078	5.2	19.6	4 11	12 33.20	-10 38.4	2.562	3.550	3.2	19.0
4 21	12 27.22	+4 11.3	2.144	3.072	8.6	19.8	4 21	12 26.60	-9 55.5	2.604	3.556	6.1	19.2
5 1	12 22.35	+4 54.7	2.210	3.066	11.7	20.0	5 1	12 21.23	-9 15.6	2.673	3.562	8.8	19.4
189095	2001 <i>QH</i> ₂₁₁		3 31.6 4°35	5.4/ 4.1	17		387219	2012 <i>UD</i> ₉		3 31.6 154°51	2.8/28.6	17	
2 21	13 9.06	-14 48.8	1.480	2.244	19.8	19.3	2 21	13 4.40	+1 56.7	2.304	3.100	12.6	21.7
3 2	13 5.86	-15 55.7	1.395	2.243	16.6	19.1	3 2	13 0.71	+2 37.6	2.220	3.102	9.8	21.5
3 12	12 59.56	-16 45.1	1.328	2.244	12.8	18.8	3 12	12 55.14	+3 25.2	2.158	3.104	6.7	21.3
3 22	12 50.70	-17 14.3	1.282	2.244	8.7	18.6	3 22	12 48.17	+4 14.9	2.124	3.106	3.7	21.1
4 1	12 40.32	-17 22.4	1.261	2.246	5.7	18.4	4 1	12 40.46	+5 1.5	2.118	3.108	3.1	21.1
4 11	12 29.85	-17 12.4	1.265	2.248	6.6	18.5	4 11	12 32.84	+5 39.6	2.141	3.110	5.7	21.3
4 21	12 20.71	-16 50.3	1.294	2.251	10.3	18.7	4 21	12 26.03	+6 5.6	2.192	3.111	8.9	21.5
5 1	12 14.02	-16 24.1	1.346	2.255	14.3	18.9	5 1	12 20.67	+6 17.0	2.266	3.113	11.8	21.7
421062	2013 <i>QU</i> ₁₂		3 31.6 25°41	5.5/ 4.5	17		410736	2009 <i>CX</i> ₃₁		3 31.6 346°16	1.7/30.4	17	
2 21	13 11.15	-16 30.2	1.720	2.459	18.4	21.2	2 21	13 2.81	-3 43.5	1.275	2.098	19.3	21.2
3 2	13 7.08	-17 34.7	1.630	2.461	15.5	21.0	3 2	13 1.12	-3 16.1	1.195	2.092	15.3	20.9
3 12	13 0.17	-18 22.4	1.560	2.464	12.1	20.8	3 12	12 56.36	-2 31.1	1.135	2.087	10.5	20.6
3 22	12 50.92	-18 50.6	1.512	2.467	8.5	20.5	3 22	12 49.10	-1 33.7	1.096	2.083	5.2	20.3
4 1	12 40.31	-18 58.4	1.489	2.470	5.8	20.4	4 1	12 40.42	-0 31.9	1.081	2.079	1.9	20.1
4 11	12 29.63	-18 48.2	1.494	2.473	6.4	20.4	4 11	12 31.76	+0 24.3	1.091	2.076	7.0	20.4
4 21	12 20.12	-18 25.3	1.524	2.476	9.5	20.6	4 21	12 24.49	+1 6.4	1.124	2.074	12.3	20.7
5 1	12 12.82	-17 57.1	1.579	2.480	13.1	20.8	5 1	12 19.66	+1 28.6	1.177	2.073	17.0	20.9
61347	2000 <i>PE</i> ₈		3 31.6 187°97	3.5/27.5	18		83551	2001 <i>SZ</i> ₁₇₅		3 31.6 75°83	2.0/29.3	18	
2 21	13 6.52	+4 27.0	2.492	3.284	11.9	2							

EPHEMERIDES

3 31.6

3 31.6

2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
246192	2007 <i>RH</i> ₈₈		3 31.6 225°45	1°0/ 1.6 17			4772	Frankdrake		3 31.6 151°99	1°4/ 2.6 18		
2 21	13 6.32	- 8 30.5	2.309	3.069	13.6	20.7	2 21	13 1.44	-12 59.4	2.603	3.348	12.7	17.4
3 2	13 2.36	- 8 31.0	2.207	3.065	11.0	20.5	3 2	12 58.25	-12 30.3	2.506	3.351	10.3	17.2
3 12	12 56.40	- 8 19.7	2.128	3.060	7.8	20.3	3 12	12 53.39	-11 46.2	2.431	3.354	7.4	17.0
3 22	12 48.86	- 7 58.1	2.075	3.054	4.2	20.1	3 22	12 47.29	-10 49.1	2.383	3.357	4.3	16.8
4 1	12 40.44	- 7 29.0	2.051	3.049	1.0	19.8	4 1	12 40.54	- 9 42.5	2.363	3.359	1.5	16.6
4 11	12 31.99	- 6 56.6	2.055	3.044	3.8	20.0	4 11	12 33.83	- 8 31.4	2.373	3.362	3.3	16.7
4 21	12 24.34	- 6 25.4	2.088	3.038	7.5	20.3	4 21	12 27.82	- 7 21.3	2.412	3.364	6.5	16.9
5 1	12 18.17	- 5 59.9	2.147	3.032	10.8	20.4	5 1	12 23.06	- 6 17.3	2.478	3.366	9.4	17.1
223620	2004 <i>JX</i> ₁₂		3 31.6 250°23	0°3/31.9 17			479572	2014 <i>CU</i> ₁₁		3 31.6 347°10	12°4/ 9.1 18		
2 21	13 7.82	- 6 58.6	2.180	2.947	14.1	20.9	2 21	13 13.64	-31 42.3	1.972	2.563	19.6	20.1
3 2	13 3.82	- 6 47.6	2.066	2.928	11.4	20.7	3 2	13 9.66	-34 2.5	1.829	2.555	17.9	19.9
3 12	12 57.59	- 6 23.9	1.974	2.910	8.0	20.5	3 12	13 2.48	-36 4.8	1.747	2.549	16.0	19.7
3 22	12 49.55	- 5 49.6	1.908	2.890	4.2	20.2	3 22	12 52.42	-37 41.5	1.686	2.542	14.2	19.6
4 1	12 40.42	- 5 8.2	1.871	2.870	0.3	19.8	4 1	12 40.33	-38 45.5	1.648	2.537	12.8	19.5
4 11	12 31.11	- 4 24.8	1.863	2.850	4.3	20.1	4 11	12 27.62	-39 13.7	1.632	2.532	12.4	19.4
4 21	12 22.58	- 3 44.8	1.883	2.828	8.5	20.3	4 21	12 15.86	-39 8.5	1.640	2.528	13.2	19.5
5 1	12 15.63	- 3 13.1	1.928	2.807	12.2	20.5	5 1	12 6.45	-38 37.0	1.669	2.525	14.8	19.6
499115	2009 <i>HX</i> ₇₅		3 31.6 286°20	2°4/29.9 17			114793	2003 <i>NK</i> ₁		3 31.6 138°89	6°4/24.8 18		
2 21	13 7.41	- 0 56.0	1.599	2.405	16.8	21.5	2 21	13 8.68	+ 9 52.1	1.972	2.780	14.0	19.8
3 2	13 4.33	- 0 32.0	1.498	2.385	13.4	21.2	3 2	13 4.33	+11 25.3	1.909	2.793	11.1	19.6
3 12	12 58.42	+ 0 4.2	1.417	2.365	9.3	20.9	3 12	12 57.73	+13 0.9	1.869	2.806	8.3	19.5
3 22	12 50.14	+ 0 48.0	1.360	2.345	4.7	20.6	3 22	12 49.49	+14 30.5	1.856	2.819	6.5	19.4
4 1	12 40.39	+ 1 32.9	1.329	2.325	2.6	20.4	4 1	12 40.47	+15 45.4	1.872	2.830	7.0	19.4
4 11	12 30.43	+ 2 11.3	1.325	2.305	6.9	20.6	4 11	12 31.66	+16 39.0	1.914	2.841	9.4	19.6
4 21	12 21.52	+ 2 36.5	1.346	2.285	11.7	20.9	4 21	12 23.96	+17 8.3	1.982	2.851	12.2	19.8
5 1	12 14.75	+ 2 44.2	1.389	2.265	16.1	21.1	5 1	12 18.06	+17 13.0	2.071	2.860	14.8	20.0
2616	Lesya		3 31.6 203°10	0°8/31.0 18 R			30527	2001 <i>NW</i> ₁₀		3 31.6 95°02	3°8/ 4.9 18		
2 21	13 8.15	- 5 56.2	1.529	2.323	18.0	16.1	2 21	13 3.51	-18 27.3	2.246	2.969	15.0	19.0
3 2	13 4.84	- 5 25.4	1.442	2.321	14.3	15.8	3 2	13 0.26	-18 30.7	2.153	2.975	12.6	18.8
3 12	12 58.66	- 4 36.9	1.375	2.319	9.9	15.6	3 12	12 54.98	-18 15.6	2.079	2.980	9.7	18.6
3 22	12 50.18	- 3 34.7	1.331	2.316	4.9	15.3	3 22	12 48.16	-17 41.9	2.030	2.986	6.6	18.4
4 1	12 40.39	- 2 25.6	1.314	2.313	0.9	15.0	4 1	12 40.52	-16 51.8	2.007	2.991	4.1	18.3
4 11	12 30.62	- 1 18.6	1.324	2.309	6.0	15.3	4 11	12 32.92	-15 49.9	2.013	2.996	4.5	18.3
4 21	12 22.10	- 0 21.9	1.359	2.305	11.0	15.6	4 21	12 26.17	-14 42.4	2.046	3.002	7.2	18.5
5 1	12 15.83	+ 0 18.2	1.417	2.301	15.4	15.8	5 1	12 20.97	-13 35.7	2.106	3.007	10.3	18.7
315351	2007 <i>UX</i> ₁₄		3 31.6 150°15	5°7/25.4 18			34352	2000 <i>RJ</i> ₁₃		3 31.6 48°40	2°2/ 3.0 18		
2 21	13 9.55	+ 9 19.0	2.130	2.931	13.3	21.7	2 21	13 3.14	-13 7.7	2.142	2.896	14.8	18.5
3 2	13 4.83	+10 39.3	2.062	2.943	10.6	21.5	3 2	12 59.95	-13 6.0	2.058	2.906	12.0	18.3
3 12	12 57.99	+12 2.1	2.017	2.954	7.8	21.3	3 12	12 54.74	-12 48.3	1.994	2.916	8.8	18.1
3 22	12 49.59	+13 20.1	2.000	2.965	5.9	21.2	3 22	12 48.02	-12 16.0	1.955	2.927	5.3	17.9
4 1	12 40.43	+14 25.6	2.011	2.974	6.3	21.3	4 1	12 40.52	-11 32.0	1.943	2.938	2.4	17.7
4 11	12 31.45	+15 12.6	2.051	2.982	8.6	21.4	4 11	12 33.12	-10 41.4	1.960	2.949	3.9	17.9
4 21	12 23.51	+15 38.1	2.116	2.990	11.3	21.6	4 21	12 26.61	- 9 49.9	2.004	2.960	7.3	18.1
5 1	12 17.27	+15 41.7	2.204	2.997	13.9	21.8	5 1	12 21.66	- 9 3.0	2.074	2.971	10.6	18.3
140415	2001 <i>TP</i> ₈₅		3 31.6 70°80	2°1/ 2.9 17			100929	1998 <i>MQ</i> ₆		3 31.6 182°48	2°8/ 3.7 17		
2 21	13 5.23	-12 29.4	2.213	2.963	14.5	19.8	2 21	13 5.56	-15 3.8	2.338	3.071	14.2	21.1
3 2	13 1.45	-12 32.9	2.132	2.978	11.7	19.6	3 2	13 1.78	-15 6.3	2.238	3.071	11.7	20.9
3 12	12 55.68	-12 21.7	2.073	2.994	8.6	19.5	3 12	12 56.00	-14 52.9	2.159	3.071	8.8	20.7
3 22	12 48.45	-11 57.1	2.038	3.010	5.1	19.3	3 22	12 48.68	-14 24.2	2.106	3.071	5.6	20.5
4 1	12 40.47	-11 21.7	2.031	3.026	2.3	19.1	4 1	12 40.50	-13 42.1	2.080	3.070	3.0	20.3
4 11	12 32.62	-10 40.2	2.053	3.042	3.8	19.2	4 11	12 32.32	-12 51.2	2.083	3.070	4.0	20.4
4 21	12 25.68	- 9 57.7	2.103	3.057	7.1	19.5	4 21	12 24.95	-11 56.7	2.114	3.068	7.1	20.6
5 1	12 20.30	- 9 19.2	2.179	3.073	10.3	19.7	5 1	12 19.07	-11 4.5	2.172	3.067	10.3	20.8
333271	4318 <i>P-L</i>		3 31.6 181°94	1°0/ 1.8 18			179533	2002 <i>CP</i> ₂₀₁		3 31.6 225°44	4°8/24.2 18		
2 21	13 5.37	-10 43.6	2.488	3.237	13.1	21.7	2 21	13 1.49	+10 6.0	2.854	3.658	10.2	20.3
3 2	13 1.42	-10 21.2	2.389	3.238	10.5	21.5	3 2	12 58.15	+11 26.3	2.767	3.650	8.1	20.1
3 12	12 55.62	- 9 44.9	2.312	3.238	7.5	21.3	3 12	12 53.27	+12 49.1	2.705	3.641	6.1	19.9
3 22	12 48.42	- 8 56.6	2.261	3.238	4.1	21.1	3 22	12 47.23	+14 8.9	2.671	3.632	4.9	19.8
4 1	12 40.47	- 7 59.9	2.239	3.237	1.1	20.9	4 1	12 40.57	+15 19.7	2.667	3.623	5.4	19.9
4 11	12 32.54	- 6 59.6	2.248	3.236	3.5	21.0	4 11	12 33.91	+16 16.7	2.691	3.613	7.2	20.0
4 21	12 25.37	- 6 1.1	2.285	3.234	7.0	21.3	4 21	12 27.85	+16 56.7	2.742	3.603	9.5	20.1
5 1	12 19.57	- 5 9.4	2.349	3.231	10.1	21.5	5 1	12 22.93	+17 18.2	2.815	3.593	11.6	20.2
377329	2004 <i>NG</i> ₂₃		3 31.6 239°00	5°7/ 5.9 18			174012	2001 <i>YL</i> ₂₂		3 31.6 98°44	1°0/30.5 18		
2 21	13 8.85	-21 27.8	2.285	2.979	15.5	20.8	2 21	13 4.31	- 3 25.1	2.537	3.314	12.1	21.1
3 2	13 4.73	-22 7.9	2.171	2.967	13.4	20.6	3 2	13 0.36	- 2 54.8	2.460	3.331	9.5	20.9
3 12	12 58.30	-22 30.8	2.076	2.954	10.8	20.4	3 12	12 54.75	- 2 15.8	2.407	3.348	6.4	20.7
3 22	12 49.95	-22 34.3	2.004	2.940	8.1	20.2	3 22	12 47.93	- 1 31.4	2.381	3.365	3.1	20.5
4 1	12 40.42	-22 17.6	1.959	2.927	6.0	20.1	4 1	12 40.54	- 0 45.9	2.384	3.382	1.1	20.4
4 11	12 30.67	-21 42.9	1.942	2.912	6.0	20.0	4 11	12 33.29	- 0 3.7	2.418	3.399	4.1	20.6
4 21	12 21.71	-20 55.0	1.952	2.898	8.2	20.1	4 21	12 26.83	+ 0 31.3	2.479	3.415	7.2	20.9
5 1	12 14.40	-20 0.5	1.988	2.883	11.1	20.3	5 1	12 21.68	+ 0 56.0	2.567	3.431	10.0	21.1
53140	1999 <i>BT</i> ₅		3 31.6 114°62	0°3/31.3 18			139951	2001 <i>RA</i> ₁₄₂		3 31.6 136°08	9°3/12.3 18		
2 21													

EPHEMERIDES

3 31.6

3 31.7

2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
213246	2001 <i>BP</i> ₅₀		3 31.6 53°66	1.6/30.4	18		65771	1995 <i>KQ</i> ₃		3 31.6 52°95	2.0/2.4	18	
2 21	13 6.30	- 3 49.3	1.391	2.201	18.6	21.2	2 21	13 4.16	-12 54.8	1.474	2.255	19.2	19.6
3 2	13 3.36	- 3 15.5	1.325	2.215	14.6	21.0	3 2	13 1.75	-12 36.2	1.394	2.260	15.6	19.3
3 12	12 57.54	- 2 26.1	1.279	2.229	10.0	20.7	3 12	12 56.54	-11 53.8	1.333	2.266	11.3	19.1
3 22	12 49.55	- 1 26.6	1.257	2.243	4.9	20.5	3 22	12 49.12	-10 49.5	1.294	2.271	6.5	18.8
4 1	12 40.48	- 0 24.9	1.259	2.257	1.8	20.3	4 1	12 40.52	- 9 29.0	1.280	2.277	2.2	18.6
4 11	12 31.69	+ 0 30.1	1.288	2.272	6.4	20.6	4 11	12 32.02	- 8 1.5	1.292	2.283	5.0	18.8
4 21	12 24.35	+ 1 11.2	1.342	2.287	11.2	20.9	4 21	12 24.83	- 6 37.2	1.330	2.289	9.9	19.1
5 1	12 19.31	+ 1 34.0	1.417	2.302	15.3	21.2	5 1	12 19.86	- 5 25.2	1.391	2.296	14.3	19.3
202871	2008 <i>UE</i> ₉₂		3 31.6 93°66	4.5/26.9	18		4046	Swain		3 31.6 270°29	1°3/1.9	18	
2 21	13 8.22	+ 7 43.8	2.243	3.042	12.8	20.6	2 21	13 2.81	-11 38.6	1.897	2.666	15.9	16.7
3 2	13 3.54	+ 8 35.6	2.183	3.065	10.0	20.5	3 2	13 0.12	-11 10.5	1.798	2.659	12.9	16.5
3 12	12 56.95	+ 9 29.4	2.148	3.089	7.1	20.3	3 12	12 55.14	-10 23.0	1.720	2.652	9.3	16.2
3 22	12 49.02	+ 10 19.3	2.140	3.112	4.9	20.2	3 22	12 48.36	- 9 18.2	1.667	2.646	5.1	15.9
4 1	12 40.51	+ 10 59.6	2.161	3.135	4.9	20.3	4 1	12 40.55	- 8 0.9	1.640	2.639	1.3	15.7
4 11	12 32.26	+ 11 25.8	2.210	3.157	7.1	20.4	4 11	12 32.72	- 6 38.4	1.642	2.632	4.4	15.9
4 21	12 25.02	+ 11 35.7	2.286	3.179	9.8	20.6	4 21	12 25.81	- 5 18.7	1.671	2.625	8.7	16.1
5 1	12 19.36	+ 11 28.6	2.385	3.201	12.3	20.8	5 1	12 20.63	- 4 9.2	1.724	2.618	12.6	16.3
84735	2002 <i>WO</i> ₁₂		3 31.6 99°56	4.1/27.2	18		21617	Johnhagen		3 31.6 178°93	0°7/1.3	18	
2 21	13 2.28	+ 0 3.4	1.716	2.530	15.5	19.6	2 21	13 7.86	- 9 29.8	1.919	2.685	15.8	19.2
3 2	12 59.75	+ 1 41.2	1.638	2.532	12.1	19.4	3 2	13 3.99	- 9 6.5	1.826	2.687	12.7	19.0
3 12	12 54.86	+ 3 33.3	1.583	2.535	8.2	19.2	3 12	12 57.74	- 8 26.5	1.755	2.688	9.0	18.8
3 22	12 48.17	+ 5 31.4	1.554	2.537	4.8	19.0	3 22	12 49.63	- 7 32.2	1.708	2.689	4.8	18.5
4 1	12 40.53	+ 7 25.0	1.553	2.539	4.7	19.0	4 1	12 40.51	- 6 28.4	1.690	2.688	0.7	18.2
4 11	12 33.00	+ 9 3.7	1.580	2.542	8.0	19.2	4 11	12 31.43	- 5 21.7	1.700	2.688	4.5	18.5
4 21	12 26.52	+ 10 20.1	1.632	2.544	11.9	19.4	4 21	12 23.36	- 4 19.4	1.737	2.687	8.8	18.7
5 1	12 21.89	+ 11 10.3	1.706	2.546	15.3	19.6	5 1	12 17.11	- 3 27.4	1.800	2.685	12.6	19.0
496583	2015 <i>BO</i> ₇₅		3 31.6 175°12	2°0/29.5	17		159285	2006 <i>AG</i> ₃₅		3 31.6 282°49	0°7/30.9	17	
2 21	13 7.65	- 0 15.7	2.315	3.099	12.9	22.1	2 21	13 4.19	- 5 18.0	1.905	2.694	15.1	21.2
3 2	13 3.27	+ 0 17.7	2.226	3.101	10.1	21.9	3 2	13 1.11	- 4 48.8	1.813	2.690	12.0	21.0
3 12	12 56.93	+ 0 59.0	2.160	3.103	6.9	21.7	3 12	12 55.76	- 4 5.8	1.743	2.687	8.3	20.7
3 22	12 49.11	+ 1 44.3	2.121	3.105	3.5	21.5	3 22	12 48.64	- 3 12.6	1.698	2.683	4.1	20.5
4 1	12 40.51	+ 2 28.7	2.111	3.106	2.3	21.4	4 1	12 40.55	- 2 14.6	1.681	2.680	0.9	20.2
4 11	12 31.97	+ 3 6.9	2.131	3.106	5.2	21.6	4 11	12 32.47	- 1 18.5	1.692	2.677	5.0	20.5
4 21	12 24.28	+ 3 35.0	2.179	3.106	8.6	21.8	4 21	12 25.35	- 0 30.7	1.729	2.673	9.2	20.7
5 1	12 18.09	+ 3 50.1	2.252	3.105	11.7	22.0	5 1	12 19.95	+ 0 4.2	1.790	2.670	12.9	21.0
119761	2001 <i>YK</i> ₁₁₆		3 31.6 254°01	2°7/2.8	18 R		346246	2008 <i>CX</i> ₁₇₆		3 31.7 3°70	7°0/7.9	17	
2 21	13 10.73	-11 47.0	2.089	2.834	15.4	19.5	2 21	13 1.29	-24 50.4	1.937	2.640	17.7	19.7
3 2	13 6.34	-12 14.4	1.975	2.818	12.7	19.3	3 2	12 59.08	-25 28.5	1.844	2.640	15.4	19.5
3 12	12 59.49	-12 28.8	1.882	2.802	9.4	19.0	3 12	12 54.52	-25 43.5	1.768	2.640	12.7	19.3
3 22	12 50.61	-12 29.7	1.814	2.785	5.8	18.8	3 22	12 48.08	-25 33.1	1.714	2.641	9.8	19.1
4 1	12 40.45	-12 18.2	1.774	2.768	2.8	18.5	4 1	12 40.57	-24 56.9	1.684	2.643	7.6	19.0
4 11	12 30.05	-11 57.5	1.763	2.750	4.5	18.6	4 11	12 33.04	-23 58.6	1.678	2.646	7.1	19.0
4 21	12 20.47	-11 32.3	1.780	2.731	8.4	18.8	4 21	12 26.49	-22 44.9	1.699	2.649	8.8	19.1
5 1	12 12.64	-11 8.1	1.822	2.713	12.1	19.0	5 1	12 21.75	-21 24.3	1.743	2.653	11.6	19.2
15049	1998 <i>XA</i> ₉₀		3 31.6 91°39	3°3/4.2	18		144801	2004 <i>HF</i> ₅₅		3 31.7 69°03	5°7/26.9	18	
2 21	13 4.68	-17 52.4	1.819	2.559	17.5	18.1	2 21	13 8.97	+ 6 53.5	1.562	2.380	16.6	19.7
3 2	13 1.54	-17 28.5	1.738	2.575	14.4	17.9	3 2	13 4.99	+ 7 57.0	1.508	2.401	13.0	19.6
3 12	12 56.02	-16 40.6	1.678	2.590	10.8	17.7	3 12	12 58.37	+ 9 4.4	1.476	2.422	9.2	19.4
3 22	12 48.72	-15 30.1	1.640	2.605	6.9	17.5	3 22	12 49.86	+ 10 7.4	1.468	2.444	6.2	19.3
4 1	12 40.52	-14 1.4	1.629	2.620	3.6	17.3	4 1	12 40.52	+ 10 57.3	1.487	2.465	6.2	19.3
4 11	12 32.51	-12 22.6	1.647	2.635	4.6	17.4	4 11	12 31.57	+ 11 27.5	1.532	2.486	9.1	19.5
4 21	12 25.64	-10 42.8	1.691	2.649	8.2	17.6	4 21	12 24.05	+ 11 35.1	1.602	2.507	12.5	19.8
5 1	12 20.65	- 9 10.9	1.761	2.664	11.9	17.9	5 1	12 18.68	+ 11 20.3	1.692	2.528	15.6	20.0
325917	2010 <i>UC</i> ₉₄		3 31.6 163°13	3°8/27.4	18		259602	2003 <i>UO</i> ₂₇₄		3 31.7 111°38	0°9/1.3	18	
2 21	13 9.89	+ 6 5.2	2.486	3.274	12.0	21.3	2 21	13 10.58	- 7 56.4	1.733	2.507	17.0	20.6
3 2	13 4.81	+ 6 52.1	2.405	3.281	9.4	21.1	3 2	13 6.27	- 7 57.5	1.654	2.519	13.6	20.4
3 12	12 57.86	+ 7 42.6	2.348	3.288	6.6	20.9	3 12	12 59.35	- 7 44.1	1.595	2.530	9.6	20.2
3 22	12 49.52	+ 8 31.5	2.320	3.295	4.3	20.8	3 22	12 50.44	- 7 18.0	1.561	2.542	5.1	19.9
4 1	12 40.50	+ 9 13.7	2.321	3.300	4.1	20.8	4 1	12 40.49	- 6 43.3	1.554	2.553	0.9	19.6
4 11	12 31.60	+ 9 44.4	2.352	3.304	6.4	20.9	4 11	12 30.71	- 6 6.0	1.575	2.563	4.7	19.9
4 21	12 23.56	+ 10 0.8	2.410	3.308	9.2	21.1	4 21	12 22.15	- 5 32.1	1.623	2.574	9.1	20.2
5 1	12 16.98	+ 10 1.6	2.494	3.311	11.8	21.3	5 1	12 15.67	- 5 6.7	1.695	2.584	13.0	20.5
12484	1997 <i>FO</i> ₃		3 31.6 290°98	0°8/30.8	18		68050	2000 <i>YR</i> ₅₀		3 31.7 236°43	6°6/6.6	18	
2 21	13 2.90	- 5 17.2	1.933	2.723	14.9	18.7	2 21	13 8.70	-23 30.3	2.012	2.706	17.4	19.0
3 2	13 0.13	- 4 43.3	1.833	2.712	11.8	18.5	3 2	13 5.02	-24 4.8	1.900	2.693	15.1	18.8
3 12	12 55.12	- 3 55.1	1.756	2.700	8.2	18.2	3 12	12 58.75	-24 17.9	1.805	2.679	12.3	18.6
3 22	12 48.34	- 2 56.1	1.704	2.689	4.0	18.0	3 22	12 50.30	-24 6.6	1.733	2.665	9.4	18.3
4 1	12 40.54	- 1 51.8	1.679	2.678	1.0	17.7	4 1	12 40.49	-23 29.8	1.685	2.650	7.0	18.2
4 11	12 32.69	- 0 49.4	1.682	2.666	5.1	18.0	4 11	12 30.45	-22 30.3	1.665	2.635	6.9	18.1
4 21	12 25.71	+ 0 4.7	1.712	2.655	9.3	18.2	4 21	12 21.31	-21 14.7	1.671	2.619	9.1	18.2
5 1	12 20.41	+ 0 45.2	1.766	2.644	13.1	18.4	5 1	12 14.08	-19 51.7	1.702	2.602	12.4	18.4
437639	2014 <i>BD</i> ₃₈		3 31.6 120°27	2°6/28.3	17		337755	2001 <i>UX</i> ₁₁₀		3 31.7 68°75	0°7/30.9	18	

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3 31.7

3 31.7

2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
386964	2011 UN ₁₀₅		3 31.7 286°50		0°6/30.9 17		19530	1999 GQ ₂₃		3 31.7 278°54		1°8/ 2.0 18	
2 21	13 2.07	- 5 13.6	2.318	3.099	13.0	21.1	2 21	13 7.14	-10 43.1	1.650	2.424	17.7	18.4
3 2	12 59.01	- 4 42.6	2.220	3.092	10.3	20.9	3 2	13 4.26	-10 43.1	1.535	2.399	14.6	18.1
3 12	12 54.09	- 4 0.0	2.144	3.086	7.1	20.7	3 12	12 58.54	-10 24.5	1.441	2.374	10.6	17.8
3 22	12 47.74	- 3 8.9	2.095	3.080	3.5	20.5	3 22	12 50.34	- 9 47.4	1.369	2.348	6.1	17.5
4 1	12 40.61	- 2 13.8	2.075	3.074	0.8	20.3	4 1	12 40.52	- 8 54.8	1.323	2.321	1.9	17.2
4 11	12 33.47	- 1 20.2	2.083	3.067	4.3	20.5	4 11	12 30.31	- 7 53.3	1.305	2.294	5.2	17.3
4 21	12 27.07	- 0 33.2	2.119	3.061	7.9	20.7	4 21	12 21.03	- 6 51.0	1.311	2.267	10.3	17.5
5 1	12 22.05	+ 0 3.0	2.181	3.055	11.1	20.9	5 1	12 13.84	- 5 56.4	1.342	2.240	15.1	17.7
32022	Sarahjenkins		3 31.7 351°39		0°2/31.8 18		40883	1999 TB ₁₂₆		3 31.7 272°83		0°1/31.7 18	
2 21	13 0.81	- 9 39.3	1.240	2.053	20.4	18.5	2 21	13 5.91	- 6 18.2	1.983	2.762	14.9	19.5
3 2	12 59.65	- 9 0.7	1.161	2.049	16.4	18.3	3 2	13 2.45	- 6 9.1	1.883	2.753	12.0	19.3
3 12	12 55.42	- 7 55.7	1.099	2.046	11.5	18.0	3 12	12 56.72	- 5 47.3	1.805	2.744	8.4	19.1
3 22	12 48.70	- 6 28.3	1.059	2.044	5.9	17.6	3 22	12 49.17	- 5 15.2	1.752	2.735	4.3	18.8
4 1	12 40.57	- 4 46.9	1.043	2.043	0.2	17.2	4 1	12 40.58	- 4 36.7	1.727	2.726	0.1	18.4
4 11	12 32.47	- 3 4.3	1.052	2.042	6.2	17.6	4 11	12 31.92	- 3 57.3	1.730	2.717	4.5	18.8
4 21	12 25.78	- 1 32.8	1.084	2.041	11.8	17.9	4 21	12 24.16	- 3 22.4	1.760	2.708	8.8	19.0
5 1	12 21.54	- 0 22.2	1.137	2.042	16.8	18.2	5 1	12 18.11	- 2 57.0	1.815	2.699	12.5	19.2
293296	2007 DR ₂₀		3 31.7		0°38 3°5/28.5 17		373139	2011 YA ₅₆		3 31.7 34°68		3°7/28.8 17	
2 21	13 0.80	- 0 42.6	1.490	2.314	16.9	20.5	2 21	13 5.85	+ 1 3.6	1.358	2.182	18.3	20.7
3 2	12 58.99	+ 0 22.0	1.413	2.312	13.3	20.2	3 2	13 3.14	+ 1 47.5	1.291	2.189	14.3	20.5
3 12	12 54.58	+ 1 41.2	1.357	2.311	9.0	20.0	3 12	12 57.49	+ 2 42.8	1.245	2.197	9.8	20.2
3 22	12 48.13	+ 3 7.8	1.325	2.311	4.8	19.7	3 22	12 49.60	+ 3 42.2	1.221	2.206	5.3	20.0
4 1	12 40.59	+ 4 32.2	1.319	2.311	3.9	19.7	4 1	12 40.56	+ 4 36.9	1.223	2.215	4.1	19.9
4 11	12 33.15	+ 5 44.4	1.339	2.312	7.7	19.9	4 11	12 31.77	+ 5 18.0	1.250	2.225	8.0	20.2
4 21	12 26.88	+ 6 37.0	1.382	2.314	12.1	20.2	4 21	12 24.42	+ 5 39.9	1.300	2.235	12.5	20.5
5 1	12 22.66	+ 7 5.7	1.447	2.317	16.0	20.4	5 1	12 19.42	+ 5 40.1	1.372	2.245	16.5	20.7
119411	2001 TJ ₇₃		3 31.7 202°27		0°5/31.2 17		500283	2012 PF ₁₄		3 31.7 306°44		2°3/28.9 17	
2 21	13 7.50	- 5 19.4	2.256	3.026	13.6	21.3	2 21	12 59.87	- 4 20.4	1.892	2.692	14.8	20.4
3 2	13 3.33	- 4 57.1	2.156	3.022	10.8	21.0	3 2	12 57.75	- 2 55.9	1.797	2.684	11.6	20.1
3 12	12 57.10	- 4 23.4	2.080	3.018	7.5	20.8	3 12	12 53.48	- 1 13.7	1.726	2.675	7.8	19.9
3 22	12 49.27	- 3 41.0	2.029	3.013	3.7	20.6	3 22	12 47.53	+ 0 40.1	1.680	2.666	3.9	19.6
4 1	12 40.55	- 2 54.3	2.008	3.007	0.6	20.3	4 1	12 40.64	+ 2 37.0	1.663	2.658	2.7	19.5
4 11	12 31.82	- 2 8.3	2.016	3.001	4.4	20.6	4 11	12 33.74	+ 4 26.9	1.675	2.649	6.3	19.7
4 21	12 23.92	- 1 28.3	2.053	2.994	8.2	20.8	4 21	12 27.72	+ 6 1.2	1.713	2.641	10.4	19.9
5 1	12 17.55	- 0 58.4	2.115	2.986	11.6	21.0	5 1	12 23.33	+ 7 14.0	1.775	2.633	14.0	20.1
328248	2008 FR ₁₀₃		3 31.7 264°45		2°0/29.6 17		460153	2014 PR ₆₉		3 31.7 189°77		3°6/28.1 18	
2 21	13 5.24	- 2 33.4	2.067	2.857	14.1	21.5	2 21	13 9.01	+ 2 9.9	1.991	2.787	14.3	21.8
3 2	13 1.93	- 1 43.9	1.955	2.834	11.2	21.2	3 2	13 4.76	+ 3 8.8	1.904	2.786	11.3	21.6
3 12	12 56.39	- 0 41.1	1.865	2.810	7.7	20.9	3 12	12 58.20	+ 4 16.7	1.839	2.784	7.8	21.4
3 22	12 49.04	+ 0 31.0	1.801	2.786	3.9	20.7	3 22	12 49.86	+ 5 27.6	1.801	2.782	4.5	21.2
4 1	12 40.56	+ 1 46.0	1.766	2.761	2.3	20.5	4 1	12 40.56	+ 6 34.3	1.791	2.779	4.0	21.1
4 11	12 31.91	+ 2 56.5	1.759	2.736	5.9	20.7	4 11	12 31.31	+ 7 29.7	1.811	2.775	7.0	21.3
4 21	12 24.02	+ 3 55.9	1.780	2.710	9.9	20.9	4 21	12 23.05	+ 8 8.5	1.857	2.770	10.6	21.5
5 1	12 17.74	+ 4 39.0	1.824	2.683	13.7	21.0	5 1	12 16.56	+ 8 28.1	1.926	2.764	13.9	21.7
312223	2007 WK ₅₅		3 31.7 57°83		0°2/31.8 18		301167	2008 YR ₆₅		3 31.7 349°31		2°9/ 3.1 18	
2 21	13 7.79	- 6 54.1	1.453	2.249	18.7	21.2	2 21	13 5.40	-12 1.9	1.910	2.672	16.0	19.7
3 2	13 4.50	- 6 46.1	1.383	2.262	14.9	21.0	3 2	13 2.20	-12 33.8	1.814	2.667	13.2	19.5
3 12	12 58.35	- 6 21.5	1.332	2.274	10.4	20.8	3 12	12 56.63	-12 51.4	1.739	2.662	9.8	19.3
3 22	12 50.00	- 5 43.4	1.304	2.287	5.3	20.5	3 22	12 49.16	-12 54.5	1.687	2.658	6.1	19.0
4 1	12 40.53	- 4 57.5	1.301	2.301	0.3	20.1	4 1	12 40.59	-12 44.6	1.662	2.655	3.1	18.8
4 11	12 31.29	- 4 11.4	1.325	2.314	5.4	20.6	4 11	12 31.95	-12 25.3	1.664	2.652	4.6	18.9
4 21	12 23.46	- 3 32.3	1.374	2.327	10.2	20.9	4 21	12 24.26	-12 1.6	1.693	2.650	8.3	19.1
5 1	12 17.93	- 3 5.9	1.446	2.341	14.5	21.2	5 1	12 18.36	-11 39.1	1.746	2.649	12.0	19.3
242303	2003 WM ₅₈		3 31.7 126°52		2°1/ 3.1 17		109257	2001 QR ₁₀₅		3 31.7 140°69		0°3/ 1.0 18	
2 21	13 4.17	-14 3.9	2.341	3.082	14.0	21.1	2 21	13 6.68	- 8 32.6	2.303	3.063	13.7	21.0
3 2	13 0.59	-13 48.7	2.250	3.091	11.4	20.9	3 2	13 2.51	- 8 2.4	2.217	3.075	10.9	20.9
3 12	12 55.12	-13 17.2	2.182	3.100	8.4	20.7	3 12	12 56.41	- 7 18.7	2.154	3.087	7.6	20.7
3 22	12 48.23	-12 31.0	2.138	3.108	5.0	20.5	3 22	12 48.87	- 6 24.3	2.117	3.098	3.9	20.4
4 1	12 40.60	-11 33.3	2.123	3.117	2.3	20.4	4 1	12 40.61	- 5 23.7	2.109	3.108	0.3	20.2
4 11	12 33.05	-10 29.2	2.137	3.125	3.7	20.5	4 11	12 32.46	- 4 22.3	2.131	3.118	3.9	20.5
4 21	12 26.33	- 9 24.6	2.179	3.133	6.9	20.7	4 21	12 25.19	- 3 25.9	2.182	3.127	7.5	20.7
5 1	12 21.06	- 8 25.1	2.248	3.140	10.1	20.9	5 1	12 19.43	- 2 39.0	2.259	3.136	10.7	20.9
501437	2014 AA ₁₉		3 31.7 48°16		1°0/30.6 17		115584	2003 UE ₉₅		3 31.7 205°58		2°1/29.2 18	
2 21	13 3.67	- 3 51.7	2.002	2.793	14.4	21.6	2 21	13 5.30	+ 0 4.2	2.595	3.378	11.7	21.1
3 2	13 0.42	- 3 24.3	1.925	2.804	11.3	21.5	3 2	13 1.29	+ 0 45.0	2.497	3.373	9.2	20.9
3 12	12 55.09	- 2 45.6	1.870	2.815	7.7	21.3	3 12	12 55.53	+ 1 33.3	2.423	3.367	6.3	20.7
3 22	12 48.23	- 1 59.6	1.841	2.826	3.8	21.0	3 22	12 48.44	+ 2 25.5	2.377	3.360	3.3	20.5
4 1	12 40.60	- 1 11.4	1.840	2.838	1.2	20.9	4 1	12 40.63	+ 3 16.7	2.361	3.354	2.3	20.5
4 11	12 33.11	- 0 26.9	1.867	2.850	4.8	21.1	4 11	12 32.82	+ 4 2.0	2.374	3.346	5.0	20.6
4 21	12 26.58	+ 0 9.0	1.921	2.862	8.6	21.4	4 21	12 25.71	+ 4 37.4	2.416	3.338	8.1	20.8
5 1	12 21.68	+ 0 32.5	1.999	2.874	11.9	21.6	5 1	12 19.88	+ 5 0.1	2.483	3.330	10.9	21.0
293486	2007 FA ₂₈		3 31.7 258°41		3°1/ 6.4 18		210542	1999 RG ₅₇		3 31.7 240°89		0	

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3 31.7

3 31.7

2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
393504	2002 RC ₁₃₉		3 31.7 194°67	3°7/28.5	18		269801	1999 VC ₄₂		3 31.7 225°33	1°7/ 2.4	17	
2 21	13 12.30	+ 2 25.4	1.857	2.650	15.3	22.1	2 21	13 4.98	-11 51.2	2.248	3.000	14.2	21.6
3 2	13 7.56	+ 3 13.3	1.768	2.648	12.1	21.9	3 2	13 1.45	-11 41.0	2.144	2.994	11.6	21.3
3 12	13 0.27	+ 4 10.0	1.701	2.645	8.4	21.6	3 12	12 55.89	-11 15.5	2.062	2.987	8.4	21.1
3 22	12 50.96	+ 5 9.5	1.660	2.641	4.8	21.4	3 22	12 48.72	-10 36.0	2.005	2.980	4.8	20.9
4 1	12 40.54	+ 6 4.5	1.647	2.636	4.0	21.4	4 1	12 40.64	- 9 45.5	1.976	2.972	1.8	20.7
4 11	12 30.15	+ 6 48.0	1.663	2.630	7.3	21.5	4 11	12 32.51	- 8 49.1	1.976	2.965	3.8	20.8
4 21	12 20.87	+ 7 15.0	1.706	2.623	11.2	21.7	4 21	12 25.18	- 7 52.5	2.004	2.957	7.5	21.0
5 1	12 13.56	+ 7 22.7	1.772	2.615	14.7	22.0	5 1	12 19.35	- 7 1.5	2.058	2.948	11.0	21.2
333607	2007 LY		3 31.7 319°12	5°5/25.9	16		502775	2015 DB ₈₉		3 31.7 94°66	0°1/31.6	17	
2 21	13 1.06	+ 4 52.8	1.700	2.526	15.1	20.8	2 21	13 5.54	- 6 12.7	1.986	2.767	14.9	22.0
3 2	12 58.96	+ 6 20.1	1.616	2.515	11.9	20.6	3 2	13 2.02	- 5 55.5	1.900	2.771	11.8	21.8
3 12	12 54.47	+ 7 57.3	1.555	2.505	8.4	20.3	3 12	12 56.31	- 5 25.4	1.835	2.775	8.2	21.6
3 22	12 48.08	+ 9 36.1	1.518	2.495	5.8	20.2	3 22	12 48.92	- 4 45.3	1.795	2.778	4.1	21.4
4 1	12 40.64	+11 6.4	1.509	2.486	6.2	20.2	4 1	12 40.64	- 3 59.7	1.783	2.782	0.2	21.0
4 11	12 33.20	+12 18.7	1.525	2.477	9.3	20.3	4 11	12 32.43	- 3 14.6	1.800	2.786	4.5	21.4
4 21	12 26.78	+13 6.8	1.566	2.468	12.9	20.5	4 21	12 25.19	- 2 35.3	1.843	2.790	8.5	21.6
5 1	12 22.18	+13 28.1	1.627	2.460	16.3	20.7	5 1	12 19.63	- 2 6.4	1.911	2.794	12.1	21.9
401071	2011 UH ₈₀		3 31.7 247°21	1°4/ 1.9	17		311280	2005 EC ₂₆₁		3 31.7 347°56	3°7/28.7	17	
2 21	13 8.89	-10 43.9	1.811	2.575	16.7	22.8	2 21	13 2.25	- 0 24.2	1.337	2.166	18.2	20.6
3 2	13 5.28	-10 32.4	1.699	2.557	13.7	22.6	3 2	13 0.53	+ 0 32.2	1.260	2.161	14.3	20.3
3 12	12 59.01	-10 2.6	1.607	2.538	9.9	22.3	3 12	12 55.89	+ 1 43.9	1.202	2.157	9.8	20.0
3 22	12 50.49	- 9 15.4	1.540	2.518	5.5	22.0	3 22	12 48.91	+ 3 3.7	1.168	2.153	5.3	19.7
4 1	12 40.56	- 8 14.3	1.499	2.497	1.5	21.7	4 1	12 40.64	+ 4 21.3	1.158	2.150	4.1	19.7
4 11	12 30.37	- 7 6.1	1.486	2.475	4.8	21.8	4 11	12 32.43	+ 5 26.2	1.173	2.148	8.3	19.9
4 21	12 21.10	- 5 58.6	1.501	2.453	9.6	22.1	4 21	12 25.54	+ 6 10.3	1.211	2.147	13.0	20.1
5 1	12 13.79	- 4 59.7	1.540	2.430	14.0	22.3	5 1	12 20.95	+ 6 29.3	1.269	2.146	17.3	20.4
56436	2000 GZ ₄₆		3 31.7 226°25	0°8/ 1.4	18		230668	2003 SC ₂₀₁		3 31.7 248°53	0°7/ 1.3	17	
2 21	13 7.69	-10 14.3	1.871	2.637	16.2	19.1	2 21	13 6.67	- 7 43.5	2.053	2.824	14.8	21.0
3 2	13 4.11	- 9 45.9	1.766	2.626	13.1	18.9	3 2	13 2.94	- 7 43.4	1.957	2.821	11.9	20.8
3 12	12 58.03	- 8 58.7	1.682	2.615	9.4	18.6	3 12	12 56.99	- 7 30.6	1.883	2.818	8.4	20.6
3 22	12 49.91	- 7 54.7	1.622	2.602	5.0	18.3	3 22	12 49.30	- 7 7.0	1.834	2.815	4.5	20.4
4 1	12 40.58	- 6 38.7	1.590	2.589	0.8	18.0	4 1	12 40.64	- 6 35.9	1.813	2.812	0.7	20.1
4 11	12 31.14	- 5 18.1	1.586	2.575	4.7	18.3	4 11	12 31.96	- 6 2.2	1.820	2.808	4.2	20.3
4 21	12 22.64	- 4 1.3	1.611	2.560	9.3	18.5	4 21	12 24.18	- 5 30.8	1.855	2.805	8.2	20.6
5 1	12 16.02	- 2 55.6	1.659	2.544	13.5	18.7	5 1	12 18.08	- 5 6.6	1.914	2.802	11.8	20.8
229573	2006 AX ₇₇		3 31.7 30°03	5°4/26.1	18		357171	2002 CP ₃₁₁		3 31.7 39°85	1°8/30.1	16	
2 21	13 3.54	+ 6 17.7	1.803	2.622	14.6	20.1	2 21	13 3.41	- 5 11.6	1.380	2.193	18.6	21.3
3 2	13 0.63	+ 7 33.9	1.730	2.624	11.5	19.9	3 2	13 1.26	- 4 15.5	1.306	2.198	14.7	21.0
3 12	12 55.43	+ 8 56.4	1.679	2.627	8.2	19.7	3 12	12 56.26	- 2 59.7	1.252	2.203	10.0	20.8
3 22	12 48.48	+10 17.2	1.654	2.629	5.7	19.5	3 22	12 49.04	- 1 30.3	1.222	2.208	4.9	20.5
4 1	12 40.64	+11 27.6	1.656	2.632	6.0	19.6	4 1	12 40.65	+ 0 3.0	1.217	2.214	2.1	20.3
4 11	12 32.92	+12 20.2	1.685	2.634	8.7	19.7	4 11	12 32.41	+ 1 29.1	1.237	2.220	6.8	20.6
4 21	12 26.25	+12 50.6	1.738	2.637	12.0	19.9	4 21	12 25.52	+ 2 38.6	1.283	2.227	11.7	20.9
5 1	12 21.37	+12 57.3	1.813	2.640	15.1	20.1	5 1	12 20.88	+ 3 25.6	1.349	2.233	16.0	21.2
119698	2001 XA ₁₅₅		3 31.7 44°36	1°0/30.8	18		498445	2008 AJ ₁₁₆		3 31.7 93°47	3°3/ 4.3	17	
2 21	13 4.31	- 5 2.6	1.558	2.361	17.3	19.7	2 21	13 5.08	-16 8.0	2.421	3.147	14.0	21.6
3 2	13 1.53	- 4 29.6	1.489	2.374	13.6	19.5	3 2	13 1.35	-16 24.9	2.326	3.152	11.6	21.4
3 12	12 56.17	- 3 41.2	1.440	2.387	9.3	19.3	3 12	12 55.70	-16 26.8	2.252	3.157	8.8	21.3
3 22	12 48.88	- 2 42.1	1.415	2.401	4.5	19.1	3 22	12 48.58	-16 13.7	2.202	3.162	5.8	21.1
4 1	12 40.63	- 1 39.4	1.417	2.415	1.2	18.8	4 1	12 40.67	-15 47.0	2.181	3.167	3.5	20.9
4 11	12 32.60	- 0 41.3	1.445	2.430	5.6	19.2	4 11	12 32.76	-15 10.4	2.187	3.171	4.1	21.0
4 21	12 25.83	+ 0 5.5	1.498	2.445	10.1	19.5	4 21	12 25.65	-14 28.6	2.222	3.176	6.8	21.2
5 1	12 21.09	+ 0 36.2	1.575	2.460	14.0	19.7	5 1	12 19.97	-13 46.6	2.284	3.181	9.8	21.3
192991	2000 DG ₇₈		3 31.7 93°77	0°0/31.7	18		84045	2002 PN ₅₈		3 31.7 184°44	0°0/31.7	18 R	
2 21	13 6.94	- 8 20.8	1.426	2.220	19.0	20.4	2 21	13 8.13	- 6 57.8	2.164	2.930	14.2	20.6
3 2	13 3.94	- 7 47.0	1.352	2.230	15.2	20.1	3 2	13 3.91	- 6 34.4	2.068	2.931	11.4	20.4
3 12	12 58.05	- 6 52.4	1.298	2.240	10.6	19.9	3 12	12 57.56	- 5 57.8	1.995	2.931	7.9	20.2
3 22	12 49.90	- 5 41.3	1.266	2.250	5.3	19.6	3 22	12 49.55	- 5 10.9	1.947	2.930	4.0	19.9
4 1	12 40.59	- 4 21.2	1.261	2.260	0.2	19.2	4 1	12 40.64	- 4 17.9	1.929	2.928	0.1	19.6
4 11	12 31.48	- 3 1.9	1.282	2.270	5.6	19.7	4 11	12 31.74	- 3 24.5	1.940	2.926	4.3	20.0
4 21	12 23.76	- 1 52.7	1.328	2.279	10.7	20.0	4 21	12 23.74	- 2 36.5	1.979	2.923	8.2	20.2
5 1	12 18.37	- 1 0.7	1.396	2.288	15.1	20.3	5 1	12 17.35	- 1 58.5	2.044	2.920	11.7	20.4
419885	2011 AG ₄₂		3 31.7 27°38	0°7/31.1	16		471368	2011 SE ₆₂		3 31.7 251°72	2°5/ 3.7	17	
2 21	13 5.22	- 4 31.1	1.491	2.297	17.8	21.5	2 21	13 3.63	-15 10.8	2.632	3.360	12.9	21.8
3 2	13 2.44	- 4 17.9	1.418	2.304	14.1	21.3	3 2	13 0.16	-15 7.4	2.515	3.345	10.7	21.6
3 12	12 56.93	- 3 50.3	1.365	2.312	9.7	21.0	3 12	12 54.90	-14 49.3	2.419	3.330	8.0	21.4
3 22	12 49.32	- 3 12.4	1.335	2.320	4.8	20.8	3 22	12 48.21	-14 16.8	2.349	3.314	5.1	21.2
4 1	12 40.61	- 2 30.0	1.331	2.330	0.9	20.5	4 1	12 40.68	-13 31.8	2.308	3.298	2.7	21.0
4 11	12 32.08	- 1 50.5	1.353	2.339	5.6	20.9	4 11	12 33.06	-12 38.2	2.295	3.282	3.6	21.0
4 21	12 24.84	- 1 20.2	1.399	2.349	10.4	21.1	4 21	12 26.06	-11 41.0	2.312	3.266	6.6	21.2
5 1	12 19.77	- 1 3.9	1.469	2.360	14.5	21.4	5 1	12 20.34	-10 45.3	2.355	3.249	9.6	21.4
481949	2009 DV ₉		3 31.7 82°99	11°7/ 6.1	18		65998	1998 MX ₄₀		3 31.7 225°24	3°8/27.1	18	
2 21	13 23.64	-21 43.1	1.168	1.899	25								

EPHEMERIDES

3 31.7

3 31.7

2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
31567	1999 FG ₁₀		3 31.7 28°76	1.2/30.6	18		522072	2015 XA ₄₁₉		3 31.7 314°63	6°9/ 6.9	17	
2 21	13 2.70	- 5 22.6	1.523	2.329	17.5	18.6	2 21	13 3.35	-23 10.8	1.581	2.309	20.2	21.5
3 2	13 0.41	- 4 41.3	1.448	2.335	13.8	18.3	3 2	13 1.36	-23 37.1	1.485	2.303	17.4	21.3
3 12	12 55.51	- 3 42.9	1.394	2.342	9.4	18.1	3 12	12 56.52	-23 35.9	1.407	2.297	14.1	21.0
3 22	12 48.61	- 2 32.5	1.363	2.349	4.6	17.8	3 22	12 49.31	-23 3.9	1.348	2.291	10.5	20.8
4 1	12 40.67	- 1 17.7	1.358	2.356	1.4	17.6	4 1	12 40.70	-22 1.3	1.312	2.285	7.6	20.6
4 11	12 32.88	- 0 7.7	1.379	2.364	5.9	17.9	4 11	12 31.98	-20 33.2	1.302	2.280	7.2	20.6
4 21	12 26.30	+ 0 49.8	1.426	2.373	10.5	18.2	4 21	12 24.44	-18 49.5	1.316	2.275	10.0	20.7
5 1	12 21.78	+ 1 29.2	1.495	2.381	14.6	18.5	5 1	12 19.13	-17 2.4	1.354	2.270	13.7	20.9
508624	2017 SU ₄₀		3 31.7 225°25	3°5/27.4	18		61234	2000 OR ₁₅		3 31.7 318°39	1°8/ 1.9	18	
2 21	13 2.60	+ 3 54.2	2.385	3.187	12.0	21.1	2 21	13 2.83	- 9 58.3	1.265	2.071	20.4	18.5
3 2	12 59.32	+ 4 51.0	2.299	3.185	9.4	20.9	3 2	13 1.52	-10 5.7	1.171	2.054	16.7	18.2
3 12	12 54.25	+ 5 53.9	2.237	3.183	6.5	20.8	3 12	12 57.01	- 9 51.6	1.095	2.037	12.1	17.9
3 22	12 47.83	+ 6 57.6	2.201	3.180	4.0	20.6	3 22	12 49.73	- 9 16.5	1.040	2.021	6.8	17.5
4 1	12 40.70	+ 7 56.3	2.195	3.178	3.9	20.6	4 1	12 40.68	- 8 24.2	1.007	2.005	1.9	17.2
4 11	12 33.62	+ 8 44.6	2.217	3.176	6.3	20.7	4 11	12 31.37	- 7 23.2	0.999	1.991	5.9	17.4
4 21	12 27.29	+ 9 18.4	2.266	3.173	9.3	20.9	4 21	12 23.33	- 6 23.4	1.014	1.977	11.7	17.6
5 1	12 22.31	+ 9 35.6	2.339	3.170	12.0	21.1	5 1	12 17.84	- 5 34.8	1.049	1.964	17.0	17.9
437681	2014 DX ₁		3 31.7 241°33	4°7/ 5.9	17		502164	2015 BQ ₅₈		3 31.7 47°46	1°0/ 1.6	17	
2 21	13 4.43	-20 48.1	2.474	3.174	14.3	21.2	2 21	13 6.42	- 8 31.6	1.816	2.593	16.2	21.5
3 2	13 0.95	-21 9.5	2.367	3.170	12.2	21.0	3 2	13 2.98	- 8 32.1	1.731	2.598	13.0	21.3
3 12	12 55.52	-21 13.8	2.281	3.165	9.7	20.8	3 12	12 57.14	- 8 18.0	1.667	2.603	9.2	21.1
3 22	12 48.55	-21 0.1	2.218	3.160	7.1	20.6	3 22	12 49.42	- 7 51.2	1.628	2.608	5.0	20.9
4 1	12 40.69	-20 28.9	2.182	3.155	5.0	20.5	4 1	12 40.70	- 7 15.4	1.615	2.613	1.1	20.6
4 11	12 32.77	-19 43.3	2.174	3.150	5.0	20.5	4 11	12 32.06	- 6 36.3	1.630	2.619	4.4	20.8
4 21	12 25.58	-18 48.3	2.194	3.144	7.1	20.6	4 21	12 24.48	- 5 59.8	1.671	2.625	8.7	21.1
5 1	12 19.82	-17 49.7	2.240	3.139	9.8	20.8	5 1	12 18.77	- 5 31.3	1.737	2.630	12.5	21.3
146668	2001 UG ₁₆₈		3 31.7 179°81	3°5/ 4.6	18		331205	2011 BR ₃₁		3 31.7 289°18	4°0/27.9	17	
2 21	13 9.29	-17 35.2	2.587	3.292	13.7	20.7	2 21	13 4.62	+ 2 30.8	1.773	2.585	15.1	20.7
3 2	13 4.57	-17 49.7	2.482	3.294	11.4	20.6	3 2	13 1.80	+ 3 24.8	1.675	2.566	12.0	20.5
3 12	12 57.90	-17 49.1	2.399	3.295	8.8	20.4	3 12	12 56.51	+ 4 29.2	1.598	2.548	8.3	20.2
3 22	12 49.71	-17 32.9	2.342	3.295	6.0	20.2	3 22	12 49.21	+ 5 37.8	1.547	2.529	4.9	20.0
4 1	12 40.66	-17 2.4	2.312	3.295	3.8	20.1	4 1	12 40.71	+ 6 42.6	1.523	2.511	4.5	19.9
4 11	12 31.59	-16 20.7	2.313	3.294	4.2	20.1	4 11	12 32.09	+ 7 35.6	1.526	2.492	7.8	20.1
4 21	12 23.28	-15 32.7	2.342	3.292	6.8	20.2	4 21	12 24.42	+ 8 10.6	1.553	2.474	11.8	20.2
5 1	12 16.41	-14 43.5	2.399	3.289	9.6	20.4	5 1	12 18.61	+ 8 24.1	1.603	2.455	15.6	20.4
55345	2001 SL ₁₃₈		3 31.7 138°55	0°5/ 1.2	18		344225	2001 RU ₁₂₂		3 31.7 179°40	0°6/30.9	18	
2 21	13 7.24	- 7 57.2	1.935	2.708	15.5	20.4	2 21	13 3.66	- 4 57.7	2.843	3.610	11.2	22.1
3 2	13 3.45	- 7 44.5	1.848	2.713	12.4	20.2	3 2	12 59.84	- 4 25.3	2.747	3.611	8.8	21.9
3 12	12 57.35	- 7 17.5	1.782	2.718	8.7	20.0	3 12	12 54.46	- 3 43.6	2.674	3.612	6.0	21.7
3 22	12 49.48	- 6 38.6	1.742	2.723	4.5	19.8	3 22	12 47.92	- 2 55.3	2.629	3.613	3.0	21.5
4 1	12 40.67	- 5 52.1	1.729	2.728	0.5	19.5	4 1	12 40.76	- 2 4.2	2.614	3.613	0.7	21.3
4 11	12 31.93	- 5 3.9	1.744	2.732	4.4	19.8	4 11	12 33.64	- 1 14.6	2.629	3.612	3.6	21.5
4 21	12 24.20	- 4 20.0	1.787	2.736	8.5	20.0	4 21	12 27.15	- 0 30.7	2.674	3.611	6.7	21.7
5 1	12 18.26	- 3 45.4	1.854	2.740	12.2	20.3	5 1	12 21.81	+ 0 4.4	2.745	3.610	9.4	21.9
76685	2000 HA ₇₂		3 31.7 33°65	1°0/30.8	17		103096	1999 XM ₁₆₇		3 31.7 151°60	1°8/30.4	18	
2 21	13 4.29	- 3 53.5	1.969	2.760	14.6	19.7	2 21	13 9.91	- 1 37.1	2.047	2.830	14.4	20.1
3 2	13 1.05	- 3 31.1	1.886	2.764	11.5	19.5	3 2	13 5.32	- 1 5.8	1.965	2.839	11.3	19.9
3 12	12 55.65	- 2 57.3	1.824	2.768	7.9	19.3	3 12	12 58.51	- 0 24.9	1.904	2.847	7.7	19.7
3 22	12 48.61	- 2 15.7	1.788	2.773	3.9	19.0	3 22	12 50.03	+ 0 21.6	1.871	2.855	3.9	19.5
4 1	12 40.71	- 1 31.4	1.779	2.778	1.1	18.8	4 1	12 40.70	+ 1 8.2	1.866	2.862	2.0	19.4
4 11	12 32.90	- 0 50.1	1.799	2.783	4.9	19.1	4 11	12 31.48	+ 1 49.0	1.890	2.868	5.4	19.6
4 21	12 26.04	- 0 16.9	1.845	2.788	8.8	19.4	4 21	12 23.28	+ 2 19.5	1.942	2.874	9.1	19.8
5 1	12 20.85	+ 0 4.2	1.915	2.793	12.3	19.6	5 1	12 16.82	+ 2 36.3	2.018	2.878	12.5	20.1
481483	2007 CQ ₂₇		3 31.7 143°21	1°6/30.2	18		291641	2006 HL ₃₁		3 31.7 334°96	0°5/ 1.1	18	
2 21	13 6.09	- 3 10.1	1.894	2.686	15.1	21.7	2 21	13 2.60	- 9 20.2	1.361	2.164	19.4	20.1
3 2	13 2.56	- 2 32.0	1.810	2.690	11.9	21.5	3 2	13 0.88	- 8 54.3	1.276	2.158	15.6	19.9
3 12	12 56.74	- 1 41.6	1.749	2.694	8.1	21.2	3 12	12 56.22	- 8 5.5	1.210	2.153	11.0	19.6
3 22	12 49.18	- 0 43.3	1.712	2.697	4.0	21.0	3 22	12 49.16	- 6 56.8	1.165	2.149	5.8	19.3
4 1	12 40.70	+ 0 16.7	1.704	2.701	1.8	20.8	4 1	12 40.72	- 5 34.9	1.145	2.144	0.5	18.9
4 11	12 32.31	+ 1 11.5	1.724	2.704	5.5	21.1	4 11	12 32.26	- 4 10.3	1.151	2.141	5.7	19.2
4 21	12 24.94	+ 1 55.3	1.770	2.707	9.5	21.3	4 21	12 25.09	- 2 53.4	1.181	2.137	11.1	19.5
5 1	12 19.33	+ 2 24.1	1.841	2.710	13.1	21.6	5 1	12 20.25	- 1 53.1	1.232	2.135	15.9	19.8
420935	2013 OB ₇		3 31.7 99°65	1°8/29.6	18		374307	2005 SB ₁₆₄		3 31.7 209°66	2°0/29.3	17	
2 21	13 4.56	- 4 15.0	2.058	2.844	14.2	21.7	2 21	13 7.41	- 0 27.5	2.543	3.321	12.0	23.0
3 2	13 1.00	- 3 4.0	1.987	2.864	11.1	21.6	3 2	13 3.04	+ 0 15.1	2.441	3.313	9.5	22.8
3 12	12 55.44	- 1 39.9	1.938	2.883	7.5	21.4	3 12	12 56.82	+ 1 6.0	2.362	3.305	6.5	22.6
3 22	12 48.43	- 0 8.2	1.917	2.902	3.7	21.2	3 22	12 49.18	+ 2 1.6	2.312	3.295	3.4	22.3
4 1	12 40.73	+ 1 23.7	1.925	2.921	2.0	21.1	4 1	12 40.73	+ 2 56.7	2.291	3.284	2.3	22.2
4 11	12 33.23	+ 2 48.2	1.962	2.939	5.3	21.3	4 11	12 32.26	+ 3 46.2	2.300	3.273	5.1	22.4
4 21	12 26.71	+ 3 59.2	2.027	2.957	8.9	21.6	4 21	12 24.49	+ 4 25.8	2.339	3.261	8.3	22.6
5 1	12 21.78	+ 4 52.6	2.117	2.974	12.1	21.8	5 1	12 18.08	+ 4 52.3	2.402	3.248	11.3	22.8
214193	2005 EC ₂₂		3 31.7 346°39	1°1/ 1.5	18		147296	2003 AS ₅₄		3 31.7 124°46	1°3/30.5	18	
2													

EPHEMERIDES

3 31.7

3 31.7

2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
293829	2007 RC ₂₀₄ 3 31.7 275°80 3°2/ 3.0 17						459001	2011 WW ₁₄₄ 3 31.7 97°95 0°1/31.8 18					
2 21	13 7.75	-12 55.7	1.581	2.349	18.6	21.0	2 21	13 9.55	-7 24.5	1.651	2.433	17.4	22.3
3 2	13 4.85	-13 14.9	1.476	2.333	15.4	20.7	3 2	13 5.53	-7 5.1	1.579	2.450	13.8	22.1
3 12	12 59.00	-13 15.0	1.391	2.317	11.5	20.4	3 12	12 58.89	-6 29.5	1.528	2.467	9.6	21.9
3 22	12 50.65	-12 55.3	1.327	2.300	7.1	20.1	3 22	12 50.29	-5 41.3	1.501	2.484	4.9	21.7
4 1	12 40.68	-12 17.4	1.289	2.283	3.4	19.9	4 1	12 40.73	-4 46.0	1.501	2.500	0.2	21.3
4 11	12 30.43	-11 26.9	1.277	2.267	5.4	19.9	4 11	12 31.40	-3 51.2	1.529	2.516	5.0	21.7
4 21	12 21.25	-10 31.6	1.291	2.250	10.1	20.2	4 21	12 23.37	-3 3.5	1.583	2.532	9.5	22.0
5 1	12 14.29	-9 40.1	1.327	2.233	14.8	20.4	5 1	12 17.45	-2 28.3	1.661	2.547	13.4	22.3
228033	2008 GZ ₄₀ 3 31.7 264°39 3°0/28.8 17						338903	2004 CX ₁₂₈ 3 31.7 145°36 1°7/ 2.5 17					
2 21	13 6.85	+1 4.1	1.964	2.762	14.4	21.1	2 21	13 6.77	-11 2.8	2.444	3.190	13.4	21.1
3 2	13 3.32	+1 46.9	1.859	2.743	11.4	20.8	3 2	13 2.61	-11 10.0	2.349	3.195	10.8	21.0
3 12	12 57.45	+2 39.5	1.777	2.724	7.9	20.6	3 12	12 56.56	-11 4.8	2.277	3.199	7.9	20.8
3 22	12 49.66	+3 37.1	1.721	2.704	4.3	20.3	3 22	12 49.06	-10 48.2	2.230	3.204	4.6	20.6
4 1	12 40.72	+4 33.1	1.692	2.684	3.4	20.2	4 1	12 40.77	-10 22.6	2.212	3.208	1.8	20.4
4 11	12 31.65	+5 20.7	1.692	2.663	6.7	20.4	4 11	12 32.52	-9 51.7	2.223	3.212	3.6	20.5
4 21	12 23.43	+5 54.1	1.718	2.642	10.6	20.6	4 21	12 25.05	-9 19.7	2.264	3.215	6.8	20.7
5 1	12 16.93	+6 9.8	1.767	2.620	14.3	20.7	5 1	12 19.00	-8 51.0	2.330	3.219	9.9	20.9
140802	2001 UM ₁₅₁ 3 31.7 132°68 0°5/ 1.3 18						210139	2006 SY ₃₃ 3 31.7 253°04 2°6/ 3.4 17					
2 21	13 3.24	-9 4.3	2.718	3.473	11.9	20.7	2 21	13 5.80	-13 31.9	2.407	3.145	13.7	20.7
3 2	12 59.56	-8 37.2	2.628	3.483	9.5	20.5	3 2	13 2.04	-13 45.9	2.300	3.137	11.3	20.5
3 12	12 54.28	-7 58.4	2.562	3.493	6.7	20.4	3 12	12 56.29	-13 46.3	2.214	3.128	8.5	20.3
3 22	12 47.83	-7 10.3	2.523	3.503	3.5	20.2	3 22	12 48.99	-13 33.2	2.153	3.120	5.3	20.1
4 1	12 40.79	-6 16.4	2.513	3.512	0.5	19.9	4 1	12 40.77	-13 8.3	2.120	3.111	2.8	19.9
4 11	12 33.82	-5 21.2	2.533	3.521	3.3	20.2	4 11	12 32.48	-12 35.1	2.116	3.103	3.9	19.9
4 21	12 27.54	-4 29.2	2.583	3.530	6.4	20.4	4 21	12 24.90	-11 58.1	2.140	3.094	7.1	20.1
5 1	12 22.49	-3 44.4	2.659	3.538	9.2	20.6	5 1	12 18.76	-11 22.3	2.191	3.085	10.2	20.3
403561	2010 LK ₆₁ 3 31.7 187°74 0°0/31.7 16						27961	1997 SU ₁ 3 31.7 172°08 0°2/31.5 18					
2 21	13 11.85	-5 29.7	2.122	2.887	14.5	21.8	2 21	13 6.67	-6 58.8	2.191	2.960	14.0	20.4
3 2	13 6.94	-5 26.1	2.025	2.886	11.6	21.5	3 2	13 2.73	-6 27.8	2.099	2.963	11.2	20.2
3 12	12 59.72	-5 11.7	1.950	2.885	8.1	21.3	3 12	12 56.74	-5 43.4	2.029	2.966	7.7	19.9
3 22	12 50.71	-4 48.7	1.901	2.884	4.1	21.1	3 22	12 49.17	-4 48.6	1.985	2.968	3.9	19.7
4 1	12 40.70	-4 20.5	1.882	2.881	0.1	20.7	4 1	12 40.77	-3 48.2	1.970	2.970	0.3	19.4
4 11	12 30.68	-3 51.9	1.892	2.878	4.4	21.1	4 11	12 32.42	-2 48.2	1.985	2.971	4.3	19.7
4 21	12 21.61	-3 27.5	1.931	2.874	8.4	21.3	4 21	12 24.94	-1 54.3	2.028	2.971	8.1	20.0
5 1	12 14.27	-3 11.4	1.995	2.870	12.0	21.5	5 1	12 19.03	-1 11.3	2.096	2.971	11.5	20.2
54866	2001 OO ₃₉ 3 31.7 261°79 5°3/25.6 18						158060	2000 TO ₁₂ 3 31.7 139°01 2°4/28.9 18					
2 21	13 3.76	+8 52.4	2.217	3.026	12.6	18.9	2 21	13 5.40	-0 43.4	2.251	3.040	13.1	21.2
3 2	13 0.43	+9 58.9	2.134	3.022	10.0	18.7	3 2	13 1.57	+0 13.8	2.172	3.051	10.2	21.1
3 12	12 55.14	+11 8.6	2.076	3.017	7.3	18.5	3 12	12 55.82	+1 20.3	2.116	3.061	6.9	20.9
3 22	12 48.35	+12 15.0	2.044	3.012	5.4	18.4	3 22	12 48.66	+2 31.2	2.087	3.070	3.6	20.7
4 1	12 40.78	+13 11.3	2.040	3.007	5.8	18.4	4 1	12 40.79	+3 40.5	2.087	3.079	2.7	20.6
4 11	12 33.25	+13 51.8	2.063	3.002	8.1	18.5	4 11	12 33.05	+4 41.8	2.116	3.088	5.5	20.8
4 21	12 26.56	+14 13.0	2.112	2.997	10.9	18.7	4 21	12 26.17	+5 30.4	2.174	3.096	8.8	21.0
5 1	12 21.35	+14 13.9	2.183	2.992	13.5	18.9	5 1	12 20.78	+6 3.2	2.256	3.103	11.8	21.2
168399	1998 DP ₁₂ 3 31.7 79°17 0°5/31.2 18						315265	2007 TL ₄₈ 3 31.7 172°93 0°6/ 1.3 17					
2 21	13 4.04	-5 34.7	2.220	2.999	13.6	20.4	2 21	13 9.33	-8 51.7	2.040	2.801	15.2	21.9
3 2	13 0.51	-5 5.7	2.142	3.013	10.7	20.2	3 2	13 5.03	-8 32.9	1.947	2.805	12.2	21.7
3 12	12 55.09	-4 25.1	2.086	3.027	7.3	20.0	3 12	12 58.44	-7 59.2	1.875	2.808	8.6	21.5
3 22	12 48.28	-3 36.5	2.057	3.041	3.6	19.8	3 22	12 50.08	-7 12.8	1.830	2.810	4.5	21.3
4 1	12 40.78	-2 44.4	2.056	3.055	0.6	19.6	4 1	12 40.75	-6 18.0	1.813	2.812	0.6	21.0
4 11	12 33.42	-1 54.3	2.084	3.069	4.2	19.9	4 11	12 31.47	-5 20.9	1.825	2.812	4.3	21.2
4 21	12 26.93	-1 11.1	2.139	3.082	7.8	20.1	4 21	12 23.16	-4 27.6	1.865	2.812	8.4	21.5
5 1	12 21.93	-0 38.8	2.220	3.096	10.9	20.4	5 1	12 16.61	-3 43.6	1.930	2.812	12.0	21.7
364067	2005 XK ₆₆ 3 31.7 190°87 4°8/24.9 17						364178	2006 KB ₉₂ 3 31.7 244°00 1°1/30.7 15					
2 21	13 6.78	+10 8.4	2.815	3.608	10.6	21.8	2 21	13 7.56	-4 58.9	1.925	2.707	15.2	22.5
3 2	13 2.32	+11 23.7	2.729	3.606	8.5	21.6	3 2	13 3.97	-4 22.5	1.818	2.691	12.2	22.3
3 12	12 56.18	+12 41.1	2.670	3.603	6.3	21.5	3 12	12 57.95	-3 31.3	1.732	2.674	8.4	22.0
3 22	12 48.81	+13 55.0	2.638	3.599	4.9	21.4	3 22	12 49.95	-2 28.7	1.672	2.657	4.2	21.7
4 1	12 40.77	+14 59.5	2.637	3.595	5.3	21.4	4 1	12 40.76	-1 20.5	1.640	2.639	1.2	21.5
4 11	12 32.77	+15 49.8	2.666	3.589	7.2	21.5	4 11	12 31.40	-0 14.1	1.637	2.620	5.4	21.7
4 21	12 25.44	+16 23.0	2.721	3.583	9.5	21.7	4 21	12 22.93	+0 43.6	1.661	2.600	9.8	21.9
5 1	12 19.37	+16 37.9	2.800	3.576	11.7	21.8	5 1	12 16.24	+1 26.8	1.708	2.580	13.8	22.1
369369	2009 UD ₅₇ 3 31.7 147°41 1°9/ 2.8 18						169231	2001 SO ₁₇ 3 31.7 33°21 0°3/ 1.0 17					
2 21	13 5.58	-13 18.1	2.237	2.981	14.5	21.5	2 21	13 8.20	-5 25.4	2.002	2.779	14.9	19.5
3 2	13 1.85	-12 59.0	2.145	2.989	11.8	21.4	3 2	13 4.12	-5 38.8	1.917	2.785	11.9	19.3
3 12	12 56.10	-12 23.2	2.075	2.996	8.6	21.2	3 12	12 57.78	-5 42.1	1.853	2.791	8.3	19.0
3 22	12 48.83	-11 32.3	2.030	3.003	5.0	20.9	3 22	12 49.73	-5 37.1	1.815	2.797	4.3	18.8
4 1	12 40.77	-10 30.0	2.014	3.009	2.0	20.7	4 1	12 40.77	-5 26.9	1.805	2.804	0.3	18.5
4 11	12 32.77	-9 21.8	2.027	3.015	3.8	20.9	4 11	12 31.88	-5 15.4	1.823	2.811	4.3	18.8
4 21	12 25.65	-8 14.0	2.068	3.021	7.3	21.1	4 21	12 23.99	-5 6.8	1.869	2.818	8.2	19.1
5 1	12 20.07	-7 12.7	2.135	3.026	10.6	21.3	5 1	12 17.83	-5 4.4	1.939	2.826	11.7	19.3
342847	2008 YL ₅ 3 31.7 200°50 5°5/25.2 18						230671	2003 SH ₂₅₃ 3 31.7 225°42 0°4/ 1.1 17					
2 21	13 5.66	+10 52.7	2.382	3.186	12.0	20.6	2 21	13 3.88	-8 38.7	2.169	2.938	14.1	20.6
3 2	13 1.75	+11 55.3	2.302	3.184	9.6	20.5	3 2	13 0.65	-8 11.0	2.071	2.934	11.3	20.4
3 12	12 55.95	+12 59.1	2.246	3.181	7.2	20.3	3 12	12 55.38	-7 28.7	1.994	2.930	8.0	20.2
3 22	12 48.73	+13 57.9											

EPHEMERIDES

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2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
496965	2002 <i>PQ</i> ₄₀		3 31.7 192°21	1°4/29.4	18		125198	2001 <i>UV</i> ₁₃₅		3 31.7 23°04	6°4/27.8	18	
2 21	13 3.60	- 1 46.7	3.376	4.145	9.5	23.9	2 21	13 9.59	+ 9 3.9	1.303	2.134	18.5	18.4
3 2	12 59.53	- 0 55.9	3.274	4.142	7.4	23.7	3 2	13 6.18	+ 9 31.0	1.245	2.144	14.7	18.2
3 12	12 54.14	+ 0 2.2	3.198	4.139	5.0	23.5	3 12	12 59.65	+ 9 58.9	1.207	2.155	10.6	17.9
3 22	12 47.76	+ 1 4.4	3.151	4.135	2.6	23.4	3 22	12 50.77	+10 19.4	1.191	2.167	7.1	17.8
4 1	12 40.85	+ 2 6.9	3.136	4.130	1.6	23.3	4 1	12 40.79	+10 24.8	1.199	2.180	6.8	17.8
4 11	12 33.95	+ 3 5.5	3.151	4.124	3.8	23.4	4 11	12 31.20	+10 9.5	1.233	2.194	9.8	18.0
4 21	12 27.56	+ 3 56.8	3.197	4.118	6.4	23.6	4 21	12 23.26	+ 9 32.4	1.289	2.209	13.7	18.3
5 1	12 22.14	+ 4 38.0	3.270	4.111	8.7	23.7	5 1	12 17.85	+ 8 35.0	1.365	2.225	17.3	18.5
95086	2002 <i>AJ</i> ₈₉		3 31.7 240°22	2°0/ 2.5	17		188057	2001 <i>VB</i> ₁₀₅		3 31.7 166°12	3°3/ 4.4	17	
2 21	13 7.59	-12 40.5	1.834	2.592	16.8	20.0	2 21	13 6.10	-17 22.6	2.215	2.939	15.2	20.9
3 2	13 4.21	-12 27.9	1.726	2.578	13.8	19.7	3 2	13 2.40	-17 16.4	2.118	2.943	12.6	20.7
3 12	12 58.25	-11 55.5	1.638	2.564	10.1	19.5	3 12	12 56.59	-16 51.3	2.041	2.947	9.6	20.5
3 22	12 50.16	-11 4.1	1.573	2.548	5.9	19.2	3 22	12 49.16	-16 7.7	1.989	2.950	6.3	20.3
4 1	12 40.77	- 9 57.0	1.536	2.533	2.1	18.9	4 1	12 40.84	-15 8.1	1.964	2.952	3.6	20.2
4 11	12 31.19	- 8 41.1	1.527	2.516	4.7	19.0	4 11	12 32.54	-13 57.6	1.968	2.954	4.3	20.2
4 21	12 22.56	- 7 24.5	1.544	2.499	9.2	19.2	4 21	12 25.14	-12 42.9	2.001	2.956	7.4	20.4
5 1	12 15.84	- 6 15.5	1.587	2.481	13.4	19.5	5 1	12 19.33	-11 30.9	2.060	2.957	10.6	20.6
361614	2007 <i>TO</i> ₄₇		3 31.7 289°61	1°9/ 2.0	17		198446	2004 <i>XS</i> ₃		3 31.7 195°46	2°1/29.6	18	
2 21	13 6.59	-10 11.7	1.514	2.298	18.6	21.3	2 21	13 6.14	- 0 38.7	2.204	2.993	13.3	20.5
3 2	13 4.13	-10 18.3	1.405	2.274	15.3	21.0	3 2	13 2.31	- 0 3.5	2.113	2.991	10.5	20.3
3 12	12 58.67	-10 6.1	1.314	2.250	11.2	20.6	3 12	12 56.47	+ 0 40.5	2.045	2.990	7.1	20.1
3 22	12 50.59	- 9 35.3	1.246	2.225	6.4	20.3	3 22	12 49.07	+ 1 29.2	2.004	2.988	3.7	19.8
4 1	12 40.76	- 8 48.8	1.203	2.200	2.0	19.9	4 1	12 40.85	+ 2 17.4	1.991	2.985	2.3	19.7
4 11	12 30.52	- 7 53.3	1.185	2.176	5.5	20.1	4 11	12 32.65	+ 2 59.5	2.007	2.983	5.3	19.9
4 21	12 21.29	- 6 57.1	1.193	2.151	10.9	20.3	4 21	12 25.30	+ 3 31.0	2.051	2.980	8.9	20.1
5 1	12 14.42	- 6 9.1	1.223	2.126	15.9	20.5	5 1	12 19.49	+ 3 48.8	2.119	2.977	12.1	20.3
32070	Michaelretchin		3 31.7 209°07	2°5/29.6	18		123087	2000 <i>SQ</i> ₃₂₇		3 31.7 247°20	1°4/ 1.8	18	
2 21	13 9.85	- 0 53.9	1.768	2.563	15.9	19.7	2 21	13 9.91	- 9 35.5	1.857	2.622	16.3	20.7
3 2	13 5.86	- 0 16.8	1.677	2.558	12.6	19.5	3 2	13 6.05	- 9 36.1	1.747	2.605	13.3	20.5
3 12	12 59.26	+ 0 31.9	1.607	2.553	8.6	19.3	3 12	12 59.55	- 9 21.0	1.657	2.588	9.6	20.2
3 22	12 50.60	+ 1 27.1	1.562	2.547	4.4	19.0	3 22	12 50.86	- 8 51.2	1.592	2.570	5.4	19.9
4 1	12 40.77	+ 2 22.3	1.546	2.540	2.7	18.9	4 1	12 40.79	- 8 9.8	1.554	2.552	1.4	19.6
4 11	12 30.93	+ 3 9.9	1.557	2.533	6.5	19.1	4 11	12 30.49	- 7 22.2	1.544	2.533	4.7	19.8
4 21	12 22.18	+ 3 44.1	1.594	2.526	10.8	19.3	4 21	12 21.09	- 6 35.2	1.561	2.513	9.3	20.0
5 1	12 15.41	+ 4 1.0	1.655	2.518	14.6	19.5	5 1	12 13.62	- 5 55.3	1.603	2.493	13.6	20.2
214506	2005 <i>YW</i> ₂₃₆		3 31.7 292°20	0°3/31.1	18		227464	2005 <i>WK</i> ₁₂₀		3 31.7 170°01	0°2/31.6	17	
2 21	12 56.79	- 4 27.8	4.379	5.144	7.6	21.0	2 21	13 6.51	- 6 48.4	2.256	3.024	13.7	21.6
3 2	12 53.94	- 4 6.0	4.279	5.143	5.9	20.9	3 2	13 2.55	- 6 20.5	2.164	3.027	10.9	21.4
3 12	12 50.17	- 3 38.6	4.203	5.141	4.0	20.7	3 12	12 56.60	- 5 39.8	2.094	3.030	7.5	21.2
3 22	12 45.72	- 3 7.4	4.156	5.140	2.0	20.6	3 22	12 49.13	- 4 49.5	2.050	3.033	3.8	20.9
4 1	12 40.92	- 2 34.7	4.140	5.138	0.4	20.4	4 1	12 40.85	- 3 53.8	2.036	3.035	0.2	20.6
4 11	12 36.14	- 2 2.7	4.154	5.137	2.4	20.6	4 11	12 32.62	- 2 58.4	2.050	3.036	4.1	20.9
4 21	12 31.71	- 1 33.6	4.197	5.136	4.4	20.8	4 21	12 25.24	- 2 8.6	2.094	3.037	7.9	21.2
5 1	12 27.95	- 1 9.6	4.268	5.134	6.3	20.9	5 1	12 19.36	- 1 29.0	2.162	3.038	11.2	21.4
189274	2005 <i>RW</i> ₂₈		3 31.7 247°89	2°0/ 2.2	18		102502	1999 <i>TF</i> ₂₈₅		3 31.7 225°51	0°1/31.6	17	
2 21	13 12.26	- 9 15.9	1.976	2.732	15.8	20.3	2 21	13 5.01	- 9 29.6	2.013	2.781	15.1	20.5
3 2	13 7.66	- 9 46.3	1.871	2.723	12.9	20.1	3 2	13 1.79	- 8 32.0	1.907	2.772	12.1	20.2
3 12	13 0.51	-10 5.1	1.787	2.713	9.4	19.8	3 12	12 56.34	- 7 14.9	1.824	2.761	8.5	20.0
3 22	12 51.27	-10 12.3	1.728	2.703	5.4	19.6	3 22	12 49.11	- 5 41.7	1.767	2.750	4.3	19.7
4 1	12 40.75	-10 9.4	1.696	2.692	2.1	19.3	4 1	12 40.85	- 3 58.6	1.739	2.738	0.2	19.4
4 11	12 30.07	- 9 59.6	1.694	2.682	4.5	19.5	4 11	12 32.53	- 2 14.1	1.740	2.726	4.7	19.7
4 21	12 20.32	- 9 47.3	1.719	2.671	8.6	19.7	4 21	12 25.08	- 0 37.0	1.769	2.713	9.1	19.9
5 1	12 12.44	- 9 37.3	1.770	2.660	12.5	19.9	5 1	12 19.29	+ 0 45.5	1.824	2.699	12.9	20.1
300955	2008 <i>DR</i> ₁		3 31.7 128°81	3°1/ 4.3	18		162507	2000 <i>QE</i> ₆₀		3 31.7 159°79	5°4/26.5	18	
2 21	13 5.20	-16 10.5	2.590	3.311	13.3	21.3	2 21	13 7.09	+ 4 52.4	1.675	2.490	15.8	20.4
3 2	13 1.33	-16 23.1	2.494	3.317	11.0	21.2	3 2	13 3.67	+ 6 17.1	1.601	2.494	12.4	20.1
3 12	12 55.66	-16 21.5	2.419	3.323	8.4	21.0	3 12	12 57.71	+ 7 50.4	1.550	2.497	8.8	19.9
3 22	12 48.62	-16 5.6	2.370	3.329	5.5	20.8	3 22	12 49.79	+ 9 23.8	1.524	2.500	5.9	19.8
4 1	12 40.85	-15 37.2	2.348	3.334	3.3	20.7	4 1	12 40.84	+10 47.2	1.525	2.503	6.1	19.8
4 11	12 33.09	-14 59.5	2.356	3.340	3.9	20.7	4 11	12 32.02	+11 51.8	1.553	2.505	9.1	20.0
4 21	12 26.07	-14 17.0	2.392	3.345	6.5	20.9	4 21	12 24.39	+12 32.4	1.605	2.507	12.7	20.2
5 1	12 20.39	-13 34.6	2.454	3.350	9.2	21.1	5 1	12 18.76	+12 47.1	1.679	2.508	16.0	20.4
467969	2012 <i>KJ</i> ₁₂		3 31.7 112°36	11°1/17.9	17		522373	2016 <i>CU</i> ₃₀₂		3 31.7 230°59	1°9/ 2.3	17	
2 21	13 5.48	+22 58.1	1.851	2.665	14.5	20.7	2 21	13 7.92	-10 48.1	1.768	2.535	16.9	21.8
3 2	13 2.31	+25 10.0	1.802	2.669	12.6	20.6	3 2	13 4.44	-10 52.5	1.673	2.531	13.8	21.5
3 12	12 56.69	+27 13.6	1.775	2.672	11.3	20.5	3 12	12 58.37	-10 40.1	1.597	2.527	10.0	21.3
3 22	12 49.22	+28 57.5	1.774	2.675	11.2	20.5	3 22	12 50.20	-10 11.9	1.546	2.523	5.7	21.0
4 1	12 40.83	+30 12.4	1.796	2.678	12.3	20.5	4 1	12 40.83	- 9 31.0	1.521	2.518	2.0	20.8
4 11	12 32.62	+30 52.7	1.841	2.682	14.1	20.7	4 11	12 31.39	- 8 43.1	1.524	2.513	4.6	20.9
4 21	12 25.59	+30 57.9	1.906	2.685	16.1	20.8	4 21	12 23.02	- 7 55.2	1.553	2.509	9.1	21.2
5 1	12 20.49	+30 30.9	1.988	2.688	18.0	21.0	5 1	12 16.61	- 7 13.9	1.607	2.504	13.2	21.4
293832	2007 <i>RT</i> ₂₀₅		3 31.7 110°15	0°5/31.3	18		272757	2005 <i>YQ</i> ₁₅₀		3 31.7 245°74	4°0/27.		

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3 31.7

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2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
78473	2002 <i>RE</i> ₄₈		3 31.7 119°08	1.2/30.4	18		190390	1999 <i>TD</i> ₆₀		3 31.7 252°50	1°0/1.7	17	
2 21	13 4.39	- 3 25.5	2.257	3.041	13.2	20.1	2 21	13 5.88	- 9 2.7	2.010	2.779	15.1	20.6
3 2	13 0.83	- 2 49.8	2.173	3.048	10.4	19.9	3 2	13 2.46	- 8 57.0	1.913	2.775	12.2	20.4
3 12	12 55.37	- 2 3.8	2.112	3.055	7.1	19.7	3 12	12 56.79	- 8 37.0	1.837	2.770	8.7	20.1
3 22	12 48.49	- 1 11.1	2.077	3.062	3.5	19.5	3 22	12 49.35	- 8 4.3	1.787	2.766	4.7	19.9
4 1	12 40.88	- 0 16.8	2.071	3.069	1.4	19.3	4 1	12 40.91	- 7 22.6	1.763	2.762	1.0	19.6
4 11	12 33.37	+ 0 33.5	2.094	3.075	4.6	19.5	4 11	12 32.44	- 6 37.2	1.768	2.757	4.2	19.8
4 21	12 26.69	+ 1 15.0	2.145	3.082	8.1	19.8	4 21	12 24.87	- 5 53.9	1.800	2.752	8.3	20.1
5 1	12 21.47	+ 1 44.4	2.221	3.088	11.3	20.0	5 1	12 18.99	- 5 18.2	1.857	2.748	12.0	20.3
169519	2002 <i>EK</i> ₁₆		3 31.7 312°65	0°8/1.4	17		313761	2003 <i>WP</i> ₁₁₃		3 31.7 50°22	2°9/29.7	18	
2 21	12 59.48	-10 58.1	1.343	2.147	19.5	19.9	2 21	13 9.60	+ 0 50.4	1.456	2.268	17.9	19.9
3 2	12 58.68	-10 25.9	1.242	2.125	16.0	19.6	3 2	13 5.99	+ 1 11.9	1.386	2.277	14.1	19.7
3 12	12 54.96	- 9 26.5	1.160	2.103	11.5	19.2	3 12	12 59.48	+ 1 42.9	1.336	2.285	9.6	19.5
3 22	12 48.72	- 8 1.5	1.099	2.082	6.2	18.9	3 22	12 50.74	+ 2 17.8	1.310	2.295	5.0	19.2
4 1	12 40.87	- 6 17.3	1.062	2.061	0.9	18.4	4 1	12 40.87	+ 2 49.7	1.309	2.304	3.2	19.1
4 11	12 32.76	- 4 25.2	1.050	2.041	5.9	18.7	4 11	12 31.23	+ 3 11.6	1.335	2.314	7.1	19.4
4 21	12 25.78	- 2 38.7	1.062	2.022	11.7	19.0	4 21	12 23.01	+ 3 18.9	1.386	2.324	11.6	19.6
5 1	12 21.12	- 1 9.5	1.096	2.003	17.0	19.2	5 1	12 17.11	+ 3 9.1	1.458	2.334	15.5	19.9
8226	1996 <i>TF</i> ₇		3 31.7 160°10	0°1/31.5	18		117453	2005 <i>AG</i> ₅₈		3 31.7 74°16	1°6/30.2	18	
2 21	13 2.57	- 7 41.4	2.545	3.311	12.4	17.4	2 21	13 6.18	- 2 31.6	1.949	2.741	14.7	20.0
3 2	12 59.22	- 6 59.3	2.452	3.315	9.8	17.2	3 2	13 2.47	- 2 0.1	1.877	2.757	11.5	19.8
3 12	12 54.18	- 6 4.7	2.382	3.318	6.8	17.0	3 12	12 56.60	- 1 18.1	1.828	2.772	7.8	19.6
3 22	12 47.88	- 5 0.5	2.339	3.321	3.4	16.8	3 22	12 49.15	- 0 29.9	1.803	2.788	3.9	19.4
4 1	12 40.91	- 3 51.2	2.325	3.324	0.2	16.5	4 1	12 40.93	+ 0 18.7	1.807	2.804	1.7	19.2
4 11	12 34.00	- 2 42.3	2.341	3.327	3.7	16.8	4 11	12 32.90	+ 1 1.8	1.839	2.820	5.2	19.5
4 21	12 27.80	- 1 39.1	2.386	3.329	7.1	17.0	4 21	12 25.90	+ 1 34.7	1.898	2.836	9.0	19.8
5 1	12 22.86	- 0 46.0	2.457	3.331	10.1	17.2	5 1	12 20.62	+ 1 53.9	1.982	2.851	12.3	20.0
290279	2005 <i>ST</i> ₁₄₉		3 31.7 223°72	0°4/31.2	16		43507	2001 <i>CN</i> ₃₉		3 31.7 160°10	4°0/28.1	18	
2 21	13 2.65	- 5 29.5	2.929	3.695	10.9	22.5	2 21	13 9.80	+ 3 37.6	1.851	2.652	15.0	19.5
3 2	12 59.10	- 4 59.4	2.822	3.686	8.6	22.3	3 2	13 5.55	+ 4 27.8	1.772	2.657	11.8	19.3
3 12	12 54.02	- 4 19.7	2.740	3.677	5.9	22.1	3 12	12 58.88	+ 5 25.3	1.716	2.662	8.2	19.1
3 22	12 47.79	- 3 33.0	2.685	3.668	2.9	21.9	3 22	12 50.37	+ 6 23.6	1.686	2.666	4.9	18.9
4 1	12 40.92	- 2 42.9	2.659	3.658	0.5	21.6	4 1	12 40.90	+ 7 15.7	1.683	2.669	4.4	18.9
4 11	12 34.02	- 1 53.4	2.664	3.648	3.5	21.9	4 11	12 31.55	+ 7 54.7	1.709	2.672	7.4	19.0
4 21	12 27.69	- 1 8.6	2.698	3.638	6.5	22.1	4 21	12 23.33	+ 8 16.4	1.760	2.675	11.0	19.3
5 1	12 22.46	- 0 32.0	2.759	3.627	9.3	22.2	5 1	12 17.00	+ 8 18.9	1.835	2.677	14.3	19.5
164780	1999 <i>CH</i> ₁₅₉		3 31.7 12°00	4°5/28.2	18		303924	2005 <i>UG</i> ₂₈₃		3 31.7 244°92	3°9/26.8	16	
2 21	13 2.10	+ 0 5.1	1.191	2.028	19.5	19.6	2 21	13 6.29	+ 8 26.7	2.841	3.633	10.6	21.7
3 2	13 0.71	+ 1 15.3	1.123	2.030	15.3	19.3	3 2	13 2.01	+ 9 4.3	2.741	3.618	8.4	21.6
3 12	12 56.18	+ 2 42.1	1.075	2.032	10.4	19.1	3 12	12 56.07	+ 9 43.7	2.666	3.604	6.1	21.4
3 22	12 49.19	+ 4 16.1	1.050	2.035	5.8	18.8	3 22	12 48.86	+10 20.8	2.618	3.588	4.2	21.2
4 1	12 40.87	+ 5 45.2	1.048	2.039	5.0	18.8	4 1	12 40.94	+10 50.9	2.600	3.573	4.3	21.2
4 11	12 32.73	+ 6 57.1	1.070	2.043	9.2	19.0	4 11	12 33.01	+11 10.2	2.611	3.557	6.2	21.3
4 21	12 26.08	+ 7 43.5	1.114	2.049	14.1	19.3	4 21	12 25.70	+11 16.2	2.649	3.541	8.7	21.5
5 1	12 21.92	+ 8 1.0	1.178	2.055	18.4	19.6	5 1	12 19.59	+11 7.7	2.713	3.524	11.1	21.6
238393	2004 <i>ET</i> ₂		3 31.7 43°37	1°9/29.9	17		410348	2007 <i>UF</i> ₁₂₄		3 31.7 158°97	1°6/30.4	18	
2 21	13 6.85	- 0 7.7	2.095	2.887	13.8	20.2	2 21	13 10.99	- 1 57.4	1.797	2.585	15.9	21.7
3 2	13 2.95	+ 0 8.5	2.010	2.890	10.9	20.0	3 2	13 6.62	- 1 36.9	1.713	2.590	12.6	21.5
3 12	12 56.93	+ 0 32.1	1.948	2.893	7.4	19.8	3 12	12 59.70	- 1 5.7	1.650	2.594	8.6	21.2
3 22	12 49.33	+ 0 59.5	1.912	2.896	3.8	19.6	3 22	12 50.82	- 0 27.9	1.613	2.598	4.3	21.0
4 1	12 40.88	+ 1 26.1	1.903	2.899	2.1	19.5	4 1	12 40.89	+ 0 10.9	1.604	2.601	1.8	20.8
4 11	12 32.51	+ 1 47.0	1.924	2.902	5.2	19.7	4 11	12 31.04	+ 0 44.5	1.623	2.604	5.7	21.1
4 21	12 25.07	+ 1 58.6	1.971	2.906	8.9	19.9	4 21	12 22.35	+ 1 7.9	1.669	2.606	9.9	21.3
5 1	12 19.25	+ 1 58.3	2.043	2.909	12.1	20.1	5 1	12 15.64	+ 1 17.5	1.738	2.608	13.7	21.6
501000	2013 <i>RS</i> ₂₅		3 31.7 191°25	2°9/3.5	17		198964	2005 <i>UC</i> ₄₃₉		3 31.7 202°39	1°3/30.6	18	
2 21	13 10.83	-13 46.4	2.334	3.062	14.4	22.0	2 21	13 11.31	- 3 32.4	1.813	2.596	16.0	21.2
3 2	13 6.06	-14 10.3	2.231	3.061	11.9	21.8	3 2	13 6.99	- 3 5.0	1.718	2.592	12.7	21.0
3 12	12 59.13	-14 20.6	2.149	3.059	8.9	21.6	3 12	13 0.08	- 2 24.6	1.645	2.587	8.8	20.7
3 22	12 50.48	-14 17.2	2.092	3.057	5.7	21.4	3 22	12 51.07	- 1 35.1	1.597	2.581	4.4	20.5
4 1	12 40.85	-14 1.1	2.064	3.054	3.1	21.2	4 1	12 40.88	- 0 42.2	1.577	2.575	1.5	20.2
4 11	12 31.15	-13 35.6	2.065	3.051	4.2	21.3	4 11	12 30.66	+ 0 7.0	1.585	2.568	5.7	20.5
4 21	12 22.27	-13 5.1	2.096	3.047	7.4	21.5	4 21	12 21.50	+ 0 46.4	1.621	2.560	10.1	20.7
5 1	12 14.98	-12 34.8	2.152	3.043	10.6	21.7	5 1	12 14.33	+ 1 11.3	1.681	2.551	14.1	21.0
351536	2005 <i>SC</i> ₁₉₅		3 31.7 176°80	7°5/12.4	17		436666	2011 <i>ST</i> ₅₄		3 31.7 240°25	1°2/30.2	17	
2 21	13 8.82	-36 55.0	3.445	3.993	12.7	22.1	2 21	13 2.58	- 3 19.5	2.630	3.409	11.7	21.9
3 2	13 4.12	-37 46.4	3.337	3.995	11.7	22.0	3 2	12 59.26	- 2 39.1	2.526	3.399	9.2	21.7
3 12	12 57.61	-38 20.8	3.246	3.996	10.4	21.9	3 12	12 54.26	- 1 49.0	2.446	3.388	6.3	21.5
3 22	12 49.67	-38 35.5	3.176	3.997	9.1	21.8	3 22	12 47.98	- 0 52.4	2.393	3.378	3.1	21.3
4 1	12 40.89	-38 29.1	3.130	3.998	8.0	21.8	4 1	12 40.98	+ 0 6.4	2.370	3.367	1.4	21.1
4 11	12 32.01	-38 2.0	3.110	3.998	7.5	21.7	4 11	12 33.95	+ 1 2.1	2.377	3.356	4.3	21.2
4 21	12 23.76	-37 17.1	3.115	3.998	7.8	21.7	4 21	12 27.56	+ 1 50.2	2.412	3.345	7.5	21.5
5 1	12 16.79	-36 18.8	3.147	3.997	8.7	21.8	5 1	12 22.38	+ 2 27.2	2.472	3.334	10.5	21.6
384176	2009 <i>BM</i> ₄₉		3 31.7 66°71	4°4/26.7	17		506397	2017 <i>SH</i> ₁		3 31.7 244°36	2°5/29.1		

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3 31.7

3 31.8

2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
324603	2006 YB ₈		3 31.7 222°69	3°1/28.8	17		323853	2004 TQ ₁₇₀		3 31.7 177°60	3°1/27.9	18	
2 21	13 6.04	+ 0 46.2	1.902	2.703	14.7	21.4	2 21	13 7.72	+ 4 20.1	2.682	3.467	11.3	21.2
3 2	13 2.63	+ 1 35.6	1.814	2.700	11.5	21.2	3 2	13 3.13	+ 5 3.8	2.594	3.470	8.9	21.1
3 12	12 56.92	+ 2 35.0	1.748	2.696	7.9	20.9	3 12	12 56.82	+ 5 51.9	2.530	3.471	6.2	20.9
3 22	12 49.43	+ 3 38.9	1.708	2.691	4.3	20.7	3 22	12 49.23	+ 6 40.2	2.495	3.473	3.7	20.7
4 1	12 40.94	+ 4 40.4	1.696	2.687	3.4	20.6	4 1	12 40.98	+ 7 23.8	2.489	3.473	3.4	20.7
4 11	12 32.48	+ 5 32.2	1.711	2.682	6.6	20.8	4 11	12 32.79	+ 7 58.3	2.514	3.473	5.6	20.9
4 21	12 25.00	+ 6 9.1	1.753	2.678	10.4	21.0	4 21	12 25.33	+ 8 20.6	2.566	3.472	8.4	21.0
5 1	12 19.26	+ 6 27.8	1.818	2.672	13.9	21.2	5 1	12 19.17	+ 8 29.0	2.644	3.470	10.9	21.2
79146	1992 JP ₃		3 31.7 320°04	3°6/29.3	17		388389	2006 UD ₃₂₃		3 31.7 139°23	1°4/30.0	17	
2 21	13 7.05	+ 2 24.5	1.467	2.286	17.4	18.9	2 21	13 1.99	- 3 58.4	2.391	3.174	12.6	21.2
3 2	13 4.34	+ 2 43.2	1.374	2.269	13.8	18.7	3 2	12 58.89	- 3 4.2	2.302	3.178	9.8	21.1
3 12	12 58.67	+ 3 10.4	1.302	2.253	9.7	18.4	3 12	12 54.04	- 1 58.5	2.238	3.181	6.7	20.9
3 22	12 50.53	+ 3 40.6	1.253	2.237	5.3	18.1	3 22	12 47.87	- 0 45.7	2.200	3.185	3.3	20.7
4 1	12 40.91	+ 4 6.7	1.229	2.222	3.9	17.9	4 1	12 41.01	+ 0 28.9	2.191	3.188	1.6	20.5
4 11	12 31.14	+ 4 21.5	1.231	2.207	7.8	18.1	4 11	12 34.22	+ 1 39.1	2.212	3.191	4.6	20.7
4 21	12 22.56	+ 4 19.8	1.256	2.194	12.5	18.3	4 21	12 28.17	+ 2 39.6	2.261	3.193	8.0	21.0
5 1	12 16.27	+ 3 58.9	1.303	2.180	16.9	18.6	5 1	12 23.45	+ 3 26.6	2.335	3.196	11.0	21.1
283751	2003 DR ₁₁		3 31.7 112°78	1°1/30.9	18		366341	4082 T ₋₂		3 31.7 207°46	0°3/31.5	15	
2 21	13 8.20	- 5 56.0	1.535	2.329	17.9	21.0	2 21	13 8.71	- 6 12.8	2.071	2.842	14.7	22.4
3 2	13 4.76	- 5 12.5	1.461	2.341	14.2	20.8	3 2	13 4.62	- 5 48.4	1.971	2.836	11.7	22.2
3 12	12 58.58	- 4 11.4	1.408	2.352	9.7	20.5	3 12	12 58.27	- 5 10.8	1.893	2.830	8.2	21.9
3 22	12 50.29	- 2 57.8	1.378	2.363	4.8	20.3	3 22	12 50.12	- 4 22.6	1.840	2.823	4.1	21.7
4 1	12 40.92	- 1 39.3	1.376	2.374	1.2	20.0	4 1	12 40.96	- 3 28.5	1.817	2.816	0.4	21.3
4 11	12 31.76	- 0 25.4	1.400	2.385	5.9	20.4	4 11	12 31.74	- 2 34.5	1.822	2.808	4.6	21.6
4 21	12 23.92	+ 0 36.0	1.450	2.395	10.6	20.7	4 21	12 23.42	- 1 46.7	1.855	2.799	8.7	21.9
5 1	12 18.27	+ 1 19.3	1.524	2.404	14.7	20.9	5 1	12 16.79	- 1 9.9	1.914	2.789	12.4	22.1
223928	2004 WM ₁₀		3 31.7 137°07	5°0/ 6.6	17		223276	2003 GG ₄₆		3 31.7 344°15	1°8/30.1	17	
2 21	13 7.00	-22 38.9	2.415	3.101	15.0	20.8	2 21	13 4.51	- 2 59.2	1.764	2.564	15.7	20.8
3 2	13 2.99	-22 54.6	2.321	3.112	12.8	20.6	3 2	13 1.61	- 2 19.5	1.678	2.562	12.4	20.6
3 12	12 56.95	-22 51.3	2.247	3.122	10.2	20.5	3 12	12 56.31	- 1 26.4	1.614	2.561	8.5	20.4
3 22	12 49.37	-22 28.0	2.196	3.132	7.5	20.3	3 22	12 49.16	- 0 24.8	1.575	2.561	4.2	20.1
4 1	12 40.96	-21 45.7	2.173	3.141	5.4	20.2	4 1	12 40.98	+ 0 38.7	1.563	2.560	2.0	20.0
4 11	12 32.60	-20 48.0	2.177	3.150	5.3	20.2	4 11	12 32.86	+ 1 36.4	1.578	2.559	5.9	20.2
4 21	12 25.10	-19 40.7	2.209	3.158	7.2	20.3	4 21	12 25.77	+ 2 22.0	1.620	2.559	10.1	20.4
5 1	12 19.15	-18 30.4	2.268	3.166	9.8	20.5	5 1	12 20.52	+ 2 51.1	1.684	2.558	13.9	20.7
498698	2008 SQ ₃₀₇		3 31.7 216°68	2°0/29.5	17		471478	2011 UX ₃₅₅		3 31.7 232°05	2°7/28.6	17	
2 21	13 7.59	+ 0 10.8	2.550	3.330	12.0	22.5	2 21	13 5.82	+ 3 33.5	2.625	3.414	11.4	22.0
3 2	13 3.24	+ 0 41.2	2.448	3.321	9.4	22.3	3 2	13 1.75	+ 4 1.8	2.529	3.407	9.0	21.8
3 12	12 57.03	+ 1 18.6	2.369	3.311	6.5	22.1	3 12	12 55.95	+ 4 34.6	2.457	3.401	6.2	21.6
3 22	12 49.40	+ 1 59.7	2.318	3.301	3.4	21.8	3 22	12 48.83	+ 5 8.1	2.413	3.394	3.6	21.4
4 1	12 40.96	+ 2 40.1	2.297	3.291	2.2	21.7	4 1	12 41.00	+ 5 38.1	2.398	3.386	3.0	21.4
4 11	12 32.49	+ 3 15.0	2.305	3.279	4.9	21.9	4 11	12 33.17	+ 6 0.3	2.413	3.379	5.3	21.5
4 21	12 24.73	+ 3 40.7	2.343	3.267	8.1	22.1	4 21	12 26.04	+ 6 11.9	2.455	3.371	8.2	21.7
5 1	12 18.31	+ 3 54.5	2.405	3.255	11.1	22.3	5 1	12 20.19	+ 6 11.0	2.523	3.364	10.9	21.8
140248	2001 SH ₂₅₃		3 31.7 260°14	1°3/30.2	17		110690	2001 TD ₂₀₆		3 31.7 180°04	7°6/23.5	18	
2 21	13 4.45	- 2 35.5	2.505	3.285	12.2	21.1	2 21	13 8.68	+15 17.5	2.052	2.859	13.5	20.3
3 2	13 0.89	- 2 3.7	2.393	3.266	9.6	20.9	3 2	13 4.50	+16 37.3	1.982	2.860	11.1	20.2
3 12	12 55.50	- 1 22.3	2.305	3.248	6.6	20.7	3 12	12 58.07	+17 55.2	1.936	2.861	8.8	20.0
3 22	12 48.67	- 0 34.5	2.244	3.229	3.3	20.4	3 22	12 49.95	+19 3.2	1.915	2.861	7.6	19.9
4 1	12 40.98	+ 0 15.3	2.212	3.209	1.5	20.3	4 1	12 40.97	+19 53.4	1.921	2.861	8.3	20.0
4 11	12 33.20	+ 1 2.2	2.210	3.189	4.6	20.4	4 11	12 32.13	+20 20.2	1.954	2.860	10.3	20.1
4 21	12 26.05	+ 1 41.4	2.236	3.169	8.0	20.6	4 21	12 24.33	+20 21.9	2.010	2.859	12.9	20.3
5 1	12 20.21	+ 2 9.3	2.287	3.149	11.2	20.8	5 1	12 18.28	+19 59.0	2.087	2.858	15.3	20.4
463316	2012 JB ₅₁		3 31.7 11°60	5°3/27.5	17		423246	2004 TP ₁₄₂		3 31.8 196°62	1°0/ 1.8	17	
2 21	13 1.94	+ 3 15.5	1.297	2.135	18.1	20.8	2 21	13 4.04	-10 35.6	2.015	2.781	15.2	21.7
3 2	13 0.30	+ 4 21.0	1.232	2.137	14.2	20.5	3 2	13 0.98	-10 10.4	1.921	2.781	12.2	21.5
3 12	12 55.76	+ 5 37.2	1.186	2.141	9.9	20.3	3 12	12 55.75	- 9 28.3	1.848	2.780	8.7	21.2
3 22	12 48.95	+ 6 55.2	1.163	2.145	6.1	20.1	3 22	12 48.84	- 8 31.5	1.800	2.779	4.7	21.0
4 1	12 40.98	+ 8 4.0	1.165	2.151	5.8	20.1	4 1	12 41.01	- 7 24.5	1.780	2.778	1.0	20.7
4 11	12 33.19	+ 8 53.8	1.190	2.158	9.4	20.3	4 11	12 33.19	- 6 14.0	1.788	2.777	4.1	21.0
4 21	12 26.79	+ 9 18.8	1.239	2.165	13.7	20.5	4 21	12 26.28	- 5 6.7	1.824	2.776	8.2	21.2
5 1	12 22.70	+ 9 17.1	1.307	2.173	17.5	20.8	5 1	12 21.01	- 4 8.9	1.885	2.775	11.8	21.4
143541	2003 EL ₂₇		3 31.7 57°87	1°0/ 1.6	18		278836	2008 SC ₂₈₉		3 31.8 283°34	0°6/ 1.3	17	
2 21	13 11.64	- 6 32.9	2.329	3.084	13.7	19.5	2 21	13 6.00	- 7 31.2	1.951	2.727	15.3	21.1
3 2	13 6.58	- 7 2.2	2.234	3.088	11.0	19.3	3 2	13 2.69	- 7 26.5	1.850	2.717	12.3	20.8
3 12	12 59.41	- 7 22.9	2.161	3.091	7.8	19.1	3 12	12 57.06	- 7 8.4	1.771	2.707	8.7	20.6
3 22	12 50.62	- 7 36.0	2.116	3.094	4.2	18.9	3 22	12 49.57	- 6 38.6	1.716	2.697	4.6	20.3
4 1	12 40.94	- 7 43.1	2.099	3.098	1.0	18.6	4 1	12 40.99	- 6 0.9	1.688	2.688	0.6	20.0
4 11	12 31.27	- 7 46.9	2.113	3.101	3.8	18.8	4 11	12 32.33	- 5 20.6	1.689	2.678	4.4	20.3
4 21	12 22.46	- 7 50.3	2.156	3.105	7.4	19.1	4 21	12 24.56	- 4 43.6	1.717	2.668	8.7	20.5
5 1	12 15.24	- 7 56.5	2.225	3.108	10.6	19.3	5 1	12 18.51	- 4 14.9	1.769	2.658	12.5	20.7
58834	1998 HN ₃₇		3 31.7 67°20	0°3/31.6	18		50911	2000 GC ₅₄		3 31.8 48°82	0		

EPHEMERIDES

3 31.8

3 31.8

2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
362005	2008 <i>UV</i> ₃₆₃		3 31.8	45°58'	20°9'/20.6	17	427143	2014 <i>UL</i> ₁₄₀		3 31.8	107°85'	2°7'/3.2	17
2 21	13 27.70	+41 47.4	1.188	1.957	23.5	19.7	2 21	13 5.74	-13 56.5	1.683	2.446	17.8	21.4
3 2	13 21.06	+43 22.4	1.178	1.978	22.1	19.7	3 2	13 2.84	-13 52.7	1.594	2.447	14.7	21.2
3 12	13 9.85	+44 20.4	1.182	2.000	21.2	19.7	3 12	12 57.33	-13 27.8	1.524	2.448	10.8	20.9
3 22	12 55.68	+44 28.0	1.202	2.022	20.9	19.8	3 22	12 49.75	-12 42.7	1.477	2.450	6.6	20.7
4 1	12 40.85	+43 38.1	1.239	2.046	21.3	19.9	4 1	12 41.01	-11 41.0	1.457	2.451	2.9	20.5
4 11	12 27.68	+41 53.5	1.292	2.069	22.3	20.0	4 11	12 32.29	-10 29.7	1.463	2.453	4.7	20.6
4 21	12 17.66	+39 24.7	1.360	2.094	23.5	20.2	4 21	12 24.69	-9 17.2	1.495	2.454	9.0	20.8
5 1	12 11.45	+36 24.4	1.442	2.118	24.7	20.4	5 1	12 19.12	-8 11.9	1.552	2.455	13.1	21.1
8876	1992 <i>WU</i> ₃		3 31.8	136°54'	0°6'/1.3	18	264404	2000 <i>FU</i> ₇₀		3 31.8	185°08'	0°1'/31.9	17
2 21	13 9.81	-8 42.3	1.994	2.757	15.4	18.5	2 21	13 6.80	-7 45.5	2.101	2.870	14.6	21.0
3 2	13 5.40	-8 24.0	1.912	2.770	12.3	18.4	3 2	13 3.03	-7 17.7	2.006	2.870	11.6	20.8
3 12	12 58.70	-7 51.0	1.850	2.783	8.7	18.2	3 12	12 57.11	-6 35.6	1.934	2.870	8.1	20.6
3 22	12 50.28	-7 5.7	1.814	2.795	4.6	17.9	3 22	12 49.53	-5 41.8	1.887	2.869	4.2	20.3
4 1	12 40.99	-6 12.6	1.807	2.806	0.6	17.6	4 1	12 41.02	-4 41.2	1.868	2.868	0.1	20.0
4 11	12 31.82	-5 17.9	1.828	2.816	4.2	17.9	4 11	12 32.54	-3 39.8	1.879	2.866	4.3	20.3
4 21	12 23.71	-4 27.5	1.878	2.826	8.3	18.2	4 21	12 24.95	-2 43.8	1.918	2.864	8.3	20.6
5 1	12 17.39	-3 46.7	1.953	2.835	11.9	18.4	5 1	12 18.98	-1 58.5	1.981	2.861	11.9	20.8
3711	Ellensburg		3 31.8	101°37'	5°7'/6.3	18	313723	2003 <i>US</i> ₁₅₁		3 31.8	139°58'	3°1'/28.7	18
2 21	13 10.11	-21 32.6	2.062	2.761	16.8	17.7	2 21	13 9.58	+1 22.9	2.034	2.825	14.2	21.6
3 2	13 5.79	-22 10.9	1.978	2.778	14.4	17.5	3 2	13 5.09	+2 16.2	1.959	2.838	11.1	21.4
3 12	12 59.07	-22 29.5	1.914	2.794	11.4	17.3	3 12	12 58.41	+3 17.7	1.907	2.851	7.6	21.2
3 22	12 50.52	-22 26.4	1.872	2.810	8.4	17.2	3 22	12 50.11	+4 21.8	1.881	2.863	4.2	21.0
4 1	12 40.98	-22 2.0	1.856	2.825	6.1	17.1	4 1	12 41.02	+5 21.9	1.884	2.874	3.4	21.0
4 11	12 31.53	-21 19.9	1.868	2.840	6.0	17.1	4 11	12 32.09	+6 11.6	1.917	2.884	6.4	21.2
4 21	12 23.14	-20 26.1	1.906	2.855	8.2	17.2	4 21	12 24.21	+6 46.3	1.976	2.894	9.8	21.4
5 1	12 16.62	-19 28.0	1.971	2.869	11.0	17.4	5 1	12 18.05	+7 3.8	2.060	2.903	12.9	21.6
212090	2005 <i>EK</i> ₁₂₄		3 31.8	319°65'	2°1'/29.9	17	329384	2001 <i>XZ</i> ₁₁₁		3 31.8	146°74'	3°4'/4.6	17
2 21	13 2.40	-4 27.1	1.480	2.292	17.6	20.1	2 21	13 5.21	-18 20.7	2.137	2.861	15.7	21.1
3 2	13 0.50	-3 30.6	1.394	2.285	14.0	19.8	3 2	13 1.80	-18 6.9	2.043	2.867	13.1	20.9
3 12	12 55.88	-2 15.1	1.328	2.278	9.6	19.5	3 12	12 56.26	-17 32.3	1.969	2.873	9.9	20.7
3 22	12 49.07	-0 46.1	1.285	2.272	4.7	19.2	3 22	12 49.09	-16 37.6	1.920	2.879	6.6	20.5
4 1	12 41.02	+0 47.4	1.268	2.265	2.3	19.1	4 1	12 41.04	-15 25.6	1.897	2.884	3.8	20.3
4 11	12 32.95	+2 14.5	1.278	2.259	6.8	19.3	4 11	12 33.05	-14 2.4	1.903	2.889	4.3	20.4
4 21	12 26.04	+3 25.9	1.312	2.254	11.7	19.6	4 21	12 25.98	-12 35.2	1.937	2.894	7.5	20.6
5 1	12 21.24	+4 15.1	1.368	2.249	16.0	19.8	5 1	12 20.55	-11 11.8	1.998	2.898	10.8	20.8
14927	Satoshi		3 31.8	249°77'	4°2'/28.3	18 R	331477	1996 <i>TO</i> ₂₄		3 31.8	303°47'	3°0'/3.9	17
2 21	13 10.20	+3 11.2	1.713	2.518	15.9	17.9	2 21	13 0.86	-16 57.4	1.751	2.506	17.5	20.2
3 2	13 6.42	+3 59.0	1.615	2.502	12.7	17.7	3 2	12 59.03	-16 30.9	1.646	2.493	14.6	20.0
3 12	12 59.89	+4 56.3	1.539	2.485	8.9	17.4	3 12	12 54.76	-15 38.6	1.560	2.480	11.0	19.7
3 22	12 51.11	+5 56.9	1.487	2.468	5.2	17.2	3 22	12 48.49	-14 21.1	1.497	2.467	6.9	19.5
4 1	12 40.97	+6 52.7	1.463	2.450	4.6	17.1	4 1	12 41.05	-12 42.1	1.461	2.454	3.3	19.2
4 11	12 30.67	+7 35.6	1.466	2.432	8.1	17.2	4 11	12 33.51	-10 49.9	1.451	2.441	4.7	19.2
4 21	12 21.43	+7 59.9	1.494	2.413	12.3	17.4	4 21	12 26.93	-8 55.1	1.468	2.429	8.9	19.5
5 1	12 14.24	+8 2.5	1.544	2.394	16.2	17.6	5 1	12 22.20	-7 8.3	1.510	2.417	13.2	19.7
12497	1998 <i>FQ</i> ₁₄		3 31.8	298°46'	1°1'/1.8	18	504194	2006 <i>TY</i> ₈₃		3 31.8	93°86'	1°2'/2.1	17
2 21	13 2.75	-10 54.9	1.836	2.610	16.1	19.0	2 21	13 5.44	-9 54.2	2.452	3.206	13.1	22.0
3 2	13 0.53	-10 31.1	1.715	2.579	13.2	18.7	3 2	13 1.55	-9 52.8	2.365	3.216	10.6	21.9
3 12	12 55.87	-9 47.2	1.614	2.548	9.6	18.4	3 12	12 55.85	-9 39.4	2.300	3.227	7.5	21.7
3 22	12 49.12	-8 44.3	1.536	2.516	5.3	18.1	3 22	12 48.80	-9 15.6	2.261	3.237	4.2	21.5
4 1	12 41.02	-7 26.5	1.486	2.484	1.2	17.7	4 1	12 41.05	-8 44.1	2.250	3.248	1.3	21.3
4 11	12 32.59	-6 0.9	1.463	2.453	4.7	17.9	4 11	12 33.37	-8 9.0	2.269	3.258	3.4	21.5
4 21	12 24.93	-4 36.3	1.466	2.421	9.6	18.1	4 21	12 26.48	-7 34.6	2.316	3.268	6.7	21.7
5 1	12 19.03	-3 21.5	1.494	2.389	14.0	18.3	5 1	12 20.98	-7 5.1	2.390	3.278	9.8	21.9
27911	1996 <i>TC</i> ₁₄		3 31.8	155°70'	3°7'/5.2	18	161801	2006 <i>VS</i> ₆₄		3 31.8	212°33'	1°2'/30.3	17
2 21	13 4.54	-19 0.2	2.573	3.281	13.7	17.7	2 21	13 3.84	-2 32.8	2.786	3.562	11.2	21.5
3 2	13 0.91	-19 4.1	2.474	3.285	11.5	17.6	3 2	13 0.13	-2 2.4	2.686	3.556	8.8	21.3
3 12	12 55.46	-18 51.5	2.395	3.289	8.9	17.4	3 12	12 54.81	-1 24.0	2.609	3.551	6.0	21.1
3 22	12 48.63	-18 22.2	2.341	3.293	6.1	17.2	3 22	12 48.27	-0 40.5	2.560	3.544	3.0	20.9
4 1	12 41.04	-17 37.9	2.315	3.296	3.9	17.1	4 1	12 41.08	+0 4.4	2.541	3.538	1.3	20.8
4 11	12 33.46	-16 42.5	2.318	3.299	4.2	17.1	4 11	12 33.87	+0 46.2	2.552	3.531	4.0	20.9
4 21	12 26.63	-15 41.1	2.349	3.302	6.5	17.2	4 21	12 27.29	+1 21.2	2.591	3.524	7.1	21.1
5 1	12 21.15	-14 39.3	2.407	3.305	9.3	17.4	5 1	12 21.88	+1 46.3	2.657	3.517	9.8	21.3
213238	2000 <i>YU</i> ₉		3 31.8	91°14'	1°0'/30.9	18	157790	1991 <i>VP</i> ₈		3 31.8	204°70'	1°7'/30.2	17
2 21	13 12.14	-3 40.5	1.630	2.419	17.3	20.7	2 21	13 10.39	-2 47.6	1.897	2.681	15.4	22.2
3 2	13 7.58	-3 23.7	1.563	2.440	13.6	20.5	3 2	13 6.17	-2 12.0	1.801	2.676	12.2	21.9
3 12	13 0.34	-2 54.5	1.517	2.460	9.3	20.3	3 12	12 59.47	-1 23.9	1.727	2.670	8.4	21.7
3 22	12 51.13	-2 17.1	1.496	2.480	4.6	20.0	3 22	12 50.80	-0 27.6	1.679	2.663	4.2	21.4
4 1	12 40.98	-1 37.1	1.502	2.500	1.2	19.8	4 1	12 41.01	+0 31.0	1.659	2.656	1.9	21.3
4 11	12 31.13	-1 1.2	1.536	2.520	5.5	20.2	4 11	12 31.19	+1 24.7	1.668	2.648	5.7	21.5
4 21	12 22.66	-0 34.8	1.596	2.539	9.9	20.5	4 21	12 22.37	+2 7.5	1.704	2.639	10.0	21.7
5 1	12 16.37	-0 21.6	1.680	2.558	13.7	20.8	5 1	12 15.42	+2 35.0	1.765	2.629	13.8	21.9
107177	2001 <i>BZ</i> ₂₄		3 31.8	83°50'	1°3'/30.6	18	5748	Davebrin		3 31.8	91°13'	1°8'/29.8	18
2 21	13 7												

EPHEMERIDES

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2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
497874	2006 <i>UJ</i> ₂₀₉		3 31.8 151 ^o 17		0 ^o 9/ 2.2 17		355846	2008 <i>UH</i> ₁₀₃		3 31.8 280 ^o 14		2 ^o 0/ 2.1 18	
2 21	13 2.82	-11 27.1	3.080	3.819	11.0	22.9	2 21	13 10.80	- 9 16.1	1.429	2.213	19.5	21.0
3 2	12 59.11	-10 57.3	2.985	3.828	8.9	22.8	3 2	13 7.44	- 9 39.5	1.341	2.210	15.9	20.7
3 12	12 53.98	-10 15.6	2.913	3.836	6.3	22.6	3 12	13 0.91	- 9 46.1	1.272	2.207	11.5	20.4
3 22	12 47.81	- 9 24.0	2.868	3.844	3.5	22.4	3 22	12 51.76	- 9 36.4	1.225	2.204	6.5	20.2
4 1	12 41.10	- 8 25.5	2.854	3.851	1.0	22.3	4 1	12 41.04	- 9 13.2	1.203	2.201	2.1	19.9
4 11	12 34.45	- 7 24.3	2.870	3.858	2.8	22.4	4 11	12 30.23	- 8 42.3	1.207	2.197	5.4	20.1
4 21	12 28.39	- 6 24.7	2.915	3.864	5.6	22.6	4 21	12 20.76	- 8 10.9	1.236	2.194	10.6	20.3
5 1	12 23.41	- 5 30.6	2.989	3.870	8.2	22.8	5 1	12 13.78	- 7 46.1	1.288	2.191	15.3	20.6
226714	2004 <i>PV</i> ₁₃		3 31.8 199 ^o 18		1 ^o 7/29.9 17 R		292039	2006 <i>QP</i> ₁₈₂		3 31.8 284 ^o 47		2 ^o 2/29.1 17	
2 21	13 6.22	- 2 3.5	2.231	3.015	13.3	21.2	2 21	13 1.59	- 1 46.5	2.242	3.037	13.0	21.1
3 2	13 2.43	- 1 23.9	2.137	3.013	10.5	21.0	3 2	12 58.78	- 0 47.3	2.151	3.033	10.1	20.9
3 12	12 56.62	- 0 34.2	2.066	3.010	7.2	20.8	3 12	12 54.11	+ 0 23.0	2.082	3.029	6.9	20.7
3 22	12 49.27	+ 0 21.7	2.022	3.006	3.6	20.6	3 22	12 48.01	+ 1 39.5	2.041	3.025	3.5	20.5
4 1	12 41.07	+ 1 18.5	2.006	3.002	1.9	20.4	4 1	12 41.14	+ 2 56.2	2.028	3.022	2.5	20.4
4 11	12 32.88	+ 2 10.2	2.020	2.998	5.1	20.6	4 11	12 34.29	+ 4 6.3	2.044	3.018	5.5	20.6
4 21	12 25.52	+ 2 51.9	2.061	2.993	8.7	20.8	4 21	12 28.20	+ 5 4.3	2.087	3.014	8.9	20.8
5 1	12 19.66	+ 3 20.0	2.128	2.987	12.0	21.0	5 1	12 23.50	+ 5 46.4	2.155	3.011	12.0	21.0
393464	2001 <i>YQ</i> ₂₀		3 31.8 121 ^o 92		5 ^o 9/ 9.1 17		59257	1999 <i>CO</i> ₂₇		3 31.8 328 ^o 94		3 ^o 4/29.4 18	
2 21	13 4.24	-28 9.7	2.701	3.348	14.3	21.1	2 21	13 9.63	+ 1 10.0	1.438	2.252	18.0	18.4
3 2	13 0.70	-28 21.1	2.605	3.358	12.5	21.0	3 2	13 6.25	+ 1 39.9	1.359	2.250	14.2	18.1
3 12	12 55.32	-28 12.3	2.527	3.368	10.4	20.8	3 12	12 59.90	+ 2 20.2	1.300	2.249	9.8	17.9
3 22	12 48.57	-27 42.3	2.472	3.378	8.2	20.7	3 22	12 51.14	+ 3 4.9	1.264	2.248	5.3	17.6
4 1	12 41.09	-26 51.5	2.443	3.388	6.4	20.6	4 1	12 41.07	+ 3 46.3	1.254	2.248	3.7	17.5
4 11	12 33.68	-25 43.2	2.441	3.398	5.9	20.6	4 11	12 31.06	+ 4 16.4	1.270	2.247	7.6	17.7
4 21	12 27.04	-24 22.7	2.467	3.407	7.0	20.6	4 21	12 22.43	+ 4 29.7	1.310	2.246	12.3	18.0
5 1	12 21.79	-22 56.5	2.520	3.416	9.0	20.8	5 1	12 16.16	+ 4 23.4	1.372	2.245	16.5	18.2
30811	1990 <i>OD</i> ₂		3 31.8 229 ^o 51		2 ^o 7/29.6 18		90502	Buratti		3 31.8 41 ^o 79		0 ^o 9/30.5 18	
2 21	13 10.98	+ 0 3.5	1.822	2.615	15.6	19.1	2 21	12 59.54	- 4 27.0	2.672	3.453	11.5	19.4
3 2	13 6.82	+ 0 36.3	1.724	2.604	12.4	18.9	3 2	12 56.74	- 3 43.7	2.594	3.467	8.9	19.3
3 12	13 0.05	+ 1 19.3	1.648	2.592	8.5	18.6	3 12	12 52.45	- 2 50.9	2.539	3.482	6.1	19.1
3 22	12 51.17	+ 2 7.9	1.596	2.580	4.5	18.4	3 22	12 47.07	- 1 52.2	2.511	3.496	3.0	18.9
4 1	12 41.04	+ 2 55.7	1.573	2.567	2.9	18.2	4 1	12 41.17	- 0 51.9	2.513	3.511	1.0	18.8
4 11	12 30.82	+ 3 35.9	1.578	2.554	6.5	18.4	4 11	12 35.36	+ 0 5.2	2.544	3.525	3.9	19.0
4 21	12 21.61	+ 4 2.7	1.610	2.540	10.8	18.6	4 21	12 30.22	+ 0 54.8	2.603	3.541	6.8	19.2
5 1	12 14.36	+ 4 12.6	1.665	2.525	14.7	18.8	5 1	12 26.22	+ 1 33.6	2.688	3.556	9.5	19.4
258101	2001 <i>QZ</i> ₁₆₄		3 31.8 154 ^o 72		1 ^o 8/29.8 18		207848	2007 <i>UV</i> ₁₁₆		3 31.8 181 ^o 75		0 ^o 8/30.8 18	
2 21	13 8.95	- 1 7.0	2.353	3.130	12.9	21.4	2 21	13 2.17	- 6 0.4	2.258	3.038	13.3	20.4
3 2	13 4.34	- 0 31.8	2.268	3.140	10.1	21.2	3 2	12 59.22	- 5 11.2	2.166	3.038	10.5	20.2
3 12	12 57.79	+ 0 11.7	2.207	3.148	6.9	21.0	3 12	12 54.40	- 4 8.6	2.096	3.038	7.2	19.9
3 22	12 49.81	+ 0 59.6	2.173	3.156	3.5	20.8	3 22	12 48.15	- 2 56.3	2.054	3.038	3.5	19.7
4 1	12 41.08	+ 1 47.1	2.168	3.163	2.0	20.7	4 1	12 41.14	- 1 40.0	2.039	3.038	0.9	19.5
4 11	12 32.46	+ 2 29.0	2.194	3.170	4.9	20.9	4 11	12 34.17	- 0 26.0	2.055	3.038	4.4	19.8
4 21	12 24.70	+ 3 1.1	2.248	3.176	8.3	21.1	4 21	12 27.98	+ 0 39.6	2.097	3.037	8.1	20.0
5 1	12 18.44	+ 3 20.7	2.327	3.181	11.3	21.3	5 1	12 23.19	+ 1 32.2	2.166	3.037	11.3	20.2
436365	2010 <i>KG</i> ₁₂₅		3 31.8 268 ^o 91		0 ^o 3/31.3 17		30563	2001 <i>OZ</i> ₇₅		3 31.8 237 ^o 94		1 ^o 6/30.1 18	
2 21	13 1.96	- 7 19.9	2.734	3.498	11.6	21.3	2 21	13 4.27	- 2 16.4	2.227	3.015	13.2	19.7
3 2	12 58.84	- 6 34.5	2.612	3.474	9.3	21.1	3 2	13 0.91	- 1 42.2	2.134	3.012	10.4	19.5
3 12	12 54.07	- 5 36.1	2.514	3.450	6.5	20.9	3 12	12 55.59	- 0 58.0	2.064	3.008	7.1	19.3
3 22	12 47.98	- 4 27.3	2.443	3.426	3.2	20.6	3 22	12 48.77	- 0 7.6	2.020	3.005	3.6	19.1
4 1	12 41.12	- 3 12.4	2.402	3.401	0.4	20.3	4 1	12 41.13	+ 0 43.9	2.005	3.002	1.8	18.9
4 11	12 34.15	- 1 56.6	2.391	3.376	3.8	20.6	4 11	12 33.51	+ 1 30.9	2.019	2.998	4.9	19.1
4 21	12 27.73	- 0 45.6	2.410	3.350	7.1	20.8	4 21	12 26.68	+ 2 8.5	2.060	2.995	8.5	19.3
5 1	12 22.44	+ 0 16.0	2.455	3.324	10.2	20.9	5 1	12 21.33	+ 2 33.3	2.126	2.991	11.7	19.5
32483	2000 <i>SM</i> ₃₆₂		3 31.8 336 ^o 33		2 ^o 9/28.3 18 R		352071	2006 <i>WC</i> ₁₁₁		3 31.8 164 ^o 23		1 ^o 6/29.6 18	
2 21	13 0.41	- 0 44.8	2.050	2.854	13.6	18.6	2 21	13 3.88	- 0 29.7	2.981	3.759	10.5	22.4
3 2	12 58.05	+ 0 27.2	1.962	2.850	10.7	18.4	3 2	12 59.97	+ 0 5.4	2.891	3.764	8.2	22.3
3 12	12 53.70	+ 1 51.2	1.897	2.846	7.2	18.2	3 12	12 54.60	+ 0 46.9	2.826	3.768	5.5	22.1
3 22	12 47.83	+ 3 21.3	1.858	2.842	3.9	18.0	3 22	12 48.15	+ 1 31.5	2.788	3.772	2.8	21.9
4 1	12 41.13	+ 4 50.0	1.848	2.839	3.3	17.9	4 1	12 41.15	+ 2 15.4	2.781	3.775	1.8	21.8
4 11	12 34.46	+ 6 9.6	1.866	2.836	6.3	18.1	4 11	12 34.19	+ 2 54.8	2.804	3.778	4.1	22.0
4 21	12 28.61	+ 7 13.8	1.911	2.833	9.9	18.3	4 21	12 27.85	+ 3 26.2	2.856	3.781	6.9	22.2
5 1	12 24.26	+ 7 58.8	1.979	2.830	13.1	18.5	5 1	12 22.60	+ 3 47.5	2.933	3.783	9.3	22.3
351461	2005 <i>MO</i> ₃₉		3 31.8 193 ^o 30		3 ^o 6/ 5.6 18		316400	2010 <i>TQ</i> ₆₅		3 31.8 349 ^o 62		2 ^o 2/ 2.7 17	
2 21	13 4.80	-19 45.5	3.056	3.747	12.0	21.9	2 21	13 3.95	-12 42.1	1.513	2.292	18.8	20.8
3 2	13 0.86	-19 55.7	2.946	3.745	10.1	21.8	3 2	13 1.75	-12 32.5	1.425	2.291	15.4	20.5
3 12	12 55.32	-19 51.8	2.858	3.742	8.0	21.6	3 12	12 56.78	-12 0.4	1.357	2.289	11.2	20.3
3 22	12 48.56	-19 33.5	2.795	3.739	5.6	21.4	3 22	12 49.58	-11 7.1	1.311	2.288	6.5	20.0
4 1	12 41.12	-19 1.8	2.760	3.736	3.8	21.3	4 1	12 41.11	- 9 57.0	1.290	2.287	2.4	19.7
4 11	12 33.63	-18 19.5	2.755	3.732	3.9	21.3	4 11	12 32.63	- 8 38.7	1.295	2.286	5.0	19.9
4 21	12 26.74	-17 30.5	2.778	3.728	5.9	21.4	4 21	12 25.35	- 7 21.5	1.325	2.285	9.8	20.1
5 1	12 20.99	-16 39.4	2.830	3.724	8.2	21.6	5 1	12 20.24	- 6 14.5	1.379	2.285		

EPHEMERIDES

3 31.8

3 31.8

2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
63544	2001 PD ₄₇		3 31.8 124°26	0°2/ 1.0 18			299355	2005 SX ₂₄₉		3 31.8 208°31	2°4/28.6 18		
2 21	13 5.15	- 7 34.0	2.787	3.542	11.7	20.2	2 21	13 1.86	+ 0 8.0	2.590	3.381	11.5	20.7
3 2	13 1.04	- 7 10.6	2.703	3.558	9.2	20.0	3 2	12 58.70	+ 1 4.8	2.498	3.378	9.0	20.5
3 12	12 55.35	- 6 36.9	2.642	3.574	6.4	19.9	3 12	12 53.91	+ 2 9.7	2.430	3.376	6.1	20.3
3 22	12 48.53	- 5 55.3	2.609	3.589	3.3	19.7	3 22	12 47.88	+ 3 18.5	2.390	3.373	3.3	20.2
4 1	12 41.15	- 5 9.3	2.605	3.604	0.2	19.4	4 1	12 41.19	+ 4 25.7	2.380	3.371	2.6	20.1
4 11	12 33.86	- 4 23.0	2.632	3.618	3.2	19.7	4 11	12 34.53	+ 5 26.1	2.399	3.368	5.2	20.3
4 21	12 27.29	- 3 40.5	2.688	3.632	6.3	19.9	4 21	12 28.53	+ 6 15.1	2.446	3.365	8.1	20.4
5 1	12 21.92	- 3 5.1	2.771	3.646	9.0	20.1	5 1	12 23.74	+ 6 49.9	2.517	3.361	10.9	20.6
229180	2004 TU ₁₇₇		3 31.8 216°13	0°6/ 1.3 17			180125	2003 FH ₆₃		3 31.8 166°25	1°7/29.6 18		
2 21	13 6.18	- 8 28.5	2.161	2.926	14.3	21.8	2 21	13 1.86	- 2 22.6	2.553	3.338	11.8	20.3
3 2	13 2.56	- 8 12.2	2.061	2.922	11.5	21.6	3 2	12 58.72	- 1 29.7	2.463	3.340	9.2	20.1
3 12	12 56.83	- 7 42.0	1.983	2.917	8.1	21.4	3 12	12 53.92	- 0 27.1	2.397	3.341	6.3	19.9
3 22	12 49.44	- 7 0.2	1.931	2.911	4.3	21.1	3 22	12 47.89	+ 0 41.1	2.358	3.342	3.2	19.7
4 1	12 41.13	- 6 10.5	1.906	2.905	0.6	20.8	4 1	12 41.20	+ 1 49.8	2.349	3.344	1.9	19.6
4 11	12 32.78	- 5 18.5	1.911	2.899	4.0	21.1	4 11	12 34.56	+ 2 53.4	2.369	3.344	4.6	19.8
4 21	12 25.26	- 4 29.7	1.944	2.893	8.0	21.3	4 21	12 28.60	+ 3 47.2	2.417	3.345	7.8	20.0
5 1	12 19.31	- 3 49.3	2.002	2.886	11.5	21.5	5 1	12 23.88	+ 4 27.9	2.490	3.346	10.6	20.2
95854	2003 GD ₃		3 31.8 274°52	0°3/ 1.0 16			434589	2005 UG ₁₉₉		3 31.8 246°93	0°2/ 1.1 16		
2 21	13 9.58	- 6 32.7	1.558	2.346	18.0	19.9	2 21	13 2.61	- 8 18.6	2.867	3.623	11.3	22.2
3 2	13 6.39	- 6 34.2	1.453	2.328	14.6	19.7	3 2	12 59.24	- 7 46.6	2.751	3.607	9.1	22.0
3 12	13 0.21	- 6 20.5	1.368	2.309	10.4	19.4	3 12	12 54.28	- 7 2.9	2.658	3.591	6.4	21.8
3 22	12 51.47	- 5 53.3	1.307	2.290	5.4	19.0	3 22	12 48.09	- 6 9.7	2.593	3.574	3.3	21.6
4 1	12 41.08	- 5 16.6	1.271	2.270	0.3	18.6	4 1	12 41.20	- 5 10.2	2.557	3.557	0.2	21.2
4 11	12 30.38	- 4 37.1	1.262	2.251	5.6	18.9	4 11	12 34.23	- 4 9.2	2.552	3.539	3.3	21.5
4 21	12 20.74	- 4 2.0	1.278	2.231	10.9	19.2	4 21	12 27.81	- 3 11.1	2.576	3.521	6.5	21.7
5 1	12 13.35	- 3 37.8	1.317	2.211	15.7	19.4	5 1	12 22.50	- 2 20.4	2.627	3.502	9.4	21.8
134922	2000 YV ₁₀₄		3 31.8 41°89	13°2/ 8.6 18			310492	2000 UK ₂₆		3 31.8 146°44	1°7/ 2.6 18		
2 21	13 20.51	-27 35.0	1.414	2.098	23.9	18.6	2 21	13 6.94	-14 13.4	1.930	2.678	16.3	21.0
3 2	13 15.93	-30 17.5	1.344	2.113	21.4	18.4	3 2	13 3.34	-13 33.0	1.842	2.688	13.3	20.8
3 12	13 7.35	-32 37.4	1.290	2.129	18.5	18.2	3 12	12 57.43	-12 31.2	1.774	2.697	9.6	20.6
3 22	12 55.27	-34 24.2	1.256	2.145	15.7	18.1	3 22	12 49.75	-11 10.3	1.731	2.706	5.5	20.4
4 1	12 40.99	-35 29.3	1.243	2.162	13.8	18.0	4 1	12 41.16	- 9 35.6	1.717	2.713	1.9	20.2
4 11	12 26.48	-35 50.6	1.253	2.180	13.3	18.1	4 11	12 32.67	- 7 55.3	1.731	2.720	4.2	20.3
4 21	12 13.72	-35 33.7	1.286	2.198	14.5	18.2	4 21	12 25.23	- 6 18.0	1.774	2.727	8.3	20.6
5 1	12 4.25	-34 50.5	1.339	2.216	16.6	18.3	5 1	12 19.59	- 4 51.8	1.842	2.733	12.0	20.8
96210	1993 FR ₁₄		3 31.8 190°36	2°7/28.7 18			375288	2008 LE ₁		3 31.8 273°04	0°7/ 1.5 17		
2 21	13 6.05	+ 1 14.1	2.412	3.200	12.3	20.4	2 21	13 2.26	-11 47.2	1.842	2.614	16.2	21.9
3 2	13 2.11	+ 2 2.0	2.321	3.199	9.7	20.2	3 2	12 59.94	-10 56.7	1.739	2.602	13.1	21.6
3 12	12 56.31	+ 2 57.5	2.253	3.197	6.6	20.0	3 12	12 55.30	- 9 43.7	1.656	2.591	9.4	21.4
3 22	12 49.11	+ 3 56.0	2.213	3.195	3.6	19.8	3 22	12 48.78	- 8 11.1	1.598	2.579	5.0	21.1
4 1	12 41.15	+ 4 52.2	2.203	3.193	2.9	19.7	4 1	12 41.18	- 6 24.6	1.568	2.567	0.7	20.8
4 11	12 33.21	+ 5 40.4	2.221	3.190	5.6	19.9	4 11	12 33.50	- 4 33.6	1.566	2.555	4.6	21.0
4 21	12 26.05	+ 6 16.7	2.268	3.186	8.7	20.1	4 21	12 26.73	- 2 47.9	1.591	2.543	9.2	21.2
5 1	12 20.28	+ 6 38.2	2.339	3.182	11.6	20.3	5 1	12 21.71	- 1 16.1	1.641	2.531	13.3	21.5
249442	2009 FO ₅₇		3 31.8 317°20	1°0/30.7 17			245983	Machholz		3 31.8 97°70	3°1/ 5.1 18		
2 21	13 1.57	- 4 47.2	2.184	2.971	13.5	20.7	2 21	13 1.96	-20 2.6	2.468	3.178	14.1	20.4
3 2	12 58.88	- 4 8.7	2.088	2.964	10.7	20.5	3 2	12 58.93	-19 24.8	2.373	3.188	11.8	20.2
3 12	12 54.25	- 3 17.7	2.014	2.957	7.3	20.3	3 12	12 54.12	-18 26.6	2.300	3.198	9.0	20.0
3 22	12 48.12	- 2 17.8	1.966	2.951	3.6	20.1	3 22	12 47.99	-17 9.1	2.251	3.208	6.0	19.9
4 1	12 41.17	- 1 14.2	1.946	2.945	1.1	19.9	4 1	12 41.20	-15 36.0	2.231	3.218	3.4	19.7
4 11	12 34.20	- 0 13.1	1.955	2.938	4.6	20.1	4 11	12 34.51	-13 53.3	2.241	3.227	3.8	19.7
4 21	12 28.01	+ 0 39.8	1.991	2.932	8.4	20.3	4 21	12 28.61	-12 8.2	2.280	3.237	6.5	19.9
5 1	12 23.25	+ 1 20.1	2.052	2.927	11.7	20.5	5 1	12 24.06	-10 27.8	2.347	3.246	9.4	20.1
189827	2002 TE ₅₃		3 31.8 200°54	0°8/31.1 18			382753	2003 EU ₈		3 31.8 70°87	7°4/ 9.8 18		
2 21	13 11.77	- 4 59.2	1.829	2.606	16.1	21.1	2 21	13 16.00	-29 48.8	2.509	3.125	15.9	21.9
3 2	13 7.40	- 4 35.4	1.733	2.602	12.9	20.8	3 2	13 9.96	-30 49.7	2.443	3.168	13.9	21.8
3 12	13 0.42	- 3 57.7	1.658	2.598	8.9	20.6	3 12	13 1.70	-31 30.0	2.396	3.211	11.8	21.7
3 22	12 51.36	- 3 9.4	1.609	2.592	4.5	20.3	3 22	12 51.80	-31 46.9	2.371	3.252	9.6	21.7
4 1	12 41.10	- 2 16.0	1.587	2.586	0.9	20.0	4 1	12 41.13	-31 39.5	2.372	3.293	8.0	21.6
4 11	12 30.78	- 1 24.2	1.595	2.579	5.3	20.3	4 11	12 30.68	-31 10.2	2.401	3.334	7.4	21.7
4 21	12 21.53	- 0 40.6	1.629	2.571	9.8	20.6	4 21	12 21.35	-30 24.0	2.457	3.373	8.2	21.8
5 1	12 14.25	- 0 10.3	1.688	2.562	13.8	20.8	5 1	12 13.83	-29 27.7	2.539	3.412	9.8	21.9
438637	2008 CY ₁₃		3 31.8 114°90	3°5/27.1 17			222313	2000 SQ ₃₅₆		3 31.8 234°11	7°4/24.4 17		
2 21	13 2.50	+ 4 17.8	2.553	3.352	11.4	21.4	2 21	13 9.17	+14 23.7	1.993	2.800	13.9	19.9
3 2	12 59.15	+ 5 21.6	2.476	3.361	8.9	21.2	3 2	13 5.06	+15 29.9	1.915	2.795	11.3	19.7
3 12	12 54.16	+ 6 30.5	2.424	3.369	6.2	21.0	3 12	12 58.60	+16 34.8	1.860	2.789	8.9	19.6
3 22	12 47.98	+ 7 39.5	2.400	3.377	3.9	20.9	3 22	12 50.36	+17 30.7	1.830	2.783	7.4	19.5
4 1	12 41.19	+ 8 42.8	2.404	3.385	3.9	20.9	4 1	12 41.16	+18 9.9	1.828	2.777	8.0	19.5
4 11	12 34.49	+ 9 35.3	2.438	3.393	6.1	21.1	4 11	12 32.04	+18 26.8	1.851	2.770	10.1	19.6
4 21	12 28.52	+10 13.5	2.499	3.400	8.7	21.2	4 21	12 23.96	+18 19.1	1.899	2.763	12.9	19.8
5 1	12 23.79	+10 35.5	2.584	3.408	11.2	21.4	5 1	12 17.69	+17 47.7	1.968	2.757	15.5	19.9
222578	2001 WX ₅		3 31.8 332°57	4°8/ 5.4 18			235395	2003 WS ₁₅₁		3 31.8 117°53	0°1/31.7 17		
2 21	13 3.06	-19 27.0	1.722	2.463	18.3	20.2	2						

EPHEMERIDES

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2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
98806	2000 YU ₁₁₇		3 31.8	40°36'	8°6/7.1	18	98452	2000 UB ₆₅		3 31.8	41°31'	2°6/2.5	18
2 21	13 10.44	-22 50.9	1.513	2.235	21.2	18.8	2 21	13 8.93	-10 34.4	1.316	2.106	20.6	19.5
3 2	13 7.24	-24 11.3	1.432	2.240	18.4	18.6	3 2	13 5.97	-10 59.5	1.245	2.117	16.7	19.3
3 12	13 0.83	-25 8.5	1.367	2.247	15.1	18.4	3 12	12 59.83	-11 5.0	1.193	2.128	12.1	19.1
3 22	12 51.77	-25 37.5	1.321	2.253	11.7	18.2	3 22	12 51.17	-10 51.8	1.162	2.140	7.0	18.8
4 1	12 41.12	-25 35.5	1.299	2.260	9.1	18.1	4 1	12 41.17	-10 23.0	1.155	2.152	2.7	18.6
4 11	12 30.40	-25 5.0	1.301	2.268	8.8	18.0	4 11	12 31.34	-9 45.6	1.174	2.165	5.4	18.8
4 21	12 21.06	-24 13.2	1.327	2.275	11.0	18.2	4 21	12 23.06	-9 7.4	1.217	2.178	10.4	19.1
5 1	12 14.26	-23 10.5	1.376	2.283	14.2	18.4	5 1	12 17.34	-8 36.2	1.282	2.192	14.9	19.4
54621	2000 SS ₁₂		3 31.8	257°49'	3°4/27.8	17	244797	2003 SZ ₂₄₅		3 31.8	194°54'	0°1/31.7	18
2 21	13 3.46	+3 33.1	2.392	3.191	12.1	19.8	2 21	13 7.23	-5 37.4	2.235	3.006	13.7	20.8
3 2	13 0.17	+4 25.3	2.298	3.182	9.5	19.6	3 2	13 3.27	-5 26.5	2.140	3.005	10.9	20.6
3 12	12 55.04	+5 24.0	2.227	3.173	6.6	19.4	3 12	12 57.26	-5 4.8	2.067	3.004	7.6	20.4
3 22	12 48.51	+6 24.2	2.184	3.163	4.0	19.3	3 22	12 49.67	-4 34.6	2.020	3.002	3.8	20.2
4 1	12 41.20	+7 20.2	2.169	3.154	3.7	19.2	4 1	12 41.21	-3 59.7	2.001	3.000	0.2	19.8
4 11	12 33.89	+8 6.4	2.183	3.145	6.2	19.4	4 11	12 32.75	-3 24.9	2.012	2.998	4.1	20.2
4 21	12 27.29	+8 38.8	2.224	3.135	9.2	19.5	4 21	12 25.12	-2 54.7	2.051	2.996	7.9	20.4
5 1	12 22.04	+8 54.9	2.289	3.125	12.1	19.7	5 1	12 19.02	-2 33.0	2.115	2.994	11.3	20.6
69049	2002 XP ₇₆		3 31.8	24°71'	10°0/22.7	18	56383	2000 EJ ₄₇		3 31.8	289°27'	0°0/31.8	18
2 21	13 9.63	+18 43.4	1.657	2.474	15.8	19.1	2 21	13 9.15	-5 31.3	1.430	2.229	18.8	18.7
3 2	13 5.85	+20 7.3	1.596	2.475	13.2	19.0	3 2	13 6.37	-5 35.9	1.328	2.209	15.2	18.4
3 12	12 59.34	+21 25.6	1.557	2.476	11.0	18.8	3 12	13 0.42	-5 25.5	1.244	2.188	10.8	18.1
3 22	12 50.76	+22 27.8	1.541	2.478	10.0	18.8	3 22	12 51.69	-5 2.1	1.183	2.167	5.6	17.7
4 1	12 41.16	+23 4.6	1.550	2.479	10.8	18.8	4 1	12 41.16	-4 30.0	1.147	2.146	0.1	17.2
4 11	12 31.79	+23 10.5	1.583	2.481	12.9	18.9	4 11	12 30.25	-3 56.2	1.137	2.126	6.0	17.6
4 21	12 23.77	+22 44.8	1.638	2.483	15.5	19.1	4 21	12 20.47	-3 28.0	1.151	2.105	11.7	17.8
5 1	12 17.93	+21 50.4	1.711	2.485	18.0	19.3	5 1	12 13.10	-3 12.0	1.187	2.084	16.7	18.1
493266	2014 UQ ₁₃₂		3 31.8	109°15'	3°2/28.3	18	383727	2007 UK ₉₉		3 31.8	36°27'	2°8/3.8	17
2 21	13 8.10	+2 31.0	2.173	2.965	13.4	21.6	2 21	13 2.12	-15 23.8	1.959	2.711	16.0	20.7
3 2	13 3.74	+3 24.3	2.105	2.986	10.4	21.5	3 2	12 59.53	-15 13.9	1.876	2.721	13.2	20.5
3 12	12 57.39	+4 24.0	2.062	3.006	7.1	21.3	3 12	12 54.80	-14 44.4	1.813	2.731	9.8	20.3
3 22	12 49.62	+5 24.6	2.045	3.025	4.1	21.1	3 22	12 48.44	-13 56.5	1.773	2.742	6.1	20.1
4 1	12 41.19	+6 20.1	2.057	3.044	3.5	21.1	4 1	12 41.23	-12 53.9	1.760	2.753	3.0	19.9
4 11	12 32.97	+7 4.7	2.098	3.063	6.2	21.3	4 11	12 34.12	-11 42.8	1.775	2.764	4.1	20.0
4 21	12 25.74	+7 34.9	2.167	3.081	9.3	21.5	4 21	12 27.97	-10 30.3	1.816	2.776	7.6	20.3
5 1	12 20.09	+7 48.7	2.260	3.098	12.1	21.8	5 1	12 23.46	-9 23.5	1.883	2.788	11.1	20.5
313054	2000 RU ₉₉		3 31.8	233°91'	15°9/8.5	18	464803	2004 PY ₆₀		3 31.8	248°26'	2°1/2.9	17
2 21	13 20.01	-30 24.6	1.315	1.993	25.7	20.9	2 21	13 7.27	-12 56.9	2.316	3.056	14.2	22.2
3 2	13 16.58	-33 6.8	1.226	1.987	23.5	20.6	3 2	13 3.48	-12 54.2	2.197	3.037	11.7	21.9
3 12	13 8.68	-35 28.3	1.151	1.980	20.9	20.4	3 12	12 57.56	-12 36.2	2.100	3.018	8.6	21.7
3 22	12 56.46	-37 16.6	1.093	1.973	18.3	20.2	3 22	12 49.91	-12 3.5	2.028	2.999	5.2	21.5
4 1	12 41.03	-38 19.2	1.055	1.966	16.4	20.1	4 1	12 41.20	-11 18.2	1.984	2.979	2.3	21.2
4 11	12 24.54	-38 29.5	1.037	1.958	16.0	20.0	4 11	12 32.31	-10 24.8	1.969	2.958	3.9	21.3
4 21	12 9.55	-37 51.2	1.040	1.949	17.3	20.0	4 21	12 24.12	-9 28.9	1.983	2.936	7.6	21.5
5 1	11 58.24	-36 37.4	1.061	1.940	19.8	20.2	5 1	12 17.41	-8 36.4	2.023	2.914	11.1	21.6
238788	2005 KX ₃		3 31.8	104°28'	1°7/29.9	17	85291	1994 PF ₃₃		3 31.8	207°84'	0°6/31.2	18
2 21	13 4.44	-1 49.2	2.230	3.018	13.2	21.1	2 21	13 9.51	-6 10.3	2.009	2.781	15.0	20.6
3 2	13 0.98	-1 12.4	2.146	3.024	10.3	20.9	3 2	13 5.40	-5 33.4	1.908	2.774	12.0	20.3
3 12	12 55.59	-0 26.2	2.085	3.029	7.0	20.7	3 12	12 58.94	-4 41.7	1.828	2.767	8.3	20.1
3 22	12 48.78	+0 25.3	2.050	3.035	3.5	20.5	3 22	12 50.61	-3 38.4	1.775	2.758	4.2	19.8
4 1	12 41.21	+1 17.0	2.044	3.040	1.9	20.4	4 1	12 41.19	-2 29.1	1.750	2.749	0.7	19.5
4 11	12 33.73	+2 3.3	2.067	3.046	5.0	20.6	4 11	12 31.71	-1 20.7	1.754	2.739	4.9	19.8
4 21	12 27.08	+2 39.7	2.118	3.051	8.4	20.8	4 21	12 23.14	-0 20.0	1.787	2.727	9.2	20.1
5 1	12 21.90	+3 2.9	2.193	3.056	11.5	21.0	5 1	12 16.32	+0 27.3	1.844	2.715	13.0	20.3
15740	Hyakumangoku		3 31.8	44°48'	2°3/29.4	18	466284	2013 PF ₁₈		3 31.8	151°88'	4°7/26.5	17
2 21	13 1.14	-5 39.7	1.524	2.333	17.4	17.1	2 21	13 5.41	+4 41.8	2.042	2.848	13.7	21.5
3 2	12 59.23	-4 7.7	1.453	2.343	13.6	16.8	3 2	13 1.93	+6 5.0	1.966	2.853	10.7	21.3
3 12	12 54.82	-2 15.1	1.404	2.354	9.1	16.6	3 12	12 56.35	+7 35.4	1.914	2.859	7.5	21.1
3 22	12 48.50	-0 9.9	1.379	2.365	4.5	16.4	3 22	12 49.19	+9 5.9	1.888	2.864	5.0	21.0
4 1	12 41.22	+1 56.8	1.382	2.377	2.7	16.3	4 1	12 41.22	+10 28.2	1.891	2.868	5.2	21.0
4 11	12 34.12	+3 52.9	1.411	2.389	6.8	16.6	4 11	12 33.36	+11 35.2	1.923	2.872	7.8	21.2
4 21	12 28.22	+5 28.8	1.467	2.402	11.3	16.8	4 21	12 26.44	+12 22.2	1.980	2.876	10.9	21.4
5 1	12 24.27	+6 38.7	1.544	2.414	15.1	17.1	5 1	12 21.13	+12 47.1	2.060	2.880	13.8	21.6
318015	2004 DG ₄		3 31.8	13°16'	0°1/31.8	17	307501	2002 YB ₁		3 31.8	172°96'	1°0/30.8	18
2 21	13 28.25	+1 4.9	1.027	1.834	24.1	19.5	2 21	13 9.74	-3 25.1	2.426	3.194	12.9	20.7
3 2	13 22.74	-0 19.6	0.950	1.834	19.6	19.2	3 2	13 4.99	-3 1.1	2.333	3.198	10.2	20.5
3 12	13 12.45	-1 44.5	0.890	1.835	13.9	18.9	3 12	12 58.31	-2 27.8	2.263	3.201	7.0	20.3
3 22	12 57.99	-3 10.3	0.852	1.836	7.2	18.5	3 22	12 50.16	-1 48.3	2.221	3.204	3.5	20.1
4 1	12 41.02	-4 35.9	0.838	1.837	0.2	18.0	4 1	12 41.22	-1 6.7	2.208	3.206	1.1	19.9
4 11	12 24.00	-6 0.2	0.850	1.839	7.4	18.5	4 11	12 32.33	-0 27.7	2.225	3.207	4.3	20.2
4 21	12 9.33	-7 22.2	0.887	1.842	14.1	18.9	4 21	12 24.26	+0 4.3	2.272	3.207	7.8	20.4
5 1	11 58.68	-8 42.8	0.945	1.844	19.8	19.2	5 1	12 17.65	+0 26.1	2.344	3.207	10.9	20.6
309027	2006 UD ₁₄₀		3 31.8	210°61'	0°7/31.1	17	242421	2004 HB ₃₈		3 31.8	66°32'	2°8/28.9	17
2 21	13 5.98	-3 31.6	2.653	3.423	11.8	21.6	2 21	13 5.43	+1 42.3	2.108	2.907	13.5	

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2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
326105	2011 <i>CY</i> ₃₃		3 31.8 307°51	6°8/24.9	17		196424	2003 <i>HJ</i> ₁₄		3 31.8 317°21	4°1/27.6	17	
2 21	13 3.14	+ 8 7.1	1.658	2.484	15.4	20.2	2 21	12 59.60	- 0 33.8	1.575	2.398	16.2	20.0
3 2	13 0.86	+ 9 36.6	1.575	2.472	12.2	20.0	3 2	12 58.23	+ 0 54.5	1.482	2.380	12.8	19.7
3 12	12 56.05	+11 13.3	1.514	2.460	9.1	19.8	3 12	12 54.36	+ 2 40.6	1.410	2.364	8.8	19.4
3 22	12 49.22	+12 47.9	1.478	2.448	6.9	19.6	3 22	12 48.44	+ 4 36.9	1.363	2.347	5.0	19.1
4 1	12 41.25	+14 9.8	1.468	2.436	7.6	19.6	4 1	12 41.31	+ 6 32.5	1.343	2.332	4.7	19.1
4 11	12 33.25	+15 10.0	1.484	2.424	10.5	19.7	4 11	12 34.08	+ 8 15.6	1.349	2.316	8.5	19.3
4 21	12 26.31	+15 42.9	1.523	2.413	13.9	19.9	4 21	12 27.84	+ 9 36.6	1.379	2.302	12.9	19.5
5 1	12 21.29	+15 47.1	1.581	2.403	17.2	20.1	5 1	12 23.52	+10 29.9	1.430	2.287	16.8	19.7
147222	2002 <i>XS</i> ₂₈		3 31.8 116°60	0°8/1.6	18		428337	2007 <i>HB</i> ₉₇		3 31.8 337°29	9°5/24.1	18	
2 21	13 8.69	- 9 41.9	2.047	2.806	15.2	20.2	2 21	13 7.85	+16 12.6	1.526	2.353	16.5	19.9
3 2	13 4.47	- 9 21.2	1.968	2.824	12.2	20.1	3 2	13 4.82	+17 19.9	1.454	2.343	13.6	19.6
3 12	12 58.07	- 8 45.4	1.910	2.841	8.6	19.9	3 12	12 58.89	+18 23.9	1.403	2.334	11.0	19.5
3 22	12 50.05	- 7 56.9	1.878	2.857	4.6	19.6	3 22	12 50.69	+19 14.4	1.374	2.326	9.5	19.4
4 1	12 41.24	- 7 0.3	1.875	2.874	0.9	19.4	4 1	12 41.27	+19 41.6	1.370	2.318	10.2	19.4
4 11	12 32.59	- 6 1.6	1.901	2.889	4.0	19.7	4 11	12 31.96	+19 39.0	1.389	2.311	12.6	19.5
4 21	12 24.97	- 5 6.9	1.954	2.904	7.9	19.9	4 21	12 23.98	+19 5.1	1.431	2.305	15.7	19.6
5 1	12 19.06	- 4 21.4	2.034	2.918	11.4	20.2	5 1	12 18.27	+18 2.4	1.491	2.299	18.7	19.8
96246	1994 <i>JZ</i> ₅		3 31.8 124°04	2°5/29.2	18		65608	3441 <i>T</i> ₋₃		3 31.8 246°01	0°4/31.5	17	
2 21	13 8.94	+ 1 4.8	2.255	3.040	13.2	19.7	2 21	13 9.21	- 6 5.3	1.711	2.495	16.8	20.6
3 2	13 4.39	+ 1 41.2	2.179	3.056	10.3	19.6	3 2	13 5.74	- 5 45.3	1.609	2.482	13.5	20.4
3 12	12 57.86	+ 2 24.4	2.128	3.071	7.0	19.4	3 12	12 59.54	- 5 9.7	1.527	2.467	9.5	20.1
3 22	12 49.91	+ 3 9.9	2.103	3.085	3.7	19.2	3 22	12 51.10	- 4 21.1	1.469	2.453	4.8	19.8
4 1	12 41.25	+ 3 52.7	2.107	3.099	2.7	19.2	4 1	12 41.27	- 3 24.8	1.438	2.437	0.5	19.4
4 11	12 32.76	+ 4 27.6	2.141	3.113	5.4	19.4	4 11	12 31.26	- 2 28.2	1.435	2.422	5.4	19.7
4 21	12 25.21	+ 4 50.9	2.203	3.126	8.7	19.6	4 21	12 22.26	- 1 38.6	1.458	2.405	10.3	20.0
5 1	12 19.20	+ 5 0.6	2.289	3.138	11.6	19.8	5 1	12 15.29	- 1 2.3	1.505	2.389	14.7	20.2
412658	2014 <i>OH</i> ₁₉₃		3 31.8 60°60	2°3/2.3	18		312140	2007 <i>TR</i> ₃₀₀		3 31.8 348°63	1°3/1.7	18	
2 21	13 13.62	- 8 49.2	1.517	2.292	18.9	20.6	2 21	13 4.04	- 9 8.9	1.311	2.115	19.9	20.5
3 2	13 9.33	- 9 28.6	1.438	2.301	15.4	20.3	3 2	13 2.29	- 9 9.6	1.228	2.110	16.2	20.2
3 12	13 2.00	- 9 53.8	1.379	2.311	11.1	20.1	3 12	12 57.47	- 8 49.9	1.164	2.106	11.6	20.0
3 22	12 52.26	-10 4.8	1.344	2.321	6.4	19.9	3 22	12 50.12	- 8 11.6	1.120	2.102	6.3	19.6
4 1	12 41.20	-10 3.5	1.334	2.330	2.4	19.6	4 1	12 41.29	- 7 19.6	1.101	2.100	1.3	19.3
4 11	12 30.25	- 9 54.2	1.351	2.340	5.1	19.8	4 11	12 32.42	- 6 22.4	1.106	2.098	5.5	19.6
4 21	12 20.71	- 9 42.6	1.394	2.351	9.8	20.1	4 21	12 24.89	- 5 29.3	1.135	2.096	10.9	19.9
5 1	12 13.58	- 9 34.3	1.461	2.361	14.0	20.4	5 1	12 19.79	- 4 48.3	1.186	2.096	15.8	20.1
303399	2004 <i>XO</i> ₁₀₅		3 31.8 101°02	3°2/3.4	18		34147	Vengadesan		3 31.8 85°72	1°6/2.3	18	
2 21	13 10.72	-14 2.2	1.636	2.391	18.6	20.8	2 21	13 7.10	-10 41.5	1.848	2.614	16.4	19.0
3 2	13 6.77	-14 14.5	1.559	2.406	15.3	20.6	3 2	13 3.62	-10 40.1	1.763	2.621	13.2	18.8
3 12	13 0.06	-14 6.7	1.501	2.421	11.3	20.4	3 12	12 57.74	-10 22.5	1.699	2.628	9.5	18.6
3 22	12 51.20	-13 39.1	1.466	2.436	7.0	20.2	3 22	12 50.01	- 9 50.1	1.658	2.635	5.4	18.3
4 1	12 41.23	-12 54.8	1.457	2.450	3.4	20.0	4 1	12 41.29	- 9 6.5	1.645	2.643	1.7	18.1
4 11	12 31.42	-12 0.1	1.475	2.464	4.9	20.1	4 11	12 32.65	- 8 17.7	1.660	2.650	4.3	18.3
4 21	12 22.93	-11 2.8	1.520	2.477	9.0	20.4	4 21	12 25.05	- 7 30.0	1.701	2.657	8.4	18.6
5 1	12 16.63	-10 10.6	1.589	2.490	13.0	20.6	5 1	12 19.31	- 6 49.4	1.768	2.664	12.2	18.8
381169	2007 <i>HM</i> ₉₀		3 31.8 283°05	7°8/23.8	18		253260	2003 <i>AT</i> ₅₈		3 31.8 90°31	0°2/1.0	18	
2 21	13 7.02	+14 6.2	1.902	2.717	14.2	20.4	2 21	13 11.06	- 7 8.2	1.904	2.672	15.8	20.4
3 2	13 3.63	+15 22.6	1.816	2.700	11.6	20.2	3 2	13 6.37	- 6 53.0	1.836	2.699	12.6	20.2
3 12	12 57.82	+16 39.4	1.753	2.684	9.2	20.0	3 12	12 59.37	- 6 24.4	1.790	2.725	8.7	20.0
3 22	12 50.09	+17 48.1	1.715	2.667	7.8	19.9	3 22	12 50.71	- 5 45.4	1.770	2.751	4.4	19.8
4 1	12 41.26	+18 39.8	1.703	2.651	8.5	19.9	4 1	12 41.29	- 5 0.8	1.777	2.777	0.2	19.5
4 11	12 32.39	+19 7.8	1.717	2.634	10.9	20.0	4 11	12 32.14	- 4 16.3	1.814	2.801	4.4	19.9
4 21	12 24.51	+19 9.0	1.754	2.618	13.8	20.1	4 21	12 24.17	- 3 37.5	1.878	2.826	8.4	20.2
5 1	12 18.46	+18 43.4	1.811	2.601	16.6	20.3	5 1	12 18.07	- 3 8.8	1.968	2.849	11.8	20.5
341768	2007 <i>VZ</i> ₃₃₀		3 31.8 69°58	1°5/2.5	17		415662	2014 <i>QK</i> ₄₁₉		3 31.8 108°77	1°0/1.8	18	
2 21	13 3.85	-11 43.2	2.194	2.950	14.4	21.1	2 21	13 9.78	- 9 48.4	1.911	2.673	16.0	22.4
3 2	13 0.59	-11 28.1	2.111	2.963	11.6	20.9	3 2	13 5.49	- 9 33.6	1.835	2.692	12.9	22.2
3 12	12 55.37	-10 57.6	2.049	2.975	8.4	20.7	3 12	12 58.86	- 9 3.1	1.780	2.711	9.1	22.0
3 22	12 48.70	-10 13.7	2.013	2.988	4.7	20.5	3 22	12 50.51	- 8 19.2	1.750	2.729	4.9	21.8
4 1	12 41.29	- 9 20.1	2.004	3.001	1.6	20.3	4 1	12 41.29	- 7 26.3	1.748	2.746	1.1	21.6
4 11	12 33.98	- 8 22.3	2.024	3.014	3.7	20.5	4 11	12 32.27	- 6 30.9	1.774	2.763	4.2	21.8
4 21	12 27.54	- 7 26.0	2.072	3.027	7.2	20.7	4 21	12 24.37	- 5 39.0	1.829	2.780	8.3	22.1
5 1	12 22.60	- 6 36.4	2.146	3.040	10.5	20.9	5 1	12 18.32	- 4 56.3	1.908	2.796	11.9	22.4
509350	2006 <i>YG</i> ₅₁		3 31.8 167°37	7°2/13.2	18		417275	2006 <i>AO</i> ₄₇		3 31.8 71°69	3°5/28.7	17	
2 21	13 8.42	-38 0.4	3.647	4.181	12.2	23.2	2 21	13 7.12	+ 2 22.5	1.819	2.624	15.1	21.5
3 2	13 3.77	-38 43.3	3.540	4.186	11.2	23.1	3 2	13 3.51	+ 3 4.7	1.746	2.634	11.8	21.3
3 12	12 57.40	-39 9.4	3.451	4.191	10.0	23.0	3 12	12 57.57	+ 3 54.5	1.696	2.643	8.1	21.1
3 22	12 49.72	-39 16.2	3.382	4.195	8.8	23.0	3 22	12 49.88	+ 4 46.0	1.670	2.653	4.6	20.9
4 1	12 41.29	-39 2.6	3.337	4.198	7.8	22.9	4 1	12 41.31	+ 5 32.6	1.672	2.662	3.8	20.9
4 11	12 32.80	-38 29.3	3.317	4.202	7.2	22.9	4 11	12 32.90	+ 6 8.0	1.702	2.672	6.8	21.1
4 21	12 24.94	-37 39.0	3.324	4.204	7.4	22.9	4 21	12 25.60	+ 6 27.8	1.757	2.681	10.5	21.3
5 1	12 18.29	-36 36.2	3.357	4.206	8.3	22.9	5 1	12 20.12	+ 6 30.0	1.835	2.691	13.8	21.6
408388	2013 <i>GC</i> ₁₀₄		3 31.8 47°53	1°4/30.7	18								

EPHEMERIDES

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2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
297401	2000 QA ₁₉₉	3 31.8 246°29	1°2/30.4	17			373524	2001 SV ₂₀₅	3 31.8 216°37	1°9/29.5	17		
2 21	13 4.05	- 3 2.5	2.662	3.438	11.6	21.4	2 21	13 5.00	- 3 49.0	2.252	3.033	13.3	22.4
3 2	13 0.50	- 2 29.5	2.554	3.424	9.2	21.2	3 2	13 1.56	- 2 37.6	2.151	3.025	10.5	22.2
3 12	12 55.25	- 1 47.2	2.469	3.410	6.3	21.0	3 12	12 56.15	- 1 12.2	2.073	3.016	7.2	22.0
3 22	12 48.67	- 0 58.7	2.411	3.395	3.1	20.8	3 22	12 49.18	+ 0 22.5	2.023	3.007	3.6	21.8
4 1	12 41.34	- 0 8.2	2.382	3.380	1.3	20.6	4 1	12 41.34	+ 1 59.8	2.002	2.997	2.2	21.6
4 11	12 33.93	+ 0 39.8	2.384	3.364	4.2	20.8	4 11	12 33.45	+ 3 31.9	2.011	2.986	5.4	21.8
4 21	12 27.14	+ 1 20.7	2.414	3.348	7.5	21.0	4 21	12 26.34	+ 4 52.0	2.049	2.975	9.1	22.0
5 1	12 21.55	+ 1 51.2	2.470	3.332	10.4	21.1	5 1	12 20.67	+ 5 55.3	2.111	2.963	12.4	22.2
100844	1998 HH ₂₃	3 31.8 347°10	1°1/30.6	18			451483	2011 UM ₈₉	3 31.8 25°88	17°4/27.3	17		
2 21	13 2.70	- 4 0.2	2.198	2.985	13.4	20.0	2 21	13 28.51	+ 32 11.6	1.021	1.826	24.3	19.6
3 2	12 59.74	- 3 25.9	2.107	2.984	10.6	19.8	3 2	13 21.87	+ 32 44.7	0.991	1.844	21.5	19.5
3 12	12 54.86	- 2 40.4	2.039	2.982	7.2	19.5	3 12	13 10.62	+ 32 47.9	0.977	1.864	19.1	19.4
3 22	12 48.50	- 1 47.1	1.997	2.981	3.6	19.3	3 22	12 56.32	+ 32 7.3	0.980	1.885	17.6	19.4
4 1	12 41.34	- 0 51.3	1.982	2.980	1.2	19.1	4 1	12 41.22	+ 30 35.4	1.003	1.909	17.5	19.4
4 11	12 34.21	+ 0 1.5	1.997	2.979	4.6	19.4	4 11	12 27.67	+ 28 15.7	1.046	1.933	18.9	19.6
4 21	12 27.87	+ 0 45.9	2.039	2.979	8.3	19.6	4 21	12 17.26	+ 25 20.2	1.110	1.959	21.0	19.8
5 1	12 22.98	+ 1 18.0	2.105	2.978	11.5	19.8	5 1	12 10.72	+ 22 2.8	1.192	1.986	23.2	20.1
22395	1994 TD ₃	3 31.8 209°58	0°5/31.3	18			372755	2010 CC ₁₃	3 31.8 98°20	2°5/3.5	18		
2 21	13 8.18	- 4 8.6	2.282	3.054	13.4	18.4	2 21	13 9.13	- 14 17.0	2.180	2.914	15.1	22.1
3 2	13 4.01	- 3 58.2	2.183	3.050	10.7	18.2	3 2	13 4.69	- 14 17.5	2.103	2.938	12.3	21.9
3 12	12 57.80	- 3 38.2	2.108	3.046	7.4	18.0	3 12	12 58.17	- 14 1.7	2.047	2.961	9.1	21.7
3 22	12 50.00	- 3 11.2	2.059	3.042	3.7	17.7	3 22	12 50.13	- 13 30.7	2.016	2.984	5.6	21.5
4 1	12 41.31	- 2 40.9	2.038	3.037	0.6	17.5	4 1	12 41.33	- 12 47.4	2.014	3.006	2.7	21.4
4 11	12 32.61	- 2 11.7	2.047	3.032	4.3	17.7	4 11	12 32.72	- 11 56.6	2.040	3.028	3.9	21.5
4 21	12 24.71	- 1 48.0	2.085	3.027	8.0	18.0	4 21	12 25.10	- 11 4.2	2.095	3.049	7.2	21.8
5 1	12 18.32	- 1 33.2	2.148	3.021	11.3	18.2	5 1	12 19.14	- 10 15.7	2.176	3.070	10.3	22.0
200727	2001 VV ₄₅	3 31.8 108°97	2°1/30.1	18			468646	2008 TS ₁₄₆	3 31.8 148°68	0°8/30.9	17		
2 21	13 13.08	- 1 45.2	1.729	2.516	16.5	20.7	2 21	13 4.67	- 5 22.0	2.149	2.928	13.9	21.8
3 2	13 8.19	- 1 9.1	1.663	2.539	12.9	20.5	3 2	13 1.31	- 4 43.5	2.060	2.932	11.0	21.6
3 12	13 0.76	- 0 22.0	1.618	2.561	8.8	20.3	3 12	12 55.95	- 3 52.3	1.994	2.936	7.6	21.4
3 22	12 51.46	+ 0 30.9	1.599	2.583	4.4	20.1	3 22	12 49.06	- 2 52.1	1.955	2.939	3.7	21.1
4 1	12 41.29	+ 1 22.9	1.607	2.603	2.3	20.0	4 1	12 41.35	- 1 48.1	1.943	2.942	0.9	20.9
4 11	12 31.43	+ 2 7.3	1.645	2.623	5.9	20.2	4 11	12 33.71	- 0 46.6	1.961	2.945	4.6	21.2
4 21	12 22.89	+ 2 38.9	1.709	2.643	10.0	20.5	4 21	12 26.92	+ 0 6.7	2.006	2.947	8.3	21.4
5 1	12 16.43	+ 2 54.6	1.797	2.661	13.6	20.8	5 1	12 21.65	+ 0 47.4	2.076	2.950	11.7	21.6
120586	1995 SE ₂₅	3 31.8 88°70	1°6/30.3	18 R			427997	2006 BD ₂₇	3 31.8 72°29	4°3/4.5	18		
2 21	13 5.26	- 3 4.5	1.910	2.703	14.9	20.4	2 21	13 10.76	- 16 18.5	1.880	2.613	17.2	21.3
3 2	13 2.03	- 2 26.6	1.827	2.707	11.8	20.2	3 2	13 6.45	- 16 53.5	1.804	2.634	14.3	21.1
3 12	12 56.56	- 1 36.7	1.766	2.711	8.0	20.0	3 12	12 59.65	- 17 10.4	1.748	2.654	10.9	20.9
3 22	12 49.40	- 0 39.2	1.730	2.715	4.0	19.7	3 22	12 50.97	- 17 8.4	1.716	2.674	7.3	20.7
4 1	12 41.33	+ 0 20.0	1.722	2.719	1.8	19.6	4 1	12 41.32	- 16 49.0	1.709	2.694	4.5	20.6
4 11	12 33.33	+ 1 13.9	1.741	2.722	5.4	19.8	4 11	12 31.83	- 16 16.3	1.731	2.714	5.1	20.7
4 21	12 26.32	+ 1 57.0	1.788	2.726	9.4	20.1	4 21	12 23.50	- 15 36.4	1.779	2.734	8.2	20.9
5 1	12 21.02	+ 2 25.1	1.858	2.730	12.9	20.3	5 1	12 17.14	- 14 55.8	1.853	2.754	11.5	21.1
497922	2006 VC ₉₇	3 31.8 222°35	0°6/1.5	17			8611	Judithgoldhaber	3 31.8 230°78	0°2/31.6	18		
2 21	13 7.70	- 9 6.7	2.053	2.816	15.0	22.8	2 21	13 9.32	- 6 16.5	2.039	2.809	14.9	18.4
3 2	13 3.99	- 8 46.8	1.949	2.808	12.1	22.6	3 2	13 5.32	- 5 56.3	1.932	2.797	11.9	18.2
3 12	12 58.00	- 8 11.4	1.866	2.798	8.6	22.4	3 12	12 58.97	- 5 22.6	1.847	2.784	8.4	17.9
3 22	12 50.19	- 7 22.5	1.808	2.788	4.6	22.1	3 22	12 50.72	- 4 37.9	1.787	2.770	4.3	17.7
4 1	12 41.31	- 6 24.3	1.779	2.778	0.7	21.8	4 1	12 41.32	- 3 46.6	1.756	2.755	0.3	17.3
4 11	12 32.35	- 5 22.8	1.779	2.767	4.3	22.0	4 11	12 31.80	- 2 54.7	1.754	2.740	4.7	17.6
4 21	12 24.24	- 4 24.5	1.806	2.755	8.5	22.3	4 21	12 23.12	- 2 8.3	1.779	2.724	8.9	17.8
5 1	12 17.81	- 3 35.4	1.859	2.743	12.3	22.5	5 1	12 16.16	- 1 32.7	1.830	2.707	12.8	18.0
497768	2006 SG ₃₁₄	3 31.8 170°13	0°8/30.8	18			421519	2014 OC ₁₀₉	3 31.8 332°63	3°3/2.9	18		
2 21	13 4.12	- 3 59.6	2.908	3.676	10.9	22.5	2 21	13 7.55	- 11 17.1	1.252	2.046	21.2	21.1
3 2	13 0.28	- 3 28.7	2.813	3.679	8.6	22.4	3 2	13 5.41	- 11 51.6	1.167	2.039	17.5	20.8
3 12	12 54.92	- 2 49.4	2.743	3.682	5.9	22.2	3 12	12 59.89	- 12 6.3	1.098	2.033	13.0	20.5
3 22	12 48.43	- 2 4.5	2.701	3.684	2.9	22.0	3 22	12 51.49	- 12 0.4	1.051	2.027	7.8	20.2
4 1	12 41.35	- 1 17.6	2.688	3.686	0.9	21.8	4 1	12 41.31	- 11 35.8	1.026	2.022	3.5	19.9
4 11	12 34.31	- 0 32.9	2.706	3.688	3.6	22.0	4 11	12 30.96	- 10 58.6	1.026	2.017	6.0	20.0
4 21	12 27.88	+ 0 6.0	2.753	3.689	6.6	22.2	4 21	12 22.03	- 10 17.5	1.049	2.013	11.3	20.3
5 1	12 22.58	+ 0 36.1	2.827	3.690	9.2	22.4	5 1	12 15.81	- 9 41.5	1.093	2.009	16.3	20.6
183636	2003 VV	3 31.8 91°12	13°7/13.8	18			368065	2012 HH ₇₅	3 31.8 117°09	4°2/27.8	18		
2 21	13 18.54	- 38 0.4	1.849	2.435	21.6	19.9	2 21	13 9.26	+ 4 56.2	1.960	2.760	14.3	21.2
3 2	13 13.90	- 40 8.5	1.772	2.451	19.9	19.8	3 2	13 4.98	+ 5 48.4	1.890	2.774	11.2	21.0
3 12	13 5.69	- 41 50.7	1.710	2.467	18.0	19.7	3 12	12 58.46	+ 6 45.8	1.843	2.787	7.8	20.8
3 22	12 54.42	- 42 58.7	1.666	2.483	16.1	19.6	3 22	12 50.30	+ 7 42.3	1.822	2.800	4.9	20.7
4 1	12 41.23	- 43 26.1	1.641	2.499	14.5	19.5	4 1	12 41.34	+ 8 30.9	1.829	2.812	4.6	20.7
4 11	12 27.80	- 43 11.7	1.638	2.514	13.8	19.5	4 11	12 32.58	+ 9 5.9	1.865	2.824	7.3	20.8
4 21	12 15.84	- 42 20.5	1.656	2.529	14.0	19.5	4 21	12 24.90	+ 9 23.7	1.926	2.835	10.5	21.1
5 1	12 6.71	- 41 2.5	1.696	2.544	15.1	19.6	5 1	12 18.99	+ 9 23.0	2.011	2.846	13.5	21.3
320554	2008 AH ₄₂	3 31.8 141°72	1°2/30.7	18			368965	2007 BB ₇₃	3 31.8 112°29	19°4/15.9	18		
2 21	13 9.42	- 3 5											

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2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
379558	2011 <i>AL</i> ₅₆		3 31.8 265°23	4.6/ 4.7	17		342875	2008 <i>YP</i> ₄₉		3 31.8 264°26	0.2/ 1.1	17	
2 21	13 8.01	-17 27.4	1.985	2.713	16.6	21.1	2 21	13 5.12	-7 5.1	2.237	3.007	13.7	21.3
3 2	13 4.59	-17 56.8	1.873	2.698	14.0	20.9	3 2	13 1.70	-6 53.0	2.137	3.002	11.0	21.1
3 12	12 58.66	-18 8.4	1.780	2.683	10.9	20.7	3 12	12 56.27	-6 28.9	2.060	2.996	7.7	20.9
3 22	12 50.66	-18 0.6	1.711	2.667	7.6	20.4	3 22	12 49.28	-5 55.0	2.008	2.990	4.0	20.7
4 1	12 41.34	-17 33.7	1.668	2.651	4.9	20.2	4 1	12 41.40	-5 14.8	1.985	2.984	0.2	20.3
4 11	12 31.77	-16 51.0	1.652	2.635	5.4	20.2	4 11	12 33.49	-4 33.4	1.990	2.978	4.0	20.6
4 21	12 23.05	-15 58.5	1.663	2.619	8.6	20.4	4 21	12 26.36	-3 55.6	2.024	2.972	7.7	20.8
5 1	12 16.13	-15 3.6	1.700	2.602	12.2	20.6	5 1	12 20.71	-3 25.9	2.082	2.966	11.2	21.0
366437	2001 <i>WO</i> ₉₉		3 31.8 156°89	4.8/25.9	15		280984	2006 <i>DQ</i> ₈₄		3 31.8 7°43	1.7/ 2.3	17	
2 21	13 7.93	+ 8 28.1	2.446	3.241	12.0	22.4	2 21	13 5.54	-10 16.4	1.756	2.530	16.8	20.4
3 2	13 3.52	+ 9 38.1	2.371	3.250	9.5	22.3	3 2	13 2.61	-10 23.1	1.668	2.531	13.6	20.2
3 12	12 57.26	+10 50.8	2.321	3.259	6.9	22.1	3 12	12 57.20	-10 13.6	1.600	2.532	9.8	20.0
3 22	12 49.65	+12 0.2	2.299	3.266	5.0	22.0	3 22	12 49.85	-9 49.3	1.555	2.533	5.6	19.7
4 1	12 41.36	+12 59.9	2.306	3.273	5.3	22.0	4 1	12 41.39	-9 13.3	1.537	2.534	1.8	19.5
4 11	12 33.18	+13 44.8	2.342	3.279	7.4	22.2	4 11	12 32.95	-8 31.5	1.546	2.536	4.4	19.7
4 21	12 25.84	+14 11.9	2.405	3.284	9.9	22.3	4 21	12 25.55	-7 50.1	1.581	2.539	8.7	19.9
5 1	12 19.93	+14 20.3	2.491	3.289	12.3	22.5	5 1	12 20.04	-7 15.3	1.640	2.541	12.7	20.2
433268	2012 <i>XU</i> ₁₅₀		3 31.8 256°43	1.0/ 2.1	17		128183	2003 <i>RP</i> ₂₂		3 31.8 265°76	5.9/ 6.9	18	
2 21	13 4.54	-11 1.8	2.593	3.340	12.6	21.8	2 21	13 5.76	-23 14.4	2.211	2.903	16.0	19.8
3 2	13 1.07	-10 37.5	2.470	3.318	10.3	21.6	3 2	13 2.61	-23 40.3	2.094	2.887	13.9	19.6
3 12	12 55.77	-9 58.9	2.370	3.296	7.4	21.4	3 12	12 57.18	-23 46.2	1.996	2.870	11.3	19.4
3 22	12 49.01	-9 7.5	2.296	3.273	4.1	21.2	3 22	12 49.87	-23 29.7	1.920	2.853	8.6	19.2
4 1	12 41.37	-8 6.4	2.252	3.250	1.1	20.9	4 1	12 41.39	-22 50.5	1.870	2.836	6.4	19.0
4 11	12 33.59	-7 0.4	2.237	3.226	3.5	21.0	4 11	12 32.70	-21 51.6	1.847	2.819	6.1	19.0
4 21	12 26.40	-5 55.0	2.251	3.201	7.0	21.2	4 21	12 24.78	-20 38.6	1.851	2.801	8.2	19.0
5 1	12 20.46	-4 55.6	2.292	3.176	10.3	21.4	5 1	12 18.49	-19 19.3	1.880	2.783	11.2	19.2
384934	2012 <i>TL</i> ₉₄		3 31.8 247°64	1.5/30.2	17		109198	2001 <i>QP</i> ₇₆		3 31.8 93°55	0.5/ 1.3	18	
2 21	13 3.22	- 3 25.2	2.156	2.945	13.6	21.5	2 21	13 9.60	- 8 9.3	1.965	2.731	15.5	19.8
3 2	13 0.20	- 2 40.4	2.066	2.944	10.7	21.3	3 2	13 5.24	- 7 55.7	1.892	2.753	12.4	19.6
3 12	12 55.21	- 1 43.9	1.998	2.943	7.3	21.1	3 12	12 58.64	- 7 28.1	1.842	2.775	8.6	19.4
3 22	12 48.71	+ 0 39.8	1.957	2.942	3.6	20.8	3 22	12 50.41	- 6 49.2	1.816	2.797	4.5	19.2
4 1	12 41.39	+ 0 26.2	1.944	2.941	1.7	20.7	4 1	12 41.39	- 6 3.6	1.819	2.818	0.5	19.0
4 11	12 34.11	+ 1 27.7	1.960	2.940	5.0	20.9	4 11	12 32.59	- 5 17.0	1.850	2.839	4.2	19.3
4 21	12 27.64	+ 2 19.2	2.003	2.939	8.6	21.1	4 21	12 24.88	- 4 34.8	1.910	2.859	8.1	19.6
5 1	12 22.65	+ 2 56.6	2.070	2.938	11.9	21.3	5 1	12 18.97	- 4 1.9	1.994	2.879	11.6	19.8
499590	2010 <i>TS</i> ₆₀		3 31.8 274°59	0.8/ 1.5	17		173151	1995 <i>WV</i> ₂₄		3 31.8 254°55	3.4/ 3.9	17	
2 21	13 7.09	- 9 1.9	1.701	2.479	17.1	22.4	2 21	13 7.10	-15 23.6	1.834	2.581	17.1	21.0
3 2	13 4.23	- 8 49.4	1.590	2.458	13.9	22.2	3 2	13 3.99	-15 31.7	1.728	2.569	14.3	20.7
3 12	12 58.64	- 8 18.8	1.499	2.435	10.0	21.9	3 12	12 58.32	-15 19.9	1.641	2.556	10.8	20.5
3 22	12 50.74	- 7 31.7	1.432	2.412	5.4	21.5	3 22	12 50.51	-14 47.8	1.577	2.543	7.0	20.2
4 1	12 41.35	- 6 32.0	1.390	2.389	0.8	21.1	4 1	12 41.40	-13 57.4	1.539	2.530	3.7	20.0
4 11	12 31.66	- 5 27.0	1.377	2.366	5.1	21.4	4 11	12 32.10	-12 53.8	1.528	2.516	4.9	20.0
4 21	12 22.89	- 4 24.8	1.389	2.342	10.1	21.6	4 21	12 23.74	-11 44.8	1.545	2.503	8.8	20.2
5 1	12 16.11	- 3 33.2	1.425	2.318	14.7	21.8	5 1	12 17.28	-10 38.5	1.585	2.489	12.9	20.4
480215	2015 <i>GL</i> ₂₆		3 31.8 279°68	2.6/28.6	17		208880	2002 <i>TJ</i> ₆₅		3 31.8 123°80	0.7/31.1	17	
2 21	13 1.76	- 1 2.7	2.260	3.055	12.8	21.5	2 21	13 8.47	- 3 13.2	2.436	3.207	12.7	20.5
3 2	12 59.07	+ 0 4.3	2.155	3.038	10.1	21.2	3 2	13 3.97	- 3 3.6	2.351	3.217	10.0	20.3
3 12	12 54.48	+ 1 23.3	2.074	3.021	6.9	21.0	3 12	12 57.61	- 2 45.8	2.289	3.228	6.9	20.2
3 22	12 48.38	+ 2 49.2	2.020	3.003	3.7	20.8	3 22	12 49.87	- 2 22.5	2.254	3.237	3.4	19.9
4 1	12 41.40	+ 4 15.6	1.994	2.986	2.9	20.7	4 1	12 41.42	- 1 57.3	2.248	3.247	0.8	19.8
4 11	12 34.34	+ 5 35.1	1.998	2.968	5.9	20.8	4 11	12 33.06	- 1 34.1	2.273	3.256	4.0	20.0
4 21	12 27.98	+ 6 41.6	2.029	2.950	9.4	21.0	4 21	12 25.52	- 1 16.6	2.326	3.265	7.4	20.2
5 1	12 23.00	+ 7 30.8	2.084	2.933	12.6	21.2	5 1	12 19.42	- 1 7.4	2.404	3.274	10.4	20.4
423737	2006 <i>BS</i> ₂₁₀		3 31.8 164°51	5.3/25.2	17		267345	2001 <i>WE</i> ₁₃		3 31.8 97°13	3.7/27.8	18	
2 21	13 3.46	+ 6 12.4	2.092	2.903	13.2	21.1	2 21	13 5.79	+ 1 11.5	1.925	2.727	14.5	21.1
3 2	13 0.43	+ 7 54.4	2.015	2.905	10.4	20.9	3 2	13 2.27	+ 2 32.0	1.859	2.745	11.3	20.9
3 12	12 55.37	+ 9 43.3	1.963	2.907	7.5	20.7	3 12	12 56.61	+ 4 2.0	1.816	2.764	7.7	20.8
3 22	12 48.79	+11 31.1	1.938	2.908	5.5	20.6	3 22	12 49.39	+ 5 34.3	1.800	2.781	4.5	20.6
4 1	12 41.40	+13 9.0	1.942	2.910	6.0	20.6	4 1	12 41.42	+ 7 0.8	1.813	2.799	4.1	20.6
4 11	12 34.07	+14 29.3	1.974	2.911	8.5	20.8	4 11	12 33.66	+ 8 13.8	1.853	2.816	7.0	20.8
4 21	12 27.62	+15 27.2	2.031	2.912	11.4	21.0	4 21	12 26.95	+ 9 8.1	1.920	2.833	10.4	21.0
5 1	12 22.71	+16 0.7	2.111	2.913	14.1	21.1	5 1	12 21.92	+ 9 41.3	2.011	2.849	13.4	21.3
30612	2638 <i>P-L</i>		3 31.8 201°18	0.0/31.8	17		161649	2006 <i>BR</i> ₉₅		3 31.8 343°29	2.2/30.1	18	
2 21	13 7.21	- 7 21.2	2.376	3.137	13.3	21.0	2 21	13 3.48	- 4 7.4	1.316	2.135	19.0	19.6
3 2	13 3.20	- 6 52.2	2.273	3.133	10.6	20.8	3 2	13 1.76	- 3 18.7	1.236	2.131	15.1	19.3
3 12	12 57.23	- 6 10.5	2.193	3.128	7.4	20.6	3 12	12 57.06	- 2 10.4	1.176	2.128	10.4	19.1
3 22	12 49.73	- 5 18.4	2.140	3.122	3.8	20.4	3 22	12 49.93	- 0 48.6	1.138	2.125	5.2	18.7
4 1	12 41.38	- 4 20.3	2.116	3.116	0.1	20.0	4 1	12 41.42	+ 0 37.4	1.125	2.122	2.4	18.6
4 11	12 33.01	- 3 21.6	2.122	3.108	4.0	20.4	4 11	12 32.94	+ 1 56.1	1.137	2.120	7.2	18.8
4 21	12 25.39	- 2 27.7	2.157	3.101	7.7	20.6	4 21	12 25.78	+ 2 57.9	1.172	2.118	12.4	19.1
5 1	12 19.20	- 1 43.2	2.218	3.092	11.0	20.8	5 1	12 20.98	+ 3 36.6	1.229	2.117	16.9	19.4
426991	2014 <i>DT</i> ₂₉		3 31.8 268°51	3.6/27.4	17		221285	2005 <i>UZ</i> ₃₅₇		3 31.8 334°25	1.9/ 2.3	17	

EPHEMERIDES

3 31.9

3 31.9

2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
5746	1991 <i>CK</i>	3 31.9 175°73 0°7/ 1.5 18					167880	2005 <i>EW</i> ₃₇	3 31.9 42°23 1°7/ 2.2 18				
2 21	13 11.32	- 8 36.9	2.066	2.823	15.1	18.1	2 21	13 6.51	-10 33.6	1.281	2.078	20.7	20.4
3 2	13 6.74	- 8 27.0	1.972	2.827	12.2	17.9	3 2	13 4.07	-10 33.0	1.217	2.093	16.7	20.2
3 12	12 59.84	- 8 3.1	1.899	2.829	8.6	17.6	3 12	12 58.53	-10 10.5	1.171	2.110	11.9	20.0
3 22	12 51.13	- 7 27.3	1.851	2.831	4.6	17.4	3 22	12 50.60	- 9 28.3	1.147	2.127	6.6	19.7
4 1	12 41.42	- 6 43.1	1.833	2.832	0.8	17.1	4 1	12 41.47	- 8 32.3	1.146	2.144	1.9	19.5
4 11	12 31.73	- 5 56.1	1.843	2.832	4.2	17.4	4 11	12 32.62	- 7 31.4	1.171	2.162	5.3	19.8
4 21	12 23.00	- 5 11.9	1.882	2.831	8.3	17.6	4 21	12 25.30	- 6 34.7	1.220	2.181	10.3	20.1
5 1	12 16.02	- 4 35.8	1.947	2.829	11.9	17.8	5 1	12 20.47	- 5 50.0	1.291	2.200	14.8	20.4
190166	2005 <i>UP</i> ₁₅₆	3 31.9 316°36 0°2/31.9 17 A					497823	2006 <i>TZ</i> ₁₂₈	3 31.9 125°23 2°6/ 4.3 17				
2 21	13 1.64	- 8 55.8	1.117	1.938	21.6	19.9	2 21	13 3.64	-16 23.3	2.677	3.398	12.9	22.1
3 2	13 1.94	- 8 41.4	0.984	1.878	18.1	19.5	3 2	13 0.15	-16 13.1	2.583	3.407	10.6	21.9
3 12	12 58.70	- 7 57.4	0.867	1.817	13.4	19.0	3 12	12 54.99	-15 47.7	2.510	3.416	8.0	21.7
3 22	12 51.72	- 6 40.1	0.769	1.755	7.3	18.4	3 22	12 48.58	-15 7.8	2.463	3.425	5.1	21.6
4 1	12 41.40	- 4 50.1	0.693	1.692	0.2	17.6	4 1	12 41.51	-14 16.0	2.444	3.433	2.8	21.4
4 11	12 29.07	- 2 36.2	0.638	1.629	8.3	17.9	4 11	12 34.49	-13 16.5	2.455	3.441	3.5	21.5
4 21	12 16.75	- 0 14.6	0.603	1.566	17.0	18.0	4 21	12 28.17	-12 14.3	2.494	3.449	6.1	21.6
5 1	12 6.79	+ 1 54.2	0.586	1.504	25.6	18.1	5 1	12 23.11	-11 14.5	2.561	3.457	8.9	21.8
170472	2003 <i>UF</i> ₂₃₉	3 31.9 94°28 1°3/ 1.9 18					129917	1999 <i>TH</i> ₁₁₄	3 31.9 267°25 0°0/31.9 17				
2 21	13 6.39	-11 4.7	1.628	2.403	17.8	20.8	2 21	13 5.26	- 8 29.2	1.702	2.486	16.8	20.0
3 2	13 3.41	-10 43.2	1.546	2.411	14.4	20.6	3 2	13 2.65	- 7 55.5	1.599	2.471	13.6	19.8
3 12	12 57.82	-10 1.4	1.485	2.418	10.3	20.3	3 12	12 57.45	- 7 2.4	1.516	2.456	9.6	19.5
3 22	12 50.18	- 9 1.7	1.447	2.426	5.7	20.1	3 22	12 50.12	- 5 52.6	1.458	2.441	5.0	19.2
4 1	12 41.45	- 7 49.7	1.435	2.433	1.4	19.8	4 1	12 41.48	- 4 31.8	1.426	2.425	0.1	18.7
4 11	12 32.82	- 6 33.5	1.450	2.440	4.7	20.0	4 11	12 32.69	- 3 8.6	1.421	2.409	5.2	19.1
4 21	12 25.38	- 5 21.8	1.492	2.447	9.3	20.3	4 21	12 24.86	- 1 52.1	1.443	2.394	10.1	19.3
5 1	12 19.99	- 4 21.9	1.557	2.454	13.5	20.6	5 1	12 18.97	- 0 49.9	1.488	2.378	14.5	19.6
205938	2002 <i>JB</i> ₄₁	3 31.9 313°02 1°8/ 2.1 17					219675	2001 <i>VK</i> ₉₂	3 31.9 201°19 7°6/22.7 17				
2 21	13 3.73	-10 8.1	1.372	2.169	19.5	20.8	2 21	13 8.57	+16 26.1	2.232	3.034	12.7	20.9
3 2	13 2.19	-10 13.4	1.272	2.149	16.0	20.5	3 2	13 4.41	+17 52.6	2.158	3.031	10.5	20.7
3 12	12 57.61	- 9 58.2	1.191	2.130	11.7	20.1	3 12	12 58.13	+19 17.2	2.107	3.027	8.6	20.6
3 22	12 50.38	- 9 22.9	1.130	2.111	6.6	19.8	3 22	12 50.24	+20 32.0	2.083	3.022	7.6	20.5
4 1	12 41.45	- 8 31.2	1.094	2.092	1.9	19.4	4 1	12 41.49	+21 29.2	2.086	3.016	8.4	20.6
4 11	12 32.20	- 7 30.6	1.082	2.074	5.5	19.6	4 11	12 32.80	+22 3.5	2.116	3.011	10.3	20.7
4 21	12 24.07	- 6 30.7	1.095	2.057	11.1	19.9	4 21	12 25.04	+22 12.8	2.170	3.004	12.6	20.8
5 1	12 18.32	- 5 40.9	1.128	2.040	16.2	20.1	5 1	12 18.89	+21 57.4	2.244	2.997	14.8	21.0
222770	2002 <i>CS</i> ₉₀	3 31.9 101°67 0°5/ 1.4 18					107107	2001 <i>AG</i> ₃₆	3 31.9 356°99 0°2/31.8 18				
2 21	13 7.71	- 8 13.0	1.988	2.757	15.3	20.8	2 21	13 6.51	- 3 13.7	1.131	1.958	21.0	18.4
3 2	13 3.85	- 7 59.6	1.907	2.769	12.2	20.6	3 2	13 4.74	- 3 41.9	1.056	1.953	16.9	18.1
3 12	12 57.79	- 7 32.2	1.848	2.782	8.6	20.4	3 12	12 59.49	- 3 57.8	0.998	1.949	11.8	17.8
3 22	12 50.05	- 6 53.3	1.814	2.794	4.5	20.2	3 22	12 51.33	- 4 3.8	0.961	1.947	6.1	17.4
4 1	12 41.47	- 6 7.2	1.807	2.806	0.6	19.9	4 1	12 41.47	- 4 4.1	0.946	1.946	0.2	17.0
4 11	12 33.00	- 5 19.5	1.829	2.818	4.1	20.2	4 11	12 31.60	- 4 4.9	0.955	1.946	6.4	17.4
4 21	12 25.54	- 4 36.0	1.879	2.830	8.1	20.5	4 21	12 23.31	- 4 11.7	0.987	1.948	12.2	17.8
5 1	12 19.80	- 4 1.6	1.954	2.841	11.7	20.7	5 1	12 17.83	- 4 29.4	1.039	1.952	17.2	18.0
462159	2007 <i>TL</i> ₁₆₇	3 31.9 111°52 0°8/ 1.6 18					419531	2010 <i>KT</i> ₈₈	3 31.9 188°20 2°1/29.5 17				
2 21	13 9.74	- 9 56.5	1.811	2.576	16.7	21.9	2 21	13 8.30	- 1 37.8	2.223	3.004	13.5	22.4
3 2	13 5.63	- 9 32.8	1.735	2.595	13.4	21.7	3 2	13 4.16	+ 0 45.9	2.129	3.003	10.6	22.2
3 12	12 59.09	- 8 51.9	1.681	2.613	9.4	21.5	3 12	12 57.95	+ 0 16.6	2.059	3.002	7.2	22.0
3 22	12 50.72	- 7 56.5	1.651	2.630	5.0	21.3	3 22	12 50.16	+ 1 25.3	2.016	3.000	3.7	21.8
4 1	12 41.46	- 6 52.0	1.649	2.647	0.9	21.0	4 1	12 41.50	+ 2 34.2	2.003	2.997	2.4	21.7
4 11	12 32.39	- 5 45.5	1.675	2.664	4.4	21.3	4 11	12 32.85	+ 3 36.7	2.019	2.993	5.5	21.9
4 21	12 24.51	- 4 44.1	1.728	2.680	8.7	21.6	4 21	12 25.05	+ 4 27.4	2.063	2.989	9.0	22.1
5 1	12 18.55	- 3 53.8	1.807	2.695	12.4	21.9	5 1	12 18.80	+ 5 2.8	2.132	2.983	12.3	22.3
468477	2004 <i>RV</i> ₂₃₅	3 31.9 231°04 1°0/ 1.8 17					435296	2007 <i>TQ</i> ₄₂₉	3 31.9 115°46 1°9/ 3.1 17				
2 21	13 7.43	- 9 18.3	2.197	2.956	14.3	21.9	2 21	13 2.98	-13 55.6	2.318	3.062	14.0	21.5
3 2	13 3.65	- 9 11.2	2.091	2.947	11.6	21.7	3 2	12 59.93	-13 32.0	2.223	3.066	11.5	21.3
3 12	12 57.72	- 8 50.5	2.008	2.937	8.3	21.4	3 12	12 55.00	-12 51.5	2.151	3.071	8.4	21.1
3 22	12 50.10	- 8 17.7	1.949	2.927	4.5	21.2	3 22	12 48.64	-11 55.8	2.103	3.075	5.0	20.9
4 1	12 41.47	- 7 35.9	1.919	2.917	1.1	20.9	4 1	12 41.52	-10 48.6	2.084	3.079	2.0	20.7
4 11	12 32.75	- 6 50.2	1.918	2.907	3.9	21.1	4 11	12 34.44	- 9 35.3	2.094	3.083	3.6	20.8
4 21	12 24.82	- 6 5.9	1.945	2.896	7.8	21.3	4 21	12 28.15	- 8 22.3	2.132	3.087	7.0	21.0
5 1	12 18.45	- 5 28.2	1.997	2.884	11.4	21.5	5 1	12 23.27	- 7 15.5	2.196	3.091	10.2	21.2
379633	2011 <i>DC</i> ₂₃	3 31.9 266°87 1°3/30.7 17					62770	2000 <i>UK</i> ₁₈	3 31.9 356°69 2°6/29.0 18				
2 21	13 7.09	- 2 47.0	1.980	2.768	14.7	21.1	2 21	13 2.35	+ 0 10.7	2.113	2.914	13.4	18.6
3 2	13 3.56	- 2 27.9	1.883	2.760	11.6	20.9	3 2	12 59.57	+ 0 56.4	2.027	2.912	10.5	18.4
3 12	12 57.75	- 1 58.2	1.808	2.751	8.0	20.6	3 12	12 54.83	+ 1 51.1	1.964	2.911	7.2	18.2
3 22	12 50.13	- 1 21.2	1.758	2.743	4.0	20.4	3 22	12 48.58	+ 2 50.1	1.927	2.911	3.8	18.0
4 1	12 41.47	- 0 41.9	1.736	2.734	1.4	20.2	4 1	12 41.53	+ 3 47.4	1.918	2.910	2.8	17.9
4 11	12 32.76	- 0 5.9	1.742	2.725	5.1	20.4	4 11	12 34.52	+ 4 36.8	1.937	2.910	5.8	18.1
4 21	12 24.94	+ 0 21.6	1.775	2.716	9.2	20.6	4 21	12 28.33	+ 5 13.5	1.982	2.910	9.2	18.3
5 1	12 18.81	+ 0 36.8	1.833	2.708	12.9	20.8	5 1	12 23.63	+ 5 34.6	2.052	2.911	12.4	18.5
458811	2011 <i>SU</i> ₂₄₅	3 31.9 119°92 1°6/30.5 18					138458	2000 <i>JS</i> ₂₄	3 31.9 63°61 2°4/30.4 18				
2 21	13 11.64	- 2 55.3	1.739	2.526	16.4	22.3	2 21	13 15.96	+ 1 53.3	1.589	2.384	17.4	18.8
3 2	13 7.20	- 2 24.0	1.665	2.541	12.9	22.1	3 2	13 10.84	+				

EPHEMERIDES

3 31.9

3 31.9

2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
30719	Isserstedt		3 31.9 111°09	5°3/ 7.3 18			267177	2000 <i>OF</i> ₃₄		3 31.9 223°36	2°5/28.8 18		
2 21	13 8.83	-23 54.3	2.712	3.377	13.9	19.4	2 21	13 5.85	- 0 31.9	2.473	3.256	12.2	21.9
3 2	13 4.32	-24 29.5	2.622	3.394	12.0	19.3	3 2	13 2.10	+ 0 30.9	2.368	3.244	9.6	21.7
3 12	12 57.92	-24 48.0	2.552	3.410	9.7	19.1	3 12	12 56.50	+ 1 43.8	2.288	3.231	6.6	21.4
3 22	12 50.10	-24 48.5	2.505	3.426	7.4	19.0	3 22	12 49.44	+ 3 2.4	2.235	3.218	3.5	21.2
4 1	12 41.52	-24 31.1	2.486	3.442	5.7	18.9	4 1	12 41.55	+ 4 20.6	2.213	3.204	2.8	21.1
4 11	12 32.98	-23 58.3	2.495	3.458	5.4	18.9	4 11	12 33.60	+ 5 32.2	2.220	3.189	5.5	21.3
4 21	12 25.23	-23 14.3	2.532	3.473	6.9	19.0	4 21	12 26.33	+ 6 31.9	2.256	3.173	8.8	21.5
5 1	12 18.89	-22 24.4	2.596	3.487	9.0	19.2	5 1	12 20.39	+ 7 15.8	2.316	3.157	11.8	21.6
319788	2006 <i>UM</i> ₃₃₃		3 31.9 20°35	1°1/30.8 17			144530	2004 <i>EG</i> ₈₂		3 31.9 301°73	1°9/29.9 17		
2 21	13 5.41	- 2 45.2	2.036	2.825	14.3	20.3	2 21	13 3.82	- 1 33.9	2.093	2.887	13.8	19.9
3 2	13 2.05	- 2 30.1	1.951	2.828	11.3	20.1	3 2	13 0.92	- 1 2.6	1.989	2.871	10.9	19.7
3 12	12 56.57	- 2 5.3	1.888	2.831	7.7	19.9	3 12	12 55.91	- 0 21.0	1.908	2.854	7.5	19.4
3 22	12 49.48	- 1 34.2	1.850	2.835	3.8	19.7	3 22	12 49.23	+ 0 27.1	1.852	2.837	3.8	19.2
4 1	12 41.53	- 1 1.2	1.841	2.839	1.2	19.5	4 1	12 41.56	+ 1 16.5	1.825	2.821	2.1	19.0
4 11	12 33.64	- 0 31.6	1.859	2.843	4.8	19.7	4 11	12 33.79	+ 2 1.0	1.825	2.804	5.4	19.2
4 21	12 26.66	- 0 9.8	1.905	2.847	8.6	20.0	4 21	12 26.79	+ 2 35.5	1.852	2.788	9.2	19.4
5 1	12 21.30	+ 0 0.9	1.974	2.852	12.0	20.2	5 1	12 21.31	+ 2 56.1	1.903	2.772	12.7	19.6
326064	2011 <i>AO</i> ₄₇		3 31.9 45°88	0°8/30.9 17			90346	2003 <i>GP</i> ₁₅		3 31.9 275°85	1°3/ 2.0 17		
2 21	13 0.82	- 4 9.3	2.785	3.562	11.1	21.2	2 21	13 6.32	- 9 47.2	1.860	2.631	16.1	20.2
3 2	12 57.77	- 3 39.1	2.703	3.574	8.7	21.0	3 2	13 3.22	- 9 43.3	1.760	2.622	13.1	20.0
3 12	12 53.26	- 3 0.3	2.646	3.586	5.9	20.9	3 12	12 57.69	- 9 23.4	1.681	2.613	9.4	19.7
3 22	12 47.68	- 2 16.0	2.615	3.599	2.9	20.7	3 22	12 50.20	- 8 49.0	1.626	2.604	5.2	19.5
4 1	12 41.56	- 1 30.0	2.613	3.611	0.8	20.5	4 1	12 41.55	- 8 3.6	1.597	2.595	1.4	19.2
4 11	12 35.52	- 0 46.4	2.641	3.624	3.6	20.7	4 11	12 32.81	- 7 13.1	1.597	2.586	4.4	19.4
4 21	12 30.12	- 0 8.9	2.697	3.637	6.5	21.0	4 21	12 24.99	- 6 24.0	1.623	2.578	8.8	19.6
5 1	12 25.83	+ 0 19.5	2.779	3.650	9.1	21.1	5 1	12 18.98	- 5 42.6	1.673	2.569	12.8	19.8
164115	2003 <i>XC</i> ₃₃		3 31.9 242°83	0°7/31.1 17			201414	2002 <i>X7</i>		3 31.9 59°45	2°9/28.9 18		
2 21	13 4.45	- 5 15.3	2.164	2.944	13.8	20.9	2 21	13 4.96	+ 1 19.6	2.058	2.858	13.8	19.9
3 2	13 1.24	- 4 44.3	2.068	2.940	11.0	20.7	3 2	13 1.58	+ 2 2.0	1.984	2.868	10.7	19.8
3 12	12 56.01	- 4 0.9	1.995	2.935	7.6	20.5	3 12	12 56.17	+ 2 51.9	1.932	2.879	7.3	19.6
3 22	12 49.21	- 3 8.4	1.947	2.931	3.8	20.2	3 22	12 49.25	+ 3 44.4	1.906	2.889	4.0	19.4
4 1	12 41.54	- 2 11.6	1.928	2.927	0.8	20.0	4 1	12 41.57	+ 4 33.5	1.908	2.899	3.1	19.3
4 11	12 33.86	- 1 16.5	1.937	2.922	4.5	20.3	4 11	12 34.02	+ 5 13.5	1.939	2.910	6.0	19.5
4 21	12 26.98	- 0 28.6	1.974	2.917	8.3	20.5	4 21	12 27.41	+ 5 40.2	1.996	2.921	9.3	19.7
5 1	12 21.61	+ 0 7.6	2.036	2.913	11.7	20.7	5 1	12 22.37	+ 5 51.3	2.076	2.932	12.4	20.0
192577	1998 <i>XT</i> ₂₅		3 31.9 64°41	0°7/ 1.6 17			369743	2012 <i>FZ</i> ₂₈		3 31.9 232°36	0°7/ 1.5 17		
2 21	13 4.78	- 9 5.2	2.002	2.773	15.1	20.9	2 21	13 12.36	- 6 44.8	1.968	2.733	15.5	20.7
3 2	13 1.58	- 8 47.1	1.919	2.783	12.1	20.7	3 2	13 7.87	- 6 57.5	1.864	2.724	12.6	20.5
3 12	12 56.25	- 8 14.0	1.858	2.793	8.5	20.5	3 12	13 0.86	- 6 58.9	1.782	2.715	8.9	20.2
3 22	12 49.31	- 7 28.6	1.822	2.802	4.5	20.2	3 22	12 51.81	- 6 50.3	1.726	2.706	4.8	20.0
4 1	12 41.54	- 6 35.2	1.813	2.812	0.7	20.0	4 1	12 41.54	- 6 34.4	1.697	2.696	0.8	19.6
4 11	12 33.86	- 5 39.9	1.833	2.822	4.0	20.2	4 11	12 31.13	- 6 15.4	1.697	2.686	4.4	19.9
4 21	12 27.12	- 4 48.6	1.880	2.832	8.0	20.5	4 21	12 21.65	- 5 58.2	1.725	2.675	8.8	20.1
5 1	12 22.02	- 4 6.5	1.952	2.842	11.5	20.7	5 1	12 14.01	- 5 47.1	1.779	2.664	12.7	20.3
67087	2000 <i>AL</i> ₅₁		3 31.9 187°86	2°4/ 3.6 18 R			375799	2009 <i>TO</i> ₁₁		3 31.9 203°93	3°2/28.6 17		
2 21	13 7.18	-14 30.8	2.550	3.276	13.3	20.0	2 21	13 9.63	+ 3 30.1	2.303	3.091	12.9	22.3
3 2	13 3.11	-14 30.9	2.446	3.275	11.0	19.8	3 2	13 5.15	+ 4 7.4	2.209	3.086	10.1	22.1
3 12	12 57.16	-14 16.6	2.364	3.274	8.2	19.6	3 12	12 58.63	+ 4 50.5	2.139	3.081	7.0	21.9
3 22	12 49.75	-13 48.4	2.307	3.273	5.1	19.4	3 22	12 50.53	+ 5 34.6	2.096	3.075	4.1	21.7
4 1	12 41.53	-13 8.3	2.279	3.270	2.6	19.2	4 1	12 41.56	+ 6 14.5	2.082	3.069	3.5	21.7
4 11	12 33.28	-12 20.5	2.280	3.268	3.6	19.3	4 11	12 32.59	+ 6 45.0	2.097	3.062	6.1	21.8
4 21	12 25.76	-11 29.5	2.311	3.264	6.6	19.5	4 21	12 24.45	+ 7 2.5	2.140	3.055	9.3	22.0
5 1	12 19.60	-10 40.8	2.368	3.261	9.7	19.7	5 1	12 17.83	+ 7 4.8	2.207	3.046	12.3	22.2
314634	2006 <i>HK</i> ₆₃		3 31.9 180°14	2°7/29.4 18			330093	2005 <i>WP</i> ₁₀₃		3 31.9 153°55	7°2/24.4 17		
2 21	13 10.49	+ 0 14.3	1.941	2.731	14.9	21.3	2 21	13 10.78	+15 20.5	2.150	2.950	13.2	21.2
3 2	13 6.19	+ 0 54.9	1.854	2.732	11.7	21.1	3 2	13 6.11	+16 26.8	2.083	2.957	10.8	21.0
3 12	12 59.52	+ 1 45.0	1.789	2.733	8.0	20.9	3 12	12 59.26	+17 30.4	2.038	2.962	8.5	20.9
3 22	12 51.02	+ 2 39.7	1.751	2.734	4.3	20.7	3 22	12 50.82	+18 24.2	2.020	2.968	7.2	20.8
4 1	12 41.52	+ 3 32.5	1.740	2.733	2.9	20.6	4 1	12 41.58	+19 1.1	2.030	2.973	7.7	20.9
4 11	12 32.07	+ 4 17.0	1.759	2.732	6.2	20.8	4 11	12 32.52	+19 16.6	2.066	2.977	9.6	21.0
4 21	12 23.64	+ 4 48.1	1.804	2.730	10.1	21.0	4 21	12 24.49	+19 9.1	2.127	2.981	12.1	21.1
5 1	12 17.03	+ 5 2.6	1.873	2.728	13.5	21.2	5 1	12 18.18	+18 39.6	2.209	2.985	14.4	21.3
132566	2002 <i>JZ</i> ₉₉		3 31.9 239°44	5°6/25.7 17			122313	2000 <i>QL</i> ₁₀		3 31.9 235°51	2°7/29.5 18		
2 21	13 6.14	+ 5 43.1	1.902	2.712	14.3	20.1	2 21	13 7.61	- 1 50.3	1.734	2.532	16.0	20.6
3 2	13 2.97	+ 7 17.7	1.810	2.699	11.4	19.8	3 2	13 4.38	- 0 56.0	1.639	2.522	12.7	20.3
3 12	12 57.44	+ 9 1.9	1.742	2.686	8.2	19.6	3 12	12 58.58	+ 0 12.8	1.565	2.512	8.7	20.1
3 22	12 50.03	+10 47.4	1.700	2.672	5.9	19.4	3 22	12 50.70	+ 1 30.7	1.516	2.500	4.5	19.8
4 1	12 41.53	+12 24.4	1.686	2.657	6.3	19.4	4 1	12 41.58	+ 2 49.8	1.494	2.489	2.9	19.7
4 11	12 32.95	+13 43.9	1.699	2.642	9.1	19.6	4 11	12 32.38	+ 4 1.3	1.501	2.477	6.8	19.9
4 21	12 25.28	+14 39.8	1.738	2.627	12.6	19.7	4 21	12 24.19	+ 4 57.7	1.533	2.464	11.1	20.1
5 1	12 19.36	+15 9.3	1.798	2.611	15.8	19.9	5 1	12 17.94	+ 5 34.0	1.588	2.451	15.1	20.3
141289	2001 <i>YX</i> ₇₂		3 31.9 168°98	6°0/24.8 17			98345	2000 <i>SQ</i> ₃₀₄					

EPHEMERIDES

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2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
174547	2003 <i>FF</i> ₆₂		3 31.9	47°53'	2°5'/29.3	17	433975	1999 <i>TZ</i> ₃₁₇		3 31.9	204°49'	1°6'/30.5	17
2 21	13 5.43	+ 1 13.6	2.111	2.908	13.6	20.0	2 21	13 10.16	- 0 48.9	2.164	2.945	13.8	21.8
3 2	13 1.90	+ 1 44.1	2.035	2.918	10.6	19.8	3 2	13 5.72	- 0 38.6	2.070	2.943	10.9	21.6
3 12	12 56.38	+ 2 21.5	1.982	2.928	7.2	19.6	3 12	12 59.12	- 0 20.8	1.999	2.940	7.5	21.4
3 22	12 49.37	+ 3 1.4	1.955	2.938	3.9	19.5	3 22	12 50.84	+ 0 1.3	1.954	2.937	3.8	21.1
4 1	12 41.61	+ 3 38.4	1.956	2.948	2.8	19.4	4 1	12 41.63	+ 0 23.7	1.938	2.934	1.7	21.0
4 11	12 33.98	+ 4 7.6	1.985	2.959	5.6	19.6	4 11	12 32.41	+ 0 41.6	1.951	2.931	5.0	21.2
4 21	12 27.27	+ 4 25.3	2.041	2.970	8.9	19.8	4 21	12 24.08	+ 0 51.5	1.991	2.928	8.7	21.4
5 1	12 22.10	+ 4 29.1	2.122	2.981	12.0	20.0	5 1	12 17.38	+ 0 50.5	2.057	2.924	12.0	21.6
93719	2000 <i>VR</i> ₃₆		3 31.9	71°50'	9°2'/21.9	18	315371	2007 <i>VJ</i> ₁₈		3 31.9	55°46'	1°7'/30.6	18
2 21	13 7.41	+17 53.9	1.831	2.647	14.6	17.8	2 21	13 8.16	- 3 16.8	1.396	2.205	18.7	21.2
3 2	13 3.72	+19 42.6	1.791	2.669	12.1	17.7	3 2	13 5.09	- 2 47.8	1.330	2.218	14.7	21.0
3 12	12 57.69	+21 25.2	1.773	2.691	10.0	17.6	3 12	12 59.11	- 2 4.2	1.284	2.232	10.1	20.7
3 22	12 50.01	+22 51.9	1.781	2.713	9.2	17.6	3 22	12 50.92	- 1 11.3	1.261	2.247	5.0	20.5
4 1	12 41.60	+23 54.1	1.814	2.734	10.0	17.7	4 1	12 41.62	- 0 16.7	1.264	2.262	1.9	20.3
4 11	12 33.53	+24 27.1	1.872	2.756	11.9	17.9	4 11	12 32.58	+ 0 31.3	1.292	2.277	6.3	20.6
4 21	12 26.68	+24 30.3	1.951	2.778	14.1	18.1	4 21	12 24.97	+ 1 5.8	1.346	2.292	11.1	20.9
5 1	12 21.70	+24 6.0	2.050	2.799	16.2	18.3	5 1	12 19.69	+ 1 22.8	1.421	2.307	15.2	21.2
275251	2009 <i>XF</i> ₁₇		3 31.9	208°27'	2°8'/3.9	17	49603	1999 <i>FC</i> ₂₅		3 31.9	54°53'	2°2'/29.6	18
2 21	13 6.68	-15 17.4	2.356	3.085	14.2	21.3	2 21	13 4.61	- 0 35.4	2.140	2.934	13.5	18.6
3 2	13 2.95	-15 18.8	2.250	3.080	11.8	21.1	3 2	13 1.31	+ 0 1.4	2.057	2.938	10.6	18.4
3 12	12 57.20	-15 4.1	2.165	3.075	8.9	20.9	3 12	12 56.02	+ 0 47.1	1.996	2.942	7.2	18.2
3 22	12 49.86	-14 33.8	2.106	3.070	5.7	20.7	3 22	12 49.23	+ 1 37.3	1.961	2.945	3.7	18.0
4 1	12 41.61	-13 49.8	2.074	3.064	3.0	20.5	4 1	12 41.64	+ 2 26.5	1.955	2.949	2.4	17.9
4 11	12 33.29	-12 56.4	2.071	3.058	3.9	20.6	4 11	12 34.13	+ 3 9.1	1.977	2.953	5.4	18.1
4 21	12 25.73	-11 59.1	2.097	3.052	7.1	20.8	4 21	12 27.48	+ 3 40.7	2.026	2.958	8.8	18.3
5 1	12 19.64	-11 3.8	2.149	3.045	10.3	20.9	5 1	12 22.34	+ 3 58.1	2.099	2.962	12.0	18.5
73204	2002 <i>JZ</i> ₁₅		3 31.9	328°12'	0°6'/31.4	17	6575	Slavov		3 31.9	118°22'	0°1'/31.8	18
2 21	13 1.60	- 6 28.0	1.276	2.094	19.6	19.3	2 21	13 3.91	- 7 17.1	2.612	3.375	12.2	18.6
3 2	13 0.57	- 6 4.8	1.186	2.079	15.7	19.0	3 2	13 0.33	- 6 44.5	2.526	3.387	9.6	18.4
3 12	12 56.50	- 5 20.6	1.115	2.065	11.1	18.7	3 12	12 55.11	- 6 0.6	2.464	3.399	6.7	18.2
3 22	12 49.85	- 4 18.9	1.066	2.051	5.6	18.4	3 22	12 48.69	- 5 8.4	2.429	3.411	3.4	18.0
4 1	12 41.61	- 3 6.8	1.040	2.039	0.7	18.0	4 1	12 41.65	- 4 11.7	2.423	3.422	0.1	17.7
4 11	12 33.20	- 1 54.8	1.038	2.027	6.4	18.3	4 11	12 34.70	- 3 15.6	2.447	3.433	3.5	18.1
4 21	12 26.04	- 0 53.3	1.060	2.017	12.1	18.6	4 21	12 28.46	- 2 24.4	2.499	3.444	6.7	18.3
5 1	12 21.28	- 0 10.6	1.102	2.007	17.1	18.8	5 1	12 23.47	- 1 42.1	2.578	3.454	9.6	18.5
522818	2016 <i>NQ</i> ₈₁		3 31.9	179°28'	3°3'/4.8	17	43760	1986 <i>QD</i> ₃		3 31.9	265°95'	0°5'/1.3	18
2 21	13 5.62	-17 12.3	2.757	3.467	12.8	21.9	2 21	13 10.80	- 6 37.8	1.614	2.397	17.7	18.9
3 2	13 1.78	-17 25.8	2.653	3.468	10.7	21.7	3 2	13 7.30	- 6 44.3	1.513	2.383	14.3	18.6
3 12	12 56.20	-17 25.4	2.571	3.468	8.2	21.5	3 12	13 0.89	- 6 36.7	1.431	2.369	10.2	18.3
3 22	12 49.29	-17 10.9	2.514	3.468	5.6	21.4	3 22	12 52.02	- 6 16.5	1.373	2.355	5.4	18.0
4 1	12 41.63	-16 43.6	2.485	3.468	3.5	21.2	4 1	12 41.61	- 5 47.4	1.342	2.341	0.5	17.6
4 11	12 33.94	-16 6.5	2.486	3.468	3.8	21.2	4 11	12 30.97	- 5 15.4	1.337	2.326	5.2	17.9
4 21	12 26.91	-15 23.8	2.515	3.468	6.2	21.4	4 21	12 21.39	- 4 46.8	1.358	2.311	10.3	18.1
5 1	12 21.13	-14 40.1	2.571	3.467	8.9	21.5	5 1	12 14.00	- 4 27.7	1.403	2.296	14.9	18.4
114513	2003 <i>BQ</i> ₁		3 31.9	49°14'	0°9'/30.6	18	47519	2000 <i>AK</i> ₇₉		3 31.9	218°04'	4°1'/27.8	18
2 21	12 59.76	- 4 5.0	2.989	3.765	10.5	19.9	2 21	13 7.42	+ 2 57.4	1.967	2.768	14.3	18.7
3 2	12 56.89	- 3 24.9	2.900	3.771	8.2	19.8	3 2	13 3.84	+ 4 2.7	1.876	2.761	11.3	18.5
3 12	12 52.66	- 2 36.4	2.835	3.777	5.6	19.6	3 12	12 57.98	+ 5 17.1	1.808	2.754	7.8	18.2
3 22	12 47.42	- 1 42.3	2.798	3.782	2.7	19.4	3 22	12 50.31	+ 6 34.4	1.766	2.746	4.8	18.0
4 1	12 41.65	- 0 46.7	2.791	3.788	1.0	19.3	4 1	12 41.64	+ 7 46.8	1.753	2.737	4.5	18.0
4 11	12 35.94	+ 0 6.3	2.813	3.795	3.6	19.5	4 11	12 32.94	+ 8 46.8	1.767	2.729	7.4	18.2
4 21	12 30.79	+ 0 52.9	2.864	3.801	6.3	19.7	4 21	12 25.17	+ 9 28.9	1.808	2.719	11.0	18.3
5 1	12 26.65	+ 1 30.1	2.941	3.807	8.8	19.8	5 1	12 19.11	+ 9 50.3	1.872	2.709	14.3	18.5
189452	1999 <i>EZ</i> ₇		3 31.9	297°51'	0°3'/31.7	17	306119	2010 <i>JX</i> ₈₂		3 31.9	319°71'	6°0'/27.0	18
2 21	13 6.99	- 5 24.3	1.752	2.540	16.3	20.3	2 21	13 6.31	+ 4 51.5	1.372	2.201	17.8	20.4
3 2	13 4.14	- 5 17.4	1.637	2.512	13.2	20.0	3 2	13 3.93	+ 6 3.5	1.296	2.196	14.1	20.2
3 12	12 58.64	- 4 57.0	1.543	2.484	9.3	19.7	3 12	12 58.55	+ 7 25.7	1.241	2.191	10.0	19.9
3 22	12 50.87	- 4 25.0	1.473	2.456	4.8	19.4	3 22	12 50.76	+ 8 48.8	1.208	2.187	6.6	19.7
4 1	12 41.61	- 3 45.6	1.429	2.428	0.3	19.0	4 1	12 41.63	+10 1.6	1.201	2.183	6.6	19.7
4 11	12 32.00	- 3 5.2	1.412	2.400	5.3	19.3	4 11	12 32.55	+10 53.8	1.219	2.179	10.1	19.9
4 21	12 23.22	- 2 30.3	1.422	2.372	10.2	19.5	4 21	12 24.81	+11 19.3	1.259	2.175	14.3	20.1
5 1	12 16.33	- 2 6.7	1.454	2.344	14.7	19.7	5 1	12 19.41	+11 16.4	1.319	2.172	18.2	20.3
74652	1999 <i>RE</i> ₈₅		3 31.9	198°11'	0°2'/31.8	18	337787	2001 <i>UU</i> ₁₉₅		3 31.9	58°55'	0°3'/31.5	18
2 21	13 8.66	- 7 7.1	2.049	2.818	14.9	21.3	2 21	13 1.71	- 8 43.5	2.095	2.871	14.4	20.7
3 2	13 4.74	- 6 38.8	1.951	2.815	11.9	21.1	3 2	12 59.03	- 7 43.2	2.017	2.886	11.4	20.5
3 12	12 58.56	- 5 56.2	1.875	2.811	8.3	20.9	3 12	12 54.42	- 6 26.7	1.961	2.900	7.8	20.3
3 22	12 50.59	- 5 2.0	1.825	2.807	4.2	20.6	3 22	12 48.40	- 4 58.3	1.932	2.915	3.9	20.1
4 1	12 41.62	- 4 1.1	1.803	2.802	0.2	20.3	4 1	12 41.66	- 3 24.5	1.931	2.930	0.4	19.8
4 11	12 32.62	- 2 59.9	1.810	2.797	4.5	20.6	4 11	12 35.06	- 1 52.7	1.959	2.945	4.3	20.2
4 21	12 24.52	- 2 4.6	1.845	2.790	8.6	20.8	4 21	12 29.34	- 0 30.1	2.015	2.960	8.0	20.4
5 1	12 18.11	- 1 20.7	1.905	2.783	12.3	21.1	5 1	12 25.10	+ 0 38.0	2.096	2.975	11.3	20.7
299198	2005 <i>GQ</i> ₁₇₂		3 31.9	60°82'	4°7'/29.1	18	280967	2006 <i>DF</i>		3 31.9	14°11'	6°6'/26.9	17
2													

EPHEMERIDES

3 31.9

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2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
379666	2011 <i>EB</i> ₇₇		3 31.9 359°33	4.5/28.4	17		107076	2001 <i>AM</i> ₂₁		3 31.9 11°86	1.1/1.9	1.9 18	
2 21	13 8.06	+ 5 8.8	1.651	2.465	16.0	20.1	2 21	13 6.83	- 8 59.3	1.936	2.706	15.6	20.1
3 2	13 4.71	+ 5 40.9	1.572	2.464	12.6	19.9	3 2	13 3.43	- 8 58.2	1.844	2.706	12.6	19.8
3 12	12 58.74	+ 6 18.5	1.515	2.463	8.9	19.7	3 12	12 57.72	- 8 42.6	1.774	2.706	9.0	19.6
3 22	12 50.74	+ 6 55.1	1.483	2.462	5.4	19.5	3 22	12 50.20	- 8 14.5	1.728	2.707	4.9	19.4
4 1	12 41.64	+ 7 23.8	1.476	2.463	4.8	19.4	4 1	12 41.67	- 7 37.2	1.709	2.707	1.1	19.1
4 11	12 32.64	+ 7 38.5	1.496	2.463	7.9	19.6	4 11	12 33.14	- 6 56.1	1.718	2.707	4.2	19.3
4 21	12 24.81	+ 7 35.3	1.541	2.464	11.7	19.8	4 21	12 25.56	- 6 16.9	1.754	2.708	8.3	19.6
5 1	12 19.02	+ 7 13.2	1.608	2.465	15.3	20.0	5 1	12 19.72	- 5 45.0	1.815	2.708	12.1	19.8
159684	2002 <i>KC</i>		3 31.9 304°68	9.4/21.0	18		212594	2006 <i>SN</i> ₂₀₈		3 31.9 131°80	0.7/31.2	17	
2 21	13 3.63	+16 7.8	1.763	2.588	14.6	19.1	2 21	13 7.53	- 3 18.6	2.521	3.291	12.4	20.4
3 2	13 1.32	+17 58.0	1.681	2.568	12.2	18.9	3 2	13 3.26	- 3 9.4	2.431	3.298	9.8	20.3
3 12	12 56.51	+19 49.0	1.622	2.548	10.2	18.7	3 12	12 57.20	- 2 52.1	2.366	3.304	6.7	20.1
3 22	12 49.68	+21 30.2	1.587	2.527	9.4	18.6	3 22	12 49.80	- 2 29.5	2.327	3.310	3.3	19.9
4 1	12 41.65	+22 50.4	1.578	2.507	10.6	18.7	4 1	12 41.69	- 2 4.8	2.317	3.316	0.7	19.7
4 11	12 33.55	+23 41.4	1.592	2.488	13.0	18.7	4 11	12 33.63	- 1 41.9	2.337	3.321	3.9	19.9
4 21	12 26.44	+23 59.1	1.628	2.468	15.8	18.9	4 21	12 26.33	- 1 24.3	2.386	3.327	7.2	20.1
5 1	12 21.21	+23 44.0	1.682	2.449	18.5	19.0	5 1	12 20.39	- 1 14.8	2.461	3.332	10.1	20.3
305668	2009 <i>BN</i> ₈₅		3 31.9 14°29	1.4/1.9	17		198505	2004 <i>XP</i> ₇₇		3 31.9 250°67	3.6/4.6	17	
2 21	13 4.11	- 9 30.3	1.210	2.019	21.0	20.7	2 21	13 5.27	-17 9.8	2.106	2.837	15.7	20.1
3 2	13 2.56	- 9 31.5	1.138	2.022	17.0	20.4	3 2	13 2.17	-17 15.2	2.002	2.831	13.1	19.9
3 12	12 57.79	- 9 10.6	1.083	2.026	12.1	20.1	3 12	12 56.86	-17 1.8	1.918	2.824	10.0	19.7
3 22	12 50.44	- 8 29.9	1.048	2.030	6.7	19.8	3 22	12 49.79	-16 29.4	1.858	2.818	6.7	19.5
4 1	12 41.65	- 7 34.9	1.037	2.036	1.5	19.5	4 1	12 41.68	-15 39.8	1.824	2.811	3.9	19.3
4 11	12 32.94	- 6 35.0	1.050	2.042	5.6	19.8	4 11	12 33.49	-14 37.7	1.818	2.804	4.5	19.3
4 21	12 25.72	- 5 39.9	1.086	2.049	11.1	20.1	4 21	12 26.13	-13 29.6	1.839	2.797	7.7	19.5
5 1	12 21.06	- 4 57.9	1.144	2.057	15.9	20.4	5 1	12 20.41	-12 22.7	1.886	2.789	11.2	19.7
96982	1999 <i>TA</i> ₂₀₉		3 31.9 222°71	6°3/7.6	18		237270	2008 <i>WP</i> ₁₀₉		3 31.9 87°72	1.1/30.8	17	
2 21	13 9.46	-25 24.2	2.550	3.209	14.8	20.3	2 21	13 6.13	- 3 21.9	2.091	2.876	14.1	21.0
3 2	13 5.27	-26 5.3	2.435	3.200	13.0	20.1	3 2	13 2.55	- 2 56.4	2.009	2.883	11.1	20.8
3 12	12 58.92	-26 28.9	2.339	3.190	10.8	19.9	3 12	12 56.90	- 2 20.4	1.948	2.891	7.6	20.6
3 22	12 50.83	-26 32.5	2.266	3.180	8.5	19.8	3 22	12 49.70	- 1 37.5	1.914	2.898	3.8	20.4
4 1	12 41.65	-26 15.1	2.219	3.169	6.7	19.6	4 1	12 41.69	- 0 52.7	1.907	2.905	1.3	20.2
4 11	12 32.28	-25 38.3	2.199	3.157	6.4	19.6	4 11	12 33.76	- 0 11.5	1.929	2.912	4.7	20.5
4 21	12 23.62	-24 46.5	2.207	3.145	7.9	19.7	4 21	12 26.73	+ 0 21.4	1.979	2.919	8.4	20.7
5 1	12 16.45	-23 45.7	2.242	3.132	10.2	19.8	5 1	12 21.30	+ 0 42.4	2.053	2.926	11.8	20.9
506249	2016 <i>OE</i> ₅		3 31.9 268°27	2°7/3.5	17		470094	2006 <i>TY</i> ₁₅		3 31.9 221°35	1.1/2.3	17	
2 21	13 7.21	-13 13.6	2.237	2.978	14.6	21.1	2 21	13 3.06	-11 43.7	2.629	3.375	12.5	22.0
3 2	13 3.54	-13 32.0	2.130	2.969	12.0	20.9	3 2	12 59.83	-11 15.7	2.523	3.369	10.1	21.8
3 12	12 57.73	-13 36.3	2.044	2.959	9.0	20.7	3 12	12 54.90	-10 33.5	2.439	3.363	7.3	21.6
3 22	12 50.20	-13 26.6	1.983	2.950	5.6	20.5	3 22	12 48.67	- 9 38.8	2.381	3.356	4.1	21.4
4 1	12 41.65	-13 4.4	1.949	2.941	2.9	20.3	4 1	12 41.70	- 8 35.1	2.352	3.349	1.2	21.2
4 11	12 32.98	-12 33.2	1.944	2.931	4.1	20.3	4 11	12 34.70	- 7 27.2	2.353	3.342	3.3	21.3
4 21	12 25.07	-11 58.0	1.967	2.922	7.5	20.5	4 21	12 28.35	- 6 20.5	2.383	3.334	6.6	21.5
5 1	12 18.71	-11 23.9	2.015	2.912	10.9	20.7	5 1	12 23.22	- 5 20.0	2.439	3.327	9.6	21.7
213251	2001 <i>CS</i> ₄₁		3 31.9 129°42	1.4/30.6	18		498389	2007 <i>XR</i> ₁₄		3 31.9 116°95	0.8/31.0	17	
2 21	13 10.24	- 3 42.4	1.878	2.660	15.6	21.1	2 21	13 5.68	- 4 11.8	2.578	3.349	12.1	22.2
3 2	13 5.97	- 3 6.3	1.801	2.674	12.3	20.9	3 2	13 1.72	- 3 44.7	2.496	3.362	9.5	22.0
3 12	12 59.35	- 2 17.9	1.745	2.687	8.4	20.7	3 12	12 56.07	- 3 8.6	2.437	3.376	6.5	21.9
3 22	12 50.94	- 0 21.4	1.716	2.700	4.2	20.5	3 22	12 49.19	- 2 26.4	2.406	3.389	3.2	21.7
4 1	12 41.65	- 0 23.1	1.714	2.712	1.5	20.3	4 1	12 41.70	- 1 42.2	2.403	3.402	0.8	21.5
4 11	12 32.51	+ 0 30.3	1.742	2.723	5.3	20.6	4 11	12 34.30	- 1 0.4	2.431	3.414	3.9	21.8
4 21	12 24.48	+ 1 13.2	1.796	2.734	9.3	20.9	4 21	12 27.65	- 0 24.9	2.488	3.427	7.0	22.0
5 1	12 18.32	+ 1 41.5	1.875	2.744	12.9	21.1	5 1	12 22.29	+ 0 1.1	2.570	3.438	9.9	22.2
440223	2004 <i>PW</i> ₅₇		3 31.9 283°52	16°3/9.0	18		9346	Fernandel		3 31.9 126°30	1.8/30.2	18	
2 21	13 16.47	-30 32.4	1.275	1.963	25.9	21.1	2 21	13 9.52	- 2 39.6	1.898	2.684	15.3	18.3
3 2	13 13.89	-33 16.5	1.188	1.955	23.8	20.8	3 2	13 5.38	- 1 57.7	1.822	2.698	12.0	18.1
3 12	13 6.96	-35 39.2	1.115	1.947	21.2	20.6	3 12	12 58.92	- 1 4.2	1.768	2.712	8.2	17.9
3 22	12 55.84	-37 28.3	1.058	1.939	18.7	20.4	3 22	12 50.73	- 0 3.8	1.740	2.724	4.1	17.7
4 1	12 41.59	-38 31.3	1.020	1.931	16.8	20.3	4 1	12 41.68	+ 0 57.1	1.740	2.737	2.0	17.5
4 11	12 26.32	-38 42.0	1.001	1.923	16.3	20.2	4 11	12 32.79	+ 1 51.6	1.769	2.748	5.5	17.8
4 21	12 12.50	-38 3.6	1.002	1.915	17.5	20.2	4 21	12 24.98	+ 2 34.2	1.825	2.760	9.4	18.0
5 1	12 2.29	-36 49.0	1.022	1.907	19.8	20.3	5 1	12 18.99	+ 3 1.3	1.905	2.770	12.9	18.3
431941	2008 <i>TP</i> ₁₈₄		3 31.9 331°26	0.1/31.9	17		295564	2008 <i>ST</i> ₇₂		3 31.9 229°89	1.0/31.0	18	
2 21	13 4.65	- 7 22.1	1.922	2.703	15.3	21.7	2 21	13 9.60	- 5 28.5	1.781	2.563	16.3	21.4
3 2	13 1.72	- 7 1.6	1.830	2.700	12.3	21.5	3 2	13 5.99	- 4 52.4	1.679	2.551	13.0	21.1
3 12	12 56.53	- 6 26.4	1.759	2.698	8.6	21.3	3 12	12 59.75	- 4 0.2	1.598	2.539	9.1	20.8
3 22	12 49.59	- 5 39.4	1.713	2.696	4.4	21.0	3 22	12 51.36	- 2 55.5	1.541	2.525	4.6	20.5
4 1	12 41.67	- 4 45.1	1.695	2.694	0.1	20.6	4 1	12 41.68	- 1 44.2	1.513	2.511	1.1	20.3
4 11	12 33.74	- 3 50.1	1.704	2.692	4.5	21.0	4 11	12 31.83	- 0 34.6	1.512	2.496	5.6	20.5
4 21	12 26.73	- 3 0.6	1.740	2.691	8.7	21.2	4 21	12 22.98	+ 0 25.7	1.539	2.481	10.3	20.8
5 1	12 21.42	- 2 22.0	1.801	2.689	12.4	21.5	5 1	12 16.06	+ 1 10.6	1.589	2.465	14.5	21.0
237457	1999 <i>VK</i> ₁₂₈		3 31.9 157°91	1.4/30.5	17		109877	2001 <i>RZ</i> ₁₅₄		3 31.9 212°29	2.6/29.4	17	
2 21	13 7.37	- 2 28.5	2.201	2.982	13.6	21.9	2 21	13 8.50	+ 0 23.6	2.002	2.795	14.4	20.9
3 2	13 3.45	- 2 3.5	2.113	2.986	10.7	21.7	3 2	13 4.63	+ 1 0.1	1.910	2.790	11.3	20.6
3 12	12 57.49	- 1 29.0	2.047	2.989	7.3	21.5	3 12	12 58.50	+ 1 45.7	1.841	2.786	7.8	20.4
3 22	12 49.99	- 0 48.6	2.008	2.992	3.7	21.2	3 22	12 50.59	+ 2 35.7	1.798	2.781	4.2	20.2
4 1	12 41.67	- 0 7.0	1.997	2.994	1.5	21.1	4 1	12 41.69	+ 3 24.1	1.782	2.775	2.8	20.1
4 11	12 33.39	+ 0 30.8	2.015	2.997	4.7	21.3	4 11	12 32.78	+ 4 4.8	1.795	2.770	6.0	20.3
4 21	12 25.98	+ 1 0.1	2.062	2.999	8.4	21.5	4 21	12 24.79	+ 4 32.9	1.835	2.764	9.8	20.5
5 1	12 20.10	+ 1 17.8	2.133	3.001	11.6	21.							

EPHEMERIDES

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2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
377968	2006 <i>KC</i> ₅₆		3 31.9 335°96	1.3/31.1	17		134370	1995 <i>QA</i> ₁		3 31.9 263°58	3.0/3.2	17	
2 21	13 4.61	- 3 9.1	1.190	2.016	20.2	20.7	2 21	13 9.30	-12 39.0	1.731	2.490	17.6	20.5
3 2	13 3.22	- 3 7.4	1.105	2.003	16.2	20.4	3 2	13 5.97	-12 59.0	1.627	2.478	14.5	20.2
3 12	12 58.51	- 2 50.5	1.039	1.991	11.3	20.1	3 12	12 59.89	-13 1.9	1.543	2.466	10.8	20.0
3 22	12 50.96	- 2 22.1	0.993	1.980	5.7	19.7	3 22	12 51.51	-12 47.2	1.482	2.453	6.7	19.7
4 1	12 41.68	- 1 48.7	0.971	1.969	1.4	19.4	4 1	12 41.70	-12 16.6	1.447	2.441	3.2	19.5
4 11	12 32.23	- 1 18.8	0.972	1.960	6.9	19.7	4 11	12 31.65	-11 35.0	1.439	2.428	4.9	19.5
4 21	12 24.18	- 1 0.2	0.995	1.952	12.6	20.0	4 21	12 22.60	-10 48.9	1.457	2.415	9.3	19.8
5 1	12 18.76	- 0 58.6	1.039	1.946	17.8	20.3	5 1	12 15.59	-10 6.0	1.499	2.402	13.6	20.0
383671	2007 <i>TH</i> ₁₈₀		3 31.9 111°91	0°2/1.1	17		98460	2000 <i>UM</i> ₇₃		3 31.9 125°28	0°3/3.1	18	
2 21	13 4.58	- 8 1.7	2.375	3.140	13.2	22.2	2 21	13 11.46	- 6 24.7	1.883	2.654	15.9	20.9
3 2	13 1.07	- 7 33.6	2.289	3.150	10.5	22.1	3 2	13 6.94	- 6 1.3	1.805	2.670	12.6	20.7
3 12	12 55.75	- 6 52.9	2.226	3.160	7.3	21.9	3 12	13 0.03	- 5 24.0	1.749	2.686	8.8	20.5
3 22	12 49.08	- 6 2.4	2.189	3.170	3.8	21.7	3 22	12 51.32	- 4 36.2	1.719	2.701	4.4	20.2
4 1	12 41.71	- 5 6.3	2.181	3.180	0.2	21.4	4 1	12 41.71	- 3 43.2	1.717	2.716	0.3	19.9
4 11	12 34.42	- 4 9.7	2.202	3.190	3.7	21.7	4 11	12 32.27	- 2 51.5	1.744	2.730	4.7	20.3
4 21	12 27.92	- 3 17.9	2.252	3.199	7.2	21.9	4 21	12 23.97	- 2 6.8	1.798	2.743	8.8	20.6
5 1	12 22.80	- 2 35.2	2.327	3.208	10.3	22.1	5 1	12 17.56	- 1 34.0	1.877	2.756	12.5	20.8
355807	2008 <i>SF</i> ₂₆₉		3 31.9 226°69	0°8/3.1	17		234420	2001 <i>RE</i> ₉₃		3 31.9 152°34	3°9/2.1	17	
2 21	13 10.97	- 4 38.9	1.595	2.385	17.5	21.7	2 21	13 33.28	- 6 44.6	1.212	1.976	23.4	20.1
3 2	13 7.33	- 4 24.0	1.503	2.379	14.1	21.5	3 2	13 26.42	- 8 24.5	1.128	1.983	19.3	19.8
3 12	13 0.82	- 3 54.8	1.430	2.372	9.8	21.2	3 12	13 14.99	- 9 57.4	1.063	1.989	14.3	19.5
3 22	12 51.95	- 3 14.4	1.381	2.365	5.0	20.9	3 22	12 59.55	-11 19.4	1.020	1.994	8.5	19.2
4 1	12 41.68	- 2 28.3	1.359	2.358	0.9	20.6	4 1	12 41.63	-12 26.4	1.004	1.999	3.9	19.0
4 11	12 31.32	- 1 43.9	1.364	2.350	5.7	20.9	4 11	12 23.55	-13 17.3	1.016	2.003	7.2	19.2
4 21	12 22.12	- 1 8.1	1.395	2.342	10.7	21.1	4 21	12 7.59	-13 54.7	1.055	2.006	12.9	19.5
5 1	12 15.13	- 0 46.2	1.449	2.333	15.1	21.4	5 1	11 55.41	-14 25.0	1.117	2.008	18.1	19.8
422446	2014 <i>SR</i> ₃₀₅		3 31.9 241°93	1°2/1.8	16		24005	Eddieozawa		3 31.9 122°49	0°8/3.1	18	
2 21	13 10.20	- 8 55.3	1.762	2.532	16.9	21.7	2 21	13 4.71	- 5 59.4	2.030	2.811	14.6	19.1
3 2	13 6.54	- 8 56.7	1.660	2.521	13.7	21.5	3 2	13 1.55	- 5 16.0	1.944	2.816	11.5	18.9
3 12	13 0.20	- 8 42.5	1.578	2.510	9.9	21.2	3 12	12 56.29	- 4 18.4	1.881	2.822	7.9	18.7
3 22	12 51.62	- 8 13.8	1.519	2.499	5.4	20.9	3 22	12 49.43	- 3 10.8	1.843	2.827	3.9	18.4
4 1	12 41.68	- 7 34.3	1.488	2.487	1.2	20.6	4 1	12 41.73	- 1 58.7	1.833	2.832	0.9	18.2
4 11	12 31.57	- 6 49.6	1.485	2.474	4.7	20.8	4 11	12 34.10	- 0 49.4	1.852	2.837	4.7	18.5
4 21	12 22.45	- 6 6.5	1.508	2.461	9.5	21.1	4 21	12 27.37	+ 0 11.1	1.899	2.841	8.6	18.7
5 1	12 15.33	- 5 31.4	1.555	2.448	13.7	21.3	5 1	12 22.24	+ 0 57.8	1.970	2.846	12.1	19.0
232530	2003 <i>ST</i> ₂₅		3 31.9 193°64	0°0/3.1	18		151762	2003 <i>EP</i> ₁₁		3 31.9 41°91	0°8/1.6	18	
2 21	13 6.83	- 6 39.9	2.377	3.141	13.2	20.8	2 21	13 4.36	- 9 47.6	1.506	2.296	18.4	20.0
3 2	13 2.94	- 6 22.9	2.278	3.140	10.5	20.6	3 2	13 1.98	- 9 23.5	1.435	2.309	14.7	19.8
3 12	12 57.13	- 5 54.7	2.203	3.138	7.4	20.4	3 12	12 56.93	- 8 39.1	1.383	2.322	10.4	19.6
3 22	12 49.83	- 5 17.4	2.154	3.136	3.8	20.2	3 22	12 49.85	- 7 38.0	1.354	2.336	5.5	19.3
4 1	12 41.71	- 4 34.8	2.134	3.133	0.0	19.8	4 1	12 41.74	- 6 26.6	1.351	2.350	0.8	19.0
4 11	12 33.58	- 3 51.6	2.143	3.130	3.8	20.2	4 11	12 33.80	- 5 13.5	1.375	2.365	4.9	19.4
4 21	12 26.20	- 3 12.6	2.181	3.127	7.5	20.4	4 21	12 27.13	- 4 7.5	1.423	2.380	9.6	19.7
5 1	12 20.25	- 2 41.9	2.244	3.123	10.7	20.6	5 1	12 22.54	- 3 15.2	1.495	2.396	13.7	20.0
15664	4050 <i>T</i> ₋₃		3 31.9 113°54	2°3/29.6	18		402947	2007 <i>TS</i> ₃₅₅		3 31.9 203°20	3°4/28.0	17	
2 21	13 7.55	- 1 36.2	1.912	2.704	15.0	19.0	2 21	13 7.92	+ 0 33.6	2.138	2.928	13.7	22.0
3 2	13 3.81	- 0 45.2	1.837	2.717	11.7	18.8	3 2	13 4.05	+ 1 52.5	2.043	2.922	10.7	21.8
3 12	12 57.83	+ 0 16.9	1.785	2.730	8.0	18.6	3 12	12 58.05	+ 3 23.0	1.972	2.916	7.4	21.5
3 22	12 50.18	+ 1 24.8	1.759	2.743	4.1	18.4	3 22	12 50.36	+ 4 58.8	1.928	2.909	4.2	21.3
4 1	12 41.70	+ 2 31.6	1.761	2.755	2.6	18.3	4 1	12 41.74	+ 6 32.3	1.914	2.901	3.8	21.3
4 11	12 33.38	+ 3 30.2	1.791	2.767	5.8	18.5	4 11	12 33.08	+ 7 55.4	1.929	2.892	6.7	21.4
4 21	12 26.11	+ 4 15.4	1.848	2.779	9.6	18.8	4 21	12 25.27	+ 9 2.0	1.972	2.882	10.3	21.6
5 1	12 20.58	+ 4 43.6	1.930	2.790	13.0	19.0	5 1	12 19.05	+ 9 48.2	2.039	2.872	13.5	21.8
306901	2001 <i>TN</i> ₁₆₇		3 31.9 162°36	4°9/6.1	17		430169	2013 <i>TO</i> ₈₇		3 31.9 110°27	0°3/3.1	17	
2 21	13 8.40	-21 4.1	2.227	2.926	15.7	21.1	2 21	13 5.64	- 6 48.8	1.931	2.711	15.3	21.7
3 2	13 4.50	-21 22.2	2.129	2.931	13.4	21.0	3 2	13 2.43	- 6 20.0	1.844	2.715	12.2	21.5
3 12	12 58.38	-21 20.9	2.051	2.935	10.6	20.8	3 12	12 56.99	- 5 36.7	1.779	2.718	8.4	21.3
3 22	12 50.53	-20 59.1	1.996	2.939	7.7	20.6	3 22	12 49.83	- 4 42.1	1.739	2.722	4.3	21.1
4 1	12 41.70	-20 17.8	1.968	2.942	5.3	20.4	4 1	12 41.74	- 3 41.5	1.727	2.726	0.3	20.7
4 11	12 32.86	-19 20.7	1.968	2.945	5.3	20.4	4 11	12 33.71	- 2 41.7	1.743	2.730	4.6	21.1
4 21	12 24.91	-18 14.0	1.995	2.947	7.6	20.6	4 21	12 26.64	- 1 49.0	1.786	2.733	8.7	21.3
5 1	12 18.61	-17 4.8	2.049	2.949	10.6	20.8	5 1	12 21.27	- 1 8.4	1.853	2.737	12.3	21.6
337400	2001 <i>QQ</i> ₁₈₆		3 31.9 108°58	1°0/30.6	17	R	150749	2001 <i>QJ</i> ₁₂₀		3 31.9 166°49	1°7/29.9	16	
2 21	13 4.98	- 4 7.1	2.798	3.565	11.3	21.5	2 21	13 7.86	- 2 0.9	2.530	3.303	12.2	21.3
3 2	13 0.97	- 3 22.5	2.723	3.589	8.9	21.3	3 2	13 3.53	- 1 15.6	2.440	3.309	9.6	21.2
3 12	12 55.44	- 2 29.2	2.672	3.611	6.0	21.2	3 12	12 57.40	- 0 21.1	2.374	3.315	6.5	21.0
3 22	12 48.83	- 1 30.6	2.650	3.633	3.0	21.0	3 22	12 49.92	+ 0 38.5	2.336	3.320	3.3	20.8
4 1	12 41.72	- 0 31.0	2.657	3.655	1.1	20.9	4 1	12 41.74	+ 1 38.3	2.328	3.324	1.9	20.7
4 11	12 34.74	+ 0 25.0	2.696	3.676	3.8	21.1	4 11	12 33.62	+ 2 33.1	2.351	3.327	4.7	20.9
4 21	12 28.48	+ 1 13.5	2.763	3.697	6.7	21.3	4 21	12 26.26	+ 3 18.4	2.402	3.329	7.9	21.1
5 1	12 23.40	+ 1 51.5	2.857	3.717	9.3	21.5	5 1	12 20.26	+ 3 51.0	2.479	3.331	10.7	21.3
372479	2009 <i>SD</i> ₂₀₄		3 31.9 92°84	0°7/31.3	18		102666	1999 <i>VO</i> ₆₀		3 31.9 227°62	1°4/2.3	17	

EPHEMERIDES

3 31.9

3 31.9

2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
7232	Nabokov		3 31.9 226°39	2°6/29.5 18			422757	2001 TL₇		3 31.9 168°41	2°8/ 4.6 17		
2 21	13 9.30	- 0 30.8	1.930	2.720	14.9	18.9	2 21	13 7.88	-17 55.5	2.744	3.446	13.0	22.7
3 2	13 5.46	+ 0 12.7	1.831	2.710	11.8	18.7	3 2	13 3.52	-17 40.4	2.642	3.453	10.8	22.6
3 12	12 59.22	+ 1 7.3	1.755	2.700	8.1	18.4	3 12	12 57.40	-17 9.1	2.561	3.458	8.2	22.4
3 22	12 51.04	+ 2 8.3	1.705	2.689	4.3	18.2	3 22	12 49.94	-16 22.0	2.506	3.463	5.4	22.2
4 1	12 41.74	+ 3 8.9	1.683	2.677	2.9	18.1	4 1	12 41.77	-15 21.6	2.480	3.466	3.1	22.1
4 11	12 32.35	+ 4 2.1	1.689	2.664	6.3	18.3	4 11	12 33.63	-14 12.0	2.484	3.469	3.6	22.1
4 21	12 23.89	+ 4 42.1	1.723	2.651	10.3	18.5	4 21	12 26.20	-12 58.8	2.519	3.471	6.2	22.3
5 1	12 17.21	+ 5 4.8	1.779	2.637	14.0	18.7	5 1	12 20.09	-11 47.4	2.581	3.473	9.0	22.5
102234	Olivebyrne		3 31.9 204°92	0°3/ 1.2 18			188870	2006 UD₂₃₃		3 31.9 346°41	10°3/22.0 18		
2 21	13 9.71	- 7 56.0	2.141	2.901	14.6	21.2	2 21	13 6.31	+17 26.0	1.547	2.374	16.2	19.3
3 2	13 5.53	- 7 37.4	2.038	2.896	11.7	21.0	3 2	13 3.62	+19 5.9	1.484	2.371	13.5	19.1
3 12	12 59.12	- 7 5.0	1.958	2.890	8.3	20.7	3 12	12 58.16	+20 42.3	1.443	2.367	11.3	19.0
3 22	12 50.94	- 6 21.0	1.903	2.883	4.3	20.5	3 22	12 50.53	+22 3.8	1.425	2.365	10.3	18.9
4 1	12 41.74	- 5 29.4	1.877	2.876	0.3	20.1	4 1	12 41.76	+22 59.3	1.430	2.362	11.3	18.9
4 11	12 32.48	- 4 35.7	1.880	2.868	4.2	20.4	4 11	12 33.15	+23 21.9	1.459	2.360	13.6	19.1
4 21	12 24.06	- 3 46.0	1.912	2.859	8.2	20.7	4 21	12 25.84	+23 10.1	1.509	2.359	16.3	19.2
5 1	12 17.28	- 3 5.4	1.969	2.849	11.9	20.9	5 1	12 20.71	+22 26.1	1.577	2.358	19.0	19.4
29790	1999 CW₆₄		3 31.9 294°14	3°5/ 4.4 18			166658	2002 TG₂₈		3 31.9 85°55	1°8/30.3 18		
2 21	13 2.17	-17 49.9	1.760	2.509	17.7	18.2	2 21	13 9.02	- 0 17.5	2.192	2.976	13.6	19.7
3 2	13 0.28	-17 30.9	1.652	2.493	14.9	17.9	3 2	13 4.64	- 0 2.0	2.116	2.990	10.6	19.5
3 12	12 55.89	-16 46.2	1.562	2.477	11.4	17.6	3 12	12 58.26	+ 0 20.5	2.062	3.004	7.3	19.3
3 22	12 49.45	-15 35.5	1.495	2.461	7.4	17.4	3 22	12 50.38	+ 0 46.4	2.035	3.018	3.7	19.1
4 1	12 41.75	-14 1.8	1.454	2.445	3.9	17.1	4 1	12 41.77	+ 1 11.5	2.036	3.032	1.9	19.0
4 11	12 33.89	-12 12.8	1.439	2.429	4.8	17.1	4 11	12 33.31	+ 1 31.3	2.067	3.046	4.9	19.2
4 21	12 26.96	-10 18.7	1.451	2.413	8.9	17.3	4 21	12 25.79	+ 1 42.4	2.125	3.060	8.3	19.4
5 1	12 21.89	- 8 30.4	1.489	2.398	13.2	17.5	5 1	12 19.85	+ 1 42.6	2.209	3.073	11.4	19.7
374373	2005 UK₃₆₁		3 31.9 179°86	0°2/ 1.2 17			376766	1999 XB₁₅₀		3 31.9 118°84	0°6/ 1.7 17		
2 21	13 6.74	- 8 7.6	2.072	2.841	14.7	22.4	2 21	13 6.70	- 9 17.3	2.306	3.063	13.7	22.1
3 2	13 3.18	- 7 42.9	1.979	2.842	11.8	22.2	3 2	13 2.79	- 8 55.6	2.222	3.077	11.0	22.0
3 12	12 57.46	- 7 3.8	1.907	2.842	8.3	21.9	3 12	12 56.98	- 8 20.6	2.161	3.091	7.8	21.8
3 22	12 50.07	- 6 12.7	1.861	2.842	4.3	21.7	3 22	12 49.74	- 7 34.6	2.125	3.104	4.1	21.6
4 1	12 41.75	- 5 14.3	1.843	2.842	0.3	21.4	4 1	12 41.78	- 6 41.6	2.118	3.117	0.7	21.3
4 11	12 33.45	- 4 14.7	1.854	2.842	4.2	21.7	4 11	12 33.92	- 5 46.8	2.141	3.130	3.6	21.6
4 21	12 26.03	- 3 19.9	1.892	2.841	8.2	21.9	4 21	12 26.92	- 4 55.6	2.192	3.142	7.2	21.8
5 1	12 20.23	- 2 35.3	1.956	2.840	11.8	22.1	5 1	12 21.39	- 4 12.4	2.270	3.154	10.4	22.0
212577	2006 SK₁₁₆		3 31.9 235°83	0°0/31.9 17			33239	1998 GO₉		3 31.9 236°40	5°4/24.1 18		
2 21	13 4.06	- 6 49.4	2.413	3.182	12.9	21.8	2 21	13 3.89	+12 14.9	2.756	3.557	10.6	19.0
3 2	13 0.75	- 6 27.2	2.315	3.179	10.3	21.6	3 2	13 0.40	+13 29.0	2.668	3.546	8.6	18.9
3 12	12 55.62	- 5 53.5	2.239	3.175	7.2	21.4	3 12	12 55.26	+14 44.2	2.604	3.535	6.6	18.7
3 22	12 49.08	- 5 10.6	2.190	3.172	3.7	21.2	3 22	12 48.87	+15 54.8	2.569	3.523	5.5	18.6
4 1	12 41.77	- 4 22.4	2.169	3.168	0.1	20.8	4 1	12 41.79	+16 54.8	2.562	3.511	6.0	18.6
4 11	12 34.44	- 3 33.8	2.177	3.165	3.8	21.1	4 11	12 34.69	+17 39.5	2.583	3.498	7.8	18.7
4 21	12 27.83	- 2 49.8	2.214	3.161	7.3	21.4	4 21	12 28.22	+18 6.0	2.629	3.485	10.0	18.9
5 1	12 22.56	- 2 14.3	2.276	3.157	10.5	21.5	5 1	12 22.94	+18 13.4	2.699	3.472	12.1	19.0
335947	2007 TY₇₇		3 31.9 90°40	2°0/ 3.5 17			64322	2001 UO₄₁		3 31.9 39°62	0°4/31.6 18		
2 21	13 5.28	-14 48.2	2.475	3.206	13.6	20.9	2 21	13 4.44	- 8 5.1	1.258	2.068	20.3	19.1
3 2	13 1.51	-14 25.8	2.397	3.230	11.1	20.7	3 2	13 2.60	- 7 26.8	1.189	2.076	16.2	18.8
3 12	12 55.97	-13 47.7	2.341	3.254	8.1	20.6	3 12	12 57.70	- 6 25.4	1.138	2.084	11.3	18.6
3 22	12 49.18	-12 55.6	2.310	3.278	4.9	20.4	3 22	12 50.37	- 5 6.1	1.109	2.094	5.7	18.3
4 1	12 41.77	-11 53.0	2.308	3.301	2.2	20.3	4 1	12 41.77	- 3 37.6	1.104	2.103	0.4	17.9
4 11	12 34.52	-10 45.0	2.335	3.324	3.3	20.4	4 11	12 33.35	- 2 11.4	1.125	2.113	6.0	18.4
4 21	12 28.10	- 9 37.2	2.392	3.347	6.4	20.6	4 21	12 26.40	- 0 58.0	1.169	2.124	11.4	18.7
5 1	12 23.05	- 8 34.8	2.476	3.369	9.3	20.8	5 1	12 21.88	- 0 5.0	1.235	2.135	16.0	19.0
433154	2012 TZ₂₄₂		3 31.9 263°57	2°3/29.6 17			435268	2007 TM₂₃₀		3 31.9 224°18	3°5/28.3 17		
2 21	13 6.70	+ 0 33.3	2.180	2.971	13.4	21.5	2 21	13 7.17	+ 4 42.7	2.301	3.096	12.6	21.6
3 2	13 3.05	+ 1 0.4	2.085	2.964	10.6	21.3	3 2	13 3.25	+ 5 18.4	2.212	3.093	10.0	21.4
3 12	12 57.33	+ 1 35.2	2.012	2.957	7.3	21.1	3 12	12 57.36	+ 5 58.7	2.146	3.090	7.0	21.2
3 22	12 50.00	+ 2 13.6	1.966	2.949	3.8	20.9	3 22	12 49.97	+ 6 38.8	2.108	3.086	4.2	21.0
4 1	12 41.77	+ 2 50.8	1.948	2.942	2.5	20.8	4 1	12 41.78	+ 7 13.7	2.097	3.082	3.8	21.0
4 11	12 33.51	+ 3 21.3	1.959	2.934	5.5	20.9	4 11	12 33.62	+ 7 38.3	2.116	3.079	6.2	21.2
4 21	12 26.07	+ 3 41.2	1.996	2.927	9.0	21.1	4 21	12 26.27	+ 7 49.5	2.161	3.075	9.3	21.3
5 1	12 20.15	+ 3 47.6	2.059	2.919	12.3	21.3	5 1	12 20.38	+ 7 45.5	2.231	3.071	12.2	21.5
386129	2007 SG₂₄		3 31.9 174°73	2°8/ 4.4 17			297881	2002 CM₁₅₁		3 31.9 124°64	2°5/29.6 18		
2 21	13 4.09	-16 35.2	2.539	3.262	13.5	21.5	2 21	13 11.00	- 1 16.7	1.830	2.619	15.7	22.0
3 2	13 0.74	-16 26.1	2.438	3.263	11.2	21.3	3 2	13 6.60	- 0 24.7	1.758	2.636	12.3	21.8
3 12	12 55.58	-16 0.8	2.358	3.264	8.4	21.1	3 12	12 59.80	+ 0 38.6	1.709	2.653	8.3	21.6
3 22	12 49.06	-15 19.8	2.304	3.265	5.5	20.9	3 22	12 51.22	+ 1 47.3	1.685	2.669	4.3	21.3
4 1	12 41.77	-14 25.6	2.277	3.266	3.0	20.8	4 1	12 41.78	+ 2 54.3	1.690	2.684	2.8	21.3
4 11	12 34.49	-13 22.6	2.279	3.266	3.7	20.8	4 11	12 32.54	+ 3 52.2	1.724	2.699	6.1	21.5
4 21	12 27.92	-12 16.3	2.310	3.266	6.5	21.0	4 21	12 24.47	+ 4 35.5	1.784	2.713	10.0	21.8
5 1	12 22.67	-11 12.2	2.368	3.266	9.4	21.2	5 1	12 18.32	+ 5 1.1	1.868	2.726	13.5	22.0
160571	1998 WG₁₀		3 31.9 174°04	4°0/27.4 18			402912	2007 TG₈₀		3 31.9 111°94	1°5/30.6 18		
2 21	13 8.02	+ 6 57.7	2.530	3.322	11.7	20.4	2 21	13 10.07	- 3 41.3	1.743	2.530	16.4	21.2
3 2	13 3.66	+ 7 41.2	2.446	3.324	9.2	20.3	3 2	13 6.03	- 3 3.8	1.670	2.546	12.9	21.0
3 12	12 57.49	+ 8 27.5	2.386	3.326	6.6	20.1	3 12	12 59.50	- 2 13.2	1.618	2.561	8.8	20.8
3 22	12 49.98	+ 9 11.9	2.354	3.327	4.4	20.0	3 22	12 51.11	- 1 14.3	1.592	2.576	4.4	20.6
4 1	12 41.77	+ 9 49.3	2.351	3.328	4.3	19.9	4 1	12 41.78	- 0 13.7	1.593	2.591	1.7	20.4
4 11	12 33.63	+10 15.2	2.377	3.329	6.4	20.1	4 11	12 32.65	+ 0 41.3	1.623	2.605	5.6	20.7
4 21	12 26.26	+10 26.9	2.430	3.329	9.1	20.2	4 21	12 24.72	+ 1 24.7	1.679	2.618	9.8	21.0
5 1	12 20.25	+10 23.2	2.508	3.329	11.6	20.4	5 1	12 18.76	+ 1 52.3	1.758	2.6		

EPHEMERIDES

3 31.9

3 31.9

2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
438349	2006 <i>RE</i> ₁₁₃		3 31.9	0°55	0°5/31.5	17	459028	2011 <i>YM</i> ₄₃		3 31.9	50°08	4°7/	4.7 18
2 21	13 2.92	- 5 44.8	1.954	2.742	14.8	21.5	2 21	13 7.73	-16 50.0	1.526	2.280	19.7	21.0
3 2	13 0.30	- 5 21.1	1.865	2.741	11.8	21.3	3 2	13 4.93	-17 16.6	1.444	2.286	16.5	20.8
3 12	12 55.54	- 4 44.3	1.799	2.741	8.2	21.0	3 12	12 59.22	-17 20.5	1.380	2.293	12.7	20.5
3 22	12 49.12	- 3 57.5	1.757	2.741	4.1	20.8	3 22	12 51.18	-17 0.5	1.337	2.299	8.5	20.3
4 1	12 41.79	- 3 5.8	1.742	2.741	0.5	20.5	4 1	12 41.82	-16 18.3	1.318	2.306	5.1	20.1
4 11	12 34.49	- 2 15.2	1.755	2.742	4.6	20.8	4 11	12 32.49	-15 20.0	1.326	2.313	5.7	20.2
4 21	12 28.07	- 1 31.7	1.795	2.743	8.6	21.0	4 21	12 24.44	-14 14.1	1.359	2.320	9.5	20.4
5 1	12 23.27	- 0 59.8	1.859	2.745	12.2	21.3	5 1	12 18.67	-13 10.0	1.415	2.327	13.5	20.7
499905	2011 <i>GG</i> ₃₂		3 31.9	291°74	2°7/29.3	17	252935	2002 <i>PG</i> ₁₀		3 31.9	182°87	1°4/	2.3 18
2 21	13 5.36	+ 0 6.6	1.951	2.751	14.4	21.5	2 21	13 8.33	-11 21.3	2.089	2.840	15.1	21.5
3 2	13 2.23	+ 0 47.7	1.862	2.746	11.4	21.2	3 2	13 4.48	-11 4.2	1.992	2.841	12.3	21.3
3 12	12 56.89	+ 1 38.6	1.795	2.742	7.8	21.0	3 12	12 58.42	-10 30.6	1.916	2.842	8.9	21.1
3 22	12 49.82	+ 2 34.3	1.753	2.737	4.2	20.8	3 22	12 50.61	- 9 42.3	1.865	2.841	5.0	20.8
4 1	12 41.79	+ 3 28.7	1.739	2.732	2.9	20.7	4 1	12 41.83	- 8 43.1	1.843	2.840	1.5	20.6
4 11	12 33.76	+ 4 15.0	1.753	2.728	6.1	20.9	4 11	12 33.05	- 7 38.8	1.849	2.839	4.0	20.8
4 21	12 26.64	+ 4 48.2	1.793	2.723	9.9	21.1	4 21	12 25.16	- 6 36.0	1.884	2.837	7.9	21.0
5 1	12 21.19	+ 5 4.9	1.857	2.719	13.3	21.3	5 1	12 18.93	- 5 40.8	1.944	2.834	11.6	21.2
374114	2004 <i>SP</i> ₅₀		3 31.9	164°39	0°2/	1.2 17	120576	1995 <i>QK</i> ₂		3 31.9	258°94	3°6/	3.9 18
2 21	13 4.53	- 9 41.8	2.234	2.996	14.0	21.6	2 21	13 11.20	-14 49.7	2.240	2.965	15.0	20.1
3 2	13 1.25	- 8 55.5	2.141	2.999	11.2	21.4	3 2	13 6.93	-15 21.3	2.119	2.945	12.6	19.9
3 12	12 56.02	- 7 53.2	2.069	3.003	7.9	21.2	3 12	13 0.31	-15 39.1	2.019	2.925	9.6	19.7
3 22	12 49.30	- 6 37.8	2.025	3.005	4.1	21.0	3 22	12 51.71	-15 42.1	1.943	2.904	6.4	19.4
4 1	12 41.79	- 5 14.8	2.009	3.008	0.2	20.7	4 1	12 41.83	-15 30.6	1.895	2.883	3.8	19.2
4 11	12 34.32	- 3 50.7	2.022	3.010	3.9	21.0	4 11	12 31.64	-15 7.0	1.876	2.861	4.6	19.3
4 21	12 27.67	- 2 32.4	2.064	3.011	7.7	21.2	4 21	12 22.15	-14 36.0	1.886	2.838	7.9	19.4
5 1	12 22.48	- 1 25.4	2.132	3.013	11.1	21.4	5 1	12 14.26	-14 3.0	1.921	2.815	11.4	19.6
294399	2007 <i>VD</i> ₁₇₀		3 31.9	254°82	4°1/27.6	17	296922	2010 <i>CK</i> ₁₁₇		3 31.9	281°52	5°3/25.9	18
2 21	13 6.59	+ 6 21.7	2.280	3.079	12.6	20.7	2 21	13 4.83	+ 8 48.0	2.205	3.013	12.7	20.3
3 2	13 2.81	+ 7 2.8	2.192	3.075	10.0	20.5	3 2	13 1.56	+ 9 49.8	2.120	3.006	10.1	20.1
3 12	12 57.08	+ 7 47.6	2.128	3.071	7.1	20.3	3 12	12 56.29	+10 54.8	2.058	2.998	7.4	19.9
3 22	12 49.84	+ 8 31.1	2.091	3.066	4.6	20.1	3 22	12 49.49	+11 56.8	2.022	2.990	5.5	19.8
4 1	12 41.80	+ 9 7.5	2.082	3.062	4.4	20.1	4 1	12 41.84	+12 49.0	2.014	2.983	5.7	19.8
4 11	12 33.78	+ 9 32.1	2.101	3.058	6.8	20.2	4 11	12 34.21	+13 25.6	2.033	2.975	8.0	19.9
4 21	12 26.58	+ 9 41.6	2.147	3.053	9.7	20.4	4 21	12 27.39	+13 43.4	2.078	2.967	10.8	20.0
5 1	12 20.85	+ 9 34.6	2.216	3.048	12.5	20.6	5 1	12 22.06	+13 40.9	2.145	2.960	13.5	20.2
64788	2001 <i>XL</i> ₂₀₁		3 31.9	175°65	3°6/28.4	18	28984	2001 <i>MS</i> ₂		3 31.9	139°90	5°0/25.9	18
2 21	13 10.08	+ 1 53.3	1.974	2.767	14.5	19.7	2 21	13 5.86	+ 9 15.5	2.423	3.224	11.9	19.1
3 2	13 5.86	+ 2 55.0	1.889	2.770	11.4	19.5	3 2	13 2.04	+10 18.4	2.349	3.231	9.4	18.9
3 12	12 59.34	+ 4 5.8	1.828	2.772	7.9	19.3	3 12	12 56.42	+11 23.2	2.300	3.237	6.9	18.8
3 22	12 51.04	+ 5 19.8	1.793	2.774	4.6	19.1	3 22	12 49.47	+12 24.0	2.277	3.243	5.1	18.7
4 1	12 41.79	+ 6 29.5	1.787	2.775	3.9	19.0	4 1	12 41.85	+13 15.0	2.283	3.249	5.4	18.7
4 11	12 32.61	+ 7 27.6	1.810	2.775	6.9	19.2	4 11	12 34.32	+13 51.2	2.318	3.255	7.4	18.8
4 21	12 24.42	+ 8 9.0	1.859	2.774	10.5	19.4	4 21	12 27.60	+14 9.9	2.378	3.260	9.9	19.0
5 1	12 18.01	+ 8 30.9	1.932	2.772	13.8	19.6	5 1	12 22.27	+14 10.2	2.462	3.265	12.3	19.2
61062	2000 <i>LF</i> ₂		3 31.9	129°98	0°5/31.5	18	502567	2015 <i>BW</i> ₄₉₆		3 31.9	163°34	0°3/	1.2 17
2 21	13 9.60	- 6 37.7	1.660	2.443	17.2	19.4	2 21	13 6.72	- 7 33.7	2.042	2.813	14.8	22.1
3 2	13 5.91	- 6 3.9	1.581	2.454	13.7	19.2	3 2	13 3.22	- 7 18.6	1.950	2.814	11.9	21.9
3 12	12 59.58	- 5 13.5	1.523	2.464	9.5	19.0	3 12	12 57.53	- 6 50.0	1.880	2.816	8.3	21.7
3 22	12 51.22	- 4 10.5	1.489	2.473	4.8	18.7	3 22	12 50.15	- 6 10.2	1.835	2.817	4.4	21.5
4 1	12 41.80	- 3 1.5	1.483	2.482	0.6	18.4	4 1	12 41.84	- 5 23.5	1.818	2.818	0.3	21.1
4 11	12 32.51	- 1 54.6	1.504	2.491	5.3	18.8	4 11	12 33.55	- 4 35.6	1.830	2.819	4.2	21.4
4 21	12 24.44	- 0 57.3	1.552	2.499	9.8	19.1	4 21	12 26.15	- 3 51.9	1.869	2.819	8.2	21.7
5 1	12 18.44	- 0 15.1	1.624	2.506	13.8	19.3	5 1	12 20.40	- 3 17.6	1.933	2.820	11.8	21.9
193925	2001 <i>QC</i> ₃₃₀		3 31.9	133°11	1°8/30.4	18	341685	2007 <i>VM</i> ₁₁₀		3 31.9	163°46	1°2/30.4	17
2 21	13 13.21	- 2 21.7	1.804	2.587	16.1	21.0	2 21	13 6.08	- 2 15.9	2.760	3.532	11.4	21.8
3 2	13 8.44	- 1 49.9	1.728	2.602	12.7	20.8	3 2	13 2.00	- 1 47.8	2.669	3.537	8.9	21.7
3 12	13 1.15	- 1 6.8	1.674	2.616	8.7	20.6	3 12	12 56.30	- 1 12.0	2.602	3.541	6.1	21.5
3 22	12 51.95	- 0 17.0	1.646	2.630	4.4	20.4	3 22	12 49.39	- 0 31.6	2.562	3.545	3.1	21.3
4 1	12 41.81	+ 0 33.4	1.646	2.643	1.9	20.2	4 1	12 41.85	+ 0 9.5	2.552	3.549	1.3	21.2
4 11	12 31.85	+ 1 17.8	1.675	2.655	5.6	20.5	4 11	12 34.35	+ 0 47.3	2.572	3.552	4.0	21.4
4 21	12 23.11	+ 1 50.7	1.730	2.666	9.8	20.8	4 21	12 27.53	+ 1 18.1	2.622	3.555	7.0	21.6
5 1	12 16.37	+ 2 8.8	1.810	2.677	13.4	21.0	5 1	12 21.90	+ 1 39.3	2.697	3.557	9.7	21.7
85706	1998 <i>SB</i> ₂₇		3 31.9	210°12	0°4/31.6	18	17357	Lucataliano		3 31.9	210°48	5°9/24.3	18
2 21	13 10.95	- 6 16.4	1.844	2.618	16.1	20.7	2 21	13 6.84	+11 31.4	2.436	3.237	11.9	19.1
3 2	13 6.93	- 5 51.6	1.745	2.612	12.9	20.5	3 2	13 2.95	+12 54.8	2.351	3.230	9.5	18.9
3 12	13 0.35	- 5 11.7	1.667	2.605	9.0	20.2	3 12	12 57.16	+14 20.3	2.291	3.222	7.3	18.8
3 22	12 51.69	- 4 19.7	1.614	2.597	4.6	19.9	3 22	12 49.90	+15 41.0	2.258	3.214	6.0	18.7
4 1	12 41.81	- 3 20.9	1.589	2.588	0.5	19.6	4 1	12 41.85	+16 50.0	2.254	3.205	6.5	18.7
4 11	12 31.84	- 2 22.3	1.593	2.579	5.0	19.9	4 11	12 33.79	+17 41.3	2.277	3.196	8.5	18.8
4 21	12 22.86	- 1 30.6	1.624	2.569	9.6	20.1	4 21	12 26.49	+18 11.8	2.327	3.185	11.0	18.9
5 1	12 15.81	- 0 51.8	1.679	2.558	13.7	20.4	5 1	12 20.59	+18 20.5	2.399	3.175	13.4	19.1
503095	2015 <i>FN</i> ₃₀₁		3 31.9	359°99	5°0/26.5	17	27191	1999 <i>CO</i> ₅₄		3 31.9	184°35	2°7/28.4	

EPHEMERIDES

3 31.9

3 31.9

2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
415552	2014 <i>QK</i> ₁₉₆		3 31.9 103°95	4.2/ 4.5	18		17441	1989 <i>UE</i>		3 31.9 142°18	1.5/30.5	18	
2 21	13 8.77	-16 44.3	1.613	2.361	19.1	21.4	2 21	13 11.18	-3 8.1	2.002	2.780	14.9	19.1
3 2	13 5.57	-17 0.0	1.529	2.369	15.9	21.2	3 2	13 6.62	-2 31.9	1.922	2.793	11.7	18.9
3 12	12 59.57	-16 53.1	1.463	2.376	12.1	20.9	3 12	12 59.80	-1 44.5	1.864	2.805	8.0	18.7
3 22	12 51.33	-16 23.1	1.420	2.383	8.0	20.7	3 22	12 51.28	+0 50.1	1.833	2.816	4.0	18.4
4 1	12 41.85	-15 32.3	1.401	2.390	4.6	20.5	4 1	12 41.88	+0 5.8	1.830	2.827	1.6	18.3
4 11	12 32.40	-14 26.9	1.409	2.397	5.4	20.6	4 11	12 32.62	+0 56.6	1.856	2.837	5.2	18.5
4 21	12 24.20	-13 15.5	1.444	2.403	9.2	20.8	4 21	12 24.41	+1 37.1	1.910	2.846	9.0	18.8
5 1	12 18.18	-12 7.3	1.502	2.410	13.2	21.1	5 1	12 17.96	+2 3.7	1.989	2.854	12.5	19.0
36139	1999 <i>RY</i> ₁₆₇		3 31.9 284°81	2°6/28.7	18		491669	2012 <i>TA</i> ₃₁₀		3 31.9 171°33	0°6/ 1.6	17	
2 21	13 1.80	-0 10.9	2.355	3.150	12.4	19.0	2 21	13 7.58	-7 51.6	2.572	3.326	12.6	22.0
3 2	12 59.08	+0 49.9	2.254	3.137	9.7	18.8	3 2	13 3.39	-7 48.2	2.475	3.328	10.1	21.8
3 12	12 54.55	+2 0.8	2.178	3.124	6.7	18.6	3 12	12 57.39	-7 34.4	2.400	3.330	7.1	21.6
3 22	12 48.61	+3 17.0	2.128	3.111	3.6	18.3	3 22	12 50.02	-7 11.9	2.353	3.331	3.8	21.4
4 1	12 41.87	+4 32.5	2.108	3.098	2.9	18.3	4 1	12 41.89	-6 43.3	2.334	3.333	0.7	21.2
4 11	12 35.07	+5 40.8	2.116	3.086	5.7	18.4	4 11	12 33.77	-6 12.6	2.345	3.334	3.4	21.4
4 21	12 28.95	+6 36.6	2.151	3.073	8.9	18.6	4 21	12 26.37	-5 43.7	2.386	3.334	6.7	21.6
5 1	12 24.15	+7 16.3	2.211	3.060	12.0	18.8	5 1	12 20.29	-5 20.3	2.453	3.335	9.8	21.8
261370	2005 <i>UR</i> ₃₄₂		3 31.9 145°19	1°2/ 2.1	17		365847	2011 <i>UU</i> ₉₂		3 31.9 63°63	1°3/ 2.0	18	
2 21	13 7.77	-10 21.1	2.067	2.825	15.1	21.5	2 21	13 6.39	-11 15.6	1.411	2.198	19.6	21.3
3 2	13 4.00	-10 9.3	1.977	2.831	12.2	21.3	3 2	13 3.87	-10 53.0	1.338	2.209	15.8	21.1
3 12	12 58.05	-9 42.2	1.909	2.837	8.7	21.1	3 12	12 58.44	-10 7.4	1.284	2.220	11.3	20.9
3 22	12 50.41	-9 1.8	1.865	2.842	4.8	20.8	3 22	12 50.76	-9 1.8	1.252	2.232	6.2	20.6
4 1	12 41.87	-8 11.8	1.850	2.848	1.3	20.6	4 1	12 41.89	-7 42.6	1.245	2.244	1.4	20.3
4 11	12 33.36	-7 17.8	1.863	2.853	3.9	20.8	4 11	12 33.19	-6 19.5	1.265	2.256	5.1	20.6
4 21	12 25.79	-6 25.7	1.904	2.857	7.8	21.0	4 21	12 25.87	-5 2.6	1.309	2.268	10.1	20.9
5 1	12 19.87	-5 41.2	1.971	2.861	11.4	21.3	5 1	12 20.83	-4 0.1	1.376	2.280	14.5	21.2
17815	<i>Kulawik</i>		3 31.9 82°23	4°3/ 4.5	18		425254	2009 <i>WY</i> ₇₂		3 31.9 82°82	0°2/ 31.7	15	
2 21	13 8.76	-16 38.1	1.587	2.337	19.3	18.5	2 21	13 6.50	-7 8.2	1.921	2.699	15.4	22.1
3 2	13 5.57	-16 56.4	1.507	2.347	16.0	18.3	3 2	13 3.02	-6 35.9	1.847	2.716	12.2	21.9
3 12	12 59.56	-16 52.2	1.445	2.357	12.2	18.1	3 12	12 57.34	-5 49.2	1.794	2.733	8.5	21.7
3 22	12 51.32	-16 25.0	1.404	2.368	8.0	17.9	3 22	12 50.02	-4 51.7	1.766	2.749	4.3	21.5
4 1	12 41.86	-15 36.9	1.389	2.378	4.6	17.7	4 1	12 41.90	-3 48.9	1.767	2.766	0.3	21.2
4 11	12 32.48	-14 34.4	1.401	2.388	5.4	17.8	4 11	12 33.95	-2 47.5	1.795	2.782	4.4	21.6
4 21	12 24.38	-13 26.0	1.438	2.398	9.2	18.0	4 21	12 27.02	-1 53.8	1.851	2.798	8.4	21.9
5 1	12 18.49	-12 20.7	1.499	2.408	13.1	18.3	5 1	12 21.82	-1 12.5	1.932	2.814	12.0	22.1
219671	2001 <i>VS</i> ₅₀		3 31.9 141°01	2°4/ 3.5	17		90776	1993 <i>VW</i> ₂		3 31.9 90°50	3°3/ 29.4	18	
2 21	13 9.29	-13 51.0	2.232	2.966	14.8	21.0	2 21	13 12.80	+1 4.6	1.587	2.388	17.2	19.6
3 2	13 5.03	-13 52.3	2.142	2.977	12.1	20.9	3 2	13 8.31	+1 45.9	1.526	2.410	13.4	19.4
3 12	12 58.67	-13 37.9	2.073	2.987	9.0	20.7	3 12	13 1.13	+2 36.4	1.487	2.432	9.2	19.2
3 22	12 50.70	-13 8.5	2.029	2.997	5.5	20.5	3 22	12 51.97	+3 29.7	1.471	2.454	4.9	19.0
4 1	12 41.87	-12 26.8	2.013	3.006	2.6	20.3	4 1	12 41.90	+4 18.2	1.483	2.476	3.6	19.0
4 11	12 33.10	-11 37.3	2.026	3.014	3.9	20.4	4 11	12 32.17	+4 54.9	1.523	2.497	7.0	19.2
4 21	12 25.23	-10 45.7	2.068	3.022	7.2	20.6	4 21	12 23.85	+5 15.4	1.588	2.517	11.0	19.5
5 1	12 18.96	-9 57.6	2.136	3.030	10.5	20.8	5 1	12 17.73	+5 17.5	1.676	2.537	14.6	19.8
244151	2001 <i>WZ</i> ₄₄		3 31.9 69°79	8°8/21.3	18		157899	1999 <i>TU</i> ₁₀₆		3 31.9 167°57	2°1/ 3.5	18	
2 21	13 7.47	+21 50.4	2.247	3.047	12.7	19.8	2 21	13 5.97	-14 31.1	2.451	3.183	13.7	20.4
3 2	13 3.54	+23 9.2	2.190	3.053	10.8	19.7	3 2	13 2.27	-14 13.4	2.353	3.187	11.2	20.3
3 12	12 57.56	+24 20.8	2.157	3.058	9.3	19.6	3 12	12 56.70	-13 39.6	2.276	3.190	8.3	20.1
3 22	12 50.08	+25 17.6	2.148	3.064	8.8	19.6	3 22	12 49.69	-12 50.9	2.225	3.193	5.0	19.9
4 1	12 41.88	+25 53.0	2.166	3.069	9.5	19.6	4 1	12 41.91	-11 50.3	2.202	3.196	2.3	19.7
4 11	12 33.86	+26 3.3	2.208	3.075	11.1	19.7	4 11	12 34.15	-10 42.9	2.209	3.198	3.5	19.8
4 21	12 26.82	+25 47.8	2.272	3.081	13.0	19.9	4 21	12 27.15	-9 34.5	2.245	3.199	6.7	20.0
5 1	12 21.40	+25 8.5	2.357	3.086	14.8	20.0	5 1	12 21.54	-8 30.7	2.307	3.200	9.9	20.2
112968	2002 <i>RH</i> ₁₉		3 31.9 72°44	1°6/30.4	18		456836	2007 <i>TX</i> ₄₄₅		3 31.9 165°58	4°1/ 5.2	18	
2 21	13 5.53	-2 25.7	2.081	2.869	14.0	19.8	2 21	13 8.76	-19 15.2	1.974	2.692	16.9	21.9
3 2	13 2.14	-1 54.6	1.998	2.875	11.0	19.6	3 2	13 5.07	-19 13.3	1.879	2.697	14.3	21.7
3 12	12 56.70	-1 13.4	1.937	2.881	7.5	19.4	3 12	12 58.97	-18 49.3	1.803	2.701	11.0	21.5
3 22	12 49.70	-0 26.0	1.902	2.887	3.8	19.2	3 22	12 50.97	-18 2.8	1.750	2.705	7.5	21.3
4 1	12 41.88	+0 22.4	1.896	2.893	1.7	19.0	4 1	12 41.91	-16 56.2	1.724	2.708	4.5	21.1
4 11	12 34.14	+1 5.9	1.918	2.899	5.0	19.2	4 11	12 32.86	-15 35.1	1.726	2.710	4.9	21.2
4 21	12 27.29	+1 39.8	1.967	2.905	8.7	19.5	4 21	12 24.82	-14 7.6	1.755	2.712	8.1	21.4
5 1	12 22.01	+2 0.7	2.040	2.911	12.0	19.7	5 1	12 18.62	-12 42.3	1.811	2.713	11.6	21.6
184605	2005 <i>QF</i> ₁₇₇		3 31.9 245°31	1°5/ 2.7	18		216491	1999 <i>XT</i> ₁₄		3 31.9 59°08	13°2/ 14.4	18	
2 21	13 3.90	-11 38.9	2.501	3.248	13.0	21.0	2 21	13 4.24	-36 41.7	1.180	1.860	28.0	20.0
3 2	13 0.63	-11 29.8	2.398	3.244	10.6	20.8	3 2	13 3.59	-37 30.3	1.110	1.871	25.5	19.8
3 12	12 55.57	-11 7.1	2.317	3.240	7.7	20.6	3 12	12 59.09	-37 33.8	1.050	1.882	22.3	19.6
3 22	12 49.12	-10 32.2	2.262	3.236	4.5	20.4	3 22	12 51.38	-36 43.5	1.004	1.894	18.7	19.4
4 1	12 41.89	-9 47.9	2.236	3.232	1.6	20.2	4 1	12 41.90	-34 55.0	0.975	1.906	15.4	19.2
4 11	12 34.63	-8 58.6	2.238	3.228	3.4	20.3	4 11	12 32.61	-32 14.1	0.967	1.918	13.3	19.1
4 21	12 28.05	-8 9.1	2.269	3.223	6.7	20.5	4 21	12 25.25	-28 57.0	0.981	1.930	13.7	19.2
5 1	12 22.77	-7 24.3	2.326	3.219	9.8	20.7	5 1	12 21.05	-25 26.6	1.017	1.943	16.3	19.4
106406	2000 <i>VM</i> ₂₉		3 31.9 37°82	0°1/ 1.0	18		86931	2000 <i>HV</i> ₆₅		3 31.9 250°92	4°4/ 28.4	18	
2 21	13 3.77	-9 2.6	1.194	2.006	21.0	18.9	2 21	13 10.58	+3 12.6	1.687	2.492	16.1	19.6
3 2	13 2.12	-8 27.4	1.135	2.023	16.7	18.7	3 2	13 6.97	+4 2.4	1.590	2.477	12.8	19.3
3 12	12 57.35	-7 28.3	1.094	2.040	11.7	18.5	3 12	13 0.60	+5 2.0	1.515	2.461	9.0	19.1
3 22	12 50.20	-6 10.5	1.074	2.058	6.0	18.2	3 22	12 51.95	+6 4.9	1.464	2.444	5.4	18.8
4 1	12 41.88	-4 43.0	1.078	2.077	0.1	17.8	4 1	12 41.91	+7 3.0	1.440	2.427	4.7	18.7
4 11	12 33.87	-3 17.7	1.107	2.097	5.8	18.3	4 11	12 31.71	+7 47.8	1.443	2.410	8.1	18.9
4 21	12 27.42	-2 4.9	1.159	2.117	11.1	18.6	4 21	12 22.56	+8 13.5	1.472	2.392	12.4	19.1
5 1	12 23.43	-1 12.0	1.233	2.138	15.7	19.0	5 1	12 15.46	+8 16.9	1.522	2.373	16.3	19.3

EPHEMERIDES

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2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
407716	2011 <i>UK</i> ₂₆₉		3 31.9 120°44	3°4/29.5	18		457593	2009 <i>AH</i> ₄₅		3 31.9 92°73	4°0/4.2	18	
2 21	13 14.34	+ 2 32.4	1.656	2.453	16.7	21.6	2 21	13 11.82	-15 41.4	1.595	2.343	19.3	22.0
3 2	13 9.60	+ 2 58.0	1.583	2.464	13.2	21.4	3 2	13 7.91	-16 3.5	1.520	2.360	16.0	21.8
3 12	13 2.12	+ 3 30.8	1.531	2.475	9.1	21.2	3 12	13 1.13	-16 4.3	1.463	2.377	12.0	21.6
3 22	12 52.55	+ 4 5.1	1.504	2.486	5.0	21.0	3 22	12 52.13	-15 43.4	1.429	2.393	7.8	21.4
4 1	12 41.92	+ 4 34.4	1.504	2.496	3.6	20.9	4 1	12 41.96	-15 3.1	1.420	2.409	4.3	21.3
4 11	12 31.49	+ 4 52.7	1.532	2.505	7.0	21.1	4 11	12 31.95	-14 9.5	1.438	2.425	5.3	21.3
4 21	12 22.40	+ 4 56.2	1.586	2.515	11.0	21.4	4 21	12 23.29	-13 10.6	1.482	2.441	9.1	21.6
5 1	12 15.49	+ 4 43.1	1.663	2.524	14.7	21.6	5 1	12 16.91	-12 14.9	1.550	2.456	13.0	21.9
160698	2000 <i>NJ</i> ₂₆		3 31.9 209°53	0°9/1.9	17		462215	2007 <i>VS</i> ₂₅₂		3 31.9 181°93	2°1/29.8	16	
2 21	13 8.56	-10 54.4	1.991	2.748	15.6	20.7	2 21	13 10.11	- 1 26.2	2.175	2.954	13.8	22.8
3 2	13 4.89	-10 25.0	1.888	2.741	12.7	20.5	3 2	13 5.73	- 0 39.4	2.084	2.956	10.9	22.6
3 12	12 58.86	- 9 37.3	1.806	2.734	9.1	20.3	3 12	12 59.20	+ 0 17.8	2.015	2.957	7.5	22.4
3 22	12 50.95	- 8 33.5	1.748	2.727	5.0	20.0	3 22	12 51.03	+ 1 20.9	1.973	2.956	3.9	22.2
4 1	12 41.93	- 7 18.1	1.719	2.718	1.0	19.7	4 1	12 41.97	+ 2 24.0	1.961	2.955	2.3	22.1
4 11	12 32.83	- 5 58.1	1.719	2.709	4.3	19.9	4 11	12 32.92	+ 3 20.6	1.978	2.953	5.5	22.3
4 21	12 24.63	- 4 41.1	1.747	2.698	8.6	20.2	4 21	12 24.77	+ 4 5.6	2.023	2.951	9.1	22.5
5 1	12 18.17	- 3 34.3	1.801	2.688	12.5	20.4	5 1	12 18.21	+ 4 35.6	2.094	2.947	12.4	22.7
390473	2013 <i>YM</i> ₁₂₅		3 31.9 132°92	3°0/4.2	17		377413	2004 <i>TU</i> ₁₀₄		3 31.9 106°40	1°1/2.2	15	
2 21	13 6.94	-15 14.0	2.432	3.159	13.9	21.7	2 21	13 7.52	-10 34.1	2.163	2.917	14.6	22.4
3 2	13 3.08	-15 27.3	2.336	3.164	11.5	21.6	3 2	13 3.62	-10 17.0	2.082	2.934	11.8	22.2
3 12	12 57.30	-15 26.0	2.262	3.169	8.7	21.4	3 12	12 57.67	- 9 45.0	2.023	2.950	8.4	22.1
3 22	12 50.03	-15 10.4	2.212	3.174	5.6	21.2	3 22	12 50.20	- 9 0.3	1.989	2.966	4.6	21.9
4 1	12 41.94	-14 42.0	2.190	3.179	3.2	21.0	4 1	12 41.97	- 8 7.1	1.984	2.982	1.2	21.6
4 11	12 33.85	-14 4.5	2.197	3.183	3.9	21.1	4 11	12 33.87	- 7 10.7	2.008	2.997	3.7	21.8
4 21	12 26.53	-13 22.6	2.233	3.187	6.7	21.3	4 21	12 26.69	- 6 17.0	2.060	3.012	7.4	22.1
5 1	12 20.64	-12 41.4	2.294	3.192	9.7	21.5	5 1	12 21.10	- 5 30.9	2.138	3.027	10.7	22.3
39096	2000 <i>WE</i> ₁		3 31.9 173°95	3°1/27.9	18		504435	2008 <i>AM</i> ₁₁₆		3 31.9 122°63	4°6/26.2	17	
2 21	13 8.50	+ 4 29.5	2.864	3.645	10.8	20.7	2 21	13 4.81	+ 8 30.5	2.525	3.326	11.5	21.7
3 2	13 3.83	+ 5 19.5	2.776	3.649	8.5	20.5	3 2	13 1.16	+ 9 30.8	2.451	3.333	9.1	21.6
3 12	12 57.55	+ 6 13.8	2.713	3.652	5.9	20.3	3 12	12 55.81	+10 33.3	2.402	3.341	6.6	21.4
3 22	12 50.06	+ 7 8.2	2.679	3.655	3.7	20.2	3 22	12 49.21	+11 32.5	2.380	3.348	4.8	21.3
4 1	12 41.94	+ 7 57.9	2.675	3.657	3.4	20.2	4 1	12 41.98	+12 22.9	2.386	3.355	5.0	21.3
4 11	12 33.88	+ 8 38.6	2.701	3.658	5.5	20.3	4 11	12 34.84	+12 59.8	2.421	3.362	6.9	21.5
4 21	12 26.49	+ 9 7.2	2.757	3.658	8.0	20.5	4 21	12 28.45	+13 20.5	2.483	3.369	9.4	21.6
5 1	12 20.31	+ 9 22.0	2.837	3.657	10.4	20.6	5 1	12 23.37	+13 23.9	2.567	3.375	11.7	21.8
296610	2009 <i>SV</i> ₁₂		3 31.9 80°48	2°9/3.2	18		461494	2002 <i>WN</i> ₈		3 31.9 147°39	5°0/27.1	18	
2 21	13 13.44	-11 48.6	1.838	2.587	17.0	21.0	2 21	13 11.22	+ 7 47.5	2.084	2.881	13.7	21.5
3 2	13 8.76	-12 24.9	1.758	2.602	13.9	20.8	3 2	13 6.57	+ 8 40.8	2.010	2.890	10.9	21.3
3 12	13 1.51	-12 46.4	1.698	2.617	10.3	20.6	3 12	12 59.73	+ 9 37.0	1.960	2.899	7.8	21.1
3 22	12 52.25	-12 53.1	1.663	2.632	6.3	20.4	3 22	12 51.26	+10 29.9	1.935	2.907	5.4	21.0
4 1	12 41.94	-12 46.3	1.654	2.647	3.1	20.2	4 1	12 41.97	+11 12.8	1.940	2.914	5.3	21.0
4 11	12 31.73	-12 29.9	1.674	2.662	4.6	20.3	4 11	12 32.83	+11 40.4	1.972	2.921	7.7	21.2
4 21	12 22.69	-12 9.1	1.722	2.677	8.3	20.6	4 21	12 24.71	+11 49.8	2.031	2.927	10.7	21.3
5 1	12 15.68	-11 49.3	1.794	2.692	12.0	20.8	5 1	12 18.31	+11 40.2	2.113	2.933	13.5	21.5
506011	2015 <i>HM</i> ₅₁		3 31.9 259°60	4°4/26.7	17		86367	1999 <i>XY</i> ₂₂₃		3 31.9 149°00	1°9/29.0	18	
2 21	13 4.22	+ 6 21.3	2.310	3.114	12.3	21.7	2 21	13 3.46	+ 1 16.9	3.368	4.145	9.4	20.8
3 2	13 1.00	+ 7 23.8	2.220	3.106	9.7	21.5	3 2	12 59.63	+ 1 56.0	3.282	4.155	7.3	20.7
3 12	12 55.89	+ 8 31.3	2.155	3.098	7.0	21.3	3 12	12 54.52	+ 2 39.8	3.222	4.164	5.0	20.6
3 22	12 49.33	+ 9 38.1	2.116	3.089	4.8	21.2	3 22	12 48.49	+ 3 25.3	3.191	4.172	2.7	20.4
4 1	12 41.95	+10 37.8	2.105	3.081	4.9	21.2	4 1	12 41.98	+ 4 8.9	3.190	4.180	2.1	20.4
4 11	12 34.57	+11 24.5	2.123	3.072	7.2	21.3	4 11	12 35.53	+ 4 47.2	3.219	4.188	4.0	20.5
4 21	12 27.94	+11 54.2	2.166	3.064	10.1	21.5	4 21	12 29.62	+ 5 17.5	3.277	4.195	6.3	20.7
5 1	12 22.70	+12 5.2	2.233	3.055	12.8	21.6	5 1	12 24.66	+ 5 37.8	3.362	4.202	8.5	20.8
370107	2001 <i>TW</i> ₁₆₁		3 31.9 254°65	1°2/2.1	17		338402	2003 <i>BH</i> ₆		3 31.9 72°00	6°8/23.4	18	
2 21	13 6.95	-10 42.3	2.057	2.815	15.1	22.2	2 21	13 4.31	+12 54.7	2.173	2.985	12.7	20.1
3 2	13 3.65	-10 25.1	1.943	2.798	12.4	21.9	3 2	13 1.01	+14 34.3	2.121	3.005	10.2	20.0
3 12	12 58.06	- 9 51.2	1.851	2.779	8.9	21.7	3 12	12 55.80	+16 12.9	2.094	3.024	7.9	19.9
3 22	12 50.58	- 9 1.9	1.783	2.761	5.0	21.4	3 22	12 49.21	+17 42.7	2.094	3.044	6.8	19.8
4 1	12 41.95	- 8 0.7	1.744	2.742	1.3	21.1	4 1	12 41.98	+18 56.0	2.121	3.063	7.5	19.9
4 11	12 33.12	- 6 53.8	1.732	2.722	4.2	21.2	4 11	12 34.94	+19 47.6	2.174	3.083	9.4	20.1
4 21	12 25.07	- 5 48.0	1.749	2.702	8.4	21.5	4 21	12 28.83	+20 15.3	2.252	3.102	11.7	20.2
5 1	12 18.66	- 4 49.9	1.791	2.681	12.4	21.6	5 1	12 24.23	+20 19.3	2.351	3.121	13.8	20.4
386162	2007 <i>TM</i> ₃₉₉		3 31.9 143°53	2°0/3.5	17		186882	2004 <i>JA</i> ₁₆		3 31.9 304°16	1°7/2.5	17	
2 21	13 5.39	-13 59.3	2.630	3.361	12.9	21.8	2 21	13 2.61	-12 25.2	1.649	2.426	17.6	20.0
3 2	13 1.65	-13 49.2	2.536	3.369	10.5	21.6	3 2	13 0.80	-12 5.1	1.545	2.409	14.5	19.8
3 12	12 56.18	-13 24.8	2.463	3.376	7.8	21.5	3 12	12 56.40	-11 22.7	1.460	2.392	10.6	19.5
3 22	12 49.42	-12 47.5	2.416	3.384	4.7	21.3	3 22	12 49.86	-10 19.1	1.398	2.375	6.1	19.2
4 1	12 41.96	-11 59.8	2.397	3.391	2.2	21.1	4 1	12 41.98	- 8 58.7	1.361	2.358	1.9	18.9
4 11	12 34.55	-11 5.9	2.409	3.397	3.3	21.2	4 11	12 33.90	- 7 29.5	1.351	2.342	4.7	19.0
4 21	12 27.84	-10 10.7	2.449	3.404	6.2	21.4	4 21	12 26.78	- 6 1.2	1.366	2.326	9.6	19.2
5 1	12 22.42	- 9 19.0	2.517	3.410	9.1	21.6	5 1	12 21.61	- 4 43.3	1.406	2.310	14.1	19.5
475590	2006 <i>UG</i> ₄₆		3 31.9 245°15	4°2/6.7	17		17836	Canup		3 31.9 46°37	1°3/31.1	18	
2 21	13 2.65	-23 3.6	2.589	3.276	14.0	21.9	2 21	13 12.95	- 1 3.6	1.655	2.447	16.9	18.0
3 2	12 59.74	-22 46.6	2.475	3.268	12.0	21.8	3 2	13 8.54	- 1 14.5	1.580	2.458	13.4	17.8
3 12	12 55.02	-22 9.2	2.382	3.260	9.6	21.6	3 12	13 1.42	- 1 17.3	1.526	2.469	9.2	17.6
3 22	12 48.89	-21 11.0	2.312	3.252	6.9	21.4	3 22	12 52.23	- 1 15.0	1.496	2.481	4.7	17.4
4 1	12 41.97	-19 53.9	2.270	3.244	4.7	21.2	4 1	12 41.98	- 1 11.8	1.494	2.492	1.3	17.1
4 11	12 35.01	-18 22.2	2.256	3.236	4.5	21.2	4 11	12 31.89	- 1 12.3	1.520	2.505		

EPHEMERIDES

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2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
227427	2005 <i>VX</i> ₇₈	3 31.9 234°24' 11.1°/15.5 18					74739	1999 <i>RG</i> ₁₈₄	3 31.9 257°67' 2.1°/30.1 17				
2 21	13 8.65	-41 29.7	2.344	2.891	18.2	20.5	2 21	13 8.65	-2 7.0	1.810	2.603	15.7	20.1
3 2	13 5.42	-42 15.4	2.232	2.881	17.0	20.3	3 2	13 5.29	-1 29.4	1.705	2.585	12.5	19.9
3 12	12 59.52	-42 34.7	2.132	2.871	15.4	20.2	3 12	12 59.38	-0 38.7	1.622	2.567	8.7	19.6
3 22	12 51.41	-42 22.0	2.049	2.860	13.7	20.0	3 22	12 51.35	+0 21.0	1.564	2.548	4.5	19.3
4 1	12 41.97	-41 33.5	1.987	2.849	12.2	19.9	4 1	12 42.00	+1 23.1	1.533	2.529	2.3	19.1
4 11	12 32.39	-40 9.4	1.947	2.837	11.2	19.8	4 11	12 32.46	+2 19.9	1.529	2.509	6.2	19.3
4 21	12 23.82	-38 14.5	1.932	2.825	11.3	19.8	4 21	12 23.83	+3 4.7	1.553	2.489	10.7	19.5
5 1	12 17.27	-35 57.7	1.941	2.813	12.4	19.8	5 1	12 17.06	+3 32.4	1.599	2.468	14.7	19.7
82157	2001 <i>FM</i> ₁₈₅	3 31.9 291°10' 0°/30.5 08 C					433583	2013 <i>YU</i> ₃₅	3 31.9 56°50' 8°/24.0 18				
2 21	12 44.97	-1 4.6	37.102	37.872	0.9	22.8	2 21	13 9.08	+17 6.4	1.971	2.779	14.0	20.4
3 2	12 44.33	-0 59.7	37.002	37.870	0.7	22.8	3 2	13 4.89	+18 15.5	1.925	2.801	11.5	20.3
3 12	12 43.61	-0 54.5	36.928	37.869	0.5	22.7	3 12	12 58.52	+19 19.2	1.901	2.822	9.2	20.2
3 22	12 42.83	-0 49.0	36.883	37.867	0.2	22.7	3 22	12 50.59	+20 9.7	1.903	2.844	8.0	20.1
4 1	12 42.02	-0 43.5	36.868	37.865	0.1	22.7	4 1	12 42.01	+20 40.4	1.930	2.866	8.5	20.2
4 11	12 41.20	-0 38.2	36.883	37.864	0.3	22.7	4 11	12 33.76	+20 47.3	1.983	2.888	10.3	20.4
4 21	12 40.42	-0 33.3	36.927	37.862	0.6	22.7	4 21	12 26.67	+20 30.2	2.060	2.910	12.6	20.5
5 1	12 39.70	-0 28.9	36.999	37.860	0.8	22.8	5 1	12 21.37	+19 50.8	2.158	2.932	14.7	20.7
334422	2002 <i>EM</i> ₁₄₄	3 31.9 315°84' 0°/5/ 1.3 17					143583	2003 <i>FY</i> ₁₃	3 31.9 266°33' 0°/1/ 1.1 18				
2 21	13 8.06	-5 57.6	1.715	2.502	16.6	20.7	2 21	13 2.01	-8 39.8	2.413	3.180	12.9	19.9
3 2	13 4.97	-6 10.5	1.615	2.488	13.5	20.4	3 2	12 59.21	-7 58.9	2.314	3.176	10.3	19.7
3 12	12 59.23	-6 11.3	1.535	2.474	9.6	20.1	3 12	12 54.64	-7 3.8	2.236	3.171	7.2	19.5
3 22	12 51.28	-6 1.7	1.478	2.460	5.1	19.8	3 22	12 48.70	-5 57.4	2.185	3.167	3.7	19.3
4 1	12 41.98	-5 44.7	1.448	2.447	0.5	19.4	4 1	12 42.01	-4 44.2	2.163	3.163	0.1	18.9
4 11	12 32.50	-5 25.5	1.445	2.434	4.8	19.7	4 11	12 35.32	-3 30.2	2.171	3.158	3.7	19.2
4 21	12 23.99	-5 9.4	1.468	2.422	9.6	20.0	4 21	12 29.31	-2 21.2	2.206	3.154	7.3	19.4
5 1	12 17.45	-5 1.2	1.514	2.411	13.8	20.2	5 1	12 24.60	-1 22.3	2.268	3.149	10.5	19.6
10567	Francobressan	3 31.9 126°13' 0°/3/31.7 18					134872	2000 <i>QV</i> ₈₅	3 31.9 160°30' 0°/1/31.9 18				
2 21	13 7.81	-7 10.3	2.123	2.891	14.4	19.1	2 21	13 3.95	-7 8.0	2.866	3.624	11.3	20.8
3 2	13 3.87	-6 34.8	2.042	2.905	11.5	18.9	3 2	13 0.34	-6 36.3	2.771	3.629	9.0	20.6
3 12	12 57.87	-5 45.6	1.983	2.919	7.9	18.7	3 12	12 55.19	-5 54.3	2.700	3.634	6.2	20.4
3 22	12 50.32	-4 46.1	1.950	2.932	4.0	18.5	3 22	12 48.90	-5 4.4	2.657	3.638	3.2	20.2
4 1	12 41.99	-3 41.6	1.946	2.945	0.3	18.2	4 1	12 42.02	-4 10.3	2.643	3.642	0.1	20.0
4 11	12 33.78	-2 38.2	1.971	2.957	4.2	18.5	4 11	12 35.17	-3 16.3	2.659	3.646	3.3	20.3
4 21	12 26.51	-1 41.8	2.024	2.969	8.0	18.8	4 21	12 28.93	-2 26.6	2.705	3.649	6.3	20.5
5 1	12 20.84	-0 57.1	2.103	2.980	11.4	19.0	5 1	12 23.83	-1 44.8	2.778	3.652	9.0	20.6
105386	2000 <i>QC</i> ₁₃₈	3 31.9 108°61' 1°/2/30.9 18					376469	2012 <i>JG</i> ₁₉	3 31.9 264°40' 1°/8/30.3 17				
2 21	13 11.72	-4 7.7	1.709	2.494	16.8	20.0	2 21	13 7.91	-2 13.5	2.036	2.822	14.4	21.5
3 2	13 7.41	-3 39.1	1.638	2.512	13.2	19.8	3 2	13 4.40	-1 42.6	1.926	2.802	11.5	21.3
3 12	13 0.54	-2 57.3	1.588	2.529	9.1	19.6	3 12	12 58.59	-1 0.2	1.838	2.781	7.9	21.0
3 22	12 51.74	-2 6.7	1.562	2.546	4.5	19.4	3 22	12 50.89	-0 10.1	1.776	2.760	4.1	20.7
4 1	12 41.99	-1 13.6	1.564	2.563	1.3	19.2	4 1	12 42.02	+0 42.4	1.742	2.738	1.9	20.5
4 11	12 32.46	-0 25.0	1.595	2.579	5.4	19.5	4 11	12 32.96	+1 30.9	1.736	2.716	5.5	20.7
4 21	12 24.19	+0 13.3	1.652	2.594	9.7	19.8	4 21	12 24.68	+2 9.7	1.757	2.694	9.6	20.9
5 1	12 17.97	+0 37.1	1.733	2.609	13.4	20.1	5 1	12 18.04	+2 34.2	1.803	2.671	13.4	21.1
176698	2002 <i>QG</i> ₂₁	3 31.9 170°04' 1°/4/30.5 16					80462	2000 <i>AH</i> ₁₈	3 31.9 194°72' 0°/6/ 1.5 18				
2 21	13 8.18	-3 56.7	2.170	2.946	13.9	21.5	2 21	13 11.49	-8 28.8	1.714	2.485	17.2	19.9
3 2	13 4.19	-3 10.7	2.080	2.951	11.0	21.3	3 2	13 7.59	-8 15.3	1.621	2.484	13.9	19.6
3 12	12 58.13	-2 12.6	2.014	2.954	7.5	21.1	3 12	13 0.96	-7 45.0	1.547	2.482	9.9	19.4
3 22	12 50.49	-1 6.5	1.973	2.957	3.8	20.9	3 22	12 52.13	-7 0.0	1.498	2.479	5.3	19.1
4 1	12 42.00	+0 1.8	1.962	2.959	1.5	20.7	4 1	12 42.02	-6 4.9	1.476	2.475	0.6	18.7
4 11	12 33.55	+1 5.9	1.981	2.961	4.9	21.0	4 11	12 31.85	-5 6.9	1.482	2.471	4.9	19.0
4 21	12 25.98	+2 0.1	2.027	2.962	8.6	21.2	4 21	12 22.79	-4 13.3	1.515	2.466	9.6	19.3
5 1	12 19.97	+2 40.2	2.099	2.962	12.0	21.4	5 1	12 15.80	-3 30.8	1.571	2.460	13.9	19.5
188908	2007 <i>BS</i> ₈	3 31.9 92°11' 7°/5/24.8 18					405535	2005 <i>EN</i> ₃₁₀	3 31.9 122°32' 2°/1/29.9 18				
2 21	13 9.62	+12 50.5	1.803	2.616	14.9	20.5	2 21	13 9.78	-2 42.2	1.883	2.668	15.4	22.1
3 2	13 5.61	+14 10.6	1.747	2.631	12.0	20.3	3 2	13 5.64	-1 46.9	1.810	2.686	12.1	21.9
3 12	12 59.18	+15 29.6	1.713	2.646	9.2	20.2	3 12	12 59.19	-0 39.3	1.759	2.703	8.2	21.7
3 22	12 51.00	+16 39.0	1.705	2.661	7.6	20.1	3 22	12 51.03	+0 35.2	1.735	2.719	4.2	21.4
4 1	12 42.00	+17 30.2	1.723	2.676	8.1	20.2	4 1	12 42.02	+1 49.4	1.739	2.734	2.3	21.3
4 11	12 33.26	+17 57.7	1.767	2.690	10.3	20.3	4 11	12 33.21	+2 55.8	1.772	2.749	5.8	21.6
4 21	12 25.74	+17 59.6	1.835	2.704	13.0	20.5	4 21	12 25.51	+3 48.5	1.832	2.763	9.6	21.9
5 1	12 20.15	+17 36.9	1.924	2.719	15.6	20.7	5 1	12 19.62	+4 23.8	1.916	2.777	13.0	22.1
16328	3111 <i>T</i> -2	3 31.9 32°07' 2°/1/29.9 18					453365	2009 <i>BC</i> ₃₁	3 31.9 356°35' 6°/0/27.2 18				
2 21	13 1.40	-6 12.9	1.489	2.297	17.7	18.0	2 21	13 5.44	+4 26.9	1.327	2.159	18.2	20.9
3 2	12 59.75	-4 48.9	1.415	2.304	13.9	17.8	3 2	13 3.37	+5 39.5	1.255	2.157	14.3	20.7
3 12	12 55.51	-3 3.3	1.361	2.310	9.5	17.5	3 12	12 58.28	+7 2.6	1.204	2.156	10.2	20.4
3 22	12 49.28	-1 3.3	1.331	2.318	4.7	17.2	3 22	12 50.81	+8 26.6	1.176	2.155	6.6	20.2
4 1	12 42.01	+1 0.2	1.329	2.325	2.4	17.1	4 1	12 42.03	+9 40.3	1.172	2.155	6.5	20.2
4 11	12 34.85	+2 54.9	1.353	2.333	6.7	17.4	4 11	12 33.33	+10 33.2	1.193	2.155	10.0	20.4
4 21	12 28.88	+4 30.8	1.402	2.342	11.3	17.7	4 21	12 26.01	+10 59.2	1.236	2.155	14.3	20.6
5 1	12 24.89	+5 41.3	1.474	2.351	15.3	17.9	5 1	12 21.04	+10 56.6	1.299	2.156	18.2	20.9
503875	2000 <i>SB</i> ₃₀₄	3 31.9 181°24' 2°/5/ 4.3 17					468279	2015 <i>DX</i> ₄	3 31.9 113°91' 5°/0/26.3 18				
2 21	13 6.77	-17 8.0	2.802	3.509	12.7	22.7	2 21	13 6.86	+6 38.7	2.091	2.895	13.4	21.2
3 2	13 2.69	-16 47.3	2.695	3.511	10.5	22.5	3 2	13 3.11	+8 0.0	2.025	2.910	10.5	21.0
3 12	12 56.90												

EPHEMERIDES

3 31.9

3 31.9

2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
502377	2015 <i>BV</i> ₂₄₂		3 31.9 218°74	2°5/29.2	17		455267	2001 <i>VM</i> ₈₂		3 31.9 203°36	2°1/30.1	17	
2 21	13 4.54	- 1 44.8	2.027	2.822	14.1	21.5	2 21	13 11.12	- 1 50.8	1.879	2.664	15.4	22.4
3 2	13 1.55	- 0 42.2	1.936	2.818	11.1	21.3	3 2	13 7.00	- 1 11.5	1.785	2.660	12.2	22.2
3 12	12 56.44	+ 0 32.9	1.869	2.815	7.6	21.0	3 12	13 0.40	- 0 20.1	1.712	2.655	8.4	22.0
3 22	12 49.69	+ 1 55.2	1.827	2.811	4.0	20.8	3 22	12 51.81	+ 0 38.6	1.665	2.649	4.3	21.7
4 1	12 42.04	+ 3 17.5	1.814	2.807	2.8	20.7	4 1	12 42.08	+ 1 38.4	1.647	2.643	2.3	21.6
4 11	12 34.38	+ 4 32.3	1.829	2.803	6.0	20.9	4 11	12 32.31	+ 2 32.0	1.657	2.635	6.0	21.8
4 21	12 27.58	+ 5 33.1	1.871	2.798	9.7	21.1	4 21	12 23.53	+ 3 13.4	1.694	2.627	10.2	22.0
5 1	12 22.36	+ 6 15.9	1.937	2.794	13.1	21.3	5 1	12 16.62	+ 3 38.4	1.755	2.618	13.9	22.2
39655	Muneharuasada		3 31.9 156°08	0°2/	1.2 18		504173	2006 <i>SS</i> ₃₈₈		3 31.9 144°80	3°4/27.5	17	
2 21	13 8.63	- 6 43.6	2.241	3.005	13.9	19.5	2 21	13 3.67	+ 3 56.1	2.605	3.400	11.3	22.4
3 2	13 4.51	- 6 33.4	2.149	3.010	11.1	19.3	3 2	13 0.27	+ 4 57.1	2.524	3.405	8.9	22.3
3 12	12 58.34	- 6 11.8	2.080	3.014	7.8	19.1	3 12	12 55.22	+ 6 3.6	2.467	3.411	6.2	22.1
3 22	12 50.61	- 5 40.9	2.037	3.018	4.0	18.9	3 22	12 48.97	+ 7 10.6	2.438	3.416	3.9	22.0
4 1	12 42.04	- 5 4.5	2.023	3.022	0.2	18.6	4 1	12 42.09	+ 8 12.5	2.439	3.420	3.7	22.0
4 11	12 33.49	- 4 27.3	2.038	3.025	3.9	18.9	4 11	12 35.26	+ 9 4.4	2.468	3.425	5.9	22.1
4 21	12 25.79	- 3 53.9	2.081	3.028	7.6	19.1	4 21	12 29.13	+ 9 42.6	2.525	3.429	8.5	22.3
5 1	12 19.63	- 3 28.5	2.150	3.031	11.0	19.4	5 1	12 24.23	+ 10 5.1	2.606	3.433	11.0	22.4
188453	2004 <i>HK</i> ₇₈		3 31.9 72°02	1°1/	1.9 18		105668	2000 <i>SW</i> ₃₈		3 31.9 114°60	2°8/29.6	18	
2 21	13 6.70	- 10 13.9	1.697	2.473	17.2	20.2	2 21	13 11.48	- 0 11.9	1.705	2.500	16.4	19.9
3 2	13 3.64	- 9 57.8	1.618	2.482	13.9	20.0	3 2	13 7.26	+ 0 29.6	1.634	2.515	12.8	19.7
3 12	12 58.08	- 9 23.5	1.559	2.492	9.9	19.8	3 12	13 0.48	+ 1 21.5	1.585	2.530	8.8	19.5
3 22	12 50.57	- 8 33.5	1.523	2.502	5.4	19.5	3 22	12 51.76	+ 2 17.9	1.560	2.544	4.6	19.3
4 1	12 42.04	- 7 32.7	1.514	2.512	1.2	19.3	4 1	12 42.09	+ 3 11.9	1.563	2.557	3.0	19.2
4 11	12 33.62	- 6 28.5	1.532	2.522	4.5	19.5	4 11	12 32.62	+ 3 56.3	1.595	2.570	6.5	19.5
4 21	12 26.33	- 5 28.4	1.576	2.532	8.9	19.8	4 21	12 24.40	+ 4 25.9	1.652	2.583	10.5	19.7
5 1	12 20.99	- 4 38.8	1.645	2.542	12.9	20.1	5 1	12 18.22	+ 4 37.9	1.732	2.595	14.1	20.0
29299	1993 <i>TW</i> ₁		3 31.9 118°11	4°2/28.5	18		501387	2013 <i>YA</i> ₆₉		3 31.9 160°54	3°7/27.1	17	
2 21	13 11.42	+ 5 10.6	1.852	2.652	15.1	17.9	2 21	13 4.49	+ 5 10.0	2.592	3.387	11.4	21.9
3 2	13 7.06	+ 5 44.8	1.776	2.659	11.9	17.7	3 2	13 0.93	+ 6 13.7	2.510	3.391	8.9	21.8
3 12	13 0.27	+ 6 23.6	1.722	2.666	8.3	17.5	3 12	12 55.70	+ 7 22.0	2.453	3.395	6.3	21.6
3 22	12 51.63	+ 7 1.4	1.694	2.672	5.1	17.3	3 22	12 49.23	+ 8 30.1	2.424	3.399	4.1	21.5
4 1	12 42.04	+ 7 31.7	1.693	2.679	4.5	17.3	4 1	12 42.11	+ 9 32.1	2.424	3.402	4.1	21.5
4 11	12 32.60	+ 7 49.0	1.720	2.685	7.3	17.5	4 11	12 35.05	+ 10 22.9	2.453	3.405	6.2	21.6
4 21	12 24.29	+ 7 50.1	1.774	2.691	10.8	17.7	4 21	12 28.68	+ 10 59.2	2.510	3.408	8.9	21.8
5 1	12 17.88	+ 7 33.8	1.850	2.697	14.1	17.9	5 1	12 23.57	+ 11 18.9	2.591	3.410	11.3	21.9
507714	2013 <i>UN</i>		3 31.9 205°40	7°7/12.2	17		246654	2008 <i>YN</i> ₃₅		3 31.9 287°19	4°8/28.1	17	
2 21	13 9.28	- 35 54.8	2.811	3.385	15.0	22.8	2 21	13 7.35	+ 2 35.2	1.509	2.326	17.1	20.2
3 2	13 5.09	- 36 7.5	2.692	3.378	13.6	22.7	3 2	13 4.92	+ 3 34.2	1.407	2.301	13.7	19.9
3 12	12 58.82	- 35 57.4	2.590	3.371	11.9	22.5	3 12	12 59.54	+ 4 46.5	1.326	2.276	9.7	19.6
3 22	12 50.90	- 35 21.5	2.507	3.363	10.1	22.4	3 22	12 51.64	+ 6 5.0	1.268	2.250	5.8	19.3
4 1	12 42.04	- 34 18.5	2.450	3.354	8.5	22.3	4 1	12 42.11	+ 7 20.0	1.237	2.224	5.3	19.2
4 11	12 33.14	- 32 50.5	2.418	3.344	7.7	22.2	4 11	12 32.25	+ 8 21.0	1.231	2.198	9.1	19.4
4 21	12 25.05	- 31 2.5	2.415	3.334	8.2	22.2	4 21	12 23.41	+ 9 0.0	1.248	2.172	13.8	19.6
5 1	12 18.49	- 29 2.3	2.440	3.322	9.8	22.3	5 1	12 16.76	+ 9 12.5	1.287	2.146	18.2	19.7
429966	2013 <i>QC</i> ₁₃		3 31.9 103°34	0°6/31.3	15		264591	2001 <i>TE</i> ₂₁₄		3 31.9 131°49	2°0/29.9	18	
2 21	13 6.69	- 6 25.4	2.121	2.894	14.3	22.6	2 21	13 8.97	- 1 16.2	2.220	3.000	13.5	21.8
3 2	13 2.96	- 5 43.5	2.045	2.912	11.3	22.3	3 2	13 4.67	- 0 34.6	2.142	3.015	10.6	21.6
3 12	12 57.22	- 4 48.4	1.992	2.930	7.8	22.3	3 12	12 58.38	+ 0 16.0	2.087	3.029	7.2	21.4
3 22	12 50.00	- 3 43.9	1.964	2.947	3.9	22.1	3 22	12 50.62	+ 1 11.3	2.059	3.042	3.7	21.2
4 1	12 42.05	- 2 35.7	1.966	2.965	0.7	21.8	4 1	12 42.11	+ 2 5.8	2.060	3.054	2.2	21.1
4 11	12 34.26	- 1 30.0	1.996	2.981	4.3	22.2	4 11	12 33.74	+ 2 53.7	2.090	3.066	5.1	21.4
4 21	12 27.40	- 0 32.7	2.055	2.997	8.0	22.4	4 21	12 26.28	+ 3 30.8	2.149	3.078	8.5	21.6
5 1	12 22.12	+ 0 11.9	2.139	3.013	11.3	22.6	5 1	12 20.37	+ 3 54.1	2.232	3.089	11.6	21.8
122014	2000 <i>GT</i> ₃₄		3 31.9 213°90	0°2/31.8	18		199433	2006 <i>DY</i> ₂₂		3 31.9 37°31	0°4/	1.4 17	
2 21	13 11.98	- 6 5.0	1.833	2.606	16.2	20.6	2 21	13 7.60	- 6 54.3	1.754	2.536	16.5	20.2
3 2	13 7.84	- 5 51.2	1.733	2.599	13.0	20.3	3 2	13 4.30	- 6 54.2	1.672	2.543	13.2	20.0
3 12	13 1.09	- 5 23.4	1.655	2.592	9.2	20.1	3 12	12 58.52	- 6 40.5	1.612	2.549	9.3	19.8
3 22	12 52.21	- 4 44.3	1.601	2.583	4.7	19.8	3 22	12 50.83	- 6 15.5	1.575	2.557	4.9	19.5
4 1	12 42.07	- 3 58.3	1.575	2.575	0.2	19.4	4 1	12 42.11	- 5 43.2	1.565	2.564	0.5	19.2
4 11	12 31.81	- 3 11.8	1.578	2.565	4.9	19.8	4 11	12 33.47	- 5 9.5	1.583	2.572	4.5	19.5
4 21	12 22.55	- 2 31.1	1.608	2.555	9.5	20.0	4 21	12 25.91	- 4 39.9	1.627	2.580	8.9	19.8
5 1	12 15.24	- 2 1.7	1.662	2.544	13.6	20.2	5 1	12 20.25	- 4 19.3	1.694	2.589	12.7	20.1
336936	2011 <i>HJ</i> ₆₃		3 31.9 286°54	2°9/29.1	17		3611	Dabu		3 31.9 97°37	3°3/28.3	18	
2 21	13 5.89	+ 0 51.3	1.944	2.744	14.4	20.9	2 21	13 6.95	+ 1 56.8	2.126	2.921	13.5	17.6
3 2	13 2.73	+ 1 33.5	1.855	2.739	11.4	20.7	3 2	13 3.11	+ 3 0.4	2.059	2.941	10.5	17.5
3 12	12 57.33	+ 2 25.0	1.788	2.734	7.8	20.5	3 12	12 57.29	+ 4 11.2	2.017	2.961	7.2	17.3
3 22	12 50.19	+ 3 20.6	1.747	2.730	4.3	20.3	3 22	12 50.04	+ 5 23.5	2.001	2.981	4.2	17.2
4 1	12 42.07	+ 4 14.0	1.733	2.725	3.2	20.2	4 1	12 42.12	+ 6 30.5	2.014	3.000	3.7	17.2
4 11	12 33.95	+ 4 58.6	1.747	2.720	6.3	20.4	4 11	12 34.38	+ 7 26.2	2.055	3.020	6.3	17.3
4 21	12 26.74	+ 5 29.3	1.787	2.715	10.0	20.6	4 21	12 27.60	+ 8 6.2	2.124	3.038	9.4	17.6
5 1	12 21.21	+ 5 43.0	1.851	2.710	13.5	20.8	5 1	12 22.37	+ 8 28.5	2.216	3.056	12.3	17.8
245536	2005 <i>SR</i> ₂₈₅		3 31.9 315°06	4°1/26.8	18								