

EPHEMERIDES

4 14.9

4 15.0

2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
298936	2004 <i>TU</i> ₂₁₅		4 14.9 129°88	1°2/15.9	18		508427	2016 <i>JU</i> ₃₅		4 14.9 303°94	9°8/6.9	17	
3 12	14 1.28	-15 9.1	1.715	2.543	15.1	22.2	3 12	13 59.28	+12 47.8	1.604	2.462	14.5	20.4
3 22	13 55.35	-14 50.6	1.647	2.556	11.4	22.0	3 22	13 54.30	+13 57.8	1.525	2.436	12.0	20.2
4 1	13 47.10	-14 16.7	1.602	2.569	7.2	21.8	4 1	13 46.76	+14 59.0	1.468	2.410	10.2	20.0
4 11	13 37.43	-13 30.6	1.583	2.581	2.7	21.5	4 11	13 37.43	+15 41.4	1.436	2.384	10.0	19.9
4 21	13 27.42	-12 37.4	1.592	2.592	2.7	21.6	4 21	13 27.41	+15 56.9	1.427	2.359	11.8	20.0
5 1	13 18.23	-11 43.6	1.628	2.603	7.1	21.9	5 1	13 17.97	+15 40.9	1.442	2.333	14.7	20.1
5 11	13 10.82	-10 56.0	1.690	2.613	11.2	22.1	5 11	13 10.25	+14 53.1	1.476	2.308	17.8	20.2
5 21	13 5.76	-10 19.4	1.774	2.623	14.7	22.4	5 21	13 4.99	+13 37.2	1.528	2.284	20.8	20.3
24088	1999 <i>UQ</i> ₅		4 14.9 126°43	1°7/16.6	18		468358	2016 <i>EH</i> ₁₆₁		4 14.9 104°08	0°1/14.9	18	
3 12	13 56.17	-17 3.9	2.026	2.847	13.4	18.8	3 12	14 2.58	- 9 43.7	1.786	2.623	14.2	20.3
3 22	13 51.37	-16 44.2	1.948	2.851	10.2	18.6	3 22	13 56.23	- 9 49.9	1.718	2.634	10.6	20.0
4 1	13 44.65	-16 9.6	1.894	2.856	6.6	18.4	4 1	13 47.62	- 9 47.5	1.674	2.646	6.4	19.8
4 11	13 36.72	-15 22.6	1.865	2.860	2.9	18.1	4 11	13 37.61	- 9 39.3	1.657	2.657	1.8	19.5
4 21	13 28.45	-14 27.3	1.865	2.865	2.5	18.1	4 21	13 27.25	- 9 28.6	1.668	2.668	2.8	19.6
5 1	13 20.77	-13 29.6	1.892	2.869	6.1	18.4	5 1	13 17.65	- 9 19.5	1.707	2.678	7.2	19.9
5 11	13 14.49	-12 35.6	1.946	2.873	9.8	18.6	5 11	13 9.76	- 9 16.0	1.771	2.688	11.1	20.2
5 21	13 10.14	-11 50.2	2.024	2.876	13.0	18.8	5 21	13 4.17	- 9 20.9	1.859	2.699	14.5	20.4
87605	2000 <i>RW</i> ₄₁		4 14.9 275°55	3°7/18.9	18		435410	2008 <i>AD</i> ₈₃		4 14.9 133°19	4°7/9.8	17	
3 12	13 54.50	-23 26.8	2.325	3.113	12.9	19.4	3 12	13 55.03	+ 4 5.1	2.403	3.257	10.4	21.1
3 22	13 50.12	-23 22.3	2.227	3.103	10.4	19.2	3 22	13 50.14	+ 4 58.4	2.340	3.262	7.9	21.0
4 1	13 43.93	-23 0.6	2.152	3.093	7.5	19.0	4 1	13 43.75	+ 5 50.1	2.304	3.267	5.6	20.8
4 11	13 36.54	-22 22.5	2.103	3.083	4.7	18.8	4 11	13 36.46	+ 6 34.8	2.295	3.272	4.7	20.8
4 21	13 28.71	-21 30.5	2.082	3.073	3.8	18.7	4 21	13 28.96	+ 7 8.1	2.314	3.276	6.1	20.9
5 1	13 21.31	-20 29.0	2.089	3.063	5.8	18.8	5 1	13 21.97	+ 7 26.6	2.361	3.281	8.5	21.0
5 11	13 15.12	-19 24.2	2.122	3.052	8.9	19.0	5 11	13 16.12	+ 7 28.9	2.432	3.285	11.0	21.2
5 21	13 10.70	-18 22.1	2.180	3.042	11.8	19.1	5 21	13 11.83	+ 7 15.0	2.525	3.290	13.2	21.4
401174	2011 <i>WM</i> ₇₀		4 14.9 172°33	1°1/15.9	16		504307	2007 <i>HZ</i> ₄₈		4 14.9 294°67	3°0/12.5	17	
3 12	14 0.45	-15 22.3	1.955	2.776	13.8	22.8	3 12	13 56.15	- 4 12.5	1.755	2.615	13.4	21.5
3 22	13 54.59	-14 56.1	1.875	2.780	10.5	22.6	3 22	13 51.69	- 3 30.8	1.670	2.599	9.9	21.2
4 1	13 46.62	-14 15.4	1.818	2.784	6.6	22.3	4 1	13 45.05	- 2 42.6	1.608	2.584	6.0	21.0
4 11	13 37.31	-13 22.8	1.789	2.786	2.5	22.1	4 11	13 36.91	- 1 53.3	1.573	2.569	3.1	20.7
4 21	13 27.61	-12 23.3	1.788	2.788	2.5	22.1	4 21	13 28.22	- 1 9.1	1.564	2.554	5.0	20.8
5 1	13 18.55	-11 23.0	1.816	2.789	6.6	22.3	5 1	13 20.06	- 0 36.2	1.582	2.539	9.0	21.0
5 11	13 11.03	-10 28.4	1.870	2.789	10.5	22.6	5 11	13 13.37	- 0 19.0	1.624	2.525	13.0	21.2
5 21	13 5.62	- 9 44.3	1.947	2.788	13.9	22.8	5 21	13 8.83	- 0 19.5	1.686	2.510	16.4	21.4
302297	2001 <i>YJ</i> ₈₀		4 14.9 166°90	3°1/17.5	18		502632	2015 <i>CQ</i> ₃₀		4 14.9 306°71	1°1/14.1	17	
3 12	14 0.44	-19 56.3	1.736	2.547	15.7	20.9	3 12	13 57.12	- 8 31.6	1.806	2.654	13.6	21.5
3 22	13 54.90	-19 47.7	1.656	2.551	12.2	20.7	3 22	13 52.27	- 8 8.1	1.728	2.652	10.0	21.3
4 1	13 46.95	-19 19.8	1.599	2.555	8.3	20.4	4 1	13 45.31	- 7 35.6	1.675	2.650	6.0	21.0
4 11	13 37.43	-18 34.0	1.567	2.557	4.4	20.2	4 11	13 36.96	- 6 58.2	1.647	2.647	1.8	20.7
4 21	13 27.42	-17 34.4	1.562	2.560	3.5	20.1	4 21	13 28.19	- 6 21.0	1.647	2.645	3.3	20.8
5 1	13 18.14	-16 27.9	1.585	2.561	7.1	20.4	5 1	13 20.01	- 5 49.2	1.674	2.643	7.6	21.1
5 11	13 10.62	-15 22.6	1.633	2.562	11.1	20.6	5 11	13 13.36	- 5 27.8	1.726	2.640	11.5	21.3
5 21	13 5.50	-14 25.4	1.704	2.563	14.7	20.8	5 21	13 8.81	- 5 19.3	1.800	2.638	15.0	21.5
305960	2009 <i>HT</i> ₄₅		4 14.9 275°92	0°8/14.3	16		262019	2006 <i>QQ</i> ₉₈		4 14.9 247°95	1°6/16.4	17	
3 12	13 58.74	- 7 8.0	2.338	3.174	11.3	20.6	3 12	13 57.98	-16 40.3	1.797	2.623	14.6	21.4
3 22	13 53.12	- 7 10.0	2.244	3.161	8.4	20.3	3 22	13 53.14	-16 17.7	1.703	2.610	11.3	21.1
4 1	13 45.70	- 7 7.1	2.176	3.148	5.0	20.1	4 1	13 45.96	-15 37.9	1.632	2.596	7.3	20.9
4 11	13 37.06	- 7 1.8	2.135	3.135	1.5	19.8	4 11	13 37.19	-14 43.0	1.586	2.582	3.0	20.6
4 21	13 27.96	- 6 56.6	2.124	3.121	2.7	19.9	4 21	13 27.80	-13 37.9	1.567	2.568	2.8	20.5
5 1	13 19.25	- 6 54.8	2.142	3.108	6.4	20.1	5 1	13 18.93	-12 29.2	1.577	2.553	7.1	20.7
5 11	13 11.71	- 6 59.1	2.187	3.095	9.8	20.3	5 11	13 11.61	-11 24.9	1.612	2.538	11.4	21.0
5 21	13 5.91	- 7 11.5	2.255	3.081	12.7	20.5	5 21	13 6.54	-10 31.3	1.669	2.522	15.2	21.2
192320	1994 <i>RA</i> ₂₈		4 14.9 142°37	2°0/12.8	17		393776	2005 <i>GV</i> ₂₁₆		4 15.0 128°89	1°6/13.5	17	
3 12	13 55.59	- 6 24.7	2.272	3.117	11.3	20.5	3 12	13 55.61	- 7 18.0	2.089	2.936	12.0	21.1
3 22	13 50.64	- 5 29.1	2.203	3.125	8.2	20.4	3 22	13 50.83	- 6 39.0	2.016	2.940	8.8	20.9
4 1	13 44.07	- 4 26.9	2.159	3.134	4.9	20.2	4 1	13 44.29	- 5 52.6	1.969	2.943	5.2	20.6
4 11	13 36.55	- 3 22.9	2.144	3.142	2.1	20.0	4 11	13 36.65	- 5 3.3	1.948	2.947	1.9	20.4
4 21	13 28.79	- 2 22.6	2.158	3.149	3.7	20.1	4 21	13 28.71	- 4 16.1	1.956	2.950	3.4	20.5
5 1	13 21.59	- 1 30.9	2.201	3.157	7.0	20.3	5 1	13 21.34	- 3 36.0	1.991	2.954	7.1	20.8
5 11	13 15.60	- 0 51.9	2.270	3.163	10.1	20.5	5 11	13 15.26	- 3 7.2	2.053	2.957	10.5	21.0
5 21	13 11.26	- 0 27.3	2.362	3.170	12.8	20.7	5 21	13 10.98	- 2 51.8	2.137	2.960	13.4	21.2
277672	2006 <i>BF</i> ₂₁₅		4 14.9 76°14	5°1/10.2	18		224103	2005 <i>OC</i> ₂₈		4 15.0 290°64	2°3/13.1	17	
3 12	13 55.44	+ 0 56.3	1.793	2.657	12.9	20.5	3 12	13 55.45	- 7 53.8	1.618	2.477	14.4	21.1
3 22	13 50.85	+ 2 11.1	1.736	2.665	9.6	20.4	3 22	13 51.47	- 6 55.4	1.523	2.453	10.7	20.8
4 1	13 44.32	+ 3 27.3	1.704	2.674	6.4	20.2	4 1	13 45.07	- 5 43.7	1.451	2.428	6.4	20.5
4 11	13 36.63	+ 4 37.1	1.698	2.683	5.1	20.1	4 11	13 36.97	- 4 24.4	1.405	2.404	2.5	20.2
4 21	13 28.69	+ 5 33.6	1.720	2.691	6.9	20.2	4 21	13 28.14	- 3 5.5	1.385	2.379	4.7	20.3
5 1	13 21.45	+ 6 11.4	1.767	2.700	10.0	20.4	5 1	13 19.77	- 1 55.8	1.391	2.354	9.4	20.5
5 11	13 15.71	+ 6 28.1	1.838	2.708	13.2	20.7	5 11	13 12.95	- 1 2.7	1.421	2.330	13.9	20.7
5 21	13 11.96	+ 6 23.8	1.928	2.717	15.9	20.9	5 21	13 8.46	- 0 30.4	1.471	2.305	17.9	20.9
519692	2013 <i>AJ</i> ₁₈₆		4 14.9 150°25	2°1/12.3	17		465409	2					

EPHEMERIDES

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2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
423269	2004 VX ₂₈		4 15.0 176°09	3°9/19.5	17		443727	2015 LT ₁₅		4 15.0 52°22	6°1/8.3	18	
3 12	13 56.61	-25 30.4	2.318	3.093	13.3	21.1	3 12	13 54.83	+ 8 26.8	2.325	3.179	10.7	20.5
3 22	13 51.61	-25 9.0	2.228	3.095	10.8	20.9	3 22	13 50.08	+ 9 25.0	2.264	3.180	8.4	20.4
4 1	13 44.78	-24 28.2	2.162	3.096	7.8	20.7	4 1	13 43.77	+10 18.5	2.229	3.181	6.6	20.3
4 11	13 36.81	-23 28.9	2.121	3.097	5.0	20.5	4 11	13 36.52	+11 1.3	2.221	3.182	6.1	20.2
4 21	13 28.50	-22 14.4	2.108	3.098	3.9	20.4	4 21	13 29.04	+11 28.9	2.240	3.183	7.5	20.3
5 1	13 20.74	-20 50.3	2.125	3.098	5.8	20.6	5 1	13 22.08	+11 38.2	2.285	3.184	9.7	20.4
5 11	13 14.29	-19 23.9	2.169	3.098	8.8	20.7	5 11	13 16.29	+11 28.4	2.353	3.185	12.0	20.6
5 21	13 9.68	-18 1.8	2.238	3.097	11.7	20.9	5 21	13 12.11	+11 0.6	2.442	3.187	14.1	20.8
348894	2006 ST ₃₁₄		4 15.0 94°86	1°5/13.3	18		171799	2001 DO ₃₂		4 15.0 67°39	1°8/13.7	18	
3 12	13 53.61	- 7 51.4	2.314	3.159	11.1	21.0	3 12	13 58.83	- 7 38.1	1.476	2.334	15.5	19.6
3 22	13 49.17	- 6 59.6	2.247	3.169	8.1	20.8	3 22	13 53.84	- 7 6.0	1.413	2.341	11.4	19.4
4 1	13 43.21	- 6 0.4	2.205	3.180	4.8	20.6	4 1	13 46.36	- 6 24.2	1.371	2.348	6.8	19.1
4 11	13 36.33	- 4 58.5	2.191	3.190	1.7	20.4	4 11	13 37.32	- 5 38.3	1.355	2.355	2.3	18.9
4 21	13 29.25	- 3 58.9	2.206	3.200	3.2	20.6	4 21	13 27.89	- 4 54.7	1.365	2.362	4.1	19.0
5 1	13 22.69	- 3 6.6	2.249	3.210	6.5	20.8	5 1	13 19.30	- 4 20.1	1.401	2.369	8.8	19.3
5 11	13 17.29	- 2 25.5	2.319	3.219	9.6	21.0	5 11	13 12.60	- 3 59.6	1.460	2.376	13.2	19.6
5 21	13 13.47	- 1 58.0	2.412	3.229	12.3	21.2	5 21	13 8.38	- 3 55.5	1.540	2.383	16.8	19.8
294370	2007 VR ₁₁₇		4 15.0 11°35	3°5/18.6	17		503760	2016 NT ₂₃		4 15.0 207°41	0°8/14.1	17	
3 12	13 53.45	-22 53.6	1.943	2.747	14.5	19.9	3 12	13 53.80	-10 13.2	2.326	3.165	11.3	21.4
3 22	13 49.55	-22 30.9	1.861	2.748	11.5	19.7	3 22	13 49.42	- 9 23.8	2.244	3.163	8.3	21.2
4 1	13 43.66	-21 47.6	1.801	2.749	8.1	19.4	4 1	13 43.43	- 8 24.7	2.186	3.160	4.9	21.0
4 11	13 36.50	-20 45.5	1.765	2.751	4.8	19.2	4 11	13 36.45	- 7 20.0	2.157	3.157	1.4	20.8
4 21	13 28.97	-19 28.9	1.757	2.753	3.6	19.2	4 21	13 29.16	- 6 14.8	2.157	3.154	2.7	20.9
5 1	13 22.04	-18 4.7	1.777	2.755	6.3	19.3	5 1	13 22.33	- 5 14.4	2.186	3.151	6.3	21.1
5 11	13 16.55	-16 40.8	1.822	2.757	9.8	19.5	5 11	13 16.64	- 4 23.7	2.241	3.148	9.6	21.3
5 21	13 13.04	-15 24.3	1.891	2.760	13.1	19.8	5 21	13 12.55	- 3 45.7	2.320	3.145	12.5	21.5
508743	2017 UP ₃₃		4 15.0 256°51	0°9/15.8	17		515747	2015 FH ₁		4 15.0 69°18	2°4/16.7	15	
3 12	13 57.07	-13 39.6	2.031	2.861	13.0	21.1	3 12	14 2.79	-15 36.2	1.750	2.573	15.1	21.0
3 22	13 52.14	-13 30.7	1.944	2.854	9.8	20.9	3 22	13 56.49	-16 6.2	1.685	2.588	11.6	20.8
4 1	13 45.21	-13 10.1	1.881	2.848	6.2	20.6	4 1	13 47.85	-16 23.2	1.643	2.605	7.5	20.6
4 11	13 36.97	-12 40.1	1.844	2.842	2.2	20.3	4 11	13 37.75	-16 27.8	1.627	2.621	3.6	20.4
4 21	13 28.27	-12 4.4	1.835	2.836	2.4	20.3	4 21	13 27.27	-16 22.4	1.638	2.637	3.1	20.4
5 1	13 20.07	-11 27.7	1.855	2.830	6.4	20.6	5 1	13 17.59	-16 10.9	1.677	2.653	6.9	20.7
5 11	13 13.23	-10 55.4	1.900	2.823	10.2	20.8	5 11	13 9.71	-15 58.6	1.742	2.669	10.7	20.9
5 21	13 8.34	-10 31.4	1.969	2.817	13.5	21.0	5 21	13 4.21	-15 50.1	1.830	2.685	14.0	21.2
199257	2006 BW ₉		4 15.0 259°18	2°2/12.9	17		165194	2000 RD ₅		4 15.0 223°36	0°1/14.9	16	
3 12	13 56.02	- 6 7.2	1.908	2.761	12.8	20.7	3 12	14 1.43	-11 20.7	1.980	2.810	13.3	21.5
3 22	13 51.39	- 5 23.0	1.827	2.754	9.4	20.4	3 22	13 55.47	-11 2.3	1.886	2.799	10.0	21.3
4 1	13 44.76	- 4 31.1	1.771	2.746	5.6	20.2	4 1	13 47.30	-10 32.9	1.816	2.786	6.1	21.0
4 11	13 36.83	- 3 36.5	1.741	2.739	2.4	20.0	4 11	13 37.62	- 9 55.4	1.773	2.773	1.8	20.7
4 21	13 28.48	- 2 45.2	1.739	2.732	4.1	20.1	4 21	13 27.36	- 9 14.1	1.760	2.759	2.7	20.7
5 1	13 20.66	- 2 2.9	1.764	2.724	8.0	20.3	5 1	13 17.59	- 8 34.2	1.775	2.745	7.1	21.0
5 11	13 14.24	- 1 34.1	1.814	2.716	11.8	20.5	5 11	13 9.26	- 8 1.2	1.816	2.729	11.1	21.2
5 21	13 9.79	- 1 21.3	1.886	2.709	15.0	20.7	5 21	13 3.05	- 7 39.1	1.880	2.712	14.7	21.4
22541	1998 FC ₆₈		4 15.0 108°39	1°5/15.9	18		502438	2015 BH ₂₇₆		4 15.0 54°87	2°7/12.6	17	
3 12	14 4.95	-13 39.5	1.366	2.205	17.6	18.8	3 12	13 55.77	- 4 46.2	1.852	2.709	12.9	21.4
3 22	13 58.61	-13 49.9	1.303	2.218	13.3	18.6	3 22	13 51.16	- 3 59.5	1.784	2.712	9.5	21.1
4 1	13 49.33	-13 45.3	1.261	2.230	8.4	18.3	4 1	13 44.58	- 3 6.7	1.739	2.715	5.7	20.9
4 11	13 38.18	-13 27.7	1.244	2.242	3.1	18.0	4 11	13 36.79	- 2 13.3	1.721	2.718	2.8	20.7
4 21	13 26.55	-13 1.6	1.253	2.253	3.2	18.1	4 21	13 28.67	- 1 25.4	1.731	2.721	4.5	20.9
5 1	13 15.96	-12 33.2	1.288	2.265	8.3	18.4	5 1	13 21.19	- 0 48.3	1.768	2.724	8.3	21.1
5 11	13 7.64	-12 9.4	1.347	2.275	13.0	18.7	5 11	13 15.15	- 0 26.1	1.829	2.728	11.8	21.3
5 21	13 2.26	-11 55.5	1.427	2.286	17.0	19.0	5 21	13 11.09	- 0 20.3	1.911	2.731	14.9	21.5
10052	1987 SM ₁₂		4 15.0 179°00	0°4/15.4	18		455861	2005 UN ₄₂		4 15.0 211°67	1°0/14.3	17	
3 12	13 55.93	-12 59.7	2.303	3.131	11.8	18.2	3 12	14 2.82	- 8 45.0	1.668	2.511	14.8	21.8
3 22	13 51.01	-12 37.9	2.221	3.132	8.8	18.0	3 22	13 56.78	- 8 24.3	1.585	2.505	11.0	21.6
4 1	13 44.39	-12 5.6	2.163	3.132	5.4	17.8	4 1	13 48.20	- 7 53.6	1.525	2.498	6.6	21.3
4 11	13 36.71	-11 25.7	2.133	3.132	1.7	17.5	4 11	13 37.90	- 7 16.9	1.491	2.491	2.0	21.0
4 21	13 28.70	-10 41.8	2.132	3.132	2.2	17.6	4 21	13 26.99	- 6 39.3	1.485	2.483	3.5	21.1
5 1	13 21.18	- 9 58.8	2.160	3.132	5.8	17.8	5 1	13 16.72	- 6 6.9	1.506	2.474	8.3	21.3
5 11	13 14.86	- 9 21.1	2.214	3.132	9.2	18.0	5 11	13 8.21	- 5 45.2	1.553	2.464	12.8	21.6
5 21	13 10.23	- 8 52.2	2.292	3.131	12.1	18.2	5 21	13 2.17	- 5 37.3	1.620	2.454	16.5	21.8
345072	2005 JC ₅₂		4 15.0 302°61	1°8/13.4	17		237039	2008 SM ₁₀₆		4 15.0 185°97	0°7/14.4	17	
3 12	13 54.87	- 6 48.0	2.019	2.870	12.2	21.3	3 12	13 56.54	- 9 46.2	2.174	3.012	12.0	21.2
3 22	13 50.44	- 6 11.9	1.939	2.864	9.0	21.1	3 22	13 51.53	- 9 16.1	2.094	3.012	8.9	21.0
4 1	13 44.15	- 5 28.4	1.882	2.858	5.4	20.9	4 1	13 44.75	- 8 37.1	2.039	3.011	5.3	20.8
4 11	13 36.66	- 4 41.9	1.853	2.852	2.0	20.7	4 11	13 36.84	- 7 52.8	2.011	3.011	1.5	20.5
4 21	13 28.79	- 3 57.6	1.851	2.846	3.6	20.8	4 21	13 28.59	- 7 7.7	2.012	3.010	2.7	20.6
5 1	13 21.42	- 3 20.6	1.877	2.840	7.4	21.0	5 1	13 20.86	- 6 26.7	2.041	3.009	6.5	20.8
5 11	13 15.35	- 2 55.2	1.929	2.834	11.0	21.2	5 11	13 14.39	- 5 54.1	2.097	3.007	10.0	21.0
5 21	13 11.12	- 2 43.8	2.002	2.829	14.1	21.4	5 21	13 9.71	- 5 33.0	2.176	3.005	13.0	21.2
416232	2003 AK ₇₉		4 15.0 33°31	9°6/6.3	17		162522	2000 QR ₁₂₂		4 15.0 201°69	3°5/17.9	16	
3 12	13 54.83	+ 9 42.6											

EPHEMERIDES

4 15.0

4 15.0

2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
505386	2013 PA ₁₁		4 15.0 271°27'	9°4/22.8	17		377374	2004 RY ₁₈₅		4 15.0 208°34'	1°7/16.7	17	
3 12	14 0.81	-35 28.3	1.908	2.633	17.4	22.0	3 12	13 56.52	-17 12.2	2.064	2.882	13.3	20.9
3 22	13 55.81	-36 10.3	1.796	2.608	15.3	21.8	3 22	13 51.71	-16 49.0	1.977	2.879	10.2	20.7
4 1	13 47.95	-36 26.7	1.701	2.582	12.9	21.6	4 1	13 44.96	-16 10.5	1.914	2.876	6.6	20.5
4 11	13 37.92	-36 12.5	1.629	2.556	10.7	21.4	4 11	13 36.95	-15 19.2	1.877	2.872	2.9	20.3
4 21	13 26.84	-35 25.6	1.580	2.529	9.5	21.2	4 21	13 28.53	-14 19.1	1.868	2.868	2.5	20.2
5 1	13 16.12	-34 8.7	1.556	2.502	10.1	21.2	5 1	13 20.63	-13 16.2	1.888	2.864	6.2	20.4
5 11	13 7.15	-32 30.0	1.557	2.474	12.4	21.3	5 11	13 14.09	-12 16.9	1.934	2.860	9.9	20.7
5 21	13 0.87	-30 40.6	1.580	2.445	15.3	21.4	5 21	13 9.48	-11 26.4	2.004	2.855	13.1	20.9
230091	2000 XH ₅		4 15.0 140°80'	1°8/16.7	17		241177	2007 RZ ₂₂₇		4 15.0 193°19'	0°6/14.4	17	
3 12	13 59.98	-16 34.3	2.321	3.129	12.3	21.0	3 12	13 55.52	-9 44.7	2.298	3.135	11.4	21.0
3 22	13 53.96	-16 35.0	2.244	3.140	9.4	20.9	3 22	13 50.71	-9 17.3	2.217	3.134	8.4	20.8
4 1	13 46.16	-16 23.7	2.192	3.151	6.1	20.7	4 1	13 44.24	-8 41.7	2.161	3.134	5.0	20.6
4 11	13 37.24	-16 2.1	2.167	3.161	2.8	20.5	4 11	13 36.72	-8 1.1	2.132	3.132	1.4	20.3
4 21	13 28.03	-15 32.7	2.172	3.171	2.4	20.5	4 21	13 28.88	-7 19.7	2.133	3.131	2.6	20.4
5 1	13 19.37	-14 59.8	2.206	3.180	5.6	20.7	5 1	13 21.52	-6 41.9	2.162	3.130	6.2	20.6
5 11	13 12.04	-14 27.8	2.267	3.188	8.8	20.9	5 11	13 15.33	-6 11.9	2.218	3.128	9.5	20.8
5 21	13 6.53	-14 0.9	2.353	3.196	11.7	21.1	5 21	13 10.81	-5 52.4	2.297	3.127	12.4	21.0
371036	2005 UZ ₁₅₁		4 15.0 141°96'	0°2/15.2	17		467874	2011 CF ₇		4 15.0 305°67'	0°4/15.3	17	
3 12	13 58.46	-12 18.4	2.118	2.947	12.6	22.5	3 12	13 55.89	-12 33.7	1.611	2.458	15.0	21.4
3 22	13 52.93	-11 54.5	2.044	2.956	9.4	22.3	3 22	13 51.84	-12 15.2	1.519	2.440	11.3	21.1
4 1	13 45.57	-11 20.0	1.996	2.965	5.7	22.1	4 1	13 45.35	-11 42.4	1.450	2.422	7.0	20.8
4 11	13 37.08	-10 38.1	1.974	2.974	1.7	21.9	4 11	13 37.13	-10 58.3	1.405	2.405	2.2	20.5
4 21	13 28.29	-9 52.9	1.982	2.982	2.4	21.9	4 21	13 28.22	-10 8.2	1.387	2.387	2.9	20.5
5 1	13 20.11	-9 9.6	2.018	2.989	6.3	22.2	5 1	13 19.80	-9 18.9	1.394	2.370	7.9	20.8
5 11	13 13.30	-8 33.0	2.081	2.996	9.8	22.4	5 11	13 13.01	-8 37.4	1.426	2.354	12.5	21.0
5 21	13 8.38	-8 6.5	2.167	3.003	12.9	22.6	5 21	13 8.57	-8 9.0	1.479	2.337	16.6	21.2
308402	2005 SL ₇₆		4 15.0 252°42'	0°3/14.7	18		282545	2004 TL ₆₈		4 15.0 237°02'	3°3/11.8	18	
3 12	13 54.72	-10 48.9	2.771	3.599	10.0	22.0	3 12	13 57.41	-1 57.8	2.158	3.008	11.6	20.8
3 22	13 49.98	-10 20.7	2.668	3.580	7.4	21.8	3 22	13 52.26	-1 10.9	2.072	2.996	8.6	20.6
4 1	13 43.76	-9 44.2	2.590	3.561	4.5	21.6	4 1	13 45.26	-0 20.1	2.012	2.984	5.4	20.3
4 11	13 36.57	-9 2.2	2.541	3.541	1.3	21.3	4 11	13 37.04	+0 29.4	1.979	2.971	3.3	20.2
4 21	13 29.00	-8 18.0	2.522	3.521	2.1	21.4	4 21	13 28.41	+1 12.3	1.975	2.958	5.0	20.3
5 1	13 21.73	-7 35.4	2.532	3.500	5.4	21.6	5 1	13 20.23	+1 43.8	1.999	2.944	8.2	20.4
5 11	13 15.38	-6 58.6	2.570	3.479	8.5	21.7	5 11	13 13.30	+2 0.6	2.048	2.930	11.5	20.6
5 21	13 10.44	-6 30.3	2.633	3.457	11.2	21.9	5 21	13 8.16	+2 1.3	2.119	2.916	14.4	20.8
497143	2004 RG ₃₉		4 15.0 195°78'	0°1/15.0	17		283602	2001 YL ₁₁₈		4 15.0 155°04'	5°7/7.1	18	
3 12	13 58.17	-11 26.8	2.303	3.131	11.7	21.9	3 12	13 54.80	+11 30.7	3.021	3.861	8.9	21.1
3 22	13 52.69	-11 6.6	2.217	3.129	8.8	21.7	3 22	13 49.73	+12 32.5	2.967	3.869	7.2	21.0
4 1	13 45.45	-10 36.9	2.156	3.126	5.3	21.5	4 1	13 43.45	+13 28.5	2.940	3.876	5.9	21.0
4 11	13 37.06	-10 0.7	2.123	3.122	1.6	21.2	4 11	13 36.46	+14 14.1	2.941	3.883	5.8	20.9
4 21	13 28.31	-9 21.6	2.119	3.118	2.3	21.3	4 21	13 29.32	+14 45.8	2.970	3.890	6.8	21.0
5 1	13 20.03	-8 44.2	2.144	3.114	6.1	21.5	5 1	13 22.61	+15 1.2	3.026	3.896	8.5	21.1
5 11	13 12.98	-8 12.7	2.196	3.109	9.5	21.7	5 11	13 16.84	+14 59.8	3.106	3.901	10.3	21.3
5 21	13 7.68	-7 50.5	2.272	3.103	12.5	21.9	5 21	13 12.35	+14 42.5	3.206	3.906	11.9	21.4
895	Helio		4 15.0 113°72'	7°9/26.8	18		270399	2002 AP ₁₈₉		4 15.0 359°97'	18°8/8.0	18	
3 12	13 57.50	-41 47.4	2.751	3.405	14.1	14.1	3 12	13 56.80	-54 6.0	1.514	2.132	25.0	19.4
3 22	13 52.27	-41 59.2	2.666	3.416	12.5	13.9	3 22	13 54.43	-56 1.3	1.443	2.129	23.8	19.3
4 1	13 45.19	-41 47.7	2.600	3.428	10.8	13.8	4 1	13 47.86	-57 18.0	1.383	2.127	22.4	19.1
4 11	13 36.97	-41 11.3	2.556	3.439	9.2	13.7	4 11	13 38.03	-57 46.8	1.335	2.126	21.0	19.0
4 21	13 28.48	-40 10.7	2.536	3.450	8.1	13.7	4 21	13 26.82	-57 21.6	1.301	2.127	19.8	18.9
5 1	13 20.61	-38 49.4	2.543	3.461	8.0	13.7	5 1	13 16.71	-56 2.0	1.282	2.129	19.0	18.8
5 11	13 14.14	-37 13.6	2.575	3.471	8.9	13.8	5 11	13 9.83	-53 56.3	1.280	2.132	18.9	18.8
5 21	13 9.57	-35 30.7	2.633	3.482	10.5	13.9	5 21	13 7.27	-51 18.0	1.295	2.137	19.5	18.9
387009	2012 RX ₁₃		4 15.0 237°41'	5°4/20.4	18		188761	2005 UJ ₃₂₄		4 15.0 228°32'	0°7/14.4	18	
3 12	13 58.86	-27 58.4	2.440	3.194	13.3	21.1	3 12	13 57.22	-10 28.8	2.117	2.953	12.3	21.6
3 22	13 53.46	-28 20.8	2.335	3.182	11.1	20.9	3 22	13 52.19	-9 49.5	2.026	2.943	9.2	21.4
4 1	13 46.06	-28 25.6	2.253	3.169	8.6	20.8	4 1	13 45.25	-8 59.4	1.960	2.932	5.5	21.1
4 11	13 37.29	-28 11.6	2.196	3.155	6.3	20.6	4 11	13 37.05	-8 2.4	1.921	2.921	1.6	20.8
4 21	13 27.95	-27 39.4	2.167	3.141	5.4	20.5	4 21	13 28.41	-7 3.5	1.911	2.909	2.8	20.9
5 1	13 18.98	-26 52.4	2.165	3.127	6.6	20.6	5 1	13 20.23	-6 8.5	1.930	2.897	6.9	21.1
5 11	13 11.27	-25 56.1	2.191	3.112	9.1	20.7	5 11	13 13.33	-5 22.7	1.975	2.884	10.6	21.3
5 21	13 5.43	-24 56.9	2.241	3.097	11.8	20.8	5 21	13 8.29	-4 49.7	2.042	2.870	13.8	21.5
404971	1999 TY ₂₁₄		4 15.0 182°64'	0°8/14.2	15		217296	2004 HK ₄₄		4 15.0 334°43'	3°7/17.4	18	
3 12	13 58.97	-10 9.6	2.211	3.042	12.0	22.7	3 12	13 57.07	-19 6.1	1.189	2.034	19.4	19.7
3 22	13 53.30	-9 26.2	2.129	3.044	8.9	22.5	3 22	13 53.42	-19 11.5	1.114	2.028	15.2	19.4
4 1	13 45.81	-8 32.9	2.072	3.044	5.3	22.2	4 1	13 46.60	-18 52.8	1.058	2.022	10.3	19.1
4 11	13 37.17	-7 33.7	2.044	3.044	1.5	22.0	4 11	13 37.54	-18 10.6	1.024	2.017	5.4	18.8
4 21	13 28.21	-6 33.7	2.045	3.042	2.8	22.1	4 21	13 27.67	-17 9.9	1.013	2.012	4.3	18.7
5 1	13 19.77	-5 38.3	2.076	3.040	6.6	22.3	5 1	13 18.63	-15 59.8	1.026	2.008	8.9	19.0
5 11	13 12.64	-4 52.5	2.133	3.037	10.1	22.5	5 11	13 11.88	-14 51.7	1.061	2.005	14.1	19.2
5 21	13 7.34	-4 19.5	2.214	3.033	13.2	22.7	5 21	13 8.25	-13 55.1	1.115	2.002	18.8	19.5
269625	2010 XE ₅₁		4 15.0 53°06'	2°7/17.2	17		104174	2000 EY ₈₃		4 15.0 287°33'	2°9/12.2	18	
3 12	13 57.89	-18 11.4	1.598	2.425	16.1	20.8</							

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2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
95906	2003 <i>HJ</i> ₃₀		4 15.0 314°96	0°5/15.4	17		458849	2011 <i>UX</i> ₇₄		4 15.0 148°13	2°0/13.5	18	
3 12	13 56.90	-11 46.1	1.529	2.379	15.5	19.2	3 12	14 1.90	-6 31.2	1.729	2.576	14.2	21.9
3 22	13 52.79	-11 46.7	1.435	2.357	11.8	18.9	3 22	13 55.81	-5 59.5	1.662	2.584	10.4	21.7
4 1	13 46.04	-11 34.9	1.362	2.335	7.3	18.5	4 1	13 47.46	-5 20.3	1.618	2.592	6.2	21.5
4 11	13 37.38	-11 13.2	1.315	2.314	2.4	18.2	4 11	13 37.70	-4 38.5	1.601	2.600	2.3	21.3
4 21	13 27.86	-10 45.6	1.292	2.293	3.0	18.2	4 21	13 27.59	-3 59.8	1.612	2.606	4.0	21.4
5 1	13 18.81	-10 17.9	1.296	2.273	8.2	18.4	5 1	13 18.26	-3 29.7	1.650	2.612	8.3	21.6
5 11	13 11.44	-9 56.6	1.323	2.253	13.1	18.6	5 11	13 10.64	-3 12.3	1.714	2.618	12.2	21.9
5 21	13 6.61	-9 46.5	1.370	2.234	17.3	18.8	5 21	13 5.32	-3 9.8	1.799	2.623	15.5	22.1
303864	2005 <i>SU</i> ₂₆₈		4 15.0 249°99	1°4/16.9	16		235118	2003 <i>QU</i> ₇		4 15.0 176°72	2°2/17.4	17	
3 12	13 53.45	-19 25.2	2.691	3.492	11.0	21.4	3 12	13 57.95	-18 46.2	2.628	3.425	11.4	21.9
3 22	13 49.10	-18 27.0	2.585	3.477	8.5	21.2	3 22	13 52.39	-18 40.5	2.540	3.427	8.8	21.7
4 1	13 43.25	-17 13.0	2.504	3.462	5.6	20.9	4 1	13 45.23	-18 22.5	2.476	3.429	5.9	21.5
4 11	13 36.45	-15 45.7	2.452	3.446	2.5	20.7	4 11	13 37.04	-17 53.3	2.440	3.430	3.1	21.3
4 21	13 29.33	-14 9.6	2.430	3.430	2.0	20.6	4 21	13 28.54	-17 15.6	2.434	3.431	2.5	21.3
5 1	13 22.57	-12 30.8	2.439	3.413	5.1	20.8	5 1	13 20.47	-16 33.2	2.457	3.431	5.1	21.5
5 11	13 16.82	-10 55.4	2.476	3.397	8.2	21.0	5 11	13 13.52	-15 50.6	2.508	3.430	8.1	21.6
5 21	13 12.53	-9 28.9	2.540	3.380	11.1	21.2	5 21	13 8.18	-15 12.0	2.585	3.429	10.8	21.8
301346	2009 <i>CS</i> ₇		4 15.0 145°36	3°0/12.4	18		158735	2003 <i>OG</i> ₁₉		4 15.0 288°21	2°4/17.2	18	
3 12	13 59.99	-5 3.0	1.779	2.630	13.6	21.7	3 12	13 55.28	-18 58.2	1.867	2.687	14.4	19.8
3 22	13 54.28	-3 58.8	1.716	2.641	10.0	21.5	3 22	13 51.17	-18 38.6	1.767	2.668	11.3	19.6
4 1	13 46.47	-2 47.5	1.677	2.651	6.0	21.3	4 1	13 44.86	-18 0.5	1.689	2.648	7.6	19.3
4 11	13 37.38	-1 35.7	1.665	2.661	3.1	21.1	4 11	13 37.01	-17 5.4	1.636	2.629	3.7	19.0
4 21	13 28.02	-0 30.5	1.681	2.669	5.0	21.3	4 21	13 28.53	-15 57.3	1.611	2.610	3.0	18.9
5 1	13 19.41	+0 21.6	1.725	2.678	8.8	21.5	5 1	13 20.50	-14 42.8	1.612	2.591	6.8	19.1
5 11	13 12.44	+0 56.3	1.794	2.685	12.4	21.8	5 11	13 13.89	-13 30.0	1.640	2.571	10.9	19.3
5 21	13 7.62	+1 12.2	1.884	2.691	15.6	22.0	5 21	13 9.42	-12 25.8	1.690	2.552	14.7	19.5
6204	MacKenzie		4 15.0 327°82	2°7/13.6	18		153928	2001 <i>YB</i> ₆₁		4 15.0 181°23	1°1/14.0	17	
3 12	13 58.83	-5 35.8	1.147	2.022	17.8	17.1	3 12	13 57.97	-8 34.2	2.090	2.930	12.3	20.4
3 22	13 54.69	-5 18.0	1.075	2.011	13.3	16.7	3 22	13 52.67	-8 1.7	2.012	2.931	9.1	20.2
4 1	13 47.35	-4 51.4	1.023	2.002	8.0	16.4	4 1	13 45.50	-7 20.8	1.958	2.931	5.4	19.9
4 11	13 37.77	-4 22.2	0.994	1.993	3.1	16.1	4 11	13 37.14	-6 35.5	1.932	2.931	1.7	19.7
4 21	13 27.36	-3 57.5	0.988	1.984	5.3	16.2	4 21	13 28.43	-5 50.6	1.934	2.931	3.1	19.8
5 1	13 17.77	-3 44.5	1.006	1.977	10.9	16.5	5 1	13 20.27	-5 11.2	1.965	2.930	6.9	20.0
5 11	13 10.46	-3 48.7	1.044	1.970	16.2	16.7	5 11	13 13.45	-4 41.5	2.022	2.929	10.5	20.2
5 21	13 6.28	-4 11.9	1.100	1.964	20.7	17.0	5 21	13 8.50	-4 24.3	2.102	2.927	13.6	20.4
427765	2004 <i>TD</i> ₁₄₉		4 15.0 358°56	2°4/16.5	17		2618	Coonabarabran		4 15.0 216°68	3°8/19.3	18	
3 12	14 2.10	-14 35.6	1.659	2.489	15.5	20.7	3 12	13 55.76	-24 26.5	2.562	3.338	12.2	17.8
3 22	13 56.34	-15 15.4	1.580	2.487	11.9	20.5	3 22	13 50.94	-24 25.2	2.466	3.332	9.8	17.6
4 1	13 48.01	-15 43.8	1.523	2.487	7.8	20.2	4 1	13 44.44	-24 8.0	2.393	3.327	7.2	17.4
4 11	13 37.91	-16 0.7	1.492	2.486	3.6	20.0	4 11	13 36.84	-23 35.1	2.346	3.321	4.7	17.3
4 21	13 27.17	-16 7.7	1.487	2.486	3.3	20.0	4 21	13 28.85	-22 48.7	2.328	3.315	3.8	17.2
5 1	13 17.08	-16 8.2	1.510	2.486	7.4	20.2	5 1	13 21.28	-21 52.9	2.338	3.309	5.5	17.3
5 11	13 8.78	-16 7.0	1.558	2.487	11.5	20.4	5 11	13 14.85	-20 53.0	2.376	3.303	8.2	17.4
5 21	13 3.00	-16 8.9	1.628	2.488	15.2	20.7	5 21	13 10.06	-19 54.5	2.438	3.296	10.9	17.6
333084	2011 <i>UH</i> ₁₃₁		4 15.0 327°62	0°4/14.8	17		147668	2004 <i>KQ</i> ₁₂		4 15.0 284°03	6°3/7.6	18	
3 12	13 59.12	-8 56.1	1.170	2.038	18.0	19.7	3 12	13 53.70	+7 27.5	2.244	3.102	10.9	19.8
3 22	13 55.00	-9 7.1	1.092	2.024	13.6	19.4	3 22	13 49.46	+8 45.1	2.169	3.087	8.6	19.6
4 1	13 47.62	-9 7.7	1.034	2.011	8.3	19.1	4 1	13 43.56	+10 0.3	2.119	3.072	6.7	19.5
4 11	13 37.88	-9 1.1	0.999	1.999	2.4	18.7	4 11	13 36.58	+11 6.0	2.096	3.057	6.4	19.4
4 21	13 27.16	-8 52.0	0.987	1.987	3.9	18.7	4 21	13 29.24	+11 56.4	2.100	3.042	7.9	19.5
5 1	13 17.17	-8 46.4	0.999	1.977	9.9	19.0	5 1	13 22.32	+12 27.1	2.129	3.027	10.4	19.6
5 11	13 9.42	-8 50.3	1.032	1.967	15.4	19.3	5 11	13 16.55	+12 36.0	2.182	3.011	12.9	19.7
5 21	13 4.86	-9 7.5	1.083	1.958	20.1	19.5	5 21	13 12.42	+12 23.8	2.254	2.996	15.2	19.9
425000	2009 <i>CG</i> ₆₁		4 15.0 341°12	6°0/8.8	17		62866	2000 <i>UX</i> ₈₂		4 15.0 136°81	1°7/13.2	18	
3 12	13 54.33	+5 33.6	2.043	2.904	11.7	20.5	3 12	13 54.05	-6 28.9	2.422	3.267	10.7	19.8
3 22	13 49.96	+6 44.4	1.979	2.902	9.0	20.3	3 22	13 49.53	-5 48.0	2.348	3.271	7.8	19.6
4 1	13 43.83	+7 52.9	1.941	2.901	6.7	20.2	4 1	13 43.50	-5 1.3	2.299	3.274	4.6	19.4
4 11	13 36.62	+8 52.2	1.929	2.899	6.0	20.1	4 11	13 36.54	-4 12.7	2.278	3.277	1.8	19.2
4 21	13 29.12	+9 36.2	1.944	2.898	7.6	20.2	4 21	13 29.34	-3 26.6	2.287	3.280	3.2	19.3
5 1	13 22.18	+10 0.6	1.985	2.897	10.2	20.4	5 1	13 22.59	-2 47.3	2.323	3.282	6.4	19.5
5 11	13 16.53	+10 4.0	2.048	2.896	12.9	20.5	5 11	13 16.94	-2 18.4	2.386	3.285	9.4	19.7
5 21	13 12.65	+9 46.9	2.132	2.895	15.4	20.7	5 21	13 12.83	-2 1.7	2.472	3.288	12.1	19.9
7385	Aktsynovia		4 15.0 116°31	2°0/13.5	18		188525	2004 <i>RM</i> ₁₀₆		4 15.0 200°91	0°1/14.9	18	
3 12	14 0.25	-6 56.9	1.665	2.516	14.4	17.9	3 12	13 55.42	-12 58.1	2.082	2.915	12.6	20.4
3 22	13 54.61	-6 19.4	1.603	2.528	10.6	17.7	3 22	13 50.84	-12 8.3	1.998	2.913	9.4	20.1
4 1	13 46.73	-5 33.7	1.564	2.539	6.3	17.5	4 1	13 44.42	-11 5.4	1.939	2.911	5.7	19.9
4 11	13 37.48	-4 45.3	1.552	2.551	2.3	17.2	4 11	13 36.83	-9 53.4	1.908	2.908	1.6	19.6
4 21	13 27.93	-4 0.1	1.567	2.562	4.1	17.4	4 21	13 28.89	-8 38.1	1.905	2.905	2.5	19.7
5 1	13 19.19	-3 24.2	1.609	2.572	8.3	17.7	5 1	13 21.48	-7 25.9	1.931	2.902	6.6	19.9
5 11	13 12.20	-3 2.0	1.676	2.582	12.3	17.9	5 11	13 15.37	-6 22.9	1.983	2.898	10.3	20.2
5 21	13 7.49	-2 55.4	1.763	2.592	15.6	18.2	5 21	13 11.09	-5 33.4	2.058	2.894	13.4	20.4
94751	2001 <i>XE</i> ₈₆		4 15.0 120°68	0°2/14.9	18		311290	2005 <i>GW</i> ₅₀		4 15.0 23°89	1°9/13.9	18	
3 12	13 59.59	-12 15.9	1.553	2.397									

EPHEMERIDES

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2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
292365	2006 <i>SB</i> ₂₄₆		4 15.0	10°83	1.2°/14.2	17	169541	2002 <i>EX</i> ₈₃		4 15.1	323°76	0.2°/15.1	17
3 12	13 55.36	- 9 49.1	1.268	2.136	16.9	20.2	3 12	13 56.16	-11 14.7	1.213	2.079	17.6	19.7
3 22	13 51.69	- 9 14.3	1.204	2.137	12.5	19.9	3 22	13 52.75	-11 10.1	1.130	2.061	13.4	19.4
4 1	13 45.29	- 8 25.5	1.161	2.139	7.5	19.6	4 1	13 46.27	-10 50.6	1.067	2.043	8.3	19.1
4 11	13 37.14	- 7 28.5	1.142	2.142	2.2	19.3	4 11	13 37.53	-10 19.6	1.027	2.027	2.5	18.7
4 21	13 28.49	- 6 31.4	1.147	2.146	4.0	19.4	4 21	13 27.85	- 9 42.7	1.010	2.011	3.6	18.7
5 1	13 20.71	- 5 42.6	1.176	2.150	9.3	19.7	5 1	13 18.79	- 9 7.7	1.017	1.996	9.6	19.0
5 11	13 14.95	- 5 9.0	1.228	2.156	14.1	20.0	5 11	13 11.82	- 8 42.7	1.045	1.982	15.0	19.2
5 21	13 11.87	- 4 54.3	1.299	2.162	18.2	20.3	5 21	13 7.86	- 8 33.1	1.092	1.970	19.8	19.5
473257	2015 <i>MF</i> ₂₄		4 15.0	267°08	2°6/12.6	17	154704	2004 <i>JT</i> ₁₉		4 15.1	275°15	0°8/14.4	18 R
3 12	13 57.23	- 2 25.6	2.258	3.106	11.2	20.8	3 12	13 56.79	-10 25.9	1.809	2.654	13.7	20.4
3 22	13 52.03	- 2 3.9	2.176	3.099	8.3	20.6	3 22	13 52.28	- 9 49.7	1.714	2.635	10.2	20.1
4 1	13 45.09	- 1 39.6	2.119	3.092	5.1	20.4	4 1	13 45.54	- 9 1.0	1.642	2.616	6.2	19.8
4 11	13 37.04	- 1 16.6	2.090	3.085	2.7	20.2	4 11	13 37.24	- 8 3.9	1.597	2.597	1.8	19.5
4 21	13 28.62	- 0 58.9	2.090	3.078	4.1	20.3	4 21	13 28.32	- 7 4.0	1.578	2.577	3.2	19.6
5 1	13 20.66	- 0 50.0	2.118	3.071	7.3	20.5	5 1	13 19.85	- 6 8.1	1.588	2.557	7.8	19.8
5 11	13 13.90	- 0 52.4	2.172	3.064	10.5	20.7	5 11	13 12.83	- 5 22.6	1.622	2.537	12.1	20.0
5 21	13 8.86	- 1 7.1	2.248	3.057	13.3	20.9	5 21	13 7.94	- 4 52.0	1.677	2.517	15.8	20.2
201468	2003 <i>FL</i> ₁₃₀		4 15.0	304°09	1°6/13.6	17	424722	2008 <i>SS</i> ₁₉₃		4 15.1	114°40	2°5/12.9	17
3 12	13 52.99	-11 5.3	1.605	2.461	14.6	20.6	3 12	13 57.69	- 4 5.0	1.971	2.822	12.5	21.3
3 22	13 49.74	- 9 49.1	1.504	2.432	10.9	20.3	3 22	13 52.52	- 3 34.3	1.900	2.825	9.2	21.1
4 1	13 44.13	- 8 13.6	1.427	2.404	6.5	20.0	4 1	13 45.43	- 2 59.2	1.854	2.829	5.5	20.8
4 11	13 36.84	- 6 24.7	1.375	2.375	2.1	19.6	4 11	13 37.15	- 2 24.2	1.835	2.832	2.6	20.7
4 21	13 28.82	- 4 31.5	1.350	2.347	4.2	19.7	4 21	13 28.55	- 1 54.1	1.844	2.835	4.2	20.8
5 1	13 21.22	- 2 44.8	1.352	2.319	9.2	19.9	5 1	13 20.55	- 1 33.5	1.881	2.838	7.8	21.0
5 11	13 15.14	- 1 14.5	1.378	2.291	14.0	20.1	5 11	13 13.96	- 1 25.4	1.943	2.841	11.3	21.2
5 21	13 11.34	- 0 7.0	1.424	2.263	18.1	20.3	5 21	13 9.30	- 1 31.2	2.027	2.844	14.3	21.4
138841	2000 <i>VT</i> ₁₅		4 15.0	38°61	0°9/15.8	18	371024	2005 <i>UN</i> ₆₆		4 15.1	174°97	1°7/13.3	17
3 12	13 54.06	-16 44.7	1.340	2.189	17.3	18.5	3 12	13 58.75	- 5 51.0	2.491	3.327	10.7	22.2
3 22	13 50.35	-15 42.6	1.294	2.214	13.0	18.3	3 22	13 52.94	- 5 16.3	2.413	3.331	7.9	22.0
4 1	13 44.23	-14 19.4	1.268	2.240	8.0	18.1	4 1	13 45.55	- 4 36.4	2.361	3.334	4.7	21.8
4 11	13 36.76	-12 42.0	1.268	2.266	2.8	17.9	4 11	13 37.17	- 3 55.0	2.338	3.336	1.9	21.6
4 21	13 29.14	-11 0.3	1.293	2.294	2.9	18.0	4 21	13 28.52	- 3 16.1	2.345	3.337	3.3	21.7
5 1	13 22.54	- 9 24.7	1.343	2.322	7.8	18.3	5 1	13 20.34	- 2 43.8	2.381	3.337	6.5	21.9
5 11	13 17.88	- 8 4.2	1.418	2.350	12.2	18.6	5 11	13 13.33	- 2 21.2	2.444	3.337	9.5	22.1
5 21	13 15.60	- 7 3.8	1.513	2.379	15.9	18.9	5 21	13 7.92	- 2 10.3	2.531	3.336	12.1	22.3
38298	1999 <i>RD</i> ₈₈		4 15.0	281°62	4°2/17.9	18	95894	2003 <i>HA</i> ₁₂		4 15.1	291°96	9°8/5.4	18
3 12	14 1.90	-20 4.9	1.902	2.704	14.8	18.7	3 12	13 57.20	+14 0.1	1.752	2.607	13.6	19.2
3 22	13 56.17	-20 48.9	1.805	2.692	11.9	18.5	3 22	13 52.53	+15 29.1	1.684	2.590	11.4	19.0
4 1	13 47.96	-21 19.0	1.731	2.679	8.4	18.2	4 1	13 45.63	+16 48.9	1.641	2.574	10.0	18.9
4 11	13 37.96	-21 33.8	1.683	2.666	5.2	18.0	4 11	13 37.25	+17 49.9	1.621	2.557	10.1	18.8
4 21	13 27.18	-21 33.6	1.662	2.653	4.5	17.9	4 21	13 28.38	+18 24.4	1.626	2.541	11.8	18.9
5 1	13 16.81	-21 21.3	1.668	2.640	7.2	18.0	5 1	13 20.12	+18 28.2	1.654	2.524	14.3	19.0
5 11	13 7.98	-21 2.4	1.701	2.628	10.9	18.2	5 11	13 13.43	+18 1.2	1.701	2.508	16.9	19.1
5 21	13 1.48	-20 42.7	1.756	2.615	14.3	18.4	5 21	13 8.93	+17 6.5	1.765	2.492	19.4	19.3
169648	2002 <i>JN</i> ₃₇		4 15.0	333°77	4°5/18.4	17	215625	2003 <i>SX</i> ₂₅₀		4 15.1	96°60	2°1/13.1	18
3 12	13 56.36	-22 2.8	1.391	2.216	18.2	19.6	3 12	13 58.87	- 8 30.8	1.688	2.537	14.3	21.1
3 22	13 52.56	-22 4.5	1.312	2.211	14.5	19.3	3 22	13 53.43	- 7 13.9	1.637	2.562	10.4	20.9
4 1	13 45.93	-21 41.5	1.252	2.206	10.2	19.1	4 1	13 45.93	- 5 46.8	1.610	2.585	6.1	20.7
4 11	13 37.37	-20 54.0	1.215	2.202	6.0	18.8	4 11	13 37.27	- 4 16.8	1.610	2.608	2.3	20.5
4 21	13 28.12	-19 46.3	1.202	2.198	4.7	18.7	4 21	13 28.46	- 2 52.0	1.638	2.631	4.3	20.7
5 1	13 19.61	-18 26.6	1.214	2.194	8.2	18.9	5 1	13 20.55	- 1 39.9	1.693	2.653	8.3	20.9
5 11	13 13.11	-17 5.8	1.249	2.191	12.7	19.1	5 11	13 14.34	- 0 45.8	1.774	2.674	12.1	21.2
5 21	13 9.39	-15 53.6	1.305	2.188	16.8	19.4	5 21	13 10.28	- 0 11.6	1.876	2.695	15.2	21.5
411661	2011 <i>WM</i> ₂₉		4 15.1	241°22	0°9/15.6	16	471345	2011 <i>QG</i> ₂₄		4 15.1	263°63	0°7/15.8	17
3 12	14 2.86	-12 1.6	1.532	2.372	16.0	21.5	3 12	13 54.14	-14 31.5	2.234	3.062	12.1	21.5
3 22	13 57.10	-12 13.5	1.451	2.367	12.1	21.2	3 22	13 49.85	-13 59.6	2.145	3.055	9.1	21.3
4 1	13 48.57	-12 13.7	1.392	2.362	7.6	20.9	4 1	13 43.83	-13 15.1	2.081	3.049	5.7	21.1
4 11	13 38.14	-12 4.2	1.358	2.357	2.6	20.6	4 11	13 36.70	-12 21.0	2.044	3.043	2.0	20.8
4 21	13 27.00	-11 48.2	1.351	2.351	3.0	20.6	4 21	13 29.20	-11 21.5	2.036	3.036	2.2	20.8
5 1	13 16.55	-11 31.0	1.370	2.346	8.1	20.9	5 1	13 22.15	-10 22.1	2.055	3.030	5.9	21.0
5 11	13 8.00	-11 18.2	1.415	2.340	12.7	21.2	5 11	13 16.29	- 9 28.3	2.102	3.023	9.4	21.2
5 21	13 2.15	-11 14.4	1.480	2.335	16.8	21.4	5 21	13 12.14	- 8 44.3	2.172	3.017	12.5	21.4
162418	2000 <i>ER</i> ₄₆		4 15.1	45°58	0°4/14.6	17	82688	2001 <i>PQ</i> ₃₃		4 15.1	232°54	2°1/13.2	18
3 12	13 55.12	-10 56.2	1.902	2.746	13.2	19.8	3 12	13 58.36	- 4 3.6	2.169	3.014	11.7	19.4
3 22	13 50.70	-10 23.4	1.831	2.752	9.7	19.5	3 22	13 52.91	- 3 48.7	2.090	3.013	8.6	19.2
4 1	13 44.36	- 9 39.8	1.784	2.757	5.8	19.3	4 1	13 45.65	- 3 30.2	2.037	3.011	5.2	19.0
4 11	13 36.83	- 8 49.5	1.763	2.763	1.6	19.0	4 11	13 37.22	- 3 11.8	2.011	3.009	2.3	18.8
4 21	13 28.98	- 7 57.7	1.770	2.770	2.8	19.1	4 21	13 28.45	- 2 57.1	2.014	3.007	3.7	18.9
5 1	13 21.75	- 7 10.1	1.805	2.776	6.9	19.4	5 1	13 20.19	- 2 49.8	2.046	3.004	7.2	19.1
5 11	13 15.94	- 6 32.1	1.865	2.783	10.6	19.6	5 11	13 13.21	- 2 52.5	2.103	3.002	10.5	19.3
5 21	13 12.06	- 6 6.8	1.947	2.789	13.8	19.9	5 21	13 8.04	- 3 6.4	2.183	3.000	13.4	19.5
39052	2000 <i>UL</i> ₉₉		4 15.1	131°50	0°1/14.9	18 R	391383	2006 <i>WK</i>					

EPHEMERIDES

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2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
269756	1999 <i>RM</i> ₁₆₉		4 15.1 243°28	2°1/17.1	18		16399	Grokhovsky		4 15.1 189°10	2°6/12.3	18	
3 12	13 57.85	-17 59.4	2.288	3.095	12.5	21.5	3 12	13 58.16	-2 55.1	2.490	3.331	10.5	19.7
3 22	13 52.70	-17 50.8	2.185	3.080	9.7	21.3	3 22	13 52.54	-2 13.3	2.410	3.330	7.7	19.5
4 1	13 45.63	-17 28.2	2.107	3.064	6.5	21.0	4 1	13 45.34	-1 27.9	2.357	3.328	4.8	19.3
4 11	13 37.26	-16 53.0	2.055	3.048	3.2	20.8	4 11	13 37.15	-0 43.3	2.332	3.326	2.7	19.1
4 21	13 28.38	-16 8.0	2.033	3.031	2.6	20.7	4 21	13 28.66	-0 3.8	2.338	3.323	4.1	19.2
5 1	13 19.87	-15 17.8	2.039	3.014	5.9	20.9	5 1	13 20.63	+0 26.6	2.372	3.319	7.0	19.4
5 11	13 12.57	-14 28.0	2.072	2.996	9.4	21.1	5 11	13 13.73	+0 45.1	2.433	3.314	10.0	19.6
5 21	13 7.09	-13 43.7	2.129	2.978	12.6	21.3	5 21	13 8.42	+0 50.4	2.517	3.309	12.5	19.7
99973	1981 <i>EB</i> ₆		4 15.1 191°33	4°0/19.9	18		170277	2003 <i>QW</i> ₉₂		4 15.1 140°42	2°1/13.3	18	
3 12	13 56.96	-26 18.1	3.018	3.772	11.0	20.0	3 12	14 1.51	-5 40.9	1.953	2.796	13.0	20.8
3 22	13 51.63	-26 29.3	2.921	3.771	9.0	19.8	3 22	13 55.28	-5 4.6	1.888	2.809	9.5	20.6
4 1	13 44.79	-26 26.3	2.848	3.769	6.8	19.7	4 1	13 47.06	-4 22.3	1.848	2.821	5.7	20.4
4 11	13 36.98	-26 9.1	2.802	3.766	4.8	19.5	4 11	13 37.65	-3 38.7	1.835	2.833	2.3	20.2
4 21	13 28.83	-25 38.9	2.784	3.763	4.0	19.5	4 21	13 27.99	-2 59.1	1.851	2.844	3.9	20.4
5 1	13 21.03	-24 58.7	2.795	3.759	5.2	19.5	5 1	13 19.03	-2 28.2	1.896	2.854	7.7	20.6
5 11	13 14.23	-24 12.7	2.835	3.756	7.3	19.7	5 11	13 11.62	-2 9.7	1.967	2.864	11.2	20.8
5 21	13 8.89	-23 25.5	2.900	3.751	9.5	19.8	5 21	13 6.26	-2 5.3	2.059	2.872	14.2	21.1
120598	1995 <i>UU</i> ₁₇		4 15.1 135°31	2°1/16.9	17		95742	2003 <i>ES</i> ₂₀		4 15.1 326°65	8°2/19.1	17	
3 12	13 59.79	-16 59.8	2.178	2.988	13.0	20.9	3 12	14 2.72	-26 26.0	1.785	2.563	16.6	19.0
3 22	13 54.00	-17 2.8	2.101	2.997	9.9	20.7	3 22	13 57.43	-28 4.1	1.678	2.536	14.1	18.7
4 1	13 46.31	-16 53.0	2.048	3.007	6.5	20.5	4 1	13 49.16	-29 28.1	1.592	2.510	11.3	18.5
4 11	13 37.43	-16 31.7	2.022	3.015	3.1	20.3	4 11	13 38.49	-30 32.8	1.530	2.484	9.0	18.3
4 21	13 28.21	-16 1.9	2.025	3.024	2.6	20.3	4 21	13 26.48	-31 14.2	1.493	2.460	8.2	18.2
5 1	13 19.57	-15 27.8	2.057	3.032	5.8	20.5	5 1	13 14.56	-31 31.8	1.482	2.436	9.8	18.2
5 11	13 12.32	-14 54.5	2.116	3.040	9.2	20.8	5 11	13 4.23	-31 30.1	1.496	2.413	12.8	18.3
5 21	13 6.99	-14 26.4	2.198	3.047	12.2	21.0	5 21	12 56.60	-31 16.4	1.530	2.390	16.0	18.5
413921	2006 <i>WK</i> ₁₅₁		4 15.1 27°83	0°3/15.2	18		433649	2014 <i>AZ</i> ₄₂		4 15.1 37°62	6°2/8.6	17	
3 12	13 58.58	-10 50.0	1.240	2.102	17.6	20.2	3 12	13 53.94	+5 32.5	1.987	2.850	11.9	20.5
3 22	13 54.06	-10 55.8	1.185	2.113	13.1	20.0	3 22	13 49.71	+6 50.7	1.931	2.855	9.1	20.3
4 1	13 46.70	-10 48.9	1.150	2.125	8.0	19.7	4 1	13 43.72	+8 6.3	1.900	2.860	6.8	20.2
4 11	13 37.58	-10 32.9	1.139	2.139	2.4	19.4	4 11	13 36.68	+9 11.9	1.896	2.865	6.2	20.2
4 21	13 28.04	-10 12.8	1.152	2.153	3.3	19.5	4 21	13 29.39	+10 1.2	1.918	2.871	7.8	20.3
5 1	13 19.53	-9 54.8	1.190	2.168	8.6	19.8	5 1	13 22.71	+10 30.1	1.965	2.876	10.4	20.4
5 11	13 13.21	-9 44.8	1.250	2.184	13.4	20.2	5 11	13 17.35	+10 36.9	2.036	2.882	13.1	20.6
5 21	13 9.70	-9 46.5	1.330	2.201	17.3	20.4	5 21	13 13.77	+10 22.7	2.126	2.888	15.4	20.8
379837	2011 <i>QP</i> ₃		4 15.1 243°02	4°0/23.5	17		204593	2005 <i>GH</i> ₁₁₃		4 15.1 98°53	5°6/9.5	17	
3 12	13 49.98	-34 36.0	4.893	5.580	7.9	20.6	3 12	13 56.21	+5 4.1	2.090	2.947	11.6	20.1
3 22	13 46.09	-34 45.4	4.787	5.574	6.8	20.5	3 22	13 51.28	+6 4.6	2.032	2.954	8.9	19.9
4 1	13 41.30	-34 43.5	4.705	5.568	5.6	20.4	4 1	13 44.62	+7 2.6	2.000	2.961	6.4	19.8
4 11	13 35.94	-34 30.3	4.648	5.562	4.6	20.4	4 11	13 36.94	+7 51.5	1.994	2.968	5.6	19.7
4 21	13 30.37	-34 6.4	4.618	5.557	4.1	20.3	4 21	13 29.03	+8 26.2	2.016	2.974	7.1	19.8
5 1	13 25.02	-33 33.2	4.616	5.551	4.3	20.3	5 1	13 21.72	+8 42.9	2.064	2.981	9.6	20.0
5 11	13 20.26	-32 53.1	4.642	5.545	5.1	20.4	5 11	13 15.74	+8 40.5	2.135	2.988	12.3	20.2
5 21	13 16.39	-32 9.0	4.694	5.539	6.3	20.5	5 21	13 11.53	+8 19.6	2.227	2.994	14.7	20.3
306809	2001 <i>QG</i> ₁₂₈		4 15.1 226°11	5°2/19.7	17		300896	2008 <i>BF</i> ₂₄		4 15.1 75°65	6°3/21.2	18	
3 12	13 59.45	-25 50.5	2.033	2.810	14.9	20.7	3 12	13 59.23	-29 35.0	2.329	3.077	14.0	20.4
3 22	13 54.20	-26 3.5	1.937	2.802	12.2	20.5	3 22	13 53.79	-30 17.6	2.245	3.082	11.8	20.2
4 1	13 46.68	-25 56.6	1.863	2.793	9.2	20.3	4 1	13 46.32	-30 41.7	2.182	3.087	9.4	20.1
4 11	13 37.60	-25 28.7	1.813	2.785	6.3	20.1	4 11	13 37.49	-30 45.8	2.144	3.092	7.2	19.9
4 21	13 27.92	-24 41.6	1.791	2.775	5.2	20.0	4 21	13 28.17	-30 30.2	2.132	3.097	6.3	19.9
5 1	13 18.74	-23 40.1	1.795	2.765	7.0	20.1	5 1	13 19.35	-29 57.9	2.147	3.102	7.2	19.9
5 11	13 11.06	-22 31.5	1.826	2.755	10.2	20.3	5 11	13 11.91	-29 14.5	2.189	3.107	9.3	20.1
5 21	13 5.57	-21 23.3	1.881	2.744	13.4	20.4	5 21	13 6.46	-28 26.1	2.254	3.112	11.7	20.2
289990	2005 <i>OZ</i> ₂₈		4 15.1 357°35	8°1/23.3	18		177354	2003 <i>YH</i> ₁₈₀		4 15.1 144°82	2°9/12.8	18	
3 12	13 57.35	-34 38.0	2.161	2.886	15.6	20.1	3 12	14 0.39	-3 56.3	1.783	2.634	13.6	20.6
3 22	13 52.68	-35 19.7	2.073	2.885	13.5	20.0	3 22	13 54.67	-3 19.5	1.716	2.641	10.0	20.4
4 1	13 45.77	-35 38.6	2.004	2.885	11.3	19.8	4 1	13 46.81	-2 37.7	1.673	2.647	6.1	20.2
4 11	13 37.33	-35 32.2	1.958	2.884	9.3	19.7	4 11	13 37.61	-1 56.2	1.656	2.653	3.0	20.0
4 21	13 28.33	-35 0.4	1.937	2.884	8.1	19.6	4 21	13 28.07	-1 20.8	1.668	2.658	4.7	20.1
5 1	13 19.86	-34 6.5	1.940	2.884	8.6	19.6	5 1	13 19.25	-0 56.4	1.707	2.663	8.6	20.4
5 11	13 12.93	-32 57.3	1.969	2.884	10.3	19.7	5 11	13 12.05	-0 46.4	1.771	2.668	12.3	20.6
5 21	13 8.18	-31 40.8	2.021	2.885	12.6	19.9	5 21	13 7.02	-0 52.2	1.855	2.672	15.4	20.8
512296	2016 <i>GT</i> ₂₄₁		4 15.1 265°21	5°0/10.6	17		292504	2006 <i>TC</i> ₁₆		4 15.1 235°14	0°2/15.3	17	
3 12	13 57.74	+2 2.7	1.932	2.790	12.4	21.5	3 12	13 55.00	-12 41.5	2.514	3.340	10.9	21.7
3 22	13 52.74	+2 56.7	1.850	2.775	9.4	21.3	3 22	13 50.33	-12 15.3	2.421	3.331	8.2	21.5
4 1	13 45.70	+3 51.7	1.791	2.759	6.4	21.1	4 1	13 44.08	-11 39.2	2.352	3.321	5.0	21.3
4 11	13 37.29	+4 41.3	1.760	2.744	5.0	20.9	4 11	13 36.81	-10 55.9	2.312	3.312	1.6	21.0
4 21	13 28.40	+5 19.3	1.756	2.728	6.7	21.0	4 21	13 29.18	-10 8.9	2.301	3.302	2.0	21.0
5 1	13 19.99	+5 40.6	1.779	2.712	9.9	21.2	5 1	13 21.93	-9 22.8	2.320	3.291	5.5	21.3
5 11	13 12.97	+5 42.6	1.825	2.696	13.2	21.3	5 11	13 15.74	-8 41.8	2.365	3.281	8.8	21.4
5 21	13 7.94	+5 24.9	1.891	2.679	16.2	21.5	5 21	13 11.09	-8 9.6	2.435	3.270	11.6	21.6
250062	2002 <i>ED</i> ₈		4 15.1 331°52	7°1/20.5	18		298807	2004 <i>RS</i> ₃₁		4 15.1 112°84	2°4/16.7	18	
3 12													

EPHEMERIDES

4 15.1

4 15.1

2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
41452	2000 <i>LD</i> ₂₉		4 15.1 176°51	3°1/11.7	18		380569	2004 <i>RR</i> ₂₅		4 15.1 205°05	2°7/17.4	18	
3 12	13 57.31	- 2 0.2	2.461	3.306	10.5	19.6	3 12	14 1.04	-18 32.3	2.308	3.107	12.7	20.9
3 22	13 51.91	- 1 5.9	2.387	3.309	7.7	19.4	3 22	13 55.02	-18 48.4	2.215	3.102	9.9	20.7
4 1	13 44.96	- 0 8.4	2.340	3.311	4.9	19.3	4 1	13 47.04	-18 51.8	2.145	3.098	6.7	20.5
4 11	13 37.05	+ 0 47.4	2.321	3.312	3.1	19.1	4 11	13 37.73	-18 43.1	2.103	3.092	3.7	20.3
4 21	13 28.88	+ 1 36.8	2.332	3.313	4.5	19.2	4 21	13 27.93	-18 23.8	2.090	3.086	3.0	20.3
5 1	13 21.20	+ 2 15.4	2.372	3.313	7.4	19.4	5 1	13 18.56	-17 57.6	2.106	3.080	5.9	20.4
5 11	13 14.65	+ 2 40.3	2.438	3.312	10.2	19.6	5 11	13 10.48	-17 29.2	2.150	3.073	9.2	20.6
5 21	13 9.68	+ 2 50.5	2.526	3.311	12.7	19.8	5 21	13 4.29	-17 3.2	2.218	3.065	12.2	20.8
382901	2004 <i>RY</i> ₆₈		4 15.1 233°15	0°6/14.5	17		64248	2001 <i>TZ</i> ₁₆₄		4 15.1 183°60	4°2/10.3	18	
3 12	13 57.24	-10 24.5	2.270	3.103	11.7	22.3	3 12	13 54.75	+ 1 56.5	2.449	3.302	10.3	19.5
3 22	13 52.16	- 9 48.4	2.175	3.090	8.7	22.0	3 22	13 50.06	+ 2 55.3	2.379	3.302	7.7	19.3
4 1	13 45.28	- 9 2.4	2.105	3.076	5.2	21.8	4 1	13 43.87	+ 3 54.4	2.336	3.302	5.2	19.2
4 11	13 37.19	- 8 9.9	2.062	3.062	1.5	21.5	4 11	13 36.76	+ 4 48.7	2.320	3.302	4.2	19.1
4 21	13 28.66	- 7 15.5	2.049	3.048	2.7	21.6	4 21	13 29.40	+ 5 33.3	2.333	3.301	5.6	19.2
5 1	13 20.54	- 6 24.3	2.065	3.032	6.5	21.8	5 1	13 22.50	+ 6 4.2	2.374	3.300	8.1	19.3
5 11	13 13.60	- 5 41.3	2.108	3.016	10.1	22.0	5 11	13 16.68	+ 6 19.3	2.439	3.299	10.7	19.5
5 21	13 8.40	- 5 10.0	2.174	3.000	13.2	22.1	5 21	13 12.38	+ 6 18.3	2.526	3.298	13.0	19.7
125330	2001 <i>VR</i> ₄₇		4 15.1 150°65	0°6/15.6	18		288112	2003 <i>WA</i> ₆₀		4 15.1 168°29	0°1/15.1	16	
3 12	13 58.03	-13 40.9	2.036	2.864	13.1	20.4	3 12	14 0.30	-12 10.9	2.027	2.855	13.1	22.1
3 22	13 52.80	-13 15.6	1.960	2.870	9.8	20.2	3 22	13 54.49	-11 44.3	1.949	2.860	9.8	21.9
4 1	13 45.64	-12 38.1	1.908	2.876	6.1	20.0	4 1	13 46.68	-11 6.4	1.895	2.864	5.9	21.6
4 11	13 37.28	-11 51.3	1.882	2.881	2.0	19.7	4 11	13 37.61	-10 20.4	1.868	2.868	1.8	21.4
4 21	13 28.59	-10 59.8	1.885	2.886	2.3	19.7	4 21	13 28.18	- 9 31.0	1.871	2.871	2.5	21.4
5 1	13 20.49	-10 9.2	1.917	2.890	6.3	20.0	5 1	13 19.35	- 8 43.7	1.902	2.873	6.6	21.7
5 11	13 13.80	- 9 24.8	1.975	2.894	10.0	20.2	5 11	13 11.98	- 8 3.7	1.960	2.874	10.4	21.9
5 21	13 9.04	- 8 50.9	2.056	2.898	13.2	20.4	5 21	13 6.61	- 7 34.8	2.041	2.875	13.6	22.1
306399	1996 <i>AX</i> ₁		4 15.1 116°38	4°1/19.7	18		284325	2006 <i>QO</i> ₁₇₀		4 15.1 212°08	3°1/11.4	17	
3 12	14 2.63	-26 5.6	2.357	3.117	13.6	21.0	3 12	13 54.25	- 2 13.3	2.499	3.349	10.2	21.6
3 22	13 55.88	-25 53.1	2.290	3.146	10.9	20.9	3 22	13 49.71	- 1 12.2	2.419	3.344	7.5	21.4
4 1	13 47.33	-25 21.8	2.246	3.174	7.9	20.7	4 1	13 43.68	- 0 7.2	2.366	3.338	4.7	21.2
4 11	13 37.74	-24 32.5	2.228	3.201	5.2	20.6	4 11	13 36.72	+ 0 56.6	2.342	3.333	3.1	21.1
4 21	13 28.00	-23 28.7	2.240	3.226	4.1	20.6	4 21	13 29.47	+ 1 54.2	2.346	3.327	4.6	21.2
5 1	13 19.01	-22 15.7	2.282	3.251	5.8	20.7	5 1	13 22.63	+ 2 41.1	2.379	3.320	7.4	21.3
5 11	13 11.52	-21 0.4	2.352	3.274	8.5	20.9	5 11	13 16.83	+ 3 14.0	2.438	3.314	10.2	21.5
5 21	13 5.98	-19 48.9	2.447	3.297	11.1	21.1	5 21	13 12.52	+ 3 31.4	2.519	3.307	12.7	21.7
179447	2002 <i>AV</i> ₁₅₈		4 15.1 118°81	1°3/13.5	17		233939	2009 <i>VR</i> ₅₈		4 15.1 83°33	1°2/16.8	17 R	
3 12	13 54.31	- 7 31.0	2.673	3.511	10.0	21.1	3 12	13 51.90	-16 53.5	3.149	3.956	9.4	21.1
3 22	13 49.57	- 6 48.0	2.605	3.525	7.3	20.9	3 22	13 47.68	-16 29.9	3.076	3.972	7.1	21.0
4 1	13 43.49	- 5 59.1	2.564	3.538	4.3	20.8	4 1	13 42.32	-15 56.7	3.028	3.988	4.6	20.8
4 11	13 36.62	- 5 8.2	2.552	3.551	1.5	20.6	4 11	13 36.29	-15 16.0	3.009	4.004	2.0	20.6
4 21	13 29.58	- 4 19.1	2.570	3.564	2.8	20.7	4 21	13 30.11	-14 30.5	3.020	4.019	1.7	20.6
5 1	13 23.00	- 3 36.0	2.616	3.576	5.7	20.9	5 1	13 24.30	-13 43.8	3.060	4.035	4.1	20.8
5 11	13 17.45	- 3 2.0	2.690	3.588	8.5	21.1	5 11	13 19.37	-12 59.3	3.128	4.050	6.6	21.0
5 21	13 13.29	- 2 39.1	2.787	3.600	10.9	21.3	5 21	13 15.63	-12 20.1	3.222	4.065	8.9	21.2
205846	2002 <i>EB</i> ₄₆		4 15.1 69°74	3°6/17.6	18		371117	2005 <i>VM</i> ₁₀₇		4 15.1 187°70	0°9/15.9	17	
3 12	14 1.65	-19 19.8	1.379	2.206	18.2	20.4	3 12	13 58.54	-14 17.6	2.097	2.920	12.9	22.3
3 22	13 56.22	-19 31.1	1.321	2.224	14.1	20.1	3 22	13 53.21	-14 0.8	2.013	2.920	9.8	22.1
4 1	13 47.98	-19 21.3	1.283	2.241	9.6	19.9	4 1	13 45.94	-13 31.7	1.953	2.919	6.1	21.9
4 11	13 38.00	-18 51.8	1.268	2.259	5.1	19.7	4 11	13 37.41	-12 52.8	1.920	2.918	2.2	21.6
4 21	13 27.62	-18 7.0	1.279	2.276	4.1	19.7	4 21	13 28.47	-12 8.1	1.916	2.916	2.3	21.6
5 1	13 18.29	-17 14.4	1.315	2.294	7.9	20.0	5 1	13 20.07	-11 22.6	1.940	2.914	6.2	21.8
5 11	13 11.14	-16 22.8	1.375	2.311	12.2	20.2	5 11	13 13.03	-10 41.7	1.991	2.912	9.9	22.1
5 21	13 6.81	-15 39.5	1.456	2.329	16.0	20.5	5 21	13 7.91	-10 9.6	2.065	2.909	13.1	22.3
375790	2009 <i>SN</i> ₃₂₈		4 15.1 156°87	0°1/15.1	17		95399	2002 <i>CR</i> ₁₉₈		4 15.1 179°02	1°1/14.2	18	
3 12	13 56.63	-16 45.8	2.167	2.984	12.8	21.1	3 12	14 0.76	- 9 19.5	1.875	2.713	13.6	20.5
3 22	13 51.61	-15 3.9	2.085	2.990	9.6	20.9	3 22	13 54.97	- 8 43.5	1.797	2.715	10.0	20.3
4 1	13 44.85	-13 3.6	2.028	2.996	5.8	20.7	4 1	13 47.04	- 7 57.2	1.744	2.717	6.0	20.0
4 11	13 37.03	-10 50.7	2.002	3.001	1.7	20.4	4 11	13 37.73	- 7 5.1	1.717	2.717	1.8	19.8
4 21	13 28.99	- 8 33.5	2.006	3.006	2.5	20.5	4 21	13 28.01	- 6 12.8	1.720	2.717	3.3	19.9
5 1	13 21.55	- 6 21.1	2.042	3.010	6.5	20.7	5 1	13 18.94	- 5 26.2	1.750	2.716	7.5	20.1
5 11	13 15.45	- 4 21.9	2.106	3.014	10.1	21.0	5 11	13 11.41	- 4 50.5	1.807	2.715	11.5	20.4
5 21	13 11.15	- 2 41.4	2.195	3.017	13.2	21.2	5 21	13 6.03	- 4 28.9	1.885	2.712	14.8	20.6
508521	2016 <i>QK</i> ₈₂		4 15.1 281°52	3°4/18.8	17		376420	2012 <i>GY</i> ₂₈		4 15.1 287°77	8°1/ 8.6	17	
3 12	13 54.62	-22 39.3	2.335	3.127	12.8	20.8	3 12	13 59.81	+ 9 20.1	1.687	2.545	13.9	20.1
3 22	13 50.26	-22 33.3	2.243	3.122	10.2	20.6	3 22	13 54.54	+10 19.3	1.615	2.532	11.1	19.8
4 1	13 44.13	-22 10.8	2.173	3.117	7.2	20.4	4 1	13 46.91	+11 12.2	1.566	2.518	8.7	19.7
4 11	13 36.86	-21 32.9	2.130	3.112	4.5	20.2	4 11	13 37.72	+11 50.3	1.542	2.505	8.1	19.6
4 21	13 29.19	-20 42.1	2.115	3.108	3.5	20.1	4 21	13 28.02	+12 6.8	1.544	2.492	9.8	19.7
5 1	13 21.97	-19 43.0	2.128	3.103	5.7	20.3	5 1	13 18.96	+11 57.7	1.570	2.478	12.7	19.8
5 11	13 15.96	-18 41.7	2.168	3.098	8.7	20.4	5 11	13 11.57	+11 22.4	1.618	2.465	15.8	20.0
5 21	13 11.67	-17 43.6	2.232	3.094	11.6	20.6	5 21	13 6.48	+10 23.7	1.684	2.452	18.7	20.1
458908	2011 <i>UF</i>												

EPHEMERIDES

4 15.1

4 15.1

2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
437750	2014 <i>FR</i> ₃₀	4 15.1 318°19'		5°0'/17.3 15			98078	2000 <i>RZ</i> ₆₅	4 15.1 196°65'		0°8'/14.5 18		
3 12	14 5.60	-19 0.6	1.889	2.689	15.0	20.9	3 12	14 1.75	-9 21.0	1.972	2.806	13.2	20.0
3 22	13 59.40	-20 20.8	1.770	2.654	12.1	20.6	3 22	13 55.69	-8 58.2	1.888	2.804	9.8	19.8
4 1	13 50.31	-21 32.8	1.674	2.620	8.8	20.3	4 1	13 47.49	-8 26.2	1.828	2.800	5.9	19.5
4 11	13 38.89	-22 33.2	1.605	2.586	5.8	20.1	4 11	13 37.89	-7 48.5	1.796	2.796	1.7	19.2
4 21	13 26.10	-23 19.4	1.564	2.552	5.3	19.9	4 21	13 27.83	-7 9.6	1.793	2.791	3.0	19.3
5 1	13 13.30	-23 51.3	1.551	2.518	8.2	20.0	5 1	13 18.33	-6 34.8	1.818	2.785	7.2	19.5
5 11	13 1.87	-24 12.0	1.565	2.485	12.1	20.2	5 11	13 10.31	-6 8.7	1.869	2.778	11.1	19.8
5 21	12 52.92	-24 26.7	1.601	2.453	15.8	20.3	5 21	13 4.38	-5 54.4	1.943	2.771	14.4	20.0
500664	2012 <i>VO</i> ₂₈	4 15.1 148°08'		0°3'/15.5 17			329309	2000 <i>SR</i> ₅₇	4 15.1 268°49'		0°5'/15.5 17		
3 12	13 55.85	-13 0.5	2.583	3.405	10.8	22.6	3 12	13 58.80	-13 0.2	2.021	2.850	13.1	21.4
3 22	13 50.82	-12 35.6	2.505	3.413	8.1	22.4	3 22	13 53.70	-12 44.9	1.915	2.826	10.0	21.1
4 1	13 44.32	-12 1.4	2.452	3.420	4.9	22.2	4 1	13 46.44	-12 17.4	1.833	2.801	6.2	20.8
4 11	13 36.90	-11 20.4	2.428	3.427	1.6	22.0	4 11	13 37.63	-11 40.0	1.778	2.777	2.1	20.5
4 21	13 29.24	-10 36.3	2.433	3.433	1.9	22.0	4 21	13 28.14	-10 56.5	1.751	2.751	2.5	20.5
5 1	13 22.04	-9 53.1	2.467	3.439	5.3	22.3	5 1	13 18.99	-10 12.3	1.752	2.725	6.9	20.7
5 11	13 15.93	-9 14.9	2.529	3.445	8.3	22.5	5 11	13 11.15	-9 32.9	1.779	2.699	11.0	20.9
5 21	13 11.33	-8 44.8	2.616	3.450	11.0	22.7	5 21	13 5.32	-9 3.3	1.829	2.672	14.6	21.1
105266	2000 <i>QC</i> ₂₁	4 15.1 110°42'		2°8'/12.8 18			262780	2006 <i>YO</i> ₁₃	4 15.1 75°43'		9°8'/6.6 18		
3 12	13 58.03	-6 51.7	1.510	2.370	15.1	19.8	3 12	13 59.19	+13 52.4	1.653	2.509	14.3	20.4
3 22	13 53.24	-5 43.9	1.448	2.378	11.1	19.6	3 22	13 53.85	+15 16.0	1.611	2.518	11.8	20.3
4 1	13 46.08	-4 25.6	1.409	2.386	6.6	19.3	4 1	13 46.31	+16 27.4	1.593	2.527	10.1	20.2
4 11	13 37.45	-3 4.4	1.396	2.394	2.9	19.1	4 11	13 37.50	+17 17.4	1.598	2.537	10.0	20.2
4 21	13 28.48	-1 49.0	1.410	2.401	5.0	19.3	4 21	13 28.49	+17 39.9	1.628	2.546	11.5	20.3
5 1	13 20.34	-0 47.4	1.449	2.409	9.4	19.5	5 1	13 20.35	+17 32.3	1.680	2.556	13.8	20.5
5 11	13 14.01	-0 5.1	1.512	2.416	13.5	19.8	5 11	13 13.97	+16 56.2	1.753	2.566	16.3	20.6
5 21	13 10.06	+0 15.7	1.595	2.423	17.0	20.0	5 21	13 9.85	+15 55.8	1.843	2.575	18.5	20.8
141397	2002 <i>AS</i> ₁₂₉	4 15.1 156°17'		2°1'/12.9 18			494281	2016 <i>RS</i> ₁₀	4 15.1 286°33'		1°9'/17.0 17		
3 12	13 59.75	-2 5.5	2.777	3.612	9.8	20.2	3 12	13 54.59	-17 49.1	2.201	3.017	12.6	21.5
3 22	13 53.54	-1 56.7	2.701	3.618	7.2	20.1	3 22	13 50.35	-17 32.3	2.103	3.002	9.8	21.2
4 1	13 45.89	-1 46.5	2.653	3.623	4.4	19.9	4 1	13 44.27	-17 1.0	2.028	2.988	6.5	21.0
4 11	13 37.36	-1 37.8	2.634	3.628	2.2	19.8	4 11	13 36.95	-16 16.7	1.980	2.974	3.1	20.8
4 21	13 28.60	-1 33.3	2.645	3.633	3.4	19.8	4 21	13 29.16	-15 23.0	1.960	2.959	2.5	20.7
5 1	13 20.29	-1 35.3	2.687	3.638	6.1	20.0	5 1	13 21.77	-14 25.0	1.968	2.945	5.9	20.9
5 11	13 13.04	-1 45.4	2.756	3.642	8.8	20.2	5 11	13 15.59	-13 28.6	2.002	2.930	9.4	21.1
5 21	13 7.28	-2 4.5	2.849	3.645	11.1	20.4	5 21	13 11.18	-12 39.2	2.060	2.916	12.7	21.2
498052	2007 <i>RO</i> ₄₅	4 15.1 196°19'		1°1'/16.3 17			233693	2008 <i>SM</i> ₁₈	4 15.1 89°37'		3°5'/11.4 18		
3 12	13 55.94	-15 40.4	2.471	3.287	11.4	22.6	3 12	13 56.91	-2 22.5	2.031	2.885	12.1	20.8
3 22	13 51.04	-15 16.9	2.383	3.285	8.7	22.4	3 22	13 51.73	-1 12.2	1.983	2.909	8.8	20.6
4 1	13 44.53	-14 41.4	2.319	3.282	5.5	22.2	4 1	13 44.87	+0 1.2	1.960	2.933	5.5	20.4
4 11	13 36.99	-13 56.5	2.282	3.279	2.2	21.9	4 11	13 37.06	+1 11.2	1.965	2.956	3.6	20.4
4 21	13 29.11	-13 5.5	2.275	3.276	2.0	21.9	4 21	13 29.13	+2 11.9	1.999	2.979	5.2	20.5
5 1	13 21.67	-12 13.1	2.298	3.272	5.4	22.1	5 1	13 21.91	+2 58.2	2.060	3.002	8.2	20.7
5 11	13 15.35	-11 24.2	2.347	3.268	8.6	22.3	5 11	13 16.08	+3 27.5	2.146	3.024	11.2	21.0
5 21	13 10.63	-10 42.9	2.421	3.263	11.5	22.5	5 21	13 12.04	+3 39.0	2.254	3.046	13.8	21.2
65799	1995 <i>YB</i> ₁₀	4 15.1 240°97'		5°6'/20.8 18			142286	2002 <i>RB</i> ₁₃₄	4 15.1 248°58'		4°4'/11.7 18		
3 12	13 58.16	-28 57.6	2.362	3.114	13.8	19.8	3 12	14 0.21	-0 2.3	1.704	2.562	13.8	19.9
3 22	13 53.07	-29 9.0	2.257	3.100	11.5	19.6	3 22	13 54.80	+0 38.6	1.627	2.554	10.3	19.7
4 1	13 45.96	-29 0.9	2.173	3.087	9.0	19.4	4 1	13 47.07	+1 21.6	1.574	2.546	6.7	19.4
4 11	13 37.45	-28 32.1	2.114	3.072	6.6	19.3	4 11	13 37.79	+2 0.4	1.547	2.537	4.5	19.3
4 21	13 28.40	-27 43.9	2.083	3.057	5.6	19.2	4 21	13 28.00	+2 28.8	1.547	2.528	6.3	19.3
5 1	13 19.74	-26 39.9	2.079	3.042	6.7	19.2	5 1	13 18.83	+2 41.7	1.573	2.519	10.0	19.5
5 11	13 12.38	-25 26.8	2.102	3.027	9.2	19.3	5 11	13 11.29	+2 36.3	1.623	2.510	13.7	19.7
5 21	13 6.95	-24 11.6	2.150	3.010	12.0	19.5	5 21	13 6.03	+2 12.3	1.693	2.500	17.0	19.9
140204	2001 <i>SE</i> ₂₂₆	4 15.1 90°40'		1°1'/13.9 17			516973	2012 <i>FH</i> ₈₅	4 15.1 112°50'		1°2'/14.0 17		
3 12	13 55.12	-8 34.9	2.200	3.043	11.7	20.4	3 12	13 58.19	-9 5.5	1.795	2.641	13.7	21.5
3 22	13 50.49	-7 59.2	2.129	3.050	8.6	20.2	3 22	13 53.06	-8 26.0	1.729	2.651	10.1	21.3
4 1	13 44.19	-7 15.8	2.083	3.057	5.1	20.0	4 1	13 45.86	-7 36.7	1.686	2.661	6.0	21.0
4 11	13 36.88	-6 28.7	2.064	3.064	1.6	19.8	4 11	13 37.39	-6 42.3	1.670	2.670	1.8	20.8
4 21	13 29.31	-5 42.4	2.074	3.071	2.9	19.9	4 21	13 28.62	-5 48.7	1.682	2.680	3.4	20.9
5 1	13 22.27	-5 1.8	2.113	3.078	6.5	20.2	5 1	13 20.56	-5 2.2	1.722	2.688	7.6	21.2
5 11	13 16.46	-4 30.8	2.177	3.085	9.8	20.4	5 11	13 14.06	-4 27.5	1.786	2.697	11.4	21.4
5 21	13 12.34	-4 11.9	2.264	3.092	12.6	20.6	5 21	13 9.67	-4 7.6	1.872	2.706	14.7	21.6
214493	2005 <i>US</i> ₂₅₁	4 15.1 278°52'		1°2'/13.9 18			24146	Benjamueller	4 15.1 79°34'		0°2'/15.2 18		
3 12	13 57.17	-6 50.0	2.474	3.311	10.7	20.4	3 12	13 58.46	-11 29.0	1.893	2.730	13.5	19.1
3 22	13 52.07	-6 34.0	2.369	3.287	8.0	20.2	3 22	13 53.21	-11 18.1	1.824	2.740	10.1	18.9
4 1	13 45.24	-6 12.5	2.289	3.262	4.8	20.0	4 1	13 45.95	-10 57.0	1.779	2.750	6.1	18.7
4 11	13 37.23	-5 48.2	2.237	3.236	1.6	19.7	4 11	13 37.43	-10 28.7	1.760	2.759	1.9	18.5
4 21	13 28.72	-5 24.6	2.215	3.210	2.9	19.8	4 21	13 28.59	-9 57.2	1.769	2.769	2.5	18.5
5 1	13 20.50	-5 5.3	2.221	3.185	6.4	19.9	5 1	13 20.42	-9 27.6	1.806	2.779	6.7	18.8
5 11	13 13.31	-4 53.6	2.255	3.158	9.7	20.1	5 11	13 13.75	-9 4.4	1.869	2.789	10.5	19.0
5 21	13 7.71	-4 52.0	2.312	3.132	12.7	20.2	5 21	13 9.12	-8 50.9	1.954	2.799	13.7	19.3
153848	2001 <i>XY</i> ₄₃	4 15.1 129°71'		6°9'/23.5 18			503356	2016 <i>BS</i> ₇₉	4 15.1 298°65'		2°2'/16.5 17		
3 12	13 58.34	-35 18.9	2.662	3.365	13.5	20.6	3 12	14 0.31					

EPHEMERIDES

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2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
312151	2007 <i>TP</i> ₄₃₂	4 15.1 143°27'		1°0'/14.2 18			17066	Ginagallant	4 15.1 29°24'		2°5'/12.9 18		
3 12	14 0.77	- 9 22.6	1.859	2.698	13.6	22.1	3 12	13 55.28	- 7 10.0	1.555	2.417	14.6	17.9
3 22	13 54.91	- 8 47.6	1.791	2.709	10.1	21.9	3 22	13 51.21	- 6 10.4	1.490	2.421	10.7	17.7
4 1	13 46.96	- 8 2.7	1.746	2.719	6.0	21.7	4 1	13 44.89	- 5 0.4	1.448	2.425	6.4	17.4
4 11	13 37.73	- 7 12.6	1.729	2.729	1.8	21.4	4 11	13 37.15	- 3 47.0	1.431	2.429	2.7	17.2
4 21	13 28.18	- 6 22.5	1.740	2.737	3.2	21.5	4 21	13 29.04	- 2 38.1	1.440	2.434	4.7	17.3
5 1	13 19.36	- 5 38.4	1.779	2.746	7.4	21.8	5 1	13 21.67	- 1 41.2	1.476	2.438	9.0	17.6
5 11	13 12.12	- 5 5.2	1.844	2.753	11.2	22.0	5 11	13 15.97	- 1 1.9	1.535	2.443	13.1	17.8
5 21	13 7.01	- 4 45.7	1.931	2.760	14.5	22.2	5 21	13 12.52	- 0 42.5	1.614	2.449	16.5	18.1
23195	2000 <i>RA</i> ₅₈	4 15.1 57°69'		0°6'/15.8 18			434581	2005 <i>UO</i> ₁₀₆	4 15.1 139°53'		1°8'/13.4 17		
3 12	13 53.75	-14 41.0	2.172	3.002	12.3	18.5	3 12	13 58.60	- 6 27.8	2.096	2.939	12.2	22.1
3 22	13 49.54	-14 5.1	2.099	3.010	9.2	18.3	3 22	13 53.09	- 5 49.7	2.028	2.949	8.9	21.9
4 1	13 43.66	-13 16.6	2.050	3.018	5.7	18.1	4 1	13 45.79	- 5 5.3	1.985	2.959	5.3	21.7
4 11	13 36.75	-12 18.9	2.028	3.026	2.0	17.9	4 11	13 37.39	- 4 18.9	1.969	2.968	2.1	21.5
4 21	13 29.58	-11 16.7	2.034	3.035	2.1	17.9	4 21	13 28.72	- 3 35.4	1.982	2.976	3.6	21.6
5 1	13 22.95	-10 15.7	2.069	3.043	5.8	18.2	5 1	13 20.66	- 2 59.8	2.024	2.984	7.2	21.8
5 11	13 17.56	- 9 21.1	2.130	3.052	9.3	18.4	5 11	13 13.97	- 2 35.5	2.092	2.992	10.5	22.1
5 21	13 13.87	- 8 37.2	2.214	3.061	12.2	18.6	5 21	13 9.13	- 2 24.7	2.182	2.999	13.4	22.3
327373	2005 <i>UP</i> ₃₂₁	4 15.1 220°58'		3°9'/11.9 17			457439	2008 <i>UB</i> ₁₁₀	4 15.1 159°94'		2°7'/17.4 18		
3 12	14 1.65	+ 0 41.6	2.050	2.897	12.2	20.8	3 12	14 0.85	-19 37.3	1.707	2.521	15.8	22.0
3 22	13 55.51	+ 1 6.9	1.969	2.890	9.2	20.6	3 22	13 55.33	-19 16.2	1.630	2.527	12.3	21.8
4 1	13 47.35	+ 1 32.5	1.914	2.883	5.9	20.4	4 1	13 47.39	-18 35.0	1.575	2.532	8.2	21.6
4 11	13 37.86	+ 1 53.7	1.886	2.875	3.9	20.2	4 11	13 37.90	-17 35.9	1.545	2.537	4.1	21.3
4 21	13 27.95	+ 2 5.9	1.887	2.867	5.4	20.3	4 21	13 27.97	-16 23.8	1.542	2.541	3.2	21.3
5 1	13 18.58	+ 2 5.7	1.915	2.859	8.7	20.5	5 1	13 18.78	-15 6.5	1.567	2.545	7.0	21.5
5 11	13 10.62	+ 1 51.0	1.970	2.850	12.0	20.7	5 11	13 11.38	-13 52.5	1.618	2.547	11.2	21.8
5 21	13 4.66	+ 1 21.8	2.046	2.841	14.9	20.9	5 21	13 6.38	-12 48.8	1.692	2.550	14.9	22.0
118252	1998 <i>BW</i> ₃₃	4 15.1 53°65'		5°6'/18.8 18			94048	2000 <i>YU</i> ₂	4 15.1 122°91'		0°7'/14.5 17 R		
3 12	14 3.89	-22 23.5	1.571	2.374	17.4	18.7	3 12	13 59.55	- 8 44.9	2.080	2.917	12.5	20.3
3 22	13 57.77	-23 19.5	1.510	2.393	14.0	18.5	3 22	13 53.85	- 8 29.7	2.010	2.927	9.2	20.1
4 1	13 48.93	-23 55.9	1.470	2.412	10.2	18.3	4 1	13 46.27	- 8 7.1	1.965	2.937	5.5	19.9
4 11	13 38.35	-24 11.0	1.454	2.432	6.7	18.1	4 11	13 37.55	- 7 40.3	1.947	2.947	1.6	19.6
4 21	13 27.29	-24 5.8	1.464	2.452	5.7	18.1	4 21	13 28.53	- 7 13.3	1.958	2.956	2.8	19.7
5 1	13 17.17	-23 45.0	1.500	2.471	8.0	18.3	5 1	13 20.14	- 6 50.2	1.998	2.965	6.6	20.0
5 11	13 9.11	-23 15.8	1.561	2.492	11.4	18.6	5 11	13 13.14	- 6 34.9	2.063	2.974	10.1	20.2
5 21	13 3.78	-22 45.8	1.644	2.512	14.7	18.8	5 21	13 8.05	- 6 29.7	2.152	2.982	13.1	20.4
500507	2012 <i>TP</i> ₂₈₇	4 15.1 98°62'		3°8'/19.5 17			320800	2008 <i>EZ</i> ₁₆₀	4 15.1 240°13'		0°5'/14.1 18		
3 12	13 55.64	-25 0.6	2.325	3.103	13.2	21.7	3 12	13 48.76	- 7 53.8	4.537	5.368	6.3	21.1
3 22	13 50.91	-24 42.2	2.248	3.117	10.6	21.5	3 22	13 45.15	- 7 35.5	4.449	5.364	4.6	21.0
4 1	13 44.47	-24 5.4	2.194	3.130	7.7	21.3	4 1	13 40.76	- 7 13.8	4.388	5.360	2.7	20.8
4 11	13 36.98	-23 11.5	2.166	3.143	4.9	21.2	4 11	13 35.89	- 6 50.5	4.356	5.356	0.8	20.7
4 21	13 29.26	-22 4.0	2.167	3.156	3.8	21.1	4 21	13 30.88	- 6 27.5	4.355	5.352	1.5	20.7
5 1	13 22.11	-20 48.4	2.195	3.169	5.6	21.3	5 1	13 26.07	- 6 6.5	4.384	5.347	3.5	20.9
5 11	13 16.26	-19 31.1	2.251	3.182	8.4	21.5	5 11	13 21.78	- 5 49.5	4.441	5.343	5.3	21.0
5 21	13 12.17	-18 18.3	2.332	3.194	11.2	21.7	5 21	13 18.27	- 5 37.6	4.524	5.339	7.0	21.1
215656	2003 <i>UD</i> ₁₅₉	4 15.1 215°35'		0°6'/14.6 16			501050	2013 <i>RD</i> ₉₅	4 15.1 216°40'		1°5'/13.6 17		
3 12	14 0.07	-10 20.8	1.974	2.809	13.1	21.4	3 12	13 59.09	- 6 46.0	2.337	3.173	11.3	23.2
3 22	13 54.51	- 9 51.0	1.885	2.801	9.8	21.2	3 22	13 53.47	- 6 14.6	2.246	3.164	8.4	23.0
4 1	13 46.82	- 9 10.6	1.821	2.792	5.9	20.9	4 1	13 46.08	- 5 36.7	2.181	3.154	5.0	22.8
4 11	13 37.73	- 8 23.2	1.783	2.783	1.7	20.6	4 11	13 37.52	- 4 56.0	2.145	3.144	1.8	22.6
4 21	13 28.14	- 7 33.6	1.775	2.773	2.9	20.7	4 21	13 28.55	- 4 16.7	2.138	3.132	3.2	22.6
5 1	13 19.05	- 6 47.6	1.795	2.763	7.2	20.9	5 1	13 20.00	- 3 43.2	2.160	3.120	6.8	22.9
5 11	13 11.40	- 6 10.5	1.841	2.752	11.1	21.1	5 11	13 12.64	- 3 19.3	2.209	3.107	10.1	23.0
5 21	13 5.80	- 5 45.9	1.909	2.740	14.5	21.3	5 21	13 6.99	- 3 7.4	2.282	3.094	13.0	23.2
361549	2007 <i>PL</i> ₅₀	4 15.1 283°31'		3°5'/17.2 17			270411	2002 <i>CO</i> ₁₃	4 15.1 1°58'		5°3'/10.2 18		
3 12	14 1.11	-17 52.2	1.444	2.273	17.4	21.0	3 12	13 54.72	+ 0 17.6	1.637	2.506	13.6	20.0
3 22	13 56.24	-18 16.7	1.354	2.259	13.7	20.7	3 22	13 50.71	+ 1 38.1	1.573	2.506	10.2	19.7
4 1	13 48.37	-18 23.8	1.285	2.245	9.3	20.4	4 1	13 44.57	+ 3 1.8	1.534	2.505	6.8	19.5
4 11	13 38.29	-18 13.1	1.239	2.231	4.9	20.1	4 11	13 37.08	+ 4 20.0	1.520	2.505	5.3	19.4
4 21	13 27.25	-17 46.6	1.219	2.217	4.1	20.0	4 21	13 29.23	+ 5 24.6	1.532	2.506	7.3	19.6
5 1	13 16.77	-17 10.0	1.224	2.203	8.4	20.2	5 1	13 22.05	+ 6 9.0	1.570	2.506	10.7	19.8
5 11	13 8.24	-16 31.3	1.253	2.188	13.2	20.5	5 11	13 16.45	+ 6 30.0	1.630	2.507	14.2	20.0
5 21	13 2.60	-15 58.2	1.302	2.174	17.5	20.7	5 21	13 12.96	+ 6 27.5	1.709	2.508	17.2	20.2
459450	2012 <i>WX</i> ₄	4 15.1 132°93'		1°6'/16.3 18			61015	2000 <i>KJ</i> ₄₂	4 15.1 229°86'		6°6'/ 7.8 18		
3 12	14 2.15	-16 29.6	1.507	2.337	16.8	22.4	3 12	13 56.51	+ 6 9.6	2.036	2.893	11.9	19.6
3 22	13 56.42	-16 2.6	1.440	2.349	12.7	22.2	3 22	13 51.74	+ 7 43.7	1.964	2.883	9.3	19.4
4 1	13 48.08	-15 16.6	1.395	2.361	8.1	22.0	4 1	13 45.10	+ 9 16.6	1.918	2.873	7.1	19.2
4 11	13 38.09	-14 15.0	1.374	2.371	3.2	21.7	4 11	13 37.24	+10 40.1	1.899	2.863	6.7	19.2
4 21	13 27.71	-13 4.2	1.381	2.382	2.9	21.7	4 21	13 28.98	+11 46.9	1.907	2.852	8.4	19.3
5 1	13 18.24	-11 52.7	1.414	2.391	7.7	22.0	5 1	13 21.24	+12 31.7	1.941	2.840	11.1	19.4
5 11	13 10.79	-10 48.9	1.473	2.400	12.2	22.3	5 11	13 14.81	+12 52.0	1.998	2.829	13.9	19.6
5 21	13 5.95	- 9 59.1	1.553	2.408	16.1	22.5	5 21	13 10.23	+12 48.5	2.074	2.816	16.4	19.7
148577	2001 <i>QV</i> ₂₈₄	4 15.1 86°54'		7°5'/ 9.0 18			70142	1999 <i>NP</i> ₁₈	4 15.1 268°36'		0°5'/15.5 18		
3 12	14 0.04	+ 8											

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2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
497130	2004 <i>PC</i> ₆₇		4 15.1 223°20	10°0/27.3	17		152733	1998 <i>WL</i> ₈		4 15.1 54°33	2°3/13.6	18	
3 12	14 7.92	-48 5.2	3.046	3.621	14.0	23.2	3 12	14 0.93	-6 16.2	1.367	2.228	16.3	19.5
3 22	14 0.61	-49 5.5	2.934	3.606	13.0	23.1	3 22	13 55.34	-5 44.6	1.325	2.255	11.9	19.3
4 1	13 50.74	-49 44.5	2.839	3.590	11.8	23.0	4 1	13 47.28	-5 5.5	1.306	2.283	7.0	19.1
4 11	13 38.99	-49 57.6	2.765	3.574	10.8	22.9	4 11	13 37.85	-4 25.3	1.312	2.311	2.7	18.9
4 21	13 26.37	-49 42.4	2.713	3.557	10.1	22.8	4 21	13 28.30	-3 50.3	1.344	2.339	4.5	19.1
5 1	13 14.10	-48 59.3	2.686	3.538	10.0	22.7	5 1	13 19.89	-3 26.4	1.402	2.368	9.0	19.4
5 11	13 3.34	-47 52.8	2.684	3.519	10.6	22.7	5 11	13 13.55	-3 17.4	1.482	2.396	13.1	19.7
5 21	12 54.90	-46 29.5	2.704	3.499	11.7	22.8	5 21	13 9.75	-3 24.3	1.583	2.425	16.5	20.0
146203	2000 <i>UW</i> ₅₆		4 15.1 244°83	3°9/19.0	18		402911	2007 <i>TB</i> ₇₈		4 15.1 150°80	0°8/15.8	18	
3 12	13 56.91	-23 14.4	2.440	3.222	12.5	20.0	3 12	14 0.73	-14 17.5	1.889	2.714	14.0	21.6
3 22	13 51.96	-23 28.6	2.346	3.217	10.1	19.8	3 22	13 54.96	-13 53.5	1.814	2.723	10.6	21.4
4 1	13 45.22	-23 27.8	2.274	3.212	7.4	19.7	4 1	13 47.06	-13 15.8	1.764	2.731	6.6	21.2
4 11	13 37.29	-23 12.0	2.229	3.206	4.8	19.5	4 11	13 37.83	-12 27.6	1.740	2.738	2.3	20.9
4 21	13 28.91	-22 42.8	2.212	3.200	3.9	19.4	4 21	13 28.24	-11 33.6	1.745	2.745	2.5	21.0
5 1	13 20.93	-22 3.7	2.223	3.195	5.8	19.5	5 1	13 19.33	-10 39.9	1.778	2.752	6.7	21.3
5 11	13 14.14	-21 20.0	2.261	3.189	8.5	19.7	5 11	13 12.01	-9 52.8	1.837	2.757	10.6	21.5
5 21	13 9.08	-20 36.6	2.324	3.183	11.3	19.8	5 21	13 6.83	-9 16.5	1.919	2.762	14.0	21.7
62391	2000 <i>SK</i> ₁₆₇		4 15.1 243°59	2°8/18.3	18		227439	2005 <i>WM</i> ₂₉		4 15.1 281°60	1°4/14.0	17	
3 12	13 54.88	-21 29.2	2.547	3.339	11.8	19.9	3 12	13 59.66	-7 48.8	1.850	2.695	13.5	21.4
3 22	13 50.36	-21 16.4	2.448	3.330	9.3	19.7	3 22	13 54.58	-7 23.7	1.744	2.665	10.1	21.1
4 1	13 44.21	-20 48.7	2.373	3.320	6.5	19.5	4 1	13 47.13	-6 49.2	1.661	2.635	6.1	20.8
4 11	13 36.98	-20 7.1	2.325	3.310	3.8	19.3	4 11	13 37.94	-6 9.2	1.604	2.603	2.0	20.4
4 21	13 29.37	-19 14.5	2.305	3.300	3.0	19.2	4 21	13 27.93	-5 28.5	1.575	2.572	3.6	20.5
5 1	13 22.14	-18 15.1	2.314	3.290	5.3	19.3	5 1	13 18.23	-4 53.2	1.574	2.540	8.2	20.7
5 11	13 15.99	-17 14.4	2.351	3.279	8.2	19.5	5 11	13 9.91	-4 28.6	1.598	2.507	12.6	20.9
5 21	13 11.43	-16 17.5	2.412	3.268	11.0	19.7	5 21	13 3.77	-4 18.3	1.643	2.475	16.5	21.0
275030	2009 <i>UG</i> ₃₇		4 15.1 265°27	0°1/15.1	17		188648	2005 <i>SD</i> ₄		4 15.1 179°68	0°4/14.7	17	
3 12	13 56.63	-12 37.0	1.860	2.698	13.7	21.0	3 12	13 56.05	-12 57.5	2.044	2.877	12.8	20.9
3 22	13 52.14	-12 2.4	1.768	2.685	10.3	20.7	3 22	13 51.38	-11 53.1	1.964	2.879	9.5	20.7
4 1	13 45.50	-11 13.9	1.699	2.671	6.3	20.5	4 1	13 44.86	-10 34.7	1.908	2.879	5.7	20.5
4 11	13 37.40	-10 15.2	1.657	2.657	1.9	20.1	4 11	13 37.18	-9 7.1	1.880	2.880	1.6	20.2
4 21	13 28.74	-9 11.7	1.642	2.642	2.7	20.2	4 21	13 29.17	-7 36.9	1.880	2.879	2.7	20.3
5 1	13 20.57	-8 10.0	1.655	2.628	7.2	20.4	5 1	13 21.72	-6 11.4	1.910	2.879	6.8	20.5
5 11	13 13.82	-7 16.9	1.693	2.613	11.4	20.6	5 11	13 15.61	-4 57.1	1.966	2.878	10.5	20.7
5 21	13 9.15	-6 37.0	1.753	2.598	15.0	20.8	5 21	13 11.35	-3 58.4	2.046	2.876	13.7	20.9
96968	1999 <i>TP</i> ₁₈₉		4 15.1 103°15	4°0/18.9	18		299933	2006 <i>TJ</i> ₃₄		4 15.1 247°85	1°7/17.0	17	
3 12	13 58.22	-23 20.8	2.062	2.852	14.3	19.5	3 12	13 53.73	-18 25.0	2.325	3.138	12.2	20.5
3 22	13 53.06	-23 23.4	1.987	2.863	11.4	19.3	3 22	13 49.56	-17 50.6	2.237	3.135	9.4	20.4
4 1	13 45.89	-23 7.7	1.934	2.875	8.2	19.1	4 1	13 43.73	-17 1.1	2.172	3.132	6.1	20.1
4 11	13 37.47	-22 34.4	1.906	2.886	5.1	18.9	4 11	13 36.85	-15 59.1	2.135	3.129	2.8	19.9
4 21	13 28.71	-21 46.4	1.906	2.897	4.1	18.9	4 21	13 29.63	-14 48.7	2.126	3.126	2.2	19.9
5 1	13 20.58	-20 49.0	1.934	2.908	6.2	19.0	5 1	13 22.88	-13 35.6	2.146	3.123	5.5	20.1
5 11	13 13.93	-19 48.9	1.988	2.918	9.4	19.2	5 11	13 17.29	-12 25.8	2.193	3.119	8.8	20.3
5 21	13 9.30	-18 52.2	2.066	2.929	12.3	19.4	5 21	13 13.34	-11 24.4	2.264	3.116	11.8	20.5
40896	1999 <i>TO</i> ₁₄₁		4 15.1 236°66	0°3/15.3	18		219725	2001 <i>XE</i> ₁₂₆		4 15.1 191°02	0°6/15.7	17	
3 12	13 57.29	-12 20.3	2.060	2.893	12.8	20.3	3 12	13 57.94	-14 16.6	2.250	3.071	12.2	21.6
3 22	13 52.38	-12 1.0	1.973	2.887	9.6	20.1	3 22	13 52.68	-13 46.3	2.163	3.070	9.2	21.4
4 1	13 45.52	-11 30.7	1.910	2.880	5.9	19.9	4 1	13 45.64	-13 3.8	2.101	3.068	5.7	21.2
4 11	13 37.38	-10 52.2	1.874	2.874	1.8	19.6	4 11	13 37.43	-12 11.8	2.067	3.065	2.0	20.9
4 21	13 28.80	-10 9.6	1.867	2.867	2.4	19.6	4 21	13 28.86	-11 14.7	2.062	3.062	2.2	21.0
5 1	13 20.70	-9 28.0	1.887	2.860	6.5	19.9	5 1	13 20.78	-10 17.7	2.086	3.059	6.0	21.2
5 11	13 13.93	-8 52.5	1.934	2.853	10.2	20.1	5 11	13 13.95	-9 26.3	2.137	3.054	9.5	21.4
5 21	13 9.06	-8 27.0	2.003	2.845	13.5	20.3	5 21	13 8.91	-8 44.6	2.212	3.049	12.6	21.6
363470	2003 <i>SJ</i> ₂₇₆		4 15.1 262°86	0°8/15.7	17		69769	1998 <i>QM</i> ₂₄		4 15.1 188°73	1°8/12.9	18	
3 12	13 59.50	-14 8.5	1.750	2.582	14.7	22.1	3 12	13 55.64	-6 25.0	2.636	3.475	10.1	20.8
3 22	13 54.55	-13 45.9	1.649	2.561	11.2	21.8	3 22	13 50.70	-5 33.0	2.554	3.474	7.4	20.6
4 1	13 47.13	-13 7.6	1.570	2.539	7.1	21.5	4 1	13 44.31	-4 34.8	2.499	3.472	4.4	20.4
4 11	13 37.93	-12 16.3	1.517	2.516	2.5	21.2	4 11	13 37.02	-3 34.6	2.473	3.470	1.9	20.2
4 21	13 27.95	-11 16.6	1.492	2.493	2.7	21.1	4 21	13 29.46	-2 36.8	2.476	3.467	3.3	20.3
5 1	13 18.39	-10 15.5	1.494	2.469	7.6	21.4	5 1	13 22.31	-1 46.0	2.509	3.464	6.3	20.5
5 11	13 10.37	-9 20.4	1.522	2.445	12.2	21.6	5 11	13 16.19	-1 5.8	2.569	3.460	9.2	20.7
5 21	13 4.68	-8 37.5	1.571	2.420	16.2	21.8	5 21	13 11.51	-0 38.3	2.653	3.456	11.7	20.8
270492	2002 <i>EQ</i> ₁₃₁		4 15.1 281°01	2°1/13.1	17		87937	2000 <i>SM</i> ₃₅₀		4 15.1 188°03	3°6/11.9	18	
3 12	13 55.31	-7 17.9	1.843	2.697	13.1	21.0	3 12	14 0.85	+ 0 25.3	2.235	3.080	11.5	20.0
3 22	13 51.00	-6 21.4	1.769	2.695	9.6	20.8	3 22	13 54.74	+ 0 54.2	2.160	3.079	8.5	19.8
4 1	13 44.70	-5 15.5	1.718	2.694	5.7	20.6	4 1	13 46.83	+ 1 23.7	2.109	3.078	5.5	19.6
4 11	13 37.13	-4 5.9	1.695	2.693	2.3	20.4	4 11	13 37.77	+ 1 49.2	2.087	3.077	3.6	19.5
4 21	13 29.19	-2 59.4	1.698	2.692	4.1	20.5	4 21	13 28.39	+ 2 6.6	2.095	3.075	5.0	19.6
5 1	13 21.84	-2 2.5	1.730	2.691	8.1	20.7	5 1	13 19.54	+ 2 12.5	2.130	3.072	8.0	19.7
5 11	13 15.92	-1 20.3	1.785	2.689	11.8	20.9	5 11	13 12.00	+ 2 4.9	2.192	3.069	11.1	19.9
5 21	13 11.97	-0 55.6	1.862	2.688	15.0	21.1	5 21	13 6.26	+ 1 43.6	2.275	3.065	13.8	20.1
495858	2003 <i>MJ</i> ₄		4 15.1 267°35	2°2/13.1	17	C	248584	2006 <i>BR</i> ₂₁₉		4 15.1 353°81	20°7/17.1	1	

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2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
206884	2004 GZ ₁₀		4 15.1	12°38'	11.2°/5.2	17	36642	2000 QU ₁₈₆		4 15.1	85°13'	4.2°/12.0	18
3 12	13 56.16	+17 49.0	1.613	2.468	14.6	19.1	3 12	13 59.48	-2 54.1	1.416	2.282	15.6	19.0
3 22	13 51.76	+19 8.3	1.573	2.471	12.6	19.0	3 22	13 54.46	-1 54.9	1.359	2.291	11.5	18.8
4 1	13 45.16	+20 11.3	1.555	2.476	11.3	18.9	4 1	13 46.93	-0 50.1	1.324	2.300	7.1	18.5
4 11	13 37.28	+20 49.0	1.560	2.482	11.5	18.9	4 11	13 37.85	+0 12.2	1.315	2.309	4.2	18.4
4 21	13 29.16	+20 55.8	1.587	2.488	12.9	19.0	4 21	13 28.42	+1 3.9	1.332	2.318	6.3	18.5
5 1	13 21.90	+20 30.0	1.636	2.496	14.9	19.2	5 1	13 19.91	+1 38.3	1.373	2.327	10.4	18.8
5 11	13 16.36	+19 34.2	1.704	2.504	17.2	19.4	5 11	13 13.33	+1 51.8	1.438	2.336	14.5	19.0
5 21	13 13.03	+18 13.2	1.788	2.513	19.2	19.5	5 21	13 9.28	+1 43.9	1.521	2.345	17.9	19.3
352432	2008 AY ₁₂		4 15.1	22°21'	4.2°/10.5	17	39441	2293 T ₋₃		4 15.1	176°27'	2°0'/17.2	17
3 12	13 53.77	+0 28.0	2.199	3.057	11.1	20.7	3 12	13 57.57	-17 14.4	2.590	3.394	11.3	20.1
3 22	13 49.54	+1 32.5	2.131	3.058	8.2	20.5	3 22	13 52.26	-17 22.7	2.503	3.395	8.7	19.9
4 1	13 43.69	+2 38.8	2.089	3.059	5.5	20.4	4 1	13 45.34	-17 20.2	2.440	3.396	5.8	19.8
4 11	13 36.85	+3 40.8	2.074	3.060	4.2	20.3	4 11	13 37.37	-17 8.0	2.405	3.396	2.9	19.6
4 21	13 29.73	+4 33.0	2.088	3.061	5.7	20.4	4 21	13 29.05	-16 48.1	2.399	3.397	2.4	19.5
5 1	13 23.11	+5 10.9	2.128	3.061	8.5	20.6	5 1	13 21.14	-16 23.6	2.422	3.397	5.1	19.7
5 11	13 17.67	+5 31.7	2.192	3.062	11.4	20.7	5 11	13 14.33	-15 58.7	2.473	3.397	8.1	19.9
5 21	13 13.86	+5 34.7	2.278	3.063	13.9	20.9	5 21	13 9.11	-15 36.8	2.549	3.396	10.8	20.1
114919	2003 QQ ₃₈		4 15.1	136°76'	1.7°/13.7	18	401300	2012 HQ ₃₁		4 15.1	28°04'	0°6'/14.4	17
3 12	13 58.99	-8 29.9	1.664	2.514	14.5	20.4	3 12	13 51.50	-9 57.1	2.604	3.443	10.2	20.3
3 22	13 53.85	-7 38.6	1.597	2.521	10.6	20.2	3 22	13 47.67	-9 23.1	2.531	3.450	7.5	20.1
4 1	13 46.47	-6 36.6	1.553	2.528	6.3	20.0	4 1	13 42.49	-8 41.7	2.485	3.458	4.4	20.0
4 11	13 37.69	-5 29.8	1.536	2.535	2.2	19.7	4 11	13 36.51	-7 56.3	2.466	3.466	1.3	19.7
4 21	13 28.55	-4 25.1	1.546	2.541	3.9	19.8	4 21	13 30.31	-7 10.6	2.476	3.474	2.3	19.8
5 1	13 20.17	-3 29.6	1.583	2.547	8.3	20.1	5 1	13 24.54	-6 28.7	2.515	3.483	5.4	20.1
5 11	13 13.47	-2 48.9	1.644	2.553	12.4	20.4	5 11	13 19.74	-5 54.1	2.580	3.492	8.3	20.2
5 21	13 9.03	-2 25.8	1.727	2.558	15.8	20.6	5 21	13 16.32	-5 29.4	2.669	3.501	10.8	20.4
253572	2003 SP ₃₀₄		4 15.1	266°00'	1°0'/14.4	18	456759	2007 TX ₉₃		4 15.1	256°64'	0°9'/14.3	16
3 12	14 1.13	-8 51.3	1.717	2.560	14.4	20.9	3 12	13 57.42	-11 31.9	1.635	2.481	14.8	21.7
3 22	13 55.80	-8 30.7	1.617	2.538	10.8	20.6	3 22	13 53.01	-10 35.5	1.545	2.467	11.1	21.4
4 1	13 47.93	-7 59.6	1.541	2.515	6.6	20.3	4 1	13 46.18	-9 22.8	1.478	2.453	6.7	21.1
4 11	13 38.21	-7 21.7	1.491	2.491	2.0	20.0	4 11	13 37.69	-7 59.0	1.438	2.438	1.9	20.8
4 21	13 27.68	-6 42.1	1.469	2.467	3.5	20.0	4 21	13 28.57	-6 31.6	1.424	2.422	3.5	20.8
5 1	13 17.54	-6 7.0	1.474	2.442	8.4	20.3	5 1	13 19.99	-5 9.6	1.437	2.407	8.5	21.1
5 11	13 8.98	-5 42.1	1.503	2.417	13.0	20.5	5 11	13 13.04	-4 1.2	1.475	2.391	13.0	21.3
5 21	13 2.79	-5 31.3	1.554	2.391	17.0	20.7	5 21	13 8.42	-3 11.8	1.534	2.374	17.0	21.5
491745	2012 VV ₅₈		4 15.1	128°49'	0°4'/15.5	17	19479	1998 HG ₉₇		4 15.1	270°24'	1°3'/13.9	18
3 12	13 54.98	-13 39.1	2.526	3.349	11.0	22.0	3 12	13 55.88	-7 11.1	2.437	3.277	10.8	18.8
3 22	13 50.25	-13 4.3	2.451	3.359	8.2	21.8	3 22	13 51.13	-6 47.0	2.341	3.261	8.0	18.6
4 1	13 44.04	-12 19.2	2.401	3.369	5.0	21.7	4 1	13 44.72	-6 16.6	2.270	3.244	4.8	18.3
4 11	13 36.94	-11 26.9	2.379	3.378	1.6	21.4	4 11	13 37.21	-5 43.2	2.228	3.227	1.6	18.1
4 21	13 29.62	-10 31.3	2.387	3.387	1.9	21.5	4 21	13 29.28	-5 10.5	2.214	3.210	2.9	18.2
5 1	13 22.78	-9 37.1	2.424	3.396	5.3	21.7	5 1	13 21.69	-4 42.6	2.229	3.192	6.3	18.3
5 11	13 17.04	-8 48.8	2.489	3.405	8.4	21.9	5 11	13 15.16	-4 23.0	2.270	3.175	9.6	18.5
5 21	13 12.81	-8 9.7	2.578	3.413	11.0	22.1	5 21	13 10.20	-4 14.1	2.335	3.157	12.5	18.7
439588	2014 DQ ₁₁₈		4 15.1	287°72'	4°6'/9.9	17	491079	2011 RP ₁₅		4 15.1	190°47'	1°2'/16.7	17
3 12	13 53.45	+1 49.9	2.262	3.121	10.8	20.9	3 12	13 54.81	-16 47.8	2.839	3.646	10.3	22.7
3 22	13 49.35	+2 57.0	2.184	3.109	8.1	20.7	3 22	13 50.08	-16 21.5	2.748	3.644	7.9	22.6
4 1	13 43.62	+4 5.6	2.131	3.098	5.6	20.5	4 1	13 43.95	-15 44.0	2.683	3.643	5.1	22.4
4 11	13 36.85	+5 9.6	2.105	3.087	4.6	20.5	4 11	13 36.95	-14 57.4	2.645	3.640	2.2	22.2
4 21	13 29.73	+6 3.3	2.108	3.076	6.1	20.5	4 21	13 29.67	-14 4.9	2.638	3.638	1.9	22.1
5 1	13 23.03	+6 42.0	2.137	3.064	8.9	20.7	5 1	13 22.78	-13 10.4	2.660	3.635	4.7	22.3
5 11	13 17.45	+7 2.7	2.191	3.053	11.7	20.8	5 11	13 16.84	-12 18.5	2.711	3.631	7.6	22.5
5 21	13 13.47	+7 5.0	2.266	3.042	14.2	21.0	5 21	13 12.29	-11 32.7	2.786	3.627	10.2	22.7
50458	2000 DC ₅₅		4 15.1	161°42'	0°2'/15.3	18	332329	2006 YV ₅₃		4 15.1	330°99'	6°8'/9.6	17
3 12	13 56.86	-12 16.8	2.206	3.036	12.1	19.7	3 12	13 53.79	+2 10.5	1.357	2.237	15.2	19.7
3 22	13 51.89	-11 56.7	2.127	3.039	9.1	19.5	3 22	13 50.58	+3 29.4	1.286	2.222	11.6	19.4
4 1	13 45.16	-11 26.5	2.071	3.041	5.5	19.2	4 1	13 44.80	+4 51.1	1.236	2.208	8.1	19.2
4 11	13 37.30	-10 48.9	2.043	3.043	1.7	19.0	4 11	13 37.29	+6 5.2	1.211	2.194	6.8	19.0
4 21	13 29.11	-10 8.0	2.044	3.044	2.2	19.0	4 21	13 29.16	+7 1.9	1.210	2.181	9.1	19.1
5 1	13 21.43	-9 28.4	2.074	3.046	6.0	19.3	5 1	13 21.70	+7 33.5	1.231	2.169	12.9	19.3
5 11	13 15.01	-8 54.7	2.129	3.047	9.5	19.5	5 11	13 16.03	+7 36.3	1.273	2.158	16.9	19.5
5 21	13 10.35	-8 30.3	2.209	3.048	12.5	19.7	5 21	13 12.85	+7 11.0	1.332	2.148	20.4	19.7
349204	2007 RA ₂₅₆		4 15.1	223°35'	3°0'/12.8	16	258871	2002 PG ₁₇₉		4 15.1	301°90'	5°3'/18.9	17
3 12	14 1.40	-4 5.9	1.746	2.596	13.9	21.2	3 12	13 57.85	-23 9.0	1.506	2.318	17.6	20.2
3 22	13 55.73	-3 27.7	1.663	2.588	10.3	20.9	3 22	13 53.80	-23 30.3	1.414	2.304	14.3	20.0
4 1	13 47.71	-2 43.4	1.605	2.579	6.3	20.7	4 1	13 46.92	-23 29.1	1.342	2.289	10.5	19.7
4 11	13 38.11	-1 58.3	1.574	2.570	3.1	20.4	4 11	13 37.98	-23 4.0	1.293	2.274	6.8	19.4
4 21	13 27.95	-1 18.7	1.570	2.560	4.9	20.5	4 21	13 28.15	-22 16.9	1.268	2.260	5.5	19.3
5 1	13 18.39	-0 50.2	1.593	2.549	9.0	20.8	5 1	13 18.86	-21 13.7	1.269	2.246	8.3	19.4
5 11	13 10.44	-0 37.0	1.641	2.538	13.0	21.0	5 11	13 11.45	-20 4.1	1.293	2.232	12.5	19.6
5 21	13 4.78	-0 40.9	1.709	2.527	16.5	21.2	5 21	13 6.78	-18 57.6	1.338	2.219	16.6	19.9
462917	2011 AB ₆₁		4 15.1	8°03'	6°8'/9.2	17	298322	2003 ER ₆₁		4 15.1	38°07'	1°7'/13.2	17
3 12	13 57.75	+5 37.9	1.708	2.571	13.5	20.6	3 12	13 53.53					

EPHEMERIDES

4 15.1

4 15.2

2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
322324	2011 <i>GR</i> ₆₄		4 15.1 313°45	6°4/ 9.4	17		300887	2008 <i>AH</i> ₁₃₇		4 15.1 154°70	3°3/10.8	18	
3 12	13 55.22	+ 3 39.3	1.663	2.532	13.5	20.5	3 12	13 53.18	- 1 46.7	2.536	3.388	10.0	20.4
3 22	13 51.23	+ 4 51.2	1.588	2.517	10.3	20.3	3 22	13 48.93	- 0 31.2	2.466	3.391	7.3	20.2
4 1	13 45.03	+ 6 3.6	1.536	2.502	7.4	20.1	4 1	13 43.28	+ 0 47.7	2.424	3.395	4.7	20.1
4 11	13 37.34	+ 7 8.0	1.509	2.487	6.4	20.0	4 11	13 36.78	+ 2 4.7	2.410	3.398	3.3	20.0
4 21	13 29.13	+ 7 56.5	1.508	2.473	8.3	20.0	4 21	13 30.05	+ 3 14.2	2.425	3.401	4.8	20.1
5 1	13 21.49	+ 8 23.1	1.531	2.459	11.6	20.2	5 1	13 23.77	+ 4 11.6	2.469	3.404	7.4	20.3
5 11	13 15.36	+ 8 24.9	1.577	2.446	15.1	20.4	5 11	13 18.50	+ 4 53.7	2.538	3.406	10.1	20.4
5 21	13 11.41	+ 8 2.5	1.641	2.433	18.2	20.5	5 21	13 14.65	+ 5 19.3	2.630	3.409	12.4	20.6
38870	2000 <i>SQ</i> ₁₁₄		4 15.1 232°67	0°7/14.5	18		523658	2012 <i>DW</i> ₉₈		4 15.1 355°44	0°0/15.7	18	
3 12	13 56.54	-10 34.8	1.939	2.780	13.1	19.6	3 12	13 36.51	-11 33.1	38.901	39.719	0.8	22.1
3 22	13 51.92	-9 54.5	1.856	2.775	9.7	19.4	3 22	13 35.84	-11 28.6	38.813	39.719	0.6	22.1
4 1	13 45.32	-9 2.9	1.797	2.770	5.8	19.1	4 1	13 35.10	-11 23.7	38.752	39.719	0.4	22.0
4 11	13 37.41	-8 4.0	1.765	2.765	1.7	18.9	4 11	13 34.32	-11 18.4	38.721	39.719	0.1	22.0
4 21	13 29.08	-7 3.6	1.761	2.759	3.0	18.9	4 21	13 33.52	-11 12.9	38.719	39.719	0.1	22.0
5 1	13 21.28	-6 7.9	1.784	2.753	7.1	19.2	5 1	13 32.75	-11 7.5	38.746	39.719	0.4	22.0
5 11	13 14.86	-5 22.3	1.834	2.747	11.0	19.4	5 11	13 32.02	-11 2.3	38.803	39.719	0.6	22.1
5 21	13 10.40	-4 50.7	1.905	2.741	14.3	19.6	5 21	13 31.36	-10 57.5	38.885	39.719	0.8	22.1
215126	1999 <i>RX</i> ₁₂₂		4 15.1 280°19	0°4/15.6	17		52999	1998 <i>UQ</i> ₃₄		4 15.1 245°20	2°8/13.2	18	
3 12	13 54.32	-14 24.3	2.531	3.353	11.0	21.0	3 12	14 2.65	- 4 52.7	1.661	2.511	14.5	19.5
3 22	13 50.03	-13 39.3	2.416	3.324	8.3	20.8	3 22	13 56.92	- 4 18.7	1.571	2.495	10.8	19.2
4 1	13 44.11	-12 41.3	2.326	3.294	5.2	20.6	4 1	13 48.61	- 3 37.2	1.504	2.478	6.6	19.0
4 11	13 37.06	-11 33.0	2.265	3.264	1.7	20.3	4 11	13 38.47	- 2 53.6	1.463	2.460	3.0	18.7
4 21	13 29.54	-10 18.7	2.233	3.233	2.1	20.2	4 21	13 27.59	- 2 14.1	1.449	2.442	4.9	18.8
5 1	13 22.28	-9 3.7	2.230	3.202	5.7	20.4	5 1	13 17.22	- 1 44.9	1.463	2.423	9.4	19.0
5 11	13 16.01	-7 53.9	2.255	3.170	9.2	20.6	5 11	13 8.54	- 1 31.0	1.501	2.403	13.8	19.2
5 21	13 11.26	-6 53.9	2.304	3.139	12.2	20.7	5 21	13 2.30	- 1 34.6	1.560	2.383	17.6	19.4
58122	1981 <i>EW</i> ₁₉		4 15.1 324°23	5°2/18.1	17		507595	2013 <i>BJ</i> ₆₈		4 15.1 150°89	1°5/16.8	17	
3 12	14 0.38	-20 4.6	1.322	2.151	18.7	19.4	3 12	13 55.75	-16 21.8	2.670	3.480	10.8	21.9
3 22	13 55.97	-20 50.6	1.240	2.142	14.9	19.2	3 22	13 50.85	-16 14.7	2.587	3.484	8.3	21.7
4 1	13 48.38	-21 17.4	1.177	2.132	10.6	18.9	4 1	13 44.46	-15 57.0	2.528	3.488	5.4	21.6
4 11	13 38.45	-21 23.0	1.137	2.124	6.5	18.6	4 11	13 37.14	-15 30.5	2.497	3.491	2.4	21.4
4 21	13 27.53	-21 8.3	1.121	2.115	5.4	18.5	4 21	13 29.54	-14 57.7	2.495	3.495	2.0	21.3
5 1	13 17.27	-20 38.2	1.129	2.108	8.9	18.7	5 1	13 22.35	-14 22.3	2.523	3.498	4.9	21.5
5 11	13 9.15	-20 1.5	1.160	2.100	13.5	18.9	5 11	13 16.20	-13 48.2	2.578	3.501	7.8	21.7
5 21	13 4.14	-19 26.8	1.210	2.094	17.8	19.1	5 21	13 11.53	-13 19.1	2.658	3.504	10.4	21.9
151836	2003 <i>FH</i> ₁₂₆		4 15.1 221°73	0°5/14.6	17		436336	2010 <i>HA</i> ₁₄		4 15.1 302°52	8°7/ 4.5	18	
3 12	13 57.47	-10 51.9	1.988	2.826	12.9	21.0	3 12	13 53.98	+14 1.3	2.090	2.942	11.8	20.5
3 22	13 52.59	-10 15.9	1.903	2.820	9.6	20.8	3 22	13 49.92	+15 37.0	2.026	2.929	9.9	20.3
4 1	13 45.72	-9 28.6	1.842	2.814	5.8	20.5	4 1	13 44.06	+17 4.7	1.986	2.915	8.8	20.2
4 11	13 37.54	-8 34.0	1.807	2.807	1.7	20.2	4 11	13 37.05	+18 16.3	1.973	2.902	9.0	20.2
4 21	13 28.92	-7 37.3	1.802	2.800	2.8	20.3	4 21	13 29.66	+19 5.3	1.984	2.888	10.5	20.3
5 1	13 20.82	-6 44.3	1.824	2.793	7.0	20.6	5 1	13 22.76	+19 27.7	2.019	2.875	12.6	20.4
5 11	13 14.08	-6 0.6	1.872	2.786	10.8	20.8	5 11	13 17.12	+19 22.8	2.074	2.862	14.9	20.5
5 21	13 9.30	-5 30.0	1.942	2.778	14.1	21.0	5 21	13 13.25	+18 52.8	2.146	2.849	16.9	20.6
491252	2011 <i>US</i> ₂₄₅		4 15.1 242°30	2°2/12.7	16		173924	2001 <i>VP</i> ₇₀		4 15.1 137°23	0°0/15.1	18	
3 12	13 56.20	- 3 31.5	2.732	3.572	9.7	22.3	3 12	13 55.54	-11 46.1	2.725	3.550	10.2	21.3
3 22	13 51.17	- 3 1.1	2.638	3.558	7.2	22.1	3 22	13 50.58	-11 18.9	2.650	3.560	7.6	21.1
4 1	13 44.67	- 2 27.3	2.571	3.543	4.4	21.9	4 1	13 44.24	-10 43.6	2.601	3.570	4.6	20.9
4 11	13 37.20	- 1 53.4	2.533	3.528	2.2	21.7	4 11	13 37.07	-10 3.0	2.580	3.580	1.4	20.7
4 21	13 29.39	- 1 23.1	2.524	3.512	3.5	21.8	4 21	13 29.68	- 9 20.4	2.589	3.589	1.9	20.8
5 1	13 21.91	- 0 59.8	2.545	3.496	6.4	21.9	5 1	13 22.74	- 8 39.7	2.628	3.598	5.1	21.0
5 11	13 15.38	- 0 46.4	2.592	3.480	9.2	22.1	5 11	13 16.81	- 8 4.5	2.694	3.606	8.0	21.2
5 21	13 10.25	- 0 44.2	2.663	3.463	11.7	22.2	5 21	13 12.31	- 7 37.6	2.785	3.615	10.5	21.4
240215	2002 <i>SY</i> ₄₂		4 15.1 160°92	0°2/14.9	18		5630	Billschaefer		4 15.1 326°27	1°1/14.4	18	R
3 12	13 55.51	-11 55.0	2.687	3.512	10.4	21.8	3 12	13 54.69	-10 49.8	1.163	2.035	17.9	16.5
3 22	13 50.59	-11 16.7	2.608	3.518	7.7	21.7	3 22	13 51.74	-10 9.0	1.087	2.022	13.4	16.2
4 1	13 44.26	-10 29.5	2.554	3.523	4.6	21.5	4 1	13 45.77	- 9 9.9	1.031	2.009	8.1	15.8
4 11	13 37.07	- 9 36.5	2.529	3.528	1.3	21.2	4 11	13 37.68	- 7 58.3	0.997	1.997	2.4	15.5
4 21	13 29.64	- 8 41.5	2.534	3.533	2.0	21.3	4 21	13 28.78	- 6 43.3	0.987	1.986	4.2	15.5
5 1	13 22.64	- 7 49.1	2.568	3.537	5.3	21.5	5 1	13 20.61	- 5 35.8	1.000	1.976	10.2	15.8
5 11	13 16.68	- 7 3.2	2.631	3.541	8.2	21.7	5 11	13 14.55	- 4 45.4	1.034	1.967	15.6	16.1
5 21	13 12.15	- 6 26.7	2.718	3.544	10.8	21.9	5 21	13 11.44	- 4 17.5	1.086	1.959	20.3	16.3
372488	2009 <i>SC</i> ₂₃₃		4 15.1 177°36	0°0/15.1	17		161262	2003 <i>FQ</i> ₂₈		4 15.1 286°74	5°0/11.9	18	
3 12	13 59.46	-11 27.0	2.466	3.288	11.2	22.5	3 12	14 1.13	- 0 14.5	1.400	2.267	15.7	19.4
3 22	13 53.65	-11 6.8	2.382	3.291	8.4	22.4	3 22	13 56.17	+ 0 25.2	1.317	2.248	11.9	19.1
4 1	13 46.18	-10 37.8	2.324	3.292	5.1	22.1	4 1	13 48.33	+ 1 8.2	1.256	2.230	7.7	18.8
4 11	13 37.65	-10 2.7	2.294	3.294	1.5	21.9	4 11	13 38.43	+ 1 47.1	1.220	2.211	5.1	18.6
4 21	13 28.81	- 9 25.0	2.294	3.294	2.1	21.9	4 21	13 27.70	+ 2 14.0	1.209	2.193	7.1	18.6
5 1	13 20.43	- 8 48.9	2.324	3.294	5.7	22.2	5 1	13 17.57	+ 2 22.7	1.222	2.174	11.6	18.8
5 11	13 13.23	- 8 18.2	2.382	3.293	8.9	22.4	5 11	13 9.35	+ 2 9.3	1.257	2.156	16.1	19.0
5 21	13 7.69	- 7 56.1	2.464	3.291	11.8	22.6	5 21	13 3.88	+ 1 34.0	1.311	2.138	20.1	19.2
129800	1999 <i>JS</i> ₁₃₁		4 15.1 36°68	5°7/11.2	18		87553	2000 <i>QO</i> ₂₂₉		4 1			

EPHEMERIDES

4 15.2

4 15.2

2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
209388	2004 <i>EM</i> ₄₉	4 15.2 304°31		3°2/11.6 18			51350	2000 <i>QU</i> ₁₇₆	4 15.2 227°20		3°5/21.8 18		
3 12	13 53.24	- 3 41.2	2.085	2.942	11.6	20.3	3 12	13 51.04	-30 17.0	4.682	5.400	7.8	19.2
3 22	13 49.33	- 2 30.0	2.008	2.937	8.5	20.0	3 22	13 46.99	-30 29.9	4.581	5.398	6.6	19.1
4 1	13 43.69	- 1 12.5	1.957	2.931	5.3	19.8	4 1	13 42.02	-30 32.5	4.503	5.395	5.2	19.0
4 11	13 36.96	+ 0 5.0	1.933	2.926	3.3	19.7	4 11	13 36.46	-30 24.8	4.453	5.392	4.1	18.9
4 21	13 29.89	+ 1 16.1	1.937	2.921	5.0	19.8	4 21	13 30.70	-30 7.7	4.430	5.389	3.5	18.8
5 1	13 23.30	+ 2 14.7	1.969	2.915	8.3	20.0	5 1	13 25.14	-29 42.5	4.436	5.387	3.9	18.9
5 11	13 17.92	+ 2 56.6	2.025	2.910	11.5	20.2	5 11	13 20.16	-29 11.6	4.471	5.384	5.0	18.9
5 21	13 14.24	+ 3 20.1	2.102	2.905	14.3	20.3	5 21	13 16.08	-28 37.7	4.531	5.381	6.4	19.0
155504	1999 <i>LC</i> ₇	4 15.2 267°73		7°8/ 7.8 18			473022	2015 <i>HS</i> ₅₉	4 15.2 214°07		3°8/19.2 18		
3 12	13 58.67	+ 9 52.0	1.907	2.761	12.7	20.3	3 12	13 56.40	-23 33.4	2.362	3.146	12.9	21.0
3 22	13 53.57	+11 2.9	1.833	2.746	10.2	20.1	3 22	13 51.67	-23 37.5	2.272	3.145	10.3	20.8
4 1	13 46.37	+12 8.4	1.783	2.731	8.2	19.9	4 1	13 45.14	-23 25.4	2.205	3.143	7.5	20.6
4 11	13 37.79	+13 0.4	1.759	2.715	7.9	19.9	4 11	13 37.44	-22 57.5	2.163	3.141	4.8	20.5
4 21	13 28.74	+13 32.2	1.761	2.699	9.5	19.9	4 21	13 29.34	-22 15.9	2.149	3.139	3.9	20.4
5 1	13 20.22	+13 39.7	1.787	2.682	12.1	20.0	5 1	13 21.68	-21 24.8	2.164	3.137	5.8	20.5
5 11	13 13.14	+13 21.6	1.836	2.666	14.9	20.2	5 11	13 15.25	-20 29.9	2.205	3.135	8.6	20.7
5 21	13 8.10	+12 40.1	1.903	2.649	17.5	20.3	5 21	13 10.57	-19 36.7	2.271	3.133	11.4	20.9
308052	2004 <i>TZ</i> ₄₆	4 15.2 221°90		0°1/15.2 17			368920	2006 <i>UT</i> ₁₄₂	4 15.2 279°82		2°0/16.6 17		
3 12	13 58.91	-13 41.9	1.713	2.549	14.8	21.1	3 12	13 59.33	-15 55.5	1.632	2.463	15.6	21.5
3 22	13 54.01	-12 56.1	1.627	2.542	11.1	20.9	3 22	13 54.53	-15 57.5	1.546	2.455	12.0	21.2
4 1	13 46.76	-11 53.6	1.563	2.534	6.8	20.6	4 1	13 47.20	-15 43.8	1.482	2.447	7.8	21.0
4 11	13 37.93	-10 38.6	1.526	2.525	2.1	20.3	4 11	13 38.12	-15 16.0	1.443	2.438	3.5	20.7
4 21	13 28.54	- 9 17.8	1.516	2.516	2.9	20.3	4 21	13 28.36	-14 37.8	1.430	2.430	3.0	20.6
5 1	13 19.74	- 7 59.3	1.534	2.507	7.7	20.6	5 1	13 19.19	-13 55.0	1.444	2.422	7.4	20.9
5 11	13 12.57	- 6 51.0	1.577	2.496	12.1	20.8	5 11	13 11.72	-13 14.8	1.482	2.414	11.8	21.1
5 21	13 7.68	- 5 58.6	1.642	2.486	15.9	21.0	5 21	13 6.70	-12 43.1	1.542	2.406	15.8	21.3
344273	2001 <i>TD</i> ₄₈	4 15.2 111°91		0°1/15.1 17			163613	2002 <i>TM</i> ₂₇₈	4 15.2 123°91		3°7/19.4 18		
3 12	13 54.84	-12 23.1	2.404	3.233	11.3	21.4	3 12	13 57.35	-24 25.0	2.525	3.299	12.4	19.7
3 22	13 50.24	-11 45.7	2.331	3.243	8.4	21.3	3 22	13 52.15	-24 20.4	2.447	3.312	9.9	19.6
4 1	13 44.12	-10 58.4	2.283	3.253	5.0	21.1	4 1	13 45.31	-23 59.6	2.391	3.325	7.2	19.4
4 11	13 37.07	-10 4.5	2.263	3.263	1.5	20.8	4 11	13 37.46	-23 23.5	2.362	3.338	4.7	19.3
4 21	13 29.79	- 9 8.6	2.273	3.273	2.1	20.9	4 21	13 29.35	-22 34.6	2.362	3.350	3.7	19.2
5 1	13 23.01	- 8 15.2	2.311	3.282	5.6	21.2	5 1	13 21.77	-21 37.3	2.390	3.362	5.4	19.4
5 11	13 17.37	- 7 29.0	2.376	3.291	8.8	21.4	5 11	13 15.39	-20 37.2	2.446	3.373	8.0	19.5
5 21	13 13.28	- 6 53.2	2.465	3.300	11.5	21.6	5 21	13 10.69	-19 39.3	2.527	3.384	10.6	19.7
172465	2003 <i>SV</i> ₁₀	4 15.2 127°54		0°9/15.9 18			238550	2004 <i>VP</i> ₇₅	4 15.2 235°81		3°1/12.8 16		
3 12	14 1.19	-14 27.4	1.847	2.672	14.3	21.4	3 12	14 3.75	- 2 49.3	1.877	2.721	13.3	21.2
3 22	13 55.34	-14 5.1	1.779	2.687	10.8	21.2	3 22	13 57.48	- 2 19.4	1.785	2.705	10.0	21.0
4 1	13 47.36	-13 28.9	1.734	2.701	6.7	21.0	4 1	13 48.86	- 1 45.0	1.717	2.689	6.2	20.7
4 11	13 38.06	-12 42.1	1.716	2.714	2.4	20.7	4 11	13 38.60	- 1 11.1	1.677	2.672	3.2	20.5
4 21	13 28.47	-11 49.6	1.726	2.727	2.5	20.7	4 21	13 27.69	- 0 43.1	1.665	2.654	4.9	20.5
5 1	13 19.62	-10 57.5	1.765	2.739	6.7	21.0	5 1	13 17.26	- 0 26.0	1.682	2.635	8.9	20.7
5 11	13 12.40	-10 11.9	1.829	2.751	10.6	21.3	5 11	13 8.35	- 0 23.3	1.723	2.615	12.8	20.9
5 21	13 7.36	- 9 37.1	1.917	2.762	13.9	21.5	5 21	13 1.66	- 0 36.5	1.787	2.594	16.3	21.1
263689	2008 <i>GZ</i> ₁₃₃	4 15.2 10°19		0°3/14.9 17			318050	2004 <i>FC</i> ₃₂	4 15.2 332°28		20°3/30.9 17		
3 12	13 55.59	-11 4.7	1.291	2.155	16.9	20.1	3 12	13 49.20	+17 56.2	0.633	1.545	22.9	19.7
3 22	13 51.98	-10 43.5	1.227	2.157	12.6	19.9	3 22	13 49.65	+19 59.2	0.565	1.503	21.0	19.4
4 1	13 45.68	-10 7.9	1.183	2.159	7.7	19.6	4 1	13 45.72	+21 46.3	0.511	1.463	20.3	19.1
4 11	13 37.63	- 9 22.6	1.163	2.163	2.2	19.3	4 11	13 38.04	+22 50.7	0.471	1.425	21.6	18.9
4 21	13 29.05	- 8 34.5	1.167	2.167	3.4	19.3	4 21	13 28.16	+22 47.0	0.442	1.390	24.7	18.8
5 1	13 21.32	- 7 51.4	1.195	2.173	8.7	19.7	5 1	13 18.53	+21 17.3	0.425	1.358	29.0	18.8
5 11	13 15.58	- 7 20.3	1.246	2.179	13.5	20.0	5 11	13 11.73	+18 18.7	0.416	1.330	33.6	18.8
5 21	13 12.47	- 7 5.3	1.317	2.186	17.6	20.2	5 21	13 9.40	+14 2.0	0.416	1.307	37.9	18.9
122548	2000 <i>QK</i> ₂₂₈	4 15.2 191°77		2°2/17.4 18			57165	2001 <i>QK</i> ₁₈	4 15.2 172°38		1°6/13.6 17		
3 12	13 58.94	-18 42.8	2.454	3.252	12.0	22.0	3 12	13 58.26	- 7 46.7	2.123	2.964	12.1	20.8
3 22	13 53.41	-18 32.9	2.362	3.250	9.3	21.8	3 22	13 52.98	- 7 1.3	2.047	2.967	8.9	20.6
4 1	13 46.13	-18 9.6	2.294	3.248	6.3	21.6	4 1	13 45.89	- 6 7.8	1.996	2.969	5.3	20.4
4 11	13 37.72	-17 34.2	2.254	3.245	3.2	21.4	4 11	13 37.66	- 5 10.8	1.972	2.971	1.9	20.2
4 21	13 28.91	-16 49.6	2.243	3.241	2.5	21.4	4 21	13 29.10	- 4 15.4	1.978	2.973	3.4	20.3
5 1	13 20.55	-16 0.1	2.262	3.237	5.4	21.6	5 1	13 21.09	- 3 27.2	2.012	2.974	7.1	20.5
5 11	13 13.38	-15 10.9	2.309	3.232	8.6	21.8	5 11	13 14.40	- 2 50.5	2.073	2.974	10.5	20.7
5 21	13 7.92	-14 26.7	2.380	3.226	11.5	21.9	5 21	13 9.53	- 2 27.8	2.156	2.974	13.5	20.9
147828	2005 <i>SG</i> ₂₃₉	4 15.2 300°73		0°8/14.4 17			300923	2008 <i>CA</i> ₅₄	4 15.2 186°69		3°5/10.8 18		
3 12	13 54.39	- 9 37.4	2.128	2.971	12.0	20.7	3 12	13 53.89	- 0 21.1	2.576	3.427	9.9	21.1
3 22	13 50.28	- 9 5.3	2.035	2.956	8.9	20.5	3 22	13 49.49	+ 0 42.2	2.503	3.427	7.3	20.9
4 1	13 44.35	- 8 23.6	1.967	2.940	5.4	20.2	4 1	13 43.67	+ 1 47.8	2.457	3.426	4.8	20.7
4 11	13 37.21	- 7 36.1	1.925	2.925	1.6	20.0	4 11	13 36.98	+ 2 50.6	2.439	3.425	3.5	20.6
4 21	13 29.61	- 6 47.4	1.912	2.911	2.8	20.0	4 21	13 30.05	+ 3 45.6	2.450	3.424	4.9	20.7
5 1	13 22.41	- 6 2.7	1.927	2.896	6.7	20.2	5 1	13 23.53	+ 4 28.7	2.489	3.423	7.4	20.9
5 11	13 16.40	- 5 26.9	1.967	2.881	10.4	20.4	5 11	13 18.02	+ 4 57.3	2.554	3.421	10.1	21.1
5 21	13 12.15	- 5 3.3	2.030	2.867	13.6	20.6	5 21	13 13.92	+ 5 10.2	2.641	3.420	12.4	21.2
303292	2004 <i>SV</i> ₃	4 15.2 174°59		0°8/15.9 18			200583	2001 <i>QZ</i> ₁₅₉	4 15.2 159°31		3°8/17.9 18		

EPHEMERIDES

4 15.2

4 15.2

2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
140936	2001 <i>VV</i> ₈₄		4 15.2 100°19'	4.1/19.6	18		491139	2011 <i>SA</i> ₁₆₅		4 15.2 237°91'	0.7/14.4	16	
3 12	13 56.68	-24 42.3	2.341	3.119	13.1	20.3	3 12	13 55.42	-9 19.2	2.640	3.473	10.3	22.8
3 22	13 51.84	-24 46.5	2.260	3.127	10.6	20.1	3 22	13 50.70	-8 49.8	2.546	3.461	7.6	22.6
4 1	13 45.22	-24 33.7	2.201	3.135	7.8	19.9	4 1	13 44.47	-8 13.0	2.478	3.449	4.6	22.4
4 11	13 37.47	-24 4.2	2.169	3.143	5.2	19.8	4 11	13 37.26	-7 31.8	2.437	3.437	1.4	22.1
4 21	13 29.38	-23 20.4	2.163	3.150	4.1	19.7	4 21	13 29.71	-6 49.8	2.427	3.425	2.4	22.2
5 1	13 21.82	-22 26.8	2.186	3.158	5.8	19.9	5 1	13 22.49	-6 11.0	2.446	3.412	5.7	22.4
5 11	13 15.53	-21 29.0	2.236	3.166	8.5	20.0	5 11	13 16.26	-5 39.2	2.492	3.399	8.8	22.5
5 21	13 11.02	-20 32.9	2.310	3.173	11.2	20.2	5 21	13 11.48	-5 17.1	2.562	3.385	11.5	22.7
147405	2003 <i>FG</i> ₄₆		4 15.2 21°99'	0.6/14.7	17		386110	2007 <i>RY</i> ₁₃₀		4 15.2 244°36'	0.2/15.0	17	
3 12	13 56.81	-10 42.9	1.600	2.451	14.9	20.3	3 12	13 57.61	-10 27.7	2.106	2.942	12.4	21.5
3 22	13 52.45	-10 12.3	1.529	2.453	11.1	20.1	3 22	13 52.61	-10 15.0	2.024	2.940	9.2	21.3
4 1	13 45.80	-9 29.3	1.481	2.456	6.7	19.8	4 1	13 45.74	-9 53.6	1.967	2.938	5.6	21.1
4 11	13 37.67	-8 38.5	1.458	2.458	1.9	19.5	4 11	13 37.66	-9 26.2	1.936	2.936	1.6	20.8
4 21	13 29.10	-7 45.9	1.462	2.461	3.1	19.6	4 21	13 29.18	-8 56.6	1.934	2.934	2.4	20.8
5 1	13 21.24	-6 58.5	1.492	2.465	7.8	19.9	5 1	13 21.19	-8 29.2	1.960	2.932	6.4	21.1
5 11	13 15.05	-6 22.1	1.546	2.468	12.1	20.1	5 11	13 14.50	-8 8.3	2.012	2.929	10.0	21.3
5 21	13 11.13	-6 0.5	1.621	2.472	15.7	20.4	5 21	13 9.66	-7 56.7	2.087	2.927	13.1	21.5
90227	2003 <i>BM</i> ₁₉		4 15.2 319°57'	7.1/ 8.1	18		151914	2004 <i>EO</i> ₅₄		4 15.2 0°26'	1.3/14.4	18	
3 12	13 54.98	+ 8 18.0	1.942	2.803	12.2	18.9	3 12	13 58.12	- 9 22.4	1.120	1.992	18.4	20.0
3 22	13 50.79	+ 9 26.2	1.871	2.790	9.7	18.7	3 22	13 54.27	- 8 54.6	1.056	1.990	13.7	19.7
4 1	13 44.68	+10 30.1	1.824	2.778	7.6	18.6	4 1	13 47.30	- 8 12.1	1.011	1.989	8.3	19.4
4 11	13 37.32	+11 22.3	1.803	2.765	7.2	18.5	4 11	13 38.21	- 7 21.0	0.989	1.989	2.5	19.0
4 21	13 29.57	+11 56.4	1.808	2.753	8.8	18.6	4 21	13 28.44	- 6 29.5	0.990	1.989	4.3	19.2
5 1	13 22.33	+12 8.2	1.838	2.742	11.4	18.7	5 1	13 19.63	- 5 46.8	1.015	1.990	10.2	19.5
5 11	13 16.43	+11 56.3	1.889	2.731	14.1	18.9	5 11	13 13.11	- 5 20.3	1.061	1.992	15.4	19.8
5 21	13 12.40	+11 22.2	1.960	2.720	16.6	19.0	5 21	13 9.65	- 5 13.7	1.124	1.994	19.9	20.0
6763	Kochiny		4 15.2 254°53'	3.9/19.3	18		20055	1993 <i>FB</i> ₄₇		4 15.2 152°65'	0.2/15.4	18	
3 12	13 57.42	-24 34.4	2.291	3.070	13.4	18.4	3 12	13 58.23	-12 11.9	2.081	2.912	12.7	19.9
3 22	13 52.62	-24 23.0	2.182	3.051	10.8	18.2	3 22	13 53.05	-11 51.2	2.004	2.916	9.5	19.7
4 1	13 45.85	-23 52.7	2.095	3.031	7.9	18.0	4 1	13 45.98	-11 19.8	1.951	2.920	5.8	19.4
4 11	13 37.71	-23 3.6	2.033	3.011	5.1	17.8	4 11	13 37.73	-10 40.9	1.925	2.924	1.8	19.2
4 21	13 29.01	-21 58.1	2.000	2.991	4.0	17.6	4 21	13 29.12	- 9 58.5	1.927	2.928	2.3	19.2
5 1	13 20.67	-20 41.2	1.995	2.969	6.1	17.7	5 1	13 21.07	- 9 17.7	1.958	2.931	6.3	19.5
5 11	13 13.59	-19 20.0	2.018	2.948	9.3	17.9	5 11	13 14.38	- 8 43.4	2.016	2.934	9.9	19.7
5 21	13 8.36	-18 1.4	2.065	2.925	12.5	18.0	5 21	13 9.57	- 8 19.0	2.096	2.936	13.1	19.9
213890	2003 <i>SX</i> ₃₀₃		4 15.2 183°27'	1.7/13.6	18		303423	2005 <i>AN</i> ₅		4 15.2 54°67'	4.5/18.2	18	
3 12	13 59.76	- 7 48.5	1.940	2.782	13.0	20.9	3 12	14 3.15	-20 22.0	1.259	2.087	19.5	20.0
3 22	13 54.28	- 7 2.9	1.863	2.783	9.6	20.7	3 22	13 57.60	-20 48.9	1.210	2.111	15.3	19.8
4 1	13 46.77	- 6 8.2	1.810	2.783	5.7	20.5	4 1	13 49.04	-20 52.9	1.180	2.136	10.6	19.6
4 11	13 37.95	- 5 9.4	1.784	2.783	2.1	20.2	4 11	13 38.65	-20 34.3	1.173	2.160	6.1	19.4
4 21	13 28.74	- 4 12.3	1.787	2.782	3.7	20.3	4 21	13 27.94	-19 57.4	1.190	2.186	4.8	19.4
5 1	13 20.12	- 3 22.9	1.818	2.780	7.6	20.6	5 1	13 18.43	-19 9.8	1.232	2.211	8.3	19.7
5 11	13 12.96	- 2 46.1	1.875	2.777	11.4	20.8	5 11	13 11.34	-18 21.2	1.297	2.236	12.5	20.0
5 21	13 7.82	- 2 24.5	1.953	2.774	14.6	21.0	5 21	13 7.25	-17 39.3	1.383	2.262	16.3	20.3
523105	2016 <i>RR</i> ₄₉		4 15.2 296°89'	0.9/16.2	17		378279	2007 <i>EH</i> ₈₆		4 15.2 289°70'	3.0/12.4	18	
3 12	13 53.85	-15 8.7	2.295	3.120	11.9	21.6	3 12	13 53.53	-15 33.8	1.006	1.877	20.1	20.1
3 22	13 49.77	-14 42.9	2.203	3.111	9.0	21.4	3 22	13 51.18	-12 39.5	0.931	1.867	14.9	19.7
4 1	13 44.00	-14 4.6	2.135	3.101	5.7	21.2	4 1	13 45.57	- 9 0.9	0.878	1.858	8.7	19.4
4 11	13 37.12	-13 16.4	2.094	3.092	2.2	20.9	4 11	13 37.72	- 4 53.5	0.849	1.849	3.2	19.0
4 21	13 29.86	-12 22.1	2.082	3.083	2.1	20.9	4 21	13 29.13	- 0 42.6	0.847	1.840	7.0	19.2
5 1	13 23.00	-11 26.9	2.098	3.073	5.7	21.1	5 1	13 21.47	+ 3 3.9	0.869	1.831	13.7	19.5
5 11	13 17.27	-10 36.0	2.140	3.064	9.1	21.3	5 11	13 16.18	+ 6 5.4	0.914	1.823	19.6	19.8
5 21	13 13.19	- 9 53.7	2.206	3.055	12.2	21.5	5 21	13 14.03	+ 8 14.0	0.974	1.814	24.5	20.1
301990	2000 <i>OA</i> ₆₂		4 15.2 10°19'	3.1/12.9	18		101866	1999 <i>LM</i> ₁₅		4 15.2 62°40'	2.4/17.4	18	
3 12	13 55.90	- 6 59.9	1.204	2.078	17.1	20.3	3 12	13 55.29	-26 4.8	0.986	1.822	23.1	18.5
3 22	13 52.34	- 5 55.9	1.142	2.079	12.6	20.0	3 22	13 52.40	-23 48.8	0.923	1.832	18.1	18.2
4 1	13 45.96	- 4 38.9	1.101	2.080	7.6	19.7	4 1	13 46.15	-20 40.9	0.878	1.842	11.9	17.9
4 11	13 37.76	- 3 17.7	1.084	2.082	3.3	19.5	4 11	13 37.83	-16 50.9	0.856	1.852	5.3	17.5
4 21	13 29.03	- 2 2.5	1.090	2.084	5.7	19.6	4 21	13 29.11	-12 40.2	0.860	1.862	3.5	17.5
5 1	13 21.21	- 1 3.3	1.121	2.087	10.7	19.9	5 1	13 21.71	- 8 36.9	0.890	1.873	9.9	17.9
5 11	13 15.47	- 0 26.6	1.173	2.091	15.5	20.2	5 11	13 16.91	- 5 5.7	0.944	1.883	16.0	18.2
5 21	13 12.48	- 0 14.7	1.243	2.095	19.5	20.5	5 21	13 15.26	- 2 19.9	1.018	1.894	21.0	18.6
159069	2004 <i>TD</i> ₁₉₃		4 15.2 351°75'	0.6/14.7	17		356693	2011 <i>UA</i> ₁₂₈		4 15.2 248°74'	2.3/17.9	17	
3 12	13 57.60	-10 2.6	1.765	2.611	14.0	20.5	3 12	13 54.64	-20 19.1	2.579	3.376	11.5	21.4
3 22	13 52.89	- 9 41.0	1.689	2.610	10.4	20.3	3 22	13 50.25	-19 59.8	2.480	3.366	9.0	21.2
4 1	13 46.02	- 9 9.0	1.636	2.609	6.3	20.0	4 1	13 44.26	-19 26.1	2.404	3.355	6.2	21.0
4 11	13 37.75	- 8 30.4	1.609	2.609	1.8	19.7	4 11	13 37.23	-18 39.5	2.355	3.344	3.4	20.8
4 21	13 29.02	- 7 50.2	1.609	2.608	3.0	19.8	4 21	13 29.82	-17 43.0	2.335	3.332	2.6	20.7
5 1	13 20.91	- 7 14.2	1.636	2.608	7.4	20.1	5 1	13 22.77	-16 40.9	2.345	3.321	5.1	20.9
5 11	13 14.34	- 6 47.4	1.689	2.608	11.4	20.3	5 11	13 16.78	-15 38.8	2.381	3.309	8.2	21.1
5 21	13 9.91	- 6 33.2	1.762	2.608	14.9	20.5	5 21	13 12.33	-14 41.4	2.443	3.297	11.0	21.2
426158	2012 <i>HQ</i> ₅₉		4 15.2 282°20'	1.7/13.7	17		440919	2006 <i>WG</i> ₅₉		4 15.2 98°82'			

EPHEMERIDES

4 15.2

4 15.2

2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
100622	1997 <i>TK</i> ₂₆		4 15.2 178°72	0°9/16.3	16		42052	2000 <i>YH</i> ₁₀₈		4 15.2 104°51	1°1/16.2	18	
3 12	13 57.93	-16 22.1	2.507	3.315	11.5	21.5	3 12	13 58.64	-14 59.5	2.016	2.840	13.4	19.8
3 22	13 52.56	-15 39.9	2.420	3.318	8.7	21.3	3 22	13 53.36	-14 43.3	1.947	2.853	10.1	19.6
4 1	13 45.59	-14 44.5	2.357	3.320	5.5	21.1	4 1	13 46.17	-14 14.3	1.901	2.866	6.4	19.4
4 11	13 37.61	-13 38.8	2.324	3.320	2.1	20.9	4 11	13 37.81	-13 35.1	1.882	2.879	2.5	19.1
4 21	13 29.34	-12 27.1	2.320	3.320	2.0	20.9	4 21	13 29.16	-12 50.0	1.891	2.892	2.3	19.1
5 1	13 21.53	-11 14.8	2.346	3.320	5.4	21.1	5 1	13 21.14	-12 4.2	1.929	2.905	6.1	19.4
5 11	13 14.88	-10 7.4	2.401	3.318	8.6	21.3	5 11	13 14.57	-11 23.0	1.993	2.917	9.7	19.7
5 21	13 9.85	-9 9.4	2.481	3.316	11.5	21.5	5 21	13 9.95	-10 50.7	2.080	2.929	12.8	19.9
506260	2016 <i>QH</i> ₅		4 15.2 165°56	3°2/18.9	17		2290	Helffrich		4 15.2 113°90	4°2/10.8	18	
3 12	13 56.38	-22 43.6	2.740	3.519	11.4	21.8	3 12	13 58.14	-0 41.4	2.028	2.881	12.1	17.1
3 22	13 51.41	-22 47.1	2.651	3.522	9.1	21.7	3 22	13 52.80	+0 38.6	1.976	2.900	8.9	16.9
4 1	13 44.91	-22 36.9	2.586	3.524	6.5	21.5	4 1	13 45.73	+2 0.8	1.950	2.919	5.8	16.7
4 11	13 37.41	-22 13.7	2.548	3.527	4.1	21.3	4 11	13 37.65	+3 18.2	1.951	2.938	4.2	16.7
4 21	13 29.60	-21 39.3	2.538	3.529	3.3	21.3	4 21	13 29.41	+4 24.3	1.982	2.956	5.9	16.8
5 1	13 22.19	-20 57.3	2.558	3.530	5.0	21.4	5 1	13 21.86	+5 14.0	2.040	2.973	8.8	17.0
5 11	13 15.84	-20 12.1	2.605	3.532	7.6	21.6	5 11	13 15.70	+5 44.6	2.122	2.989	11.8	17.2
5 21	13 11.00	-19 28.4	2.678	3.533	10.1	21.7	5 21	13 11.37	+5 55.8	2.225	3.006	14.3	17.4
458809	2011 <i>SX</i> ₂₃₂		4 15.2 149°06	1°3/16.3	18		206617	2003 <i>WX</i> ₁₁₀		4 15.2 185°14	3°0/18.3	18	
3 12	13 55.41	-16 2.5	1.726	2.551	15.2	22.3	3 12	13 57.37	-21 9.3	2.295	3.090	12.9	20.6
3 22	13 55.41	-15 36.4	1.652	2.559	11.5	22.0	3 22	13 52.41	-21 4.2	2.207	3.090	10.1	20.4
4 1	13 47.56	-14 53.6	1.601	2.566	7.3	21.8	4 1	13 45.63	-20 43.5	2.142	3.090	7.1	20.2
4 11	13 38.23	-13 57.3	1.576	2.573	2.9	21.5	4 11	13 37.67	-20 8.2	2.104	3.089	4.1	20.0
4 21	13 28.50	-12 52.9	1.579	2.580	2.6	21.5	4 21	13 29.31	-19 21.2	2.093	3.088	3.2	20.0
5 1	13 19.51	-11 47.5	1.609	2.585	7.0	21.8	5 1	13 21.44	-18 27.0	2.112	3.087	5.7	20.1
5 11	13 12.24	-10 48.6	1.665	2.590	11.2	22.1	5 11	13 14.82	-17 31.6	2.157	3.086	8.8	20.3
5 21	13 7.28	-10 1.6	1.744	2.595	14.8	22.3	5 21	13 9.99	-16 40.1	2.227	3.084	11.8	20.5
434821	2006 <i>RB</i> ₉₉		4 15.2 184°36	0°4/14.6	17		180746	2004 <i>LA</i> ₁₁		4 15.2 273°80	1°0/14.1	17	
3 12	13 54.94	-10 22.4	3.033	3.858	9.3	22.6	3 12	13 54.32	-9 12.1	2.357	3.197	11.1	20.6
3 22	13 50.11	-9 48.5	2.947	3.858	6.9	22.4	3 22	13 50.09	-8 30.9	2.262	3.182	8.2	20.4
4 1	13 44.02	-9 7.4	2.888	3.858	4.1	22.2	4 1	13 44.21	-7 40.8	2.193	3.166	4.9	20.1
4 11	13 37.13	-8 22.2	2.857	3.857	1.2	22.0	4 11	13 37.25	-6 45.6	2.151	3.151	1.5	19.9
4 21	13 30.01	-7 35.9	2.857	3.855	2.0	22.0	4 21	13 29.89	-5 49.7	2.138	3.135	2.8	19.9
5 1	13 23.24	-6 52.2	2.887	3.853	4.9	22.2	5 1	13 22.88	-4 58.3	2.154	3.120	6.4	20.1
5 11	13 17.35	-6 14.5	2.945	3.851	7.6	22.4	5 11	13 16.96	-4 16.0	2.196	3.104	9.7	20.3
5 21	13 12.72	-5 45.2	3.028	3.848	10.0	22.6	5 21	13 12.61	-3 45.9	2.262	3.088	12.7	20.5
503248	2015 <i>KN</i> ₉		4 15.2 109°51	5°8/ 8.4	17		153823	2001 <i>WU</i> ₃₇		4 15.2 127°58	0°1/15.2	17	
3 12	13 55.53	+8 17.0	2.459	3.309	10.3	21.6	3 12	13 58.17	-12 23.0	1.914	2.748	13.5	21.3
3 22	13 50.68	+9 20.8	2.407	3.320	8.1	21.5	3 22	13 53.12	-11 50.3	1.842	2.756	10.1	21.1
4 1	13 44.38	+10 19.9	2.381	3.331	6.3	21.4	4 1	13 46.08	-11 5.4	1.794	2.764	6.1	20.9
4 11	13 37.23	+11 8.7	2.382	3.341	5.9	21.4	4 11	13 37.80	-10 12.3	1.772	2.772	1.8	20.6
4 21	13 29.91	+11 42.8	2.410	3.351	7.1	21.5	4 21	13 29.18	-9 16.1	1.779	2.779	2.5	20.6
5 1	13 23.11	+11 59.2	2.465	3.361	9.2	21.6	5 1	13 21.21	-8 22.8	1.814	2.786	6.7	20.9
5 11	13 17.43	+11 57.2	2.544	3.371	11.4	21.8	5 11	13 14.72	-7 38.2	1.874	2.793	10.5	21.2
5 21	13 13.27	+11 37.8	2.643	3.380	13.3	21.9	5 21	13 10.22	-7 5.8	1.957	2.799	13.8	21.4
399151	2014 <i>EQ</i> ₅₀		4 15.2 305°17	1°7/16.9	17		257327	2009 <i>HE</i> ₁₀₁		4 15.2 292°59	2°0/13.9	17	
3 12	13 54.76	-16 56.2	2.218	3.037	12.5	20.1	3 12	14 0.60	-6 15.3	1.499	2.356	15.4	20.5
3 22	13 50.53	-16 41.9	2.128	3.030	9.6	19.9	3 22	13 55.61	-5 59.9	1.418	2.345	11.5	20.2
4 1	13 44.52	-16 14.2	2.061	3.023	6.3	19.7	4 1	13 47.95	-5 36.7	1.359	2.335	7.0	19.9
4 11	13 37.33	-15 34.9	2.021	3.016	2.8	19.4	4 11	13 38.44	-5 10.6	1.325	2.324	2.5	19.6
4 21	13 29.73	-14 47.6	2.009	3.009	2.3	19.4	4 21	13 28.23	-4 46.8	1.317	2.314	4.2	19.7
5 1	13 22.57	-13 57.0	2.025	3.002	5.7	19.6	5 1	13 18.64	-4 31.1	1.335	2.304	9.1	20.0
5 11	13 16.60	-13 8.8	2.067	2.995	9.2	19.8	5 11	13 10.87	-4 28.3	1.377	2.294	13.7	20.2
5 21	13 12.37	-12 27.4	2.133	2.989	12.3	20.0	5 21	13 5.67	-4 40.7	1.439	2.284	17.7	20.4
73127	2002 <i>GD</i> ₆₈		4 15.2 336°21	6°1/ 8.9	18		500896	2013 <i>LG</i> ₂₁		4 15.2 265°39	3°6/12.6	17	
3 12	13 51.17	-0 26.1	1.489	2.368	14.2	18.4	3 12	14 0.65	-2 54.5	1.643	2.500	14.3	21.7
3 22	13 48.46	+1 29.3	1.419	2.357	10.6	18.2	3 22	13 55.48	-2 16.2	1.557	2.484	10.7	21.4
4 1	13 43.50	+3 32.3	1.373	2.346	7.3	18.0	4 1	13 47.81	-1 32.3	1.493	2.467	6.7	21.1
4 11	13 37.06	+5 31.5	1.352	2.336	6.2	17.9	4 11	13 38.41	-0 48.8	1.455	2.450	3.6	20.9
4 21	13 30.12	+7 15.5	1.357	2.326	8.6	18.0	4 21	13 28.31	-0 12.2	1.445	2.433	5.5	21.0
5 1	13 23.80	+8 34.9	1.386	2.317	12.3	18.2	5 1	13 18.73	+0 11.5	1.460	2.416	9.8	21.2
5 11	13 19.06	+9 24.4	1.436	2.310	16.0	18.4	5 11	13 10.80	+0 17.9	1.499	2.398	14.0	21.4
5 21	13 16.51	+9 43.3	1.504	2.303	19.2	18.6	5 21	13 5.25	+0 5.7	1.559	2.380	17.7	21.6
181298	Ladányi		4 15.2 153°70	5°9/ 7.6	18		964	Subamara		4 15.2 159°88	0°4/14.8	18	
3 12	13 54.76	+8 7.1	2.541	3.392	10.0	20.6	3 12	13 57.54	-9 37.8	2.556	3.385	10.7	16.1
3 22	13 50.13	+9 27.4	2.484	3.397	7.9	20.5	3 22	13 52.24	-9 24.1	2.476	3.389	7.9	15.9
4 1	13 44.07	+10 43.9	2.454	3.402	6.2	20.4	4 1	13 45.40	-9 3.5	2.422	3.393	4.8	15.7
4 11	13 37.16	+11 50.5	2.451	3.407	6.0	20.4	4 11	13 37.59	-8 38.8	2.397	3.396	1.4	15.4
4 21	13 30.04	+12 42.3	2.476	3.412	7.3	20.5	4 21	13 29.51	-8 12.9	2.400	3.400	2.2	15.5
5 1	13 23.38	+13 15.7	2.528	3.416	9.3	20.6	5 1	13 21.86	-7 49.5	2.434	3.402	5.5	15.7
5 11	13 17.79	+13 29.6	2.603	3.420	11.4	20.8	5 11	13 15.30	-7 31.7	2.494	3.405	8.6	15.9
5 21	13 13.65	+13 24.6	2.699	3.423	13.4	20.9	5 21	13 10.28	-7 21.9	2.579	3.407	11.3	16.1
426665	2013 <i>TF</i> ₇		4 15.2 124°75	2°8/12.7	17		433998	2000 <i>SS</i> ₉₁		4 15.2 219°88	0°0/15.2	16	
3 12	13 59.44	-2 48.2	2.1										

EPHEMERIDES

4 15.2

4 15.2

2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
506652	2006 <i>SO</i> ₁₀₃		4 15.2 169°48	0°8/14.2	17		388851	2008 <i>GC</i> ₄₀		4 15.2 4°66	0°2/15.4	17	
3 12	13 54.93	- 9 26.5	2.726	3.558	10.0	22.7	3 12	13 57.12	-10 57.3	2.078	2.914	12.5	20.6
3 22	13 50.23	- 8 47.2	2.646	3.561	7.4	22.5	3 22	13 52.32	-10 56.4	1.999	2.914	9.4	20.3
4 1	13 44.15	- 8 0.6	2.592	3.564	4.4	22.3	4 1	13 45.64	-10 47.0	1.944	2.915	5.7	20.1
4 11	13 37.23	- 7 10.1	2.567	3.566	1.3	22.1	4 11	13 37.74	-10 31.3	1.916	2.915	1.8	19.9
4 21	13 30.06	- 6 19.5	2.571	3.568	2.4	22.2	4 21	13 29.46	-10 12.8	1.916	2.916	2.3	19.9
5 1	13 23.29	- 5 32.9	2.605	3.570	5.5	22.4	5 1	13 21.69	- 9 55.1	1.944	2.918	6.2	20.1
5 11	13 17.51	- 4 54.1	2.666	3.571	8.3	22.6	5 11	13 15.22	- 9 42.5	1.998	2.919	9.8	20.4
5 21	13 13.11	- 4 25.4	2.752	3.572	10.9	22.7	5 21	13 10.60	- 9 37.6	2.074	2.921	12.9	20.6
221215	2005 <i>UA</i> ₈₈		4 15.2 263°68	0°3/14.9	17		212312	2005 <i>QY</i> ₂₆		4 15.2 318°19	6°0/ 8.3	18	
3 12	13 57.16	-11 58.2	1.848	2.688	13.7	21.3	3 12	13 51.78	+ 2 22.7	1.884	2.753	12.1	19.4
3 22	13 52.67	-11 19.7	1.755	2.673	10.3	21.0	3 22	13 48.57	+ 4 6.8	1.804	2.734	9.2	19.2
4 1	13 46.01	-10 27.5	1.686	2.658	6.3	20.7	4 1	13 43.48	+ 5 54.6	1.750	2.716	6.7	19.0
4 11	13 37.87	- 9 25.5	1.643	2.643	1.8	20.4	4 11	13 37.12	+ 7 37.3	1.722	2.698	6.1	18.9
4 21	13 29.15	- 8 19.4	1.627	2.627	2.8	20.5	4 21	13 30.30	+ 9 6.1	1.721	2.680	8.0	19.0
5 1	13 20.89	- 7 16.0	1.640	2.611	7.4	20.7	5 1	13 23.93	+10 13.8	1.746	2.663	11.1	19.1
5 11	13 14.06	- 6 22.1	1.677	2.595	11.6	20.9	5 11	13 18.82	+10 56.3	1.793	2.647	14.2	19.3
5 21	13 9.32	- 5 42.3	1.736	2.579	15.2	21.1	5 21	13 15.55	+11 12.8	1.859	2.631	17.0	19.5
84709	2002 <i>VW</i> ₁₂₀		4 15.2 220°72	3°0/21.4	18		162521	2000 <i>QA</i> ₁₂₁		4 15.2 113°87	4°6/18.8	18	
3 12	13 49.60	-28 42.2	4.785	5.516	7.5	19.7	3 12	14 1.15	-22 40.0	1.563	2.370	17.3	19.9
3 22	13 45.94	-28 41.0	4.684	5.513	6.2	19.6	3 22	13 55.98	-22 51.0	1.489	2.377	13.8	19.6
4 1	13 41.44	-28 29.9	4.607	5.510	4.9	19.5	4 1	13 48.15	-22 39.7	1.436	2.383	9.9	19.4
4 11	13 36.41	-28 9.2	4.557	5.508	3.6	19.4	4 11	13 38.54	-22 6.2	1.407	2.390	6.1	19.2
4 21	13 31.21	-27 39.9	4.535	5.504	3.0	19.4	4 21	13 28.39	-21 13.8	1.403	2.396	4.8	19.1
5 1	13 26.22	-27 4.0	4.542	5.501	3.5	19.4	5 1	13 19.04	-20 9.5	1.425	2.402	7.6	19.3
5 11	13 21.79	-26 23.6	4.579	5.498	4.8	19.5	5 11	13 11.63	-19 2.3	1.472	2.408	11.6	19.6
5 21	13 18.19	-25 41.6	4.641	5.495	6.2	19.6	5 21	13 6.86	-18 0.7	1.541	2.414	15.3	19.8
50889	2000 <i>GO</i> ₄₀		4 15.2 190°13	0°1/15.3	18		136685	1995 <i>SJ</i> ₃₅		4 15.2 87°36	0°6/15.7	18	
3 12	13 56.17	-12 14.5	2.329	3.158	11.6	19.7	3 12	13 59.57	-11 53.4	2.294	3.119	11.9	20.8
3 22	13 51.42	-11 46.2	2.245	3.157	8.7	19.5	3 22	13 53.89	-11 59.5	2.222	3.130	8.9	20.6
4 1	13 45.00	-11 7.7	2.187	3.156	5.3	19.3	4 1	13 46.47	-11 57.2	2.175	3.142	5.5	20.4
4 11	13 37.52	-10 22.2	2.156	3.155	1.6	19.1	4 11	13 37.97	-11 48.6	2.155	3.154	1.9	20.2
4 21	13 29.71	- 9 33.7	2.153	3.154	2.2	19.1	4 21	13 29.19	-11 36.2	2.165	3.166	2.1	20.2
5 1	13 22.35	- 8 46.8	2.180	3.152	5.8	19.3	5 1	13 20.95	-11 23.3	2.204	3.177	5.6	20.5
5 11	13 16.15	- 8 6.4	2.234	3.150	9.2	19.6	5 11	13 13.98	-11 13.6	2.270	3.189	8.9	20.7
5 21	13 11.61	- 7 35.6	2.311	3.148	12.1	19.7	5 21	13 8.77	-11 9.6	2.359	3.200	11.8	20.9
113468	2002 <i>SP</i> ₅₅		4 15.2 265°75	2°7/13.2	18		379924	2012 <i>KX</i> ₂₇		4 15.2 303°68	4°1/12.0	17	
3 12	14 0.34	- 4 37.7	1.692	2.545	14.1	19.8	3 12	13 57.26	- 2 10.5	1.582	2.447	14.3	20.3
3 22	13 55.18	- 4 8.5	1.606	2.532	10.5	19.5	3 22	13 53.03	- 1 23.1	1.498	2.429	10.7	20.1
4 1	13 47.61	- 3 32.9	1.543	2.518	6.4	19.2	4 1	13 46.38	- 0 30.1	1.437	2.411	6.8	19.8
4 11	13 38.37	- 2 55.9	1.507	2.504	2.9	19.0	4 11	13 38.04	+ 0 21.8	1.401	2.394	4.1	19.6
4 21	13 28.50	- 2 23.4	1.497	2.490	4.7	19.1	4 21	13 29.04	+ 1 5.2	1.391	2.377	6.1	19.7
5 1	13 19.16	- 2 1.0	1.515	2.476	9.0	19.3	5 1	13 20.57	+ 1 33.7	1.406	2.360	10.2	19.9
5 11	13 11.42	- 1 53.0	1.556	2.461	13.1	19.5	5 11	13 13.71	+ 1 42.7	1.445	2.344	14.4	20.1
5 21	13 6.00	- 2 1.3	1.618	2.447	16.8	19.7	5 21	13 9.19	+ 1 31.0	1.502	2.328	18.0	20.3
503144	2015 <i>GD</i> ₂₁		4 15.2 101°92	0°7/14.5	17		497324	2005 <i>TH</i> ₁₃₀		4 15.2 196°22	0°3/14.9	17	
3 12	13 56.02	-10 14.4	2.038	2.879	12.5	21.6	3 12	13 57.87	-11 54.8	2.195	3.024	12.2	23.0
3 22	13 51.48	- 9 39.2	1.962	2.881	9.3	21.4	3 22	13 52.79	-11 14.4	2.109	3.022	9.1	22.8
4 1	13 45.10	- 8 54.1	1.910	2.883	5.6	21.2	4 1	13 45.90	-10 22.8	2.048	3.019	5.5	22.6
4 11	13 37.56	- 8 3.1	1.885	2.885	1.6	20.9	4 11	13 37.83	- 9 23.5	2.015	3.015	1.6	22.3
4 21	13 29.68	- 7 11.2	1.889	2.888	2.8	21.0	4 21	13 29.39	- 8 21.5	2.011	3.011	2.5	22.4
5 1	13 22.34	- 6 23.9	1.920	2.890	6.7	21.2	5 1	13 21.44	- 7 22.5	2.037	3.006	6.4	22.6
5 11	13 16.31	- 5 45.9	1.977	2.892	10.3	21.4	5 11	13 14.74	- 6 31.6	2.088	3.001	9.9	22.8
5 21	13 12.12	- 5 20.5	2.057	2.894	13.4	21.7	5 21	13 9.83	- 5 52.8	2.164	2.995	13.0	23.0
24608	Alexveselkov		4 15.2 240°83	1°3/14.1	18		477608	2010 <i>KS</i> ₁₀₃		4 15.2 281°84	1°3/13.7	16	
3 12	13 59.54	- 9 5.6	1.924	2.764	13.2	19.2	3 12	13 53.49	- 9 18.7	2.370	3.211	11.0	21.7
3 22	13 54.37	- 8 22.9	1.830	2.749	9.8	18.9	3 22	13 49.53	- 8 20.5	2.270	3.190	8.1	21.5
4 1	13 47.03	- 7 29.1	1.759	2.733	5.9	18.7	4 1	13 43.94	- 7 11.9	2.195	3.169	4.9	21.2
4 11	13 38.19	- 6 28.7	1.716	2.716	1.9	18.4	4 11	13 37.26	- 5 57.4	2.149	3.148	1.6	21.0
4 21	13 28.77	- 5 27.4	1.701	2.698	3.4	18.4	4 21	13 30.15	- 4 42.1	2.132	3.127	3.1	21.0
5 1	13 19.79	- 4 31.7	1.715	2.680	7.7	18.7	5 1	13 23.38	- 3 32.0	2.143	3.106	6.6	21.2
5 11	13 12.21	- 3 47.4	1.754	2.661	11.8	18.9	5 11	13 17.64	- 2 32.3	2.181	3.084	10.0	21.4
5 21	13 6.69	- 3 18.4	1.815	2.641	15.3	19.0	5 21	13 13.46	- 1 46.7	2.242	3.063	13.0	21.5
190031	2004 <i>RW</i> ₁₇		4 15.2 301°51	1°0/14.4	17		10234	Sixtygarden		4 15.2 239°57	4°6/10.0	18	
3 12	13 55.99	-10 9.1	1.673	2.524	14.3	20.3	3 12	13 55.02	+ 2 13.0	2.266	3.122	10.9	17.6
3 22	13 51.96	- 9 30.4	1.588	2.512	10.7	20.1	3 22	13 50.58	+ 3 18.6	2.193	3.116	8.2	17.4
4 1	13 45.64	- 8 38.8	1.526	2.501	6.4	19.8	4 1	13 44.51	+ 4 25.0	2.145	3.111	5.7	17.3
4 11	13 37.79	- 7 39.2	1.489	2.489	1.9	19.5	4 11	13 37.40	+ 5 26.1	2.125	3.105	4.6	17.2
4 21	13 29.35	- 6 37.8	1.479	2.477	3.4	19.5	4 21	13 29.98	+ 6 16.5	2.133	3.100	6.1	17.3
5 1	13 21.46	- 5 41.9	1.495	2.466	8.0	19.8	5 1	13 23.02	+ 6 51.6	2.168	3.094	8.8	17.4
5 11	13 15.11	- 4 58.0	1.536	2.455	12.4	20.0	5 11	13 17.19	+ 7 8.9	2.227	3.088	11.6	17.6
5 21	13 10.96	- 4 30.2	1.597	2.444	16.1	20.2	5 21	13 12.99	+ 7 8.1	2.308	3.082	14.0	17.8
338706	2003 <i>UU</i> ₅₁		4 15.2 282°06	8°1/21.6	18		10271	1980 <i>TV</i> ₂		4 15.2 157°56			

EPHEMERIDES

4 15.2

4 15.2

2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
303419	2005 AV ₁		4 15.2	67°41'	4.2/12.2	18	147329	2003 BJ ₃₃		4 15.2	357°30'	8.7/21.5	17
3 12	14 0.45	- 3 20.6	1.342	2.209	16.2	20.2	3 12	13 58.92	-29 34.1	1.494	2.276	19.1	19.4
3 22	13 55.19	- 2 14.7	1.300	2.232	11.9	20.0	3 22	13 54.80	-30 32.7	1.415	2.274	16.2	19.2
4 1	13 47.44	- 1 3.7	1.280	2.255	7.3	19.8	4 1	13 47.71	-31 5.6	1.355	2.272	13.0	19.0
4 11	13 38.27	+ 0 3.7	1.285	2.279	4.2	19.7	4 11	13 38.51	-31 9.0	1.316	2.271	10.1	18.8
4 21	13 28.94	+ 0 59.1	1.315	2.302	6.3	19.9	4 21	13 28.47	-30 42.4	1.300	2.271	8.7	18.7
5 1	13 20.70	+ 1 36.0	1.371	2.325	10.4	20.2	5 1	13 19.13	-29 50.3	1.308	2.271	9.8	18.8
5 11	13 14.51	+ 1 51.3	1.449	2.349	14.3	20.5	5 11	13 11.84	-28 42.2	1.338	2.272	12.7	19.0
5 21	13 10.85	+ 1 45.2	1.546	2.372	17.6	20.7	5 21	13 7.46	-27 28.9	1.390	2.273	16.0	19.2
202853	2008 TW ₉₄		4 15.2	237°88'	1.7/16.6	18	208683	2002 GZ ₁₁₁		4 15.2	79°02'	2.7/13.1	18
3 12	14 1.33	-15 15.0	2.318	3.128	12.3	21.0	3 12	13 58.07	- 7 9.6	1.441	2.303	15.6	19.9
3 22	13 55.46	-15 26.2	2.217	3.115	9.4	20.8	3 22	13 53.55	- 6 5.7	1.381	2.311	11.5	19.6
4 1	13 47.61	-15 27.0	2.141	3.101	6.2	20.6	4 1	13 46.57	- 4 50.7	1.342	2.319	6.8	19.4
4 11	13 38.39	-15 18.3	2.092	3.087	2.7	20.3	4 11	13 38.07	- 3 32.5	1.329	2.327	2.9	19.2
4 21	13 28.61	-15 2.0	2.073	3.073	2.4	20.3	4 21	13 29.19	- 2 19.7	1.342	2.335	5.0	19.3
5 1	13 19.18	-14 41.6	2.083	3.058	5.8	20.5	5 1	13 21.16	- 1 20.5	1.381	2.343	9.5	19.6
5 11	13 10.97	-14 21.4	2.121	3.042	9.3	20.7	5 11	13 14.98	- 0 40.6	1.443	2.352	13.7	19.8
5 21	13 4.59	-14 5.3	2.183	3.026	12.5	20.8	5 21	13 11.24	- 0 22.2	1.524	2.360	17.3	20.1
497814	2006 TN ₉₁		4 15.2	168°84'	2.0/13.0	18	190405	1999 TF ₁₉₃		4 15.2	213°59'	3.7/19.1	18
3 12	13 58.28	- 2 59.3	2.910	3.745	9.4	21.8	3 12	13 58.32	-23 34.2	2.385	3.165	12.9	20.5
3 22	13 52.60	- 2 41.6	2.832	3.749	6.9	21.6	3 22	13 53.19	-23 33.2	2.288	3.158	10.4	20.4
4 1	13 45.57	- 2 21.8	2.781	3.752	4.2	21.5	4 1	13 46.19	-23 15.5	2.214	3.151	7.5	20.2
4 11	13 37.71	- 2 2.8	2.760	3.755	2.1	21.3	4 11	13 37.96	-22 41.7	2.166	3.144	4.8	20.0
4 21	13 29.61	- 1 47.4	2.769	3.758	3.2	21.4	4 21	13 29.27	-21 53.8	2.146	3.136	3.8	19.9
5 1	13 21.92	- 1 38.3	2.807	3.760	5.8	21.6	5 1	13 21.01	-20 56.2	2.155	3.128	5.8	20.0
5 11	13 15.18	- 1 37.4	2.874	3.761	8.4	21.7	5 11	13 13.97	-19 54.8	2.192	3.120	8.7	20.2
5 21	13 9.82	- 1 45.7	2.964	3.762	10.7	21.9	5 21	13 8.73	-18 55.6	2.253	3.110	11.6	20.3
259836	2004 CA ₃₃		4 15.2	292°68'	2.7/17.1	17	377359	2004 RQ ₇₆		4 15.2	243°59'	0.2/15.1	17
3 12	13 59.15	-17 13.4	1.575	2.404	16.2	20.6	3 12	13 59.03	-10 51.7	2.060	2.894	12.7	20.9
3 22	13 54.68	-17 22.0	1.482	2.389	12.6	20.3	3 22	13 53.87	-10 34.9	1.968	2.883	9.5	20.7
4 1	13 47.52	-17 13.6	1.411	2.373	8.5	20.0	4 1	13 46.68	-10 8.2	1.900	2.871	5.8	20.4
4 11	13 38.44	-16 49.0	1.364	2.358	4.1	19.7	4 11	13 38.12	- 9 34.6	1.860	2.859	1.7	20.1
4 21	13 28.53	-16 11.3	1.343	2.342	3.4	19.6	4 21	13 29.05	- 8 58.0	1.847	2.847	2.5	20.2
5 1	13 19.11	-15 26.3	1.348	2.327	7.7	19.8	5 1	13 20.42	- 8 23.2	1.863	2.835	6.7	20.4
5 11	13 11.42	-14 41.7	1.377	2.312	12.3	20.1	5 11	13 13.10	- 7 55.2	1.906	2.822	10.5	20.6
5 21	13 6.29	-14 4.6	1.427	2.297	16.4	20.3	5 21	13 7.72	- 7 37.5	1.971	2.809	13.8	20.8
174789	2003 WN ₁₂₁		4 15.2	108°07'	3.4/17.9	18	418936	2009 DU ₅₉		4 15.2	292°14'	5.0/11.2	17
3 12	14 1.18	-19 48.7	1.680	2.493	16.1	20.1	3 12	13 57.01	- 1 50.5	1.441	2.311	15.1	20.9
3 22	13 55.76	-19 54.2	1.608	2.503	12.6	19.9	3 22	13 52.98	- 0 35.9	1.366	2.300	11.3	20.6
4 1	13 47.91	-19 41.2	1.558	2.512	8.6	19.7	4 1	13 46.40	+ 0 45.9	1.313	2.288	7.3	20.3
4 11	13 38.47	-19 10.7	1.533	2.522	4.7	19.4	4 11	13 38.08	+ 2 6.1	1.285	2.276	5.0	20.2
4 21	13 28.59	-18 26.1	1.534	2.531	3.7	19.4	4 21	13 29.13	+ 3 15.1	1.283	2.264	7.2	20.2
5 1	13 19.47	-17 33.8	1.562	2.540	7.0	19.6	5 1	13 20.83	+ 4 4.5	1.305	2.253	11.4	20.4
5 11	13 12.14	-16 41.4	1.616	2.549	11.0	19.9	5 11	13 14.30	+ 4 29.3	1.349	2.242	15.6	20.7
5 21	13 7.24	-15 55.4	1.692	2.557	14.5	20.1	5 21	13 10.25	+ 4 28.4	1.411	2.230	19.3	20.9
224541	2005 WQ ₁₂₃		4 15.2	290°40'	0.1/15.3	17	458950	2011 UH ₃₇₇		4 15.2	158°30'	0.9/16.0	18
3 12	13 56.99	-12 31.6	1.667	2.511	14.7	20.6	3 12	14 1.97	-14 42.4	1.913	2.734	14.1	22.6
3 22	13 52.71	-12 4.2	1.585	2.504	11.1	20.4	3 22	13 56.02	-14 19.4	1.837	2.742	10.6	22.4
4 1	13 46.11	-11 22.8	1.525	2.497	6.8	20.1	4 1	13 47.93	-13 42.4	1.784	2.750	6.7	22.2
4 11	13 37.96	-10 30.9	1.490	2.490	2.1	19.8	4 11	13 38.48	-12 54.5	1.758	2.756	2.4	21.9
4 21	13 29.25	- 9 34.3	1.482	2.483	2.8	19.8	4 21	13 28.64	-12 0.2	1.761	2.762	2.4	21.9
5 1	13 21.12	- 8 39.8	1.501	2.476	7.5	20.1	5 1	13 19.47	-11 5.6	1.793	2.767	6.6	22.2
5 11	13 14.59	- 7 54.2	1.544	2.469	11.9	20.3	5 11	13 11.87	-10 16.9	1.850	2.771	10.5	22.4
5 21	13 10.31	- 7 22.3	1.609	2.463	15.7	20.5	5 21	13 6.42	- 9 38.8	1.931	2.774	13.9	22.6
301016	2008 QJ ₃₂		4 15.2	187°63'	4.3/18.7	16	519371	2011 OT ₆₀		4 15.2	186°74'	4.4/ 9.9	17
3 12	14 3.57	-22 50.5	1.834	2.624	15.8	21.6	3 12	13 55.28	+ 3 11.2	2.563	3.413	10.0	21.9
3 22	13 57.57	-22 58.6	1.746	2.624	12.6	21.4	3 22	13 50.58	+ 4 12.2	2.493	3.413	7.5	21.7
4 1	13 49.06	-22 46.8	1.681	2.623	9.0	21.1	4 1	13 44.43	+ 5 12.8	2.449	3.412	5.3	21.5
4 11	13 38.85	-22 14.8	1.640	2.622	5.6	20.9	4 11	13 37.39	+ 6 7.7	2.434	3.411	4.4	21.5
4 21	13 28.03	-21 25.2	1.627	2.619	4.4	20.8	4 21	13 30.11	+ 6 52.4	2.447	3.410	5.7	21.6
5 1	13 17.84	-20 23.6	1.642	2.616	7.1	21.0	5 1	13 23.25	+ 7 23.1	2.488	3.408	8.1	21.7
5 11	13 9.38	-19 18.1	1.683	2.612	10.8	21.2	5 11	13 17.42	+ 7 37.9	2.554	3.406	10.5	21.9
5 21	13 3.34	-18 16.4	1.747	2.607	14.4	21.4	5 21	13 13.05	+ 7 36.4	2.642	3.404	12.7	22.0
344356	2001 WV ₈₄		4 15.2	82°51'	1.1/14.1	17	163427	2002 RZ ₆₁		4 15.2	251°46'	0.6/14.7	18
3 12	13 56.25	- 8 18.1	2.271	3.111	11.5	21.4	3 12	13 58.63	- 9 1.4	2.299	3.132	11.6	19.8
3 22	13 51.38	- 7 45.3	2.208	3.127	8.4	21.3	3 22	13 53.38	- 8 48.3	2.204	3.119	8.6	19.6
4 1	13 44.92	- 7 5.6	2.170	3.144	5.0	21.1	4 1	13 46.31	- 8 28.0	2.134	3.105	5.2	19.3
4 11	13 37.52	- 6 22.9	2.160	3.160	1.6	20.9	4 11	13 38.01	- 8 3.1	2.091	3.091	1.5	19.1
4 21	13 29.92	- 5 41.4	2.179	3.176	2.8	21.0	4 21	13 29.23	- 7 37.1	2.078	3.076	2.5	19.1
5 1	13 22.89	- 5 5.6	2.227	3.192	6.2	21.2	5 1	13 20.83	- 7 13.9	2.093	3.062	6.3	19.3
5 11	13 17.07	- 4 38.8	2.301	3.208	9.4	21.5	5 11	13 13.59	- 6 57.3	2.135	3.047	9.8	19.5
5 21	13 12.89	- 4 23.4	2.398	3.224	12.1	21.7	5 21	13 8.08	- 6 50.0	2.201	3.031	12.9	19.7
2946	Muchachos		4 15.2	125°87'	0.3/15.5	18	522970	2016 PD ₁₁₆		4 15.2	260°82'	0.9/14.2	17
3 12	14 0.59	-13											

2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
49682	1999 <i>TT</i> ₂₉		4 15.2 99°71	0°2/15.4	18		333661	2008 <i>SU</i> ₁₆₃		4 15.2 279°44	2°7/12.4	18	
3 12	13 59.79	-13 16.8	1.294	2.146	17.6	19.5	3 12	13 55.73	-6 57.7	1.949	2.800	12.6	20.8
3 22	13 55.26	-12 44.3	1.225	2.148	13.3	19.3	3 22	13 51.60	-5 38.8	1.847	2.773	9.4	20.6
4 1	13 47.84	-11 53.5	1.177	2.150	8.2	19.0	4 1	13 45.42	-4 7.4	1.770	2.745	5.7	20.3
4 11	13 38.52	-10 49.1	1.153	2.153	2.6	18.7	4 11	13 37.80	-2 29.7	1.721	2.718	2.8	20.0
4 21	13 28.60	-9 38.8	1.154	2.155	3.3	18.7	4 21	13 29.57	-0 53.4	1.700	2.689	4.7	20.1
5 1	13 19.57	-8 32.2	1.180	2.157	8.9	19.0	5 1	13 21.69	+0 33.1	1.707	2.661	8.7	20.3
5 11	13 12.65	-7 37.9	1.229	2.159	13.9	19.3	5 11	13 15.07	+1 43.0	1.739	2.632	12.7	20.5
5 21	13 8.56	-7 1.6	1.297	2.161	18.1	19.6	5 21	13 10.38	+2 32.2	1.792	2.602	16.1	20.6
386578	2009 <i>EY</i> ₁		4 15.2 268°42	4°1/10.6	17 R		34250	Mamichael		4 15.2 340°72	6°5/18.8	17	
3 12	13 54.52	+0 13.3	2.268	3.123	10.9	20.9	3 12	14 1.39	-21 58.8	1.267	2.091	19.6	18.9
3 22	13 50.28	+1 18.7	2.186	3.112	8.1	20.7	3 22	13 56.99	-23 0.0	1.190	2.085	15.9	18.6
4 1	13 44.39	+2 26.8	2.130	3.100	5.4	20.5	4 1	13 49.26	-23 40.3	1.131	2.080	11.7	18.4
4 11	13 37.42	+3 31.9	2.102	3.088	4.1	20.4	4 11	13 39.07	-23 56.6	1.094	2.075	7.8	18.1
4 21	13 30.09	+4 28.1	2.102	3.075	5.6	20.5	4 21	13 27.84	-23 48.6	1.080	2.070	6.6	18.0
5 1	13 23.17	+5 10.7	2.130	3.063	8.5	20.7	5 1	13 17.33	-23 20.8	1.090	2.067	9.5	18.2
5 11	13 17.36	+5 36.3	2.181	3.051	11.4	20.8	5 11	13 9.11	-22 42.5	1.123	2.064	13.8	18.4
5 21	13 13.17	+5 43.9	2.255	3.038	14.1	21.0	5 21	13 4.15	-22 3.4	1.174	2.061	18.0	18.7
142698	2002 <i>TO</i> ₂₄₈		4 15.2 277°53	2°5/13.4	18		299972	2006 <i>TP</i> ₉₆		4 15.2 113°77	3°8/19.4	18	
3 12	13 59.99	-5 33.5	1.664	2.517	14.3	20.6	3 12	13 56.76	-24 3.5	2.435	3.214	12.7	20.6
3 22	13 55.08	-5 2.3	1.571	2.497	10.7	20.3	3 22	13 51.93	-24 7.3	2.352	3.220	10.2	20.5
4 1	13 47.68	-4 23.0	1.501	2.476	6.5	20.0	4 1	13 45.38	-23 55.1	2.292	3.227	7.4	20.3
4 11	13 38.50	-3 40.8	1.457	2.455	2.8	19.8	4 11	13 37.74	-23 27.2	2.257	3.233	4.8	20.1
4 21	13 28.57	-3 1.7	1.440	2.434	4.6	19.8	4 21	13 29.76	-22 46.1	2.251	3.239	3.9	20.1
5 1	13 19.09	-2 31.9	1.450	2.413	9.1	20.0	5 1	13 22.26	-21 55.8	2.273	3.245	5.6	20.2
5 11	13 11.19	-2 16.5	1.483	2.391	13.5	20.2	5 11	13 15.97	-21 1.8	2.322	3.251	8.3	20.4
5 21	13 5.64	-2 18.2	1.537	2.369	17.4	20.4	5 21	13 11.39	-20 9.3	2.396	3.257	10.9	20.5
457643	2009 <i>BW</i> ₁₈₄		4 15.2 315°85	5°7/11.4	17		117664	2005 <i>EF</i> ₂₀₀		4 15.2 285°09	0°9/14.3	17	
3 12	13 58.69	+0 19.0	1.330	2.203	15.9	20.8	3 12	13 54.34	-10 49.7	2.051	2.893	12.4	19.8
3 22	13 54.41	+1 13.0	1.259	2.193	12.0	20.5	3 22	13 50.39	-9 56.9	1.959	2.879	9.2	19.6
4 1	13 47.35	+2 10.2	1.210	2.183	8.0	20.3	4 1	13 44.58	-8 51.8	1.891	2.865	5.6	19.3
4 11	13 38.39	+3 1.8	1.184	2.174	5.7	20.1	4 11	13 37.53	-7 38.8	1.851	2.850	1.7	19.0
4 21	13 28.78	+3 39.3	1.183	2.165	7.8	20.2	4 21	13 30.02	-6 23.9	1.838	2.836	3.0	19.1
5 1	13 19.90	+3 55.7	1.206	2.156	12.0	20.4	5 1	13 22.95	-5 13.7	1.854	2.822	7.0	19.3
5 11	13 12.97	+3 47.7	1.250	2.148	16.2	20.6	5 11	13 17.10	-4 14.2	1.896	2.808	10.8	19.5
5 21	13 8.74	+3 15.9	1.312	2.140	20.0	20.8	5 21	13 13.05	-3 29.5	1.960	2.794	14.1	19.7
427985	2006 <i>AP</i> ₃₈		4 15.2 150°76	2°4/17.4	16		96242	1994 <i>AB</i> ₁₇		4 15.2 253°39	0°6/15.7	17	
3 12	13 58.68	-18 36.0	2.035	2.845	13.7	22.6	3 12	13 57.86	-13 27.6	1.817	2.652	14.1	20.4
3 22	13 53.57	-18 27.4	1.954	2.849	10.7	22.4	3 22	13 53.20	-13 5.8	1.734	2.647	10.6	20.2
4 1	13 46.46	-18 3.2	1.897	2.853	7.1	22.2	4 1	13 46.36	-12 30.6	1.674	2.643	6.6	19.9
4 11	13 38.06	-17 25.1	1.866	2.857	3.6	22.0	4 11	13 38.08	-11 45.0	1.639	2.638	2.2	19.6
4 21	13 29.26	-16 36.8	1.862	2.861	2.8	21.9	4 21	13 29.30	-10 53.7	1.633	2.634	2.5	19.6
5 1	13 21.03	-15 43.6	1.887	2.864	6.1	22.1	5 1	13 21.08	-10 3.0	1.654	2.629	6.9	19.9
5 11	13 14.23	-14 51.6	1.938	2.867	9.7	22.4	5 11	13 14.36	-9 19.0	1.700	2.624	11.0	20.1
5 21	13 9.41	-14 6.3	2.013	2.870	12.9	22.6	5 21	13 9.75	-8 46.5	1.768	2.620	14.6	20.3
471409	2011 <i>SM</i> ₂₂₃		4 15.2 201°63	0°2/14.9	18		427241	2014 <i>WZ</i> ₆₁		4 15.2 28°15	4°3/11.8	18	
3 12	13 55.25	-11 8.4	2.886	3.710	9.7	22.8	3 12	13 57.92	-2 17.6	1.564	2.428	14.5	20.8
3 22	13 50.49	-10 39.8	2.796	3.706	7.2	22.6	3 22	13 53.36	-1 15.6	1.498	2.429	10.7	20.6
4 1	13 44.38	-10 3.4	2.732	3.702	4.4	22.4	4 1	13 46.47	-0 8.2	1.455	2.429	6.8	20.3
4 11	13 37.40	-9 21.9	2.697	3.697	1.3	22.2	4 11	13 38.10	+0 56.8	1.437	2.430	4.3	20.2
4 21	13 30.15	-8 38.6	2.692	3.692	1.9	22.2	4 21	13 29.31	+1 51.8	1.446	2.430	6.2	20.3
5 1	13 23.24	-7 57.1	2.717	3.686	5.0	22.4	5 1	13 21.23	+2 30.1	1.481	2.431	10.1	20.5
5 11	13 17.25	-7 21.1	2.770	3.680	7.9	22.6	5 11	13 14.85	+2 47.8	1.538	2.432	14.0	20.8
5 21	13 12.59	-6 53.2	2.847	3.673	10.4	22.8	5 21	13 10.77	+2 44.2	1.615	2.433	17.3	21.0
204597	2005 <i>GO</i> ₁₄₆		4 15.2 79°97	0°8/16.0	17		376014	2010 <i>AQ</i> ₄₁		4 15.2 89°43	1°1/14.3	17	
3 12	13 56.64	-14 14.4	2.057	2.885	12.9	20.9	3 12	13 58.88	-8 6.6	1.904	2.748	13.2	20.8
3 22	13 51.96	-13 54.4	1.982	2.892	9.8	20.7	3 22	13 53.69	-7 44.7	1.836	2.756	9.7	20.6
4 1	13 45.43	-13 22.1	1.932	2.899	6.1	20.5	4 1	13 46.51	-7 15.1	1.791	2.765	5.8	20.3
4 11	13 37.74	-12 40.4	1.908	2.906	2.2	20.3	4 11	13 38.09	-6 41.6	1.774	2.773	1.8	20.1
4 21	13 29.72	-11 53.5	1.912	2.912	2.2	20.3	4 21	13 29.35	-6 9.0	1.784	2.782	3.1	20.2
5 1	13 22.27	-11 6.8	1.944	2.919	6.1	20.5	5 1	13 21.25	-5 42.0	1.822	2.790	7.1	20.5
5 11	13 16.16	-10 25.3	2.002	2.926	9.7	20.8	5 11	13 14.61	-5 24.6	1.885	2.798	10.8	20.7
5 21	13 11.90	-9 53.3	2.083	2.933	12.8	21.0	5 21	13 9.98	-5 19.2	1.971	2.806	14.0	20.9
212973	2009 <i>BN</i> ₁₄₆		4 15.2 37°83	0°2/15.4	18		166531	2002 <i>RL</i> ₁₀		4 15.2 232°87	0°2/15.5	18	
3 12	13 57.74	-12 56.9	1.266	2.123	17.6	20.9	3 12	13 56.77	-12 32.4	2.189	3.019	12.2	20.8
3 22	13 53.67	-12 27.5	1.205	2.131	13.2	20.6	3 22	13 52.05	-12 8.7	2.102	3.014	9.2	20.6
4 1	13 46.82	-11 40.7	1.165	2.140	8.1	20.4	4 1	13 45.52	-11 34.1	2.039	3.008	5.6	20.4
4 11	13 38.20	-10 41.6	1.149	2.149	2.5	20.0	4 11	13 37.81	-10 51.6	2.003	3.002	1.8	20.1
4 21	13 29.12	-9 37.9	1.157	2.158	3.2	20.1	4 21	13 29.69	-10 5.2	1.996	2.996	2.2	20.1
5 1	13 20.99	-8 38.6	1.190	2.168	8.6	20.4	5 1	13 22.02	-9 20.0	2.017	2.990	6.1	20.4
5 11	13 14.94	-7 51.7	1.246	2.179	13.5	20.7	5 11	13 15.58	-8 40.8	2.065	2.984	9.7	20.6
5 21	13 11.62	-7 22.1	1.321	2.190	17.6	21.0	5 21	13 10.90	-8 11.4	2.136	2.977	12.8	20.8
304432	2006 <i>TC</i> ₉₀		4 15.2 238°14	0°5/14.8	17		377929	2006 <i>GV</i> ₂₁		4 15.2 295°89	1°9/13.6	17	
3 12	13 57.70	-9 10.9	2.388	3.221	11.2	21.0	3 12	13 57.79	-6 1.0	1.940	2.789	12.7	20.6
3 22	13 52.57	-9 1.8	2.302	3.216	8.3	20.8	3 22	13 52.92	-5 32.4	1.864	2.788	9.4	20.4
4 1	13 45.75	-8 45.9	2.240	3.211	5.0	20.6	4 1	13 46.08	-4 57.4	1.812	2.787	5.7	20.2
4 11	13 37.84	-8 25.7	2.207	3.207	1.5	20.3	4 11	13 37.98	-4 20.5	1.787	2.786	2.2	19.9
4 21	13 29.56	-8 4.5	2.203	3.202	2.3	20.4	4 21	13 29.48	-3 46.4	1.790	2.784	3.7	20.0
5 1	13 21.69	-7 45.8	2.227	3.197	5.9	20.6	5 1	13 21.54	-3 20.0	1.820	2.783	7.5	20.3
5 11	13 14.95	-7 33.0	2.279	3.191	9.2	20.8	5 11	13 14.99	-3 5.2	1.876	2.782	11.2	20.5
5 21	13 9.86	-7 28.5	2.354	3.186	12.1	21.0	5 21	13 10.38	-3 3.9	1.953	2.781	14.3	

EPHEMERIDES

4 15.2

4 15.3

2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
183060	2002 QX ₁₀₂ 4 15.2 161°23 0°6/15.8 18						505539	2013 YL ₈₁ 4 15.3 52°19 5°5/ 9.9 17					
3 12	14 0.05	-13 59.4	2.084	2.906	13.0	22.0	3 12	13 56.34	+ 4 12.2	2.001	2.860	12.0	21.3
3 22	13 54.47	-13 30.4	2.006	2.913	9.8	21.8	3 22	13 51.69	+ 5 12.0	1.942	2.865	9.1	21.1
4 1	13 46.96	-12 48.9	1.952	2.919	6.1	21.6	4 1	13 45.26	+ 6 9.9	1.907	2.870	6.5	21.0
4 11	13 38.24	-11 57.9	1.926	2.924	2.1	21.3	4 11	13 37.74	+ 6 59.4	1.899	2.876	5.5	20.9
4 21	13 29.17	-11 2.0	1.928	2.929	2.2	21.3	4 21	13 29.95	+ 7 34.9	1.918	2.881	7.0	21.0
5 1	13 20.69	-10 6.8	1.959	2.933	6.2	21.6	5 1	13 22.76	+ 7 52.5	1.963	2.887	9.7	21.2
5 11	13 13.60	- 9 18.0	2.018	2.936	9.9	21.8	5 11	13 16.91	+ 7 50.6	2.032	2.892	12.5	21.4
5 21	13 8.45	- 8 39.6	2.099	2.939	13.1	22.0	5 21	13 12.87	+ 7 30.0	2.121	2.898	15.0	21.6
160027	1997 UN ₁ 4 15.3 206°25 2°5/17.3 16						500747	2013 AU ₄₇ 4 15.3 135°50 3°0/12.0 17					
3 12	14 1.38	-18 39.3	1.829	2.640	15.0	21.5	3 12	13 57.07	- 0 21.0	2.599	3.443	10.0	21.7
3 22	13 55.92	-18 28.0	1.740	2.636	11.7	21.2	3 22	13 51.87	+ 0 9.7	2.530	3.450	7.4	21.5
4 1	13 48.08	-17 59.0	1.673	2.630	7.8	21.0	4 1	13 45.23	+ 0 41.3	2.487	3.457	4.7	21.4
4 11	13 38.64	-17 13.8	1.632	2.624	3.9	20.7	4 11	13 37.72	+ 1 9.9	2.473	3.463	3.0	21.3
4 21	13 28.61	-16 16.1	1.619	2.618	3.0	20.6	4 21	13 29.98	+ 1 31.9	2.488	3.469	4.3	21.4
5 1	13 19.14	-15 12.4	1.633	2.610	6.8	20.9	5 1	13 22.71	+ 1 44.4	2.532	3.475	6.8	21.5
5 11	13 11.29	-14 10.3	1.674	2.602	10.9	21.1	5 11	13 16.50	+ 1 45.4	2.602	3.481	9.5	21.7
5 21	13 5.73	-13 16.3	1.738	2.594	14.6	21.3	5 21	13 11.76	+ 1 34.4	2.695	3.487	11.8	21.9
171062	2005 EV ₁₂₇ 4 15.3 123°74 2°8/12.8 18						247703	2003 CF ₈ 4 15.3 349°17 14°2/22.2 18					
3 12	13 58.97	- 6 27.0	1.632	2.487	14.5	20.5	3 12	14 7.43	-38 30.2	1.685	2.392	20.0	19.0
3 22	13 53.99	- 5 20.6	1.569	2.496	10.6	20.2	3 22	14 2.00	-41 9.8	1.599	2.380	18.2	18.8
4 1	13 46.78	- 4 5.0	1.530	2.505	6.4	20.0	4 1	13 52.78	-43 28.2	1.531	2.371	16.4	18.7
4 11	13 38.19	- 2 47.2	1.517	2.514	2.9	19.8	4 11	13 40.36	-45 15.4	1.485	2.362	14.9	18.6
4 21	13 29.28	- 1 35.1	1.531	2.523	4.8	19.9	4 21	13 26.06	-46 23.8	1.460	2.354	14.2	18.5
5 1	13 21.13	- 0 36.1	1.572	2.531	9.0	20.2	5 1	13 11.85	-46 50.8	1.457	2.348	14.6	18.5
5 11	13 14.67	+ 0 4.7	1.637	2.538	12.9	20.5	5 11	12 59.77	-46 41.9	1.475	2.343	16.0	18.6
5 21	13 10.45	+ 0 25.4	1.723	2.546	16.2	20.7	5 21	12 51.28	-46 7.5	1.512	2.340	17.8	18.7
195409	2002 GK ₃₈ 4 15.3 217°46 0°7/15.8 17						17436	1989 SV ₃ 4 15.3 126°02 1°8/13.7 18					
3 12	13 59.30	-12 55.6	2.009	2.837	13.2	20.0	3 12	14 0.95	- 8 11.3	1.834	2.676	13.7	19.5
3 22	13 54.08	-12 49.5	1.924	2.834	10.0	19.8	3 22	13 55.19	- 7 17.7	1.772	2.693	10.0	19.3
4 1	13 46.84	-12 32.4	1.864	2.831	6.2	19.6	4 1	13 47.40	- 6 14.9	1.735	2.709	6.0	19.1
4 11	13 38.24	-12 6.7	1.830	2.828	2.2	19.3	4 11	13 38.38	- 5 8.6	1.726	2.724	2.1	18.9
4 21	13 29.17	-11 35.9	1.824	2.825	2.3	19.3	4 21	13 29.13	- 4 5.0	1.744	2.739	3.7	19.0
5 1	13 20.62	-11 4.6	1.847	2.821	6.4	19.6	5 1	13 20.63	- 3 10.7	1.791	2.753	7.7	19.3
5 11	13 13.45	-10 37.8	1.895	2.818	10.2	19.8	5 11	13 13.73	- 2 30.3	1.863	2.767	11.4	19.6
5 21	13 8.27	-10 19.2	1.967	2.814	13.5	20.0	5 21	13 8.93	- 2 6.3	1.958	2.779	14.6	19.8
414150	2007 WK ₅ 4 15.3 220°82 1°2/14.2 15						346114	2007 VG ₁₀₂ 4 15.3 35°35 5°4/11.3 16					
3 12	14 1.27	- 8 36.3	1.898	2.737	13.4	22.4	3 12	13 58.76	+ 3 28.6	1.675	2.537	13.7	19.8
3 22	13 55.68	- 8 4.9	1.809	2.728	10.0	22.1	3 22	13 53.62	+ 4 2.6	1.630	2.557	10.3	19.7
4 1	13 47.88	- 7 24.0	1.745	2.718	6.0	21.9	4 1	13 46.43	+ 4 33.4	1.609	2.576	7.1	19.5
4 11	13 38.58	- 6 37.5	1.708	2.707	1.9	21.6	4 11	13 38.08	+ 4 55.0	1.613	2.597	5.4	19.5
4 21	13 28.72	- 5 50.7	1.699	2.696	3.3	21.6	4 21	13 29.56	+ 5 2.6	1.644	2.618	6.8	19.6
5 1	13 19.37	- 5 9.3	1.718	2.684	7.6	21.9	5 1	13 21.90	+ 4 53.3	1.701	2.640	9.9	19.8
5 11	13 11.50	- 4 38.6	1.763	2.672	11.7	22.1	5 11	13 15.89	+ 4 26.4	1.780	2.662	13.0	20.0
5 21	13 5.74	- 4 21.8	1.830	2.658	15.2	22.3	5 21	13 12.00	+ 3 43.6	1.880	2.685	15.7	20.3
309665	2008 EP ₂₃ 4 15.3 88°21 2°9/17.9 17						34890	2006 SR ₃₅₇ 4 15.3 86°42 1°6/17.1 17					
3 12	14 1.26	-19 7.8	2.429	3.222	12.3	20.6	3 12	13 54.40	-18 15.1	2.296	3.109	12.3	21.0
3 22	13 55.19	-19 36.7	2.353	3.236	9.6	20.4	3 22	13 50.21	-17 41.5	2.215	3.112	9.4	20.8
4 1	13 47.34	-19 53.6	2.302	3.250	6.6	20.3	4 1	13 44.36	-16 53.1	2.157	3.116	6.2	20.6
4 11	13 38.37	-19 58.7	2.279	3.264	3.8	20.1	4 11	13 37.48	-15 52.6	2.126	3.120	2.8	20.4
4 21	13 29.06	-19 53.5	2.284	3.278	3.1	20.1	4 21	13 30.30	-14 44.2	2.123	3.124	2.2	20.4
5 1	13 20.26	-19 40.8	2.319	3.292	5.4	20.3	5 1	13 23.61	-13 33.6	2.150	3.127	5.4	20.6
5 11	13 12.74	-19 24.8	2.382	3.306	8.3	20.5	5 11	13 18.11	-12 26.7	2.203	3.131	8.7	20.8
5 21	13 6.99	-19 9.3	2.469	3.319	11.0	20.7	5 21	13 14.25	-11 28.3	2.281	3.135	11.7	21.0
488611	2002 RU ₂₅₄ 4 15.3 239°77 0°9/16.1 17						15244	1989 TY ₂ 4 15.3 252°89 2°2/13.6 18					
3 12	13 57.22	-14 35.1	2.433	3.251	11.5	22.9	3 12	13 59.04	- 6 9.2	1.717	2.569	14.0	18.3
3 22	13 52.31	-14 15.8	2.334	3.238	8.8	22.7	3 22	13 54.11	- 5 36.7	1.641	2.567	10.3	18.1
4 1	13 45.67	-13 45.3	2.259	3.224	5.6	22.5	4 1	13 46.94	- 4 56.7	1.589	2.564	6.2	17.8
4 11	13 37.89	-13 5.6	2.213	3.210	2.1	22.2	4 11	13 38.30	- 4 14.2	1.563	2.562	2.5	17.6
4 21	13 29.66	-12 20.0	2.195	3.195	2.0	22.2	4 21	13 29.19	- 3 34.9	1.564	2.559	4.1	17.7
5 1	13 21.79	-11 33.1	2.206	3.181	5.6	22.4	5 1	13 20.70	- 3 4.5	1.592	2.556	8.3	17.9
5 11	13 15.02	-10 49.7	2.245	3.165	9.0	22.6	5 11	13 13.79	- 2 47.4	1.645	2.554	12.3	18.2
5 21	13 9.87	-10 13.8	2.308	3.150	12.0	22.7	5 21	13 9.08	- 2 45.9	1.718	2.551	15.8	18.4
208957	2002 XE ₁₀ 4 15.3 98°02 0°9/16.2 18						39152	2000 WN ₁₀₂ 4 15.3 159°54 6°2/ 8.9 18					
3 12	13 57.33	-15 3.2	2.376	3.193	11.8	21.4	3 12	13 58.22	+ 6 34.5	2.076	2.929	11.9	19.6
3 22	13 52.17	-14 39.0	2.310	3.213	8.9	21.3	3 22	13 53.04	+ 7 43.7	2.015	2.933	9.2	19.5
4 1	13 45.43	-14 3.6	2.269	3.234	5.6	21.1	4 1	13 46.07	+ 8 49.4	1.980	2.936	6.9	19.3
4 11	13 37.76	-13 19.8	2.256	3.253	2.1	20.9	4 11	13 37.99	+ 9 44.8	1.972	2.939	6.3	19.3
4 21	13 29.91	-12 31.4	2.272	3.273	1.9	20.9	4 21	13 29.64	+10 24.1	1.992	2.942	7.7	19.4
5 1	13 22.62	-11 43.0	2.317	3.292	5.3	21.1	5 1	13 21.89	+10 43.6	2.037	2.945	10.2	19.5
5 11	13 16.54	-10 59.2	2.390	3.311	8.5	21.4	5 11	13 15.48	+10 41.9	2.106	2.947	12.9	19.7
5 21	13 12.11	-10 23.6	2.486	3.329	11.2	21.6	5 21	13 10.89	+10 20.3	2.194	2.949	15.2	19.9
65	Cybele 4 15.3 315°26 1°2/13.9 18						415378	2013 LF ₂₆ 4 15.3 254°05 4°4/11.8 17					
3 12	13 53.39	- 8 7.6	2.359	3.203	10.9	11.8	3 12	13 59.84	- 1 14.2	1.671	2.529	14.0	21.1
3 22	13 49.43	- 7 30.9	2.272	3.194	8.1	11.6	3 22	13 54.83	- 0 22.2	1.591	2.518	10.5	20.9
4 1	13 43.90	- 6 46.6	2.211	3.185	4.8	11.3	4 1	13 47.46	+ 0 34.1	1.5			

2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
267380	2001 <i>XU</i> ₂₂₇		4 15.3 92°44	0°1/15.4	17		163711	2003 <i>GH</i> ₆		4 15.3 329°07	1°7/14.1	17	
3 12	13 59.96	-11 51.5	1.808	2.644	14.1	21.5	3 12	13 56.22	-9 22.4	1.213	2.083	17.4	19.6
3 22	13 54.58	-11 33.7	1.742	2.657	10.5	21.3	3 22	13 52.87	-8 39.4	1.140	2.074	13.0	19.3
4 1	13 47.09	-11 4.6	1.701	2.671	6.4	21.1	4 1	13 46.60	-7 40.7	1.087	2.065	7.8	19.0
4 11	13 38.32	-10 27.7	1.685	2.685	2.0	20.8	4 11	13 38.30	-6 32.8	1.057	2.057	2.5	18.7
4 21	13 29.23	-9 47.6	1.698	2.698	2.5	20.9	4 21	13 29.26	-5 24.6	1.051	2.049	4.5	18.8
5 1	13 20.86	-9 10.0	1.738	2.711	6.8	21.2	5 1	13 20.97	-4 26.0	1.069	2.042	10.1	19.0
5 11	13 14.09	-8 39.8	1.803	2.724	10.7	21.4	5 11	13 14.74	-3 45.2	1.108	2.036	15.3	19.3
5 21	13 9.45	-8 20.6	1.891	2.737	14.0	21.7	5 21	13 11.35	-3 26.4	1.165	2.030	19.7	19.6
424095	2007 <i>EP</i> ₁₀		4 15.3 70°38	5°5/19.4	17		172368	2002 <i>XC</i> ₇₄		4 15.3 60°53	3°3/12.5	17	
3 12	14 1.75	-24 2.7	1.770	2.561	16.2	21.3	3 12	13 58.77	-1 11.8	1.999	2.851	12.3	19.6
3 22	13 56.37	-24 41.9	1.689	2.563	13.2	21.1	3 22	13 53.46	-0 45.6	1.939	2.863	9.1	19.4
4 1	13 48.45	-25 2.0	1.630	2.566	9.8	20.8	4 1	13 46.33	-0 18.0	1.903	2.875	5.7	19.2
4 11	13 38.80	-25 1.3	1.595	2.569	6.7	20.7	4 11	13 38.09	+0 6.4	1.895	2.888	3.4	19.1
4 21	13 28.52	-24 40.9	1.586	2.572	5.6	20.6	4 21	13 29.61	+0 23.3	1.914	2.900	4.8	19.2
5 1	13 18.86	-24 5.2	1.604	2.575	7.6	20.7	5 1	13 21.78	+0 29.3	1.961	2.913	8.0	19.4
5 11	13 10.95	-23 21.3	1.647	2.578	10.9	20.9	5 11	13 15.35	+0 22.1	2.033	2.925	11.1	19.7
5 21	13 5.50	-22 36.6	1.712	2.581	14.2	21.1	5 21	13 10.80	+0 1.6	2.127	2.938	13.9	19.9
108040	2001 <i>FA</i> ₁₅₅		4 15.3 197°60	1°0/14.5	17		458992	2011 <i>WJ</i> ₁₁₅		4 15.3 114°22	3°2/12.5	18	
3 12	14 3.05	-7 57.4	2.046	2.879	12.8	19.7	3 12	14 2.01	-4 4.8	1.790	2.638	13.7	21.8
3 22	13 56.81	-7 45.7	1.961	2.876	9.5	19.5	3 22	13 55.95	-3 6.6	1.736	2.659	10.0	21.6
4 1	13 48.48	-7 26.8	1.901	2.873	5.8	19.2	4 1	13 47.84	-2 3.1	1.707	2.680	6.1	21.4
4 11	13 38.77	-7 4.0	1.869	2.868	1.8	19.0	4 11	13 38.54	-1 0.9	1.706	2.700	3.3	21.2
4 21	13 28.58	-6 41.1	1.866	2.864	3.0	19.0	4 21	13 29.07	-0 6.5	1.732	2.720	4.9	21.4
5 1	13 18.92	-6 22.3	1.892	2.858	7.0	19.3	5 1	13 20.43	+0 34.6	1.787	2.738	8.6	21.6
5 11	13 10.68	-6 11.5	1.944	2.852	10.8	19.5	5 11	13 13.44	+0 58.9	1.866	2.756	12.1	21.9
5 21	13 4.48	-6 11.1	2.019	2.845	14.0	19.7	5 21	13 8.59	+1 5.7	1.966	2.774	15.0	22.1
411708	2011 <i>YR</i> ₇₈		4 15.3 13°09	5°8/11.3	17		434940	2006 <i>TA</i> ₁₃₀		4 15.3 237°76	2°0/13.3	16	
3 12	13 59.17	+ 1 14.4	1.351	2.223	15.8	20.5	3 12	13 59.65	- 3 19.2	2.611	3.447	10.3	21.6
3 22	13 54.59	+ 2 8.1	1.291	2.224	11.9	20.3	3 22	13 53.93	- 3 7.2	2.519	3.436	7.6	21.4
4 1	13 47.36	+ 3 2.6	1.253	2.225	8.0	20.1	4 1	13 46.60	- 2 52.8	2.453	3.424	4.7	21.2
4 11	13 38.44	+ 3 49.4	1.240	2.227	5.8	20.0	4 11	13 38.21	- 2 38.8	2.416	3.412	2.2	21.0
4 21	13 29.06	+ 4 20.6	1.251	2.230	7.8	20.1	4 21	13 29.44	- 2 28.4	2.409	3.400	3.4	21.1
5 1	13 20.55	+ 4 30.6	1.286	2.233	11.7	20.3	5 1	13 21.03	- 2 24.3	2.432	3.388	6.4	21.3
5 11	13 14.00	+ 4 17.1	1.342	2.236	15.6	20.5	5 11	13 13.65	- 2 29.0	2.482	3.375	9.4	21.4
5 21	13 10.04	+ 3 41.4	1.417	2.239	19.1	20.8	5 21	13 7.82	- 2 43.5	2.556	3.362	12.0	21.6
379369	2009 <i>WN</i> ₂₁₆		4 15.3 269°07	1°8/16.6	18		425208	2009 <i>VM</i> ₃₂		4 15.3 168°01	2°9/18.2	17	
3 12	14 1.13	-15 8.4	1.880	2.703	14.2	20.5	3 12	13 58.73	-20 47.1	2.166	2.963	13.4	21.7
3 22	13 55.82	-15 19.5	1.782	2.686	11.0	20.3	3 22	13 53.59	-20 37.2	2.081	2.966	10.6	21.5
4 1	13 48.12	-15 18.2	1.706	2.669	7.2	20.0	4 1	13 46.52	-20 10.7	2.019	2.969	7.3	21.3
4 11	13 38.73	-15 5.3	1.656	2.651	3.2	19.7	4 11	13 38.20	-19 29.2	1.984	2.971	4.1	21.1
4 21	13 28.59	-14 43.4	1.634	2.634	2.7	19.7	4 21	13 29.49	-18 35.7	1.977	2.973	3.1	21.1
5 1	13 18.84	-14 16.8	1.639	2.616	6.9	19.9	5 1	13 21.31	-17 35.6	1.998	2.975	5.8	21.2
5 11	13 10.56	-13 51.1	1.671	2.598	11.0	20.1	5 11	13 14.49	-16 35.2	2.047	2.976	9.2	21.4
5 21	13 4.49	-13 31.4	1.725	2.580	14.8	20.3	5 21	13 9.57	-15 40.1	2.119	2.977	12.3	21.6
299966	2006 <i>TS</i> ₈₂		4 15.3 357°50	1°3/16.4	17		230381	2002 <i>GV</i> ₇₇		4 15.3 314°81	3°2/13.4	17	
3 12	13 58.85	-14 3.8	2.171	2.992	12.6	20.2	3 12	13 58.62	- 4 32.2	1.259	2.130	16.8	19.7
3 22	13 53.64	-14 15.0	2.087	2.992	9.6	20.0	3 22	13 54.80	- 4 8.8	1.173	2.107	12.6	19.4
4 1	13 46.53	-14 16.2	2.028	2.992	6.1	19.8	4 1	13 47.92	- 3 37.5	1.107	2.085	7.8	19.1
4 11	13 38.18	-14 8.8	1.995	2.991	2.5	19.6	4 11	13 38.78	- 3 4.4	1.065	2.063	3.5	18.7
4 21	13 29.40	-13 55.1	1.991	2.991	2.3	19.5	4 21	13 28.61	- 2 36.8	1.047	2.042	5.6	18.8
5 1	13 21.09	-13 38.8	2.015	2.991	5.8	19.8	5 1	13 18.97	- 2 22.1	1.053	2.022	10.9	19.0
5 11	13 14.07	-13 23.9	2.066	2.992	9.3	20.0	5 11	13 11.31	- 2 25.7	1.080	2.002	16.1	19.2
5 21	13 8.90	-13 14.0	2.141	2.992	12.4	20.2	5 21	13 6.58	- 2 49.8	1.125	1.983	20.7	19.5
173185	1998 <i>FB</i> ₇₂		4 15.3 339°84	0°7/14.8	18		459013	2011 <i>YM</i> ₁₈		4 15.3 310°57	1°7/16.6	17	
3 12	13 57.02	- 9 25.6	1.185	2.055	17.7	19.8	3 12	13 56.01	-17 2.2	1.340	2.185	17.6	20.5
3 22	13 53.59	- 9 18.4	1.111	2.044	13.3	19.5	3 22	13 52.63	-16 30.4	1.257	2.174	13.6	20.2
4 1	13 47.10	- 8 58.5	1.057	2.034	8.1	19.1	4 1	13 46.43	-15 35.3	1.195	2.163	8.8	19.9
4 11	13 38.46	- 8 30.2	1.025	2.025	2.4	18.8	4 11	13 38.27	-14 20.3	1.156	2.153	3.6	19.5
4 21	13 28.99	- 7 59.7	1.017	2.017	3.8	18.8	4 21	13 29.36	-12 52.2	1.141	2.143	3.1	19.5
5 1	13 20.26	- 7 34.4	1.032	2.010	9.6	19.1	5 1	13 21.13	-11 21.4	1.152	2.133	8.4	19.7
5 11	13 13.65	- 7 21.2	1.069	2.005	14.9	19.4	5 11	13 14.83	- 9 59.1	1.186	2.124	13.5	20.0
5 21	13 10.01	- 7 24.0	1.124	2.000	19.5	19.6	5 21	13 11.25	- 8 53.6	1.240	2.115	18.0	20.2
135338	2001 <i>TX</i> ₁₉		4 15.3 276°99	3°1/18.1	18		169027	2001 <i>DD</i> ₁₀₇		4 15.3 100°98	3°9/12.1	18	
3 12	13 58.54	-20 8.2	2.311	3.107	12.7	19.6	3 12	14 0.55	- 2 59.7	1.620	2.477	14.4	20.9
3 22	13 53.57	-20 20.5	2.201	3.085	10.1	19.4	3 22	13 55.09	- 1 55.1	1.568	2.495	10.6	20.7
4 1	13 46.61	-20 19.1	2.115	3.063	7.1	19.2	4 1	13 47.42	- 0 45.7	1.539	2.512	6.6	20.5
4 11	13 38.25	-20 4.0	2.055	3.041	4.1	19.0	4 11	13 38.46	+ 0 21.0	1.536	2.529	3.9	20.4
4 21	13 29.26	-19 36.8	2.024	3.018	3.3	18.9	4 21	13 29.27	+ 1 17.7	1.561	2.546	5.7	20.6
5 1	13 20.54	-19 1.1	2.020	2.995	5.9	19.0	5 1	13 20.94	+ 1 58.2	1.612	2.562	9.5	20.8
5 11	13 12.99	-18 22.0	2.044	2.972	9.3	19.1	5 11	13 14.36	+ 2 19.4	1.687	2.578	13.1	21.1
5 21	13 7.25	-17 44.7	2.092	2.949	12.4	19.3	5 21	13 10.03	+ 2 20.7	1.782	2.593	16.2	21.3
313552	2003 <i>BX</i> ₃₃		4 15.3 217°24	10°4/ 9.9	16		115444	2003 <i>TU</i> ₈		4 15.3 353°02	4°8/18.4	18	
3 12	14 25.15	- 1 35.6	0.812	1.674	24.5	22.7	3 12	14 0.43	-20 39.2	1.395	2.219	18.2	19.0
3 22	14 16.92	+ 1 9.6	0.736	1.664	19.0	22.3	3 22	13 55.92	-21 12.9	1.318	2.217	14.5	18.7
4 1	14 2.73	+ 4 23.8	0.679	1.649	13.1	21.9	4 1	13 48.45	-21 26.3	1.262	2.215	10.3	18.5
4 11	13 43.58	+ 7 45.5	0.645	1.630	10.5	21.7	4 11	13 38.90	-21 18.3	1.227	2.213	6.2	18.3
4 21	13 21.87	+10 43.9	0.635	1.606	14.8	21.8	4 21	13 28.57	-20 51.0	1.218	2.212	5.0	18.2
5 1	13 1.03	+12 51.6	0.647	1.577	22.1	22.0	5 1	13 18.97	-2				

EPHEMERIDES

4 15.3

4 15.3

2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
287328	2002 <i>TK</i> ₃₀₆	4 15.3 163°80		2°6/12.9 17			381565	2008 <i>UX</i> ₈	4 15.3 201°40		0°6/15.8 17		
3 12	13 58.27	- 3 11.1	2.177	3.024	11.6	20.8	3 12	13 58.30	-13 22.5	2.147	2.973	12.6	21.8
3 22	13 53.09	- 2 43.0	2.103	3.025	8.6	20.6	3 22	13 53.26	-13 4.6	2.062	2.971	9.5	21.6
4 1	13 46.15	- 2 11.5	2.053	3.026	5.3	20.4	4 1	13 46.34	-12 35.4	2.001	2.968	5.9	21.3
4 11	13 38.09	- 1 41.0	2.032	3.027	2.7	20.2	4 11	13 38.20	-11 57.4	1.967	2.965	2.0	21.1
4 21	13 29.71	- 1 15.5	2.039	3.028	4.1	20.3	4 21	13 29.63	-11 14.7	1.961	2.962	2.2	21.1
5 1	13 21.84	- 0 59.0	2.074	3.029	7.4	20.5	5 1	13 21.56	-10 31.9	1.985	2.959	6.1	21.3
5 11	13 15.23	- 0 54.3	2.135	3.030	10.6	20.7	5 11	13 14.76	- 9 54.3	2.034	2.955	9.7	21.5
5 21	13 10.38	- 1 2.4	2.218	3.030	13.4	20.9	5 21	13 9.81	- 9 25.7	2.107	2.951	12.9	21.7
290598	2005 <i>UK</i> ₁₇₉	4 15.3 26°54		4°5/12.7 18			368803	2005 <i>YJ</i> ₇₃	4 15.3 182°72		1°9/17.3 17		
3 12	14 1.12	- 2 4.9	1.151	2.026	17.7	20.3	3 12	13 59.52	-18 13.6	2.551	3.349	11.6	22.4
3 22	13 56.42	- 1 31.1	1.094	2.030	13.2	20.0	3 22	13 53.91	-17 59.5	2.461	3.350	9.0	22.2
4 1	13 48.65	- 0 53.0	1.058	2.035	8.3	19.7	4 1	13 46.63	-17 32.6	2.396	3.350	6.0	22.0
4 11	13 38.91	- 0 18.8	1.045	2.040	4.6	19.5	4 11	13 38.27	-16 54.4	2.358	3.350	2.9	21.8
4 21	13 28.65	+ 0 4.0	1.056	2.046	6.7	19.7	4 21	13 29.56	-16 8.0	2.350	3.348	2.3	21.7
5 1	13 19.43	+ 0 9.1	1.090	2.052	11.4	20.0	5 1	13 21.29	-15 17.5	2.371	3.346	5.2	21.9
5 11	13 12.51	- 0 6.6	1.145	2.059	16.1	20.2	5 11	13 14.16	-14 27.9	2.421	3.344	8.3	22.1
5 21	13 8.59	- 0 42.4	1.218	2.066	20.0	20.5	5 21	13 8.67	-13 43.6	2.496	3.340	11.1	22.3
504110	2006 <i>HT</i> ₁₃₁	4 15.3 240°31		1°0/16.2 17			170243	2003 <i>QG</i> ₃₆	4 15.3 210°36		3°3/17.9 16		
3 12	13 58.41	-14 26.9	2.089	2.912	12.9	22.5	3 12	14 2.20	-19 48.3	1.825	2.631	15.2	20.6
3 22	13 53.45	-14 16.0	1.998	2.904	9.9	22.3	3 22	13 56.64	-19 57.1	1.736	2.626	12.0	20.4
4 1	13 46.51	-13 53.0	1.931	2.896	6.3	22.0	4 1	13 48.64	-19 48.7	1.669	2.621	8.3	20.2
4 11	13 38.24	-13 19.9	1.891	2.888	2.4	21.8	4 11	13 38.95	-19 23.4	1.627	2.615	4.6	19.9
4 21	13 29.48	-12 40.3	1.879	2.880	2.3	21.7	4 21	13 28.62	-18 43.9	1.613	2.609	3.6	19.9
5 1	13 21.17	-11 59.1	1.895	2.871	6.2	22.0	5 1	13 18.85	-17 55.3	1.626	2.603	6.9	20.0
5 11	13 14.17	-11 21.6	1.938	2.862	9.9	22.2	5 11	13 10.69	-17 5.0	1.665	2.595	10.9	20.3
5 21	13 9.07	-10 52.1	2.004	2.853	13.2	22.4	5 21	13 4.88	-16 19.4	1.727	2.588	14.5	20.5
277384	2005 <i>UZ</i> ₉₆	4 15.3 141°07		1°0/14.3 17			141329	2001 <i>YR</i> ₁₄₄	4 15.3 56°58		0°8/14.5 17		
3 12	13 58.06	- 9 37.5	1.935	2.776	13.1	21.8	3 12	13 57.03	- 8 32.6	2.145	2.986	12.0	20.0
3 22	13 53.13	- 8 56.0	1.863	2.782	9.7	21.6	3 22	13 52.17	- 8 15.0	2.077	2.996	8.9	19.8
4 1	13 46.24	- 8 4.4	1.814	2.788	5.8	21.4	4 1	13 45.59	- 7 50.4	2.034	3.006	5.3	19.6
4 11	13 38.13	- 7 7.3	1.793	2.793	1.8	21.1	4 11	13 37.95	- 7 22.1	2.017	3.017	1.6	19.3
4 21	13 29.68	- 6 10.3	1.800	2.798	3.1	21.2	4 21	13 30.03	- 6 54.0	2.029	3.027	2.7	19.4
5 1	13 21.83	- 5 19.3	1.835	2.802	7.1	21.5	5 1	13 22.66	- 6 30.2	2.069	3.038	6.3	19.7
5 11	13 15.41	- 4 39.3	1.895	2.806	10.8	21.7	5 11	13 16.57	- 6 14.2	2.135	3.049	9.7	19.9
5 21	13 10.94	- 4 13.5	1.978	2.811	14.0	21.9	5 21	13 12.23	- 6 8.4	2.224	3.060	12.6	20.1
296395	2009 <i>FF</i> ₇₁	4 15.3 306°20		2°9/13.1 17			229101	2004 <i>RU</i> ₂₈	4 15.3 145°24		1°6/16.9 17		
3 12	13 57.49	- 6 6.5	1.436	2.301	15.5	20.4	3 12	14 0.22	-16 41.2	2.451	3.255	11.9	21.6
3 22	13 53.43	- 5 16.8	1.360	2.291	11.5	20.2	3 22	13 54.39	-16 33.0	2.373	3.266	9.1	21.5
4 1	13 46.77	- 4 16.7	1.305	2.282	7.0	19.9	4 1	13 46.89	-16 13.1	2.319	3.277	5.9	21.3
4 11	13 38.36	- 3 13.0	1.275	2.273	3.1	19.6	4 11	13 38.34	-15 43.1	2.294	3.288	2.7	21.1
4 21	13 29.32	- 2 13.7	1.271	2.265	5.1	19.7	4 21	13 29.50	-15 6.1	2.298	3.298	2.2	21.0
5 1	13 20.94	- 1 26.8	1.292	2.256	9.8	20.0	5 1	13 21.18	-14 26.1	2.332	3.307	5.3	21.3
5 11	13 14.35	- 0 58.3	1.336	2.248	14.4	20.2	5 11	13 14.08	-13 47.8	2.393	3.315	8.4	21.5
5 21	13 10.26	- 0 50.7	1.399	2.240	18.3	20.4	5 21	13 8.68	-13 15.0	2.480	3.323	11.2	21.7
480090	2015 <i>EM</i> ₁₀	4 15.3 318°44		6°4/18.6 16			203545	2002 <i>CJ</i> ₆₇	4 15.3 105°21		1°1/14.5 18		
3 12	14 0.94	-22 15.0	1.533	2.343	17.5	20.6	3 12	14 1.31	- 9 37.2	1.512	2.361	15.7	20.9
3 22	13 56.54	-23 22.9	1.431	2.317	14.4	20.3	3 22	13 55.95	- 9 2.6	1.449	2.372	11.6	20.7
4 1	13 49.07	-24 15.1	1.349	2.292	10.8	20.0	4 1	13 48.12	- 8 16.2	1.409	2.384	7.0	20.4
4 11	13 39.20	-24 48.1	1.290	2.267	7.5	19.8	4 11	13 38.75	- 7 23.5	1.395	2.395	2.1	20.2
4 21	13 28.05	-24 59.9	1.256	2.243	6.5	19.6	4 21	13 29.00	- 6 31.0	1.407	2.406	3.5	20.3
5 1	13 17.13	-24 52.4	1.247	2.220	9.1	19.7	5 1	13 20.11	- 5 45.6	1.446	2.416	8.3	20.6
5 11	13 7.98	-24 31.9	1.262	2.197	13.1	19.9	5 11	13 13.10	- 5 13.3	1.509	2.427	12.6	20.9
5 21	13 1.69	-24 6.5	1.296	2.175	17.2	20.1	5 21	13 8.57	- 4 57.0	1.592	2.437	16.3	21.1
4379	<i>Snelling</i>	4 15.3 183°59		0°8/16.3 18			511525	2014 <i>QY</i> ₄₄₂	4 15.3 275°15		1°0/17.3 17		
3 12	13 54.03	-16 48.2	2.741	3.551	10.6	17.4	3 12	13 48.92	-18 20.7	4.428	5.222	7.1	21.3
3 22	13 49.70	-15 51.9	2.652	3.551	8.0	17.2	3 22	13 45.53	-17 36.5	4.329	5.217	5.5	21.2
4 1	13 43.99	-14 42.6	2.588	3.551	5.1	17.0	4 1	13 41.32	-16 43.8	4.256	5.211	3.6	21.1
4 11	13 37.43	-13 23.6	2.553	3.550	1.9	16.8	4 11	13 36.62	-15 44.5	4.213	5.206	1.7	20.9
4 21	13 30.62	-11 59.3	2.549	3.549	1.7	16.8	4 21	13 31.78	-14 41.0	4.201	5.201	1.3	20.9
5 1	13 24.21	-10 35.0	2.574	3.548	4.9	17.0	5 1	13 27.15	-13 36.1	4.220	5.196	3.1	21.0
5 11	13 18.78	- 9 16.1	2.629	3.547	7.9	17.2	5 11	13 23.08	-12 32.7	4.269	5.191	5.0	21.2
5 21	13 14.74	- 8 6.9	2.708	3.545	10.5	17.4	5 21	13 19.84	-11 33.6	4.345	5.186	6.8	21.3
141141	2001 <i>XH</i> ₉₆	4 15.3 193°93		3°8/11.1 18			237580	2001 <i>DS</i> ₁₀₅	4 15.3 60°97		6°4/21.0 17		
3 12	13 57.02	+ 1 53.9	2.569	3.416	10.1	20.2	3 12	13 59.81	-28 5.6	1.802	2.575	16.6	20.0
3 22	13 51.93	+ 2 33.4	2.495	3.415	7.5	20.0	3 22	13 54.82	-28 32.2	1.733	2.590	13.8	19.8
4 1	13 45.35	+ 3 12.7	2.447	3.413	5.1	19.8	4 1	13 47.45	-28 35.6	1.684	2.605	10.6	19.7
4 11	13 37.85	+ 3 47.4	2.427	3.411	3.8	19.7	4 11	13 38.55	-28 15.0	1.658	2.620	7.7	19.5
4 21	13 30.08	+ 4 13.7	2.436	3.409	5.0	19.8	4 21	13 29.23	-27 32.2	1.658	2.636	6.4	19.5
5 1	13 22.73	+ 4 28.2	2.473	3.406	7.5	20.0	5 1	13 20.66	-26 32.8	1.684	2.651	7.6	19.6
5 11	13 16.43	+ 4 29.2	2.536	3.404	10.1	20.1	5 11	13 13.85	-25 24.9	1.735	2.667	10.4	19.8
5 21	13 11.62	+ 4 16.3	2.622	3.400	12.4	20.3	5 21	13 9.40	-24 16.8	1.809	2.683	13.3	20.0
225773	2001 <i>TQ</i> ₁₆	4 15.3 212°27		7°3/ 8.9 18			134409	1998 <i>FV</i>	4 15.3 304°58		1°8/14.1 17		
3 12	14 1.36												

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2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
434905	2006 <i>TR</i> ₃₇		4 15.3 259°78	0°8/14.5 17			454106	2013 <i>CR</i> ₁₀		4 15.3 129°10	4°7/11.8 18		
3 12	13 57.25	− 8 42.6	2.409	3.243	11.1	21.5	3 12	14 2.70	− 0 56.9	1.533	2.391	15.0	21.1
3 22	13 52.36	− 8 23.4	2.313	3.229	8.2	21.2	3 22	13 56.90	+ 0 0.2	1.475	2.402	11.2	20.8
4 1	13 45.77	− 7 57.2	2.242	3.214	5.0	21.0	4 1	13 48.66	+ 1 0.4	1.440	2.412	7.2	20.6
4 11	13 38.04	− 7 26.8	2.200	3.199	1.5	20.7	4 11	13 38.92	+ 1 55.9	1.431	2.422	4.7	20.5
4 21	13 29.87	− 6 55.7	2.186	3.184	2.5	20.8	4 21	13 28.85	+ 2 39.4	1.449	2.431	6.5	20.6
5 1	13 22.05	− 6 27.9	2.202	3.169	6.1	21.0	5 1	13 19.65	+ 3 5.3	1.493	2.440	10.3	20.9
5 11	13 15.31	− 6 7.2	2.244	3.154	9.4	21.2	5 11	13 12.34	+ 3 10.5	1.559	2.448	14.1	21.1
5 21	13 10.18	− 5 56.1	2.309	3.138	12.4	21.3	5 21	13 7.48	+ 2 55.5	1.646	2.456	17.4	21.3
131625	2001 <i>XN</i> ₅₆		4 15.3 213°08	4°4/11.8 18			430156	2013 <i>TA</i> ₇₀		4 15.3 135°48	0°9/16.1 15		
3 12	14 1.79	− 1 5.7	1.692	2.546	14.0	20.4	3 12	14 0.65	− 13 48.6	2.249	3.067	12.3	22.3
3 22	13 56.24	− 0 11.9	1.616	2.541	10.5	20.1	3 22	13 54.83	− 13 41.4	2.175	3.078	9.3	22.1
4 1	13 48.32	+ 0 45.9	1.564	2.535	6.8	19.9	4 1	13 47.21	− 13 23.6	2.125	3.090	5.8	21.9
4 11	13 38.84	+ 1 40.8	1.538	2.528	4.4	19.7	4 11	13 38.47	− 12 57.6	2.103	3.100	2.2	21.7
4 21	13 28.83	+ 2 25.7	1.539	2.521	6.2	19.8	4 21	13 29.42	− 12 26.4	2.110	3.110	2.1	21.7
5 1	13 19.46	+ 2 54.9	1.567	2.513	10.0	20.0	5 1	13 20.93	− 11 54.4	2.146	3.120	5.7	22.0
5 11	13 11.74	+ 3 4.5	1.619	2.505	13.8	20.2	5 11	13 13.77	− 11 26.0	2.209	3.129	9.1	22.2
5 21	13 6.33	+ 2 54.2	1.691	2.496	17.2	20.4	5 21	13 8.41	− 11 4.6	2.297	3.138	12.0	22.4
417327	2006 <i>CZ</i> ₂₉		4 15.3 136°95	3°9/22.9 18			72147	2000 <i>YP</i> ₉₀		4 15.3 228°49	2°4/13.3 16		
3 12	13 51.60	− 32 54.9	4.652	5.352	8.1	21.1	3 12	14 0.82	− 5 42.9	1.833	2.680	13.5	20.0
3 22	13 47.57	− 33 7.8	4.556	5.354	6.9	21.1	3 22	13 55.45	− 5 1.4	1.747	2.670	10.0	19.8
4 1	13 42.59	− 33 9.7	4.482	5.356	5.7	21.0	4 1	13 47.84	− 4 12.0	1.685	2.659	6.1	19.5
4 11	13 37.02	− 33 0.2	4.433	5.358	4.5	20.9	4 11	13 38.72	− 3 20.1	1.650	2.648	2.7	19.3
4 21	13 31.25	− 32 40.2	4.413	5.360	4.0	20.8	4 21	13 29.03	− 2 31.4	1.643	2.636	4.3	19.4
5 1	13 25.69	− 32 11.2	4.421	5.362	4.2	20.9	5 1	13 19.87	− 1 52.1	1.664	2.624	8.4	19.6
5 11	13 20.75	− 31 35.6	4.456	5.364	5.2	20.9	5 11	13 12.20	− 1 27.0	1.710	2.611	12.4	19.8
5 21	13 16.74	− 30 56.3	4.518	5.366	6.4	21.0	5 21	13 6.68	− 1 18.3	1.777	2.597	15.9	20.0
382150	2011 <i>QN</i> ₃		4 15.3 277°79	1°1/13.2 18			4777	Aksenov		4 15.3 207°05	0°2/15.2 18		
3 12	13 48.47	− 6 1.6	4.396	5.233	6.4	21.5	3 12	14 1.48	− 12 16.8	1.608	2.447	15.4	17.9
3 22	13 45.20	− 5 26.0	4.304	5.222	4.7	21.4	3 22	13 56.22	− 11 42.4	1.527	2.443	11.6	17.7
4 1	13 41.13	− 4 47.2	4.238	5.211	2.8	21.2	4 1	13 48.42	− 10 53.1	1.467	2.439	7.1	17.4
4 11	13 36.58	− 4 7.3	4.203	5.200	1.2	21.1	4 11	13 38.91	− 9 52.9	1.434	2.433	2.2	17.1
4 21	13 31.86	− 3 28.6	4.198	5.190	2.0	21.1	4 21	13 28.80	− 8 48.2	1.427	2.428	3.0	17.1
5 1	13 27.33	− 2 53.5	4.222	5.179	3.9	21.3	5 1	13 19.34	− 7 46.5	1.448	2.421	8.0	17.4
5 11	13 23.31	− 2 23.9	4.275	5.168	5.8	21.4	5 11	13 11.63	− 6 55.4	1.494	2.414	12.6	17.6
5 21	13 20.07	− 2 1.3	4.353	5.157	7.4	21.5	5 21	13 6.38	− 6 19.7	1.560	2.406	16.5	17.9
105943	2000 <i>SY</i> ₂₃₃		4 15.3 263°28	3°1/12.8 18			472390	2015 <i>BS</i> ₁₃₀		4 15.3 94°89	5°4/10.1 18		
3 12	14 1.91	− 4 27.3	1.777	2.625	13.8	20.6	3 12	13 58.11	+ 2 45.1	1.890	2.748	12.6	21.1
3 22	13 56.53	− 3 41.1	1.676	2.599	10.3	20.4	3 22	13 53.05	+ 3 58.7	1.840	2.764	9.5	21.0
4 1	13 48.67	− 2 46.6	1.598	2.572	6.4	20.1	4 1	13 46.13	+ 5 11.4	1.814	2.779	6.6	20.8
4 11	13 39.02	− 1 49.4	1.548	2.544	3.2	19.8	4 11	13 38.13	+ 6 15.8	1.816	2.795	5.4	20.8
4 21	13 28.53	− 0 56.2	1.525	2.515	5.1	19.8	4 21	13 29.92	+ 7 5.6	1.844	2.810	7.0	20.9
5 1	13 18.40	− 0 13.9	1.529	2.485	9.4	20.0	5 1	13 22.42	+ 7 36.4	1.899	2.825	9.9	21.1
5 11	13 9.74	+ 0 12.1	1.559	2.454	13.7	20.2	5 11	13 16.39	+ 7 46.5	1.978	2.839	12.8	21.3
5 21	13 3.35	+ 0 19.1	1.608	2.423	17.5	20.4	5 21	13 12.27	+ 7 36.4	2.076	2.854	15.3	21.5
157535	2005 <i>TF</i> ₅₄		4 15.3 90°17	2°1/13.8 18			277142	2005 <i>LG</i> ₈		4 15.3 80°46	1°5/16.6 18		
3 12	14 3.88	− 4 23.0	1.813	2.657	13.7	19.9	3 12	14 30.47	− 21 39.7	1.533	2.294	19.6	20.4
3 22	13 57.42	− 4 15.9	1.753	2.673	10.1	19.7	3 22	14 16.26	− 19 54.9	1.497	2.368	14.8	20.3
4 1	13 48.83	− 4 5.0	1.717	2.690	6.1	19.5	4 1	13 59.54	− 17 44.1	1.487	2.438	9.2	20.1
4 11	13 38.94	− 3 54.1	1.708	2.706	2.5	19.3	4 11	13 41.96	− 15 15.6	1.510	2.504	3.6	19.9
4 21	13 28.80	− 3 47.0	1.728	2.723	3.8	19.4	4 21	13 25.26	− 12 42.7	1.567	2.567	2.9	20.0
5 1	13 19.44	− 3 47.3	1.776	2.738	7.7	19.7	5 1	13 10.86	− 10 19.6	1.659	2.626	7.8	20.5
5 11	13 11.76	− 3 57.6	1.849	2.754	11.4	19.9	5 11	12 59.61	− 8 17.0	1.782	2.682	12.0	20.8
5 21	13 6.29	− 4 18.8	1.944	2.770	14.5	20.2	5 21	12 51.72	− 6 39.9	1.929	2.734	15.4	21.2
513093	2017 <i>WL</i> ₂₂		4 15.3 145°46	3°1/19.4 17			351538	2005 <i>SD</i> ₂₂₀		4 15.3 259°53	7°3/23.3 18		
3 12	13 54.42	− 23 59.7	2.798	3.574	11.3	21.0	3 12	13 59.24	− 35 22.7	2.648	3.350	13.6	20.5
3 22	13 50.05	− 23 39.4	2.710	3.578	9.0	20.8	3 22	13 54.14	− 36 0.3	2.541	3.335	11.8	20.4
4 1	13 44.25	− 23 4.0	2.646	3.582	6.5	20.7	4 1	13 47.02	− 36 18.8	2.453	3.321	10.0	20.2
4 11	13 37.55	− 22 14.7	2.608	3.586	4.1	20.5	4 11	13 38.49	− 36 15.7	2.389	3.306	8.3	20.1
4 21	13 30.60	− 21 14.3	2.599	3.590	3.1	20.5	4 21	13 29.34	− 35 50.5	2.351	3.291	7.3	20.0
5 1	13 24.06	− 20 7.1	2.619	3.594	4.8	20.6	5 1	13 20.51	− 35 5.2	2.339	3.275	7.7	20.0
5 11	13 18.53	− 18 58.3	2.668	3.597	7.3	20.7	5 11	13 12.89	− 34 5.1	2.353	3.260	9.2	20.0
5 21	13 14.44	− 17 52.6	2.742	3.601	9.8	20.9	5 21	13 7.13	− 32 56.5	2.392	3.244	11.2	20.1
167721	2004 <i>TY</i> ₃₄₄		4 15.3 222°32	0°9/16.1 17			139289	2001 <i>KR</i> ₁		4 15.3 77°73	25°1/14.7 18		R
3 12	14 0.18	− 15 32.1	1.804	2.629	14.6	20.5	3 12	15 36.48	+ 31 40.0	0.786	1.510	36.4	19.5
3 22	13 55.09	− 14 57.5	1.713	2.620	11.2	20.3	3 22	15 3.91	+ 36 25.4	0.819	1.609	30.7	19.5
4 1	13 47.67	− 14 5.8	1.644	2.610	7.1	20.0	4 1	14 26.27	+ 39 25.7	0.877	1.700	26.8	19.7
4 11	13 38.67	− 13 0.2	1.602	2.600	2.6	19.7	4 11	13 49.08	+ 40 24.3	0.959	1.783	25.2	19.9
4 21	13 29.08	− 11 46.2	1.588	2.589	2.5	19.6	4 21	13 17.52	+ 39 39.9	1.065	1.859	25.3	20.2
5 1	13 20.02	− 10 31.1	1.602	2.578	7.1	19.9	5 1	12 54.05	+ 37 47.1	1.192	1.928	26.2	20.6
5 11	13 12.52	− 9 22.8	1.642	2.565	11.4	20.1	5 11	12 38.52	+ 35 18.6	1.333	1.990	27.3	20.9
5 21	13 7.25	− 8 27.3	1.704	2.552	15.2	20.3	5 21	12 29.55	+ 32 35.9	1.486	2.046	28.0	21.3
489277	2006 <i>SS</</i>												

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2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
423208	2004 <i>RB</i> ₅₅	4 15.3 282°09		3°6/17.7 18			432404	2009 <i>YK</i> ₂₃	4 15.3 137°75		1°6/13.6 17		
3 12	14 2.38	-18 33.9	1.834	2.644	15.0	20.5	3 12	13 59.05	-6 25.5	2.378	3.214	11.1	21.9
95455	2002 <i>CY</i> ₂₉₅	4 15.3 334°20		6°3/22.3 17			7577	1990 <i>QV</i> ₄	4 15.3 145°11		4°5/ 9.9 18		
3 12	13 54.46	-31 18.8	2.152	2.903	15.0	18.9	3 12	13 55.74	+ 3 16.8	2.477	3.328	10.3	17.6
497165	2004 <i>RG</i> ₃₃₃	4 15.3 298°61		8°8/18.7 17			270369	2001 <i>YY</i> ₁₃₈	4 15.3 31°56		4°1/12.8 18		
3 12	14 13.10	-26 21.8	1.754	2.515	17.5	20.3	3 12	13 58.71	- 2 23.1	1.237	2.111	16.8	20.6
175918	2000 <i>CE</i> ₁₀₂	4 15.3 30°44		3°4/17.9 18			174189	2002 <i>QL</i> ₃	4 15.3 288°82		1°0/16.1 17		
3 12	13 56.99	-20 11.0	1.404	2.234	17.7	19.6	3 12	13 57.78	-14 56.3	1.553	2.392	15.8	20.3
138751	2000 <i>SC</i> ₂₅₉	4 15.3 146°86		2°6/12.5 18			205018	1997 <i>WR</i> ₆	4 15.3 52°59		3°8/12.9 18		
3 12	13 57.01	- 2 6.4	2.573	3.417	10.2	20.2	3 12	14 1.51	- 3 27.1	1.228	2.097	17.2	20.5
7797	<i>Morita</i>	4 15.3 216°93		3°7/10.3 18			180713	2004 <i>JM</i> ₅	4 15.3 244°99		4°0/ 9.8 18		
3 12	13 54.08	+ 1 6.3	2.755	3.605	9.4	17.4	3 12	13 54.04	+ 1 7.3	2.685	3.535	9.6	20.3
40727	1999 <i>SQ</i> ₁₁	4 15.3 195°62		2°3/13.1 18			101992	1999 <i>RT</i> ₆₇	4 15.3 178°52		6°8/23.6 18		
3 12	13 58.35	- 4 45.5	2.246	3.089	11.5	19.4	3 12	14 0.93	-36 1.7	2.977	3.662	12.5	20.3
520128	2014 <i>BE</i> ₆₆	4 15.3 100°53		1°0/14.3 17			292353	2006 <i>SB</i> ₂₂₀	4 15.3 140°80		2°4/17.8 18		
3 12	13 56.52	- 8 43.0	2.374	3.210	11.1	21.4	3 12	13 58.13	-18 58.2	2.467	3.266	12.0	20.6
172633	2003 <i>YU</i> ₇	4 15.3 340°10		2°9/17.5 17			73161	2002 <i>GC</i> ₁₄₆	4 15.3 259°73		2°1/13.7 17		
3 12	13 57.38	-18 43.5	1.445	2.278	17.2	20.1	3 12	13 59.91	- 7 3.8	1.641	2.493	14.5	20.0

2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
44925	1999 <i>VB</i> ₃₆		4 15.3 136°15	0°7/15.9	18		66737	1999 <i>TF</i> ₁₁₉		4 15.3 290°60	2°5/12.7	18	
3 12	14 0.86	-14 15.4	1.916	2.741	13.9	19.6	3 12	13 54.21	- 8 19.6	1.815	2.669	13.3	19.1
3 22	13 55.26	-13 48.7	1.845	2.752	10.5	19.4	3 22	13 50.57	- 6 52.7	1.729	2.657	9.8	18.8
4 1	13 47.61	-13 8.5	1.797	2.764	6.5	19.2	4 1	13 44.91	- 5 12.3	1.669	2.645	5.9	18.6
4 11	13 38.67	-12 18.1	1.776	2.774	2.3	18.9	4 11	13 37.91	- 3 25.4	1.635	2.632	2.6	18.3
4 21	13 29.40	-11 22.5	1.784	2.785	2.3	18.9	4 21	13 30.43	- 1 40.7	1.629	2.620	4.6	18.4
5 1	13 20.81	-10 27.6	1.819	2.794	6.5	19.2	5 1	13 23.45	- 0 7.0	1.651	2.609	8.6	18.7
5 11	13 13.75	- 9 39.5	1.882	2.803	10.3	19.5	5 11	13 17.83	+ 1 8.5	1.697	2.597	12.5	18.9
5 21	13 8.77	- 9 2.4	1.967	2.811	13.6	19.7	5 21	13 14.17	+ 2 2.1	1.765	2.585	15.9	19.1
157078	2003 <i>WQ</i> ₃₁		4 15.3 248°34	0°2/15.6	18		187073	2005 <i>NS</i> ₂₃		4 15.3 283°65	3°6/11.2	18	
3 12	13 55.76	-11 33.9	2.821	3.644	10.0	20.4	3 12	13 54.10	- 1 54.0	2.231	3.086	11.1	20.1
3 22	13 51.03	-11 25.9	2.730	3.638	7.5	20.2	3 22	13 50.04	- 0 43.1	2.159	3.085	8.2	19.9
4 1	13 44.89	-11 10.7	2.664	3.632	4.6	20.0	4 1	13 44.37	+ 0 32.0	2.113	3.084	5.2	19.7
4 11	13 37.83	-10 50.2	2.626	3.625	1.5	19.8	4 11	13 37.70	+ 1 45.1	2.094	3.084	3.6	19.6
4 21	13 30.46	-10 27.2	2.618	3.619	1.8	19.8	4 21	13 30.74	+ 2 50.4	2.104	3.083	5.1	19.7
5 1	13 23.41	-10 4.5	2.640	3.613	4.9	20.0	5 1	13 24.23	+ 3 42.7	2.142	3.082	8.1	19.9
5 11	13 17.28	- 9 45.5	2.689	3.606	7.8	20.2	5 11	13 18.87	+ 4 18.4	2.205	3.082	11.0	20.0
5 21	13 12.51	- 9 32.6	2.763	3.599	10.4	20.4	5 21	13 15.10	+ 4 36.3	2.289	3.081	13.6	20.2
258249	2001 <i>TK</i> ₁₇₀		4 15.3 179°28	1°8/17.6	18		138522	2000 <i>NW</i> ₁₉		4 15.3 176°89	5°1/22.2	18	
3 12	13 55.15	-19 48.8	2.555	3.354	11.6	20.5	3 12	13 58.43	-31 48.7	3.146	3.862	11.4	19.8
3 22	13 50.71	-19 9.3	2.466	3.355	9.0	20.3	3 22	13 53.05	-32 2.9	3.050	3.864	9.6	19.7
4 1	13 44.73	-18 14.9	2.402	3.356	6.0	20.1	4 1	13 46.14	-32 1.1	2.977	3.865	7.7	19.6
4 11	13 37.78	-17 7.8	2.365	3.356	3.0	19.9	4 11	13 38.24	-31 42.5	2.929	3.866	6.0	19.4
4 21	13 30.55	-15 52.2	2.357	3.356	2.2	19.8	4 21	13 30.01	-31 8.1	2.908	3.867	5.1	19.4
5 1	13 23.76	-14 33.4	2.379	3.356	5.0	20.0	5 1	13 22.15	-30 20.5	2.916	3.867	5.7	19.4
5 11	13 18.04	-13 17.1	2.429	3.355	8.1	20.2	5 11	13 15.29	-29 24.1	2.953	3.867	7.3	19.5
5 21	13 13.86	-12 8.3	2.504	3.354	10.9	20.4	5 21	13 9.93	-28 24.0	3.014	3.866	9.2	19.6
179466	2002 <i>BG</i> ₅		4 15.3 81°89	7°4/22.4	18		178519	1999 <i>TM</i> ₂₁₃		4 15.3 230°73	1°1/16.6	17	
3 12	14 3.07	-33 1.0	2.418	3.135	14.3	20.2	3 12	13 55.25	-15 53.2	2.790	3.600	10.4	20.9
3 22	13 57.02	-34 3.3	2.335	3.144	12.3	20.1	3 22	13 50.72	-15 31.4	2.692	3.591	8.0	20.7
4 1	13 48.80	-34 46.8	2.274	3.152	10.2	19.9	4 1	13 44.74	-14 58.8	2.620	3.581	5.1	20.5
4 11	13 39.09	-35 8.5	2.236	3.161	8.3	19.8	4 11	13 37.83	-14 17.5	2.575	3.571	2.1	20.3
4 21	13 28.80	-35 7.9	2.225	3.169	7.4	19.8	4 21	13 30.57	-13 30.4	2.561	3.561	1.8	20.2
5 1	13 18.97	-34 47.0	2.241	3.178	8.0	19.8	5 1	13 23.64	-12 41.4	2.575	3.551	4.8	20.4
5 11	13 10.57	-34 11.2	2.282	3.186	9.6	19.9	5 11	13 17.65	-11 54.9	2.618	3.540	7.8	20.6
5 21	13 4.24	-33 26.8	2.347	3.195	11.6	20.1	5 21	13 13.05	-11 14.6	2.685	3.529	10.4	20.7
143379	2003 <i>BA</i> ₁₈		4 15.3 82°31	1°9/16.9	18		215319	2001 <i>TA</i> ₁₁₉		4 15.3 277°32	3°3/22.2	18	
3 12	14 0.31	-16 54.5	1.706	2.530	15.4	20.2	3 12	13 50.08	-30 33.9	4.441	5.162	8.2	19.8
3 22	13 55.06	-16 42.9	1.643	2.547	11.8	20.0	3 22	13 46.50	-30 17.1	4.336	5.156	6.9	19.7
4 1	13 47.55	-16 14.9	1.602	2.564	7.6	19.8	4 1	13 42.01	-29 48.3	4.254	5.151	5.4	19.5
4 11	13 38.66	-15 33.3	1.586	2.581	3.4	19.6	4 11	13 36.95	-29 8.2	4.199	5.146	4.1	19.4
4 21	13 29.46	-14 42.6	1.597	2.597	2.7	19.6	4 21	13 31.73	-28 18.0	4.172	5.140	3.3	19.4
5 1	13 21.04	-13 49.4	1.636	2.614	6.7	19.9	5 1	13 26.75	-27 20.1	4.175	5.135	3.8	19.4
5 11	13 14.34	-13 0.5	1.700	2.631	10.7	20.1	5 11	13 22.39	-26 17.5	4.207	5.129	5.1	19.5
5 21	13 9.91	-12 21.2	1.786	2.647	14.1	20.4	5 21	13 18.94	-25 13.5	4.266	5.124	6.6	19.6
500322	2012 <i>RM</i> ₄₀		4 15.3 214°27	1°2/14.1	17		30486	2000 <i>PE</i> ₂₃		4 15.3 49°98	7°7/22.2	18	
3 12	13 56.53	- 8 52.3	2.282	3.120	11.5	21.5	3 12	13 59.98	-30 34.7	1.487	2.263	19.5	17.6
3 22	13 51.86	- 8 8.9	2.197	3.115	8.5	21.3	3 22	13 55.33	-30 57.2	1.430	2.286	16.2	17.4
4 1	13 45.50	- 7 16.8	2.137	3.110	5.1	21.0	4 1	13 47.93	-30 49.9	1.392	2.309	12.7	17.3
4 11	13 38.04	- 6 20.1	2.105	3.105	1.7	20.8	4 11	13 38.83	-30 11.6	1.375	2.333	9.4	17.2
4 21	13 30.22	- 5 23.6	2.102	3.099	2.9	20.9	4 21	13 29.36	-29 5.7	1.382	2.358	7.7	17.1
5 1	13 22.83	- 4 32.5	2.128	3.093	6.5	21.1	5 1	13 20.93	-27 40.0	1.414	2.382	8.7	17.2
5 11	13 16.60	- 3 51.2	2.180	3.086	9.9	21.3	5 11	13 14.64	-26 5.8	1.470	2.407	11.5	17.5
5 21	13 12.03	- 3 22.8	2.255	3.079	12.8	21.5	5 21	13 11.06	-24 33.8	1.548	2.432	14.6	17.7
92752	2000 <i>QQ</i> ₁₁₂		4 15.3 99°83	4°6/10.5	18		497682	2006 <i>SQ</i> ₂₆		4 15.3 281°80	1°7/16.5	17	
3 12	13 56.28	- 1 28.4	1.852	2.711	12.8	19.3	3 12	14 1.83	-14 30.5	1.608	2.440	15.8	21.4
3 22	13 51.82	+ 0 8.7	1.795	2.723	9.4	19.1	3 22	13 56.85	-14 41.3	1.509	2.419	12.2	21.1
4 1	13 45.48	+ 1 49.9	1.764	2.735	6.2	18.9	4 1	13 49.11	-14 38.4	1.432	2.398	7.9	20.8
4 11	13 38.02	+ 3 27.0	1.760	2.746	4.6	18.8	4 11	13 39.31	-14 22.7	1.379	2.376	3.3	20.5
4 21	13 30.31	+ 4 51.8	1.784	2.758	6.4	19.0	4 21	13 28.55	-13 57.1	1.354	2.354	3.0	20.4
5 1	13 23.27	+ 5 57.9	1.835	2.769	9.6	19.2	5 1	13 18.16	-13 26.9	1.354	2.332	7.8	20.7
5 11	13 17.65	+ 6 41.7	1.910	2.780	12.8	19.4	5 11	13 9.45	-12 58.7	1.379	2.310	12.6	20.9
5 21	13 13.93	+ 7 2.7	2.004	2.791	15.5	19.6	5 21	13 3.32	-12 38.4	1.426	2.288	16.9	21.1
346450	2008 <i>TQ</i> ₂₃		4 15.3 284°23	3°5/11.6	17		175264	2005 <i>JK</i> ₁₁₂		4 15.3 341°27	8°3/ 9.5	17	
3 12	13 54.64	- 5 6.5	1.811	2.671	13.0	21.2	3 12	13 53.79	+ 3 38.5	1.113	2.003	17.0	19.3
3 22	13 50.87	- 3 37.1	1.729	2.659	9.6	20.9	3 22	13 51.27	+ 4 57.0	1.048	1.989	13.1	19.1
4 1	13 45.08	- 1 57.4	1.672	2.647	5.9	20.7	4 1	13 45.78	+ 6 16.3	1.004	1.975	9.6	18.8
4 11	13 37.95	- 0 15.1	1.642	2.636	3.6	20.5	4 11	13 38.26	+ 7 24.0	0.981	1.963	8.3	18.7
4 21	13 30.35	+ 1 21.2	1.639	2.624	5.6	20.6	4 21	13 30.01	+ 8 8.8	0.981	1.952	10.6	18.8
5 1	13 23.25	+ 2 43.2	1.664	2.613	9.3	20.8	5 1	13 22.54	+ 8 22.6	1.001	1.943	14.7	19.0
5 11	13 17.52	+ 3 44.7	1.712	2.601	13.1	21.0	5 11	13 17.14	+ 8 2.7	1.040	1.936	18.9	19.2
5 21	13 13.75	+ 4 23.2	1.781	2.590	16.3	21.2	5 21	13 14.61	+ 7 11.8	1.094	1.930	22.7	19.4
268104	2004 <i>RX</i> <												

EPHEMERIDES

4 15.3

4 15.4

2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
347252	2011 <i>KD</i> ₈		4 15.3 259°45	0°9/16.3	17		209534	2004 <i>TM</i> ₃₂₃		4 15.3 44°05	2°5/13.9	18	
3 12	13 56.84	-15 16.2	2.203	3.024	12.5	21.4	3 12	14 2.23	-5 38.1	1.172	2.041	17.9	19.6
3 22	13 52.32	-14 49.3	2.103	3.008	9.5	21.1	3 22	13 57.14	-5 22.5	1.123	2.056	13.2	19.4
4 1	13 45.91	-14 8.9	2.027	2.992	6.1	20.9	4 1	13 49.09	-4 59.4	1.095	2.072	8.0	19.1
4 11	13 38.23	-13 17.4	1.979	2.976	2.3	20.6	4 11	13 39.23	-4 34.9	1.090	2.089	3.0	18.9
4 21	13 30.05	-12 18.8	1.958	2.959	2.1	20.6	4 21	13 29.02	-4 15.5	1.109	2.106	4.8	19.1
5 1	13 22.24	-11 18.7	1.966	2.942	6.0	20.8	5 1	13 19.95	-4 6.9	1.153	2.124	9.9	19.4
5 11	13 15.62	-10 22.8	2.001	2.925	9.7	21.0	5 11	13 13.21	-4 13.1	1.218	2.142	14.5	19.7
5 21	13 10.77	-9 36.0	2.060	2.907	13.0	21.1	5 21	13 9.39	-4 35.1	1.303	2.161	18.4	20.0
250405	2003 <i>UV</i> ₂₂₂		4 15.3 156°69	1°7/16.9	18		55120	2001 <i>QP</i> ₁₆₈		4 15.3 244°33	2°6/12.4	18	
3 12	14 1.30	-17 16.1	2.017	2.828	13.8	21.4	3 12	13 54.71	-4 45.6	2.353	3.201	10.8	19.4
3 22	13 55.60	-16 57.3	1.939	2.836	10.6	21.2	3 22	13 50.49	-3 44.3	2.269	3.193	8.0	19.2
4 1	13 47.85	-16 23.2	1.884	2.843	6.9	21.0	4 1	13 44.69	-2 36.9	2.211	3.185	4.9	19.0
4 11	13 38.80	-15 36.3	1.855	2.850	3.1	20.7	4 11	13 37.86	-1 28.3	2.182	3.177	2.6	18.8
4 21	13 29.37	-14 40.6	1.855	2.856	2.5	20.7	4 21	13 30.69	-0 23.9	2.181	3.168	4.1	18.9
5 1	13 20.55	-13 41.9	1.884	2.861	6.2	20.9	5 1	13 23.92	+0 30.9	2.209	3.160	7.2	19.0
5 11	13 13.22	-12 46.7	1.940	2.865	9.9	21.2	5 11	13 18.23	+1 12.3	2.262	3.151	10.3	19.2
5 21	13 7.93	-12 0.1	2.020	2.869	13.1	21.4	5 21	13 14.09	+1 38.0	2.338	3.142	13.0	19.4
387574	2001 <i>TN</i> ₂₁		4 15.3 156°29	2°5/12.6	18		256707	2008 <i>AU</i> ₂₁		4 15.4 172°23	2°2/13.3	16	
3 12	13 57.76	-2 10.1	2.723	3.563	9.8	21.5	3 12	14 0.69	-5 49.1	2.138	2.977	12.1	21.9
3 22	13 52.42	-1 39.4	2.651	3.569	7.2	21.3	3 22	13 54.99	-5 2.6	2.063	2.982	8.9	21.7
4 1	13 45.69	-1 6.6	2.605	3.575	4.5	21.1	4 1	13 47.43	-4 9.5	2.013	2.985	5.4	21.5
4 11	13 38.11	-0 35.3	2.588	3.581	2.5	21.0	4 11	13 38.71	-3 14.8	1.991	2.988	2.4	21.3
4 21	13 30.29	-0 9.0	2.600	3.586	3.7	21.1	4 21	13 29.65	-2 23.5	1.998	2.990	3.8	21.4
5 1	13 22.91	+0 9.2	2.642	3.591	6.3	21.3	5 1	13 21.14	-1 41.0	2.034	2.991	7.4	21.7
5 11	13 16.54	+0 17.2	2.711	3.595	9.0	21.4	5 11	13 13.97	-1 11.1	2.097	2.991	10.7	21.9
5 21	13 11.59	+0 14.0	2.803	3.599	11.3	21.6	5 21	13 8.64	-0 55.8	2.181	2.991	13.7	22.1
372529	2009 <i>ST</i> ₃₅₈		4 15.3 187°79	4°7/19.2	17		222643	2001 <i>XZ</i> ₁₃₇		4 15.4 182°68	4°5/19.9	17	
3 12	14 2.33	-23 34.9	2.035	2.818	14.7	20.7	3 12	13 58.15	-26 2.6	2.019	2.798	14.9	20.3
3 22	13 56.63	-24 4.7	1.947	2.817	11.9	20.5	3 22	13 53.46	-25 46.2	1.931	2.798	12.1	20.1
4 1	13 48.64	-24 17.4	1.881	2.817	8.8	20.3	4 1	13 46.67	-25 7.7	1.864	2.798	8.9	19.9
4 11	13 39.10	-24 12.0	1.841	2.816	5.8	20.1	4 11	13 38.50	-24 7.6	1.823	2.798	5.8	19.7
4 21	13 28.97	-23 49.8	1.828	2.815	4.8	20.1	4 21	13 29.89	-22 49.4	1.808	2.798	4.5	19.6
5 1	13 19.35	-23 14.4	1.843	2.813	6.8	20.2	5 1	13 21.87	-21 19.6	1.822	2.797	6.4	19.7
5 11	13 11.24	-22 32.1	1.884	2.812	9.9	20.4	5 11	13 15.32	-19 46.6	1.862	2.796	9.7	19.9
5 21	13 5.31	-21 49.4	1.948	2.809	13.0	20.6	5 21	13 10.83	-18 18.3	1.926	2.794	12.9	20.1
519636	2012 <i>UV</i> ₁₈₂		4 15.3 161°17	0°1/15.2	17		278934	2008 <i>UO</i> ₁₃		4 15.4 295°39	2°7/12.1	17	
3 12	13 56.93	-11 20.6	2.420	3.248	11.2	21.9	3 12	13 54.40	-11 0.8	1.768	2.617	13.8	19.8
3 22	13 52.06	-10 57.3	2.340	3.251	8.4	21.7	3 22	13 50.80	-8 40.7	1.677	2.602	10.1	19.6
4 1	13 45.59	-10 25.2	2.284	3.254	5.1	21.5	4 1	13 45.12	-5 59.2	1.612	2.588	6.0	19.3
4 11	13 38.11	-9 47.2	2.257	3.256	1.5	21.2	4 11	13 38.04	-3 5.7	1.576	2.573	2.8	19.0
4 21	13 30.33	-9 7.0	2.259	3.259	2.1	21.3	4 21	13 30.47	-0 13.0	1.570	2.559	5.2	19.1
5 1	13 22.99	-8 28.8	2.289	3.261	5.6	21.5	5 1	13 23.42	+2 25.9	1.593	2.544	9.5	19.4
5 11	13 16.77	-7 56.8	2.347	3.262	8.8	21.7	5 11	13 17.77	+4 40.5	1.643	2.530	13.6	19.6
5 21	13 12.14	-7 33.7	2.429	3.264	11.6	21.9	5 21	13 14.15	+6 25.2	1.714	2.516	17.1	19.8
479194	2013 <i>CR</i> ₇₂		4 15.3 247°98	5°6/21.8	17		8801	Nugent		4 15.4 205°07	1°1/16.6	18	
3 12	13 56.66	-30 18.5	2.547	3.288	13.1	21.0	3 12	13 55.58	-15 52.5	2.512	3.326	11.3	18.8
3 22	13 52.08	-30 32.6	2.452	3.286	11.0	20.8	3 22	13 51.10	-15 29.8	2.423	3.324	8.6	18.6
4 1	13 45.72	-30 28.1	2.379	3.283	8.7	20.7	4 1	13 45.04	-14 55.4	2.360	3.322	5.5	18.4
4 11	13 38.18	-30 4.3	2.330	3.280	6.6	20.5	4 11	13 37.98	-14 11.6	2.323	3.319	2.3	18.2
4 21	13 30.21	-29 22.3	2.308	3.277	5.6	20.4	4 21	13 30.59	-13 21.8	2.316	3.317	1.9	18.2
5 1	13 22.66	-28 25.7	2.314	3.274	6.4	20.5	5 1	13 23.60	-12 30.5	2.338	3.314	5.1	18.4
5 11	13 16.29	-27 20.1	2.346	3.271	8.4	20.6	5 11	13 17.67	-11 42.5	2.387	3.311	8.3	18.6
5 21	13 11.65	-26 11.7	2.403	3.268	10.8	20.8	5 21	13 13.28	-11 1.5	2.461	3.308	11.1	18.7
375829	2009 <i>UB</i> ₈₆		4 15.3 212°41	0°2/15.5	17		331618	2002 <i>AL</i> ₈₂		4 15.4 120°63	4°9/20.6	18	
3 12	14 0.62	-12 5.6	2.253	3.076	12.2	23.1	3 12	13 59.12	-27 26.9	2.036	2.805	15.1	20.9
3 22	13 55.01	-11 48.5	2.160	3.068	9.2	22.9	3 22	13 54.09	-27 14.8	1.957	2.816	12.4	20.7
4 1	13 47.51	-11 21.3	2.092	3.060	5.7	22.7	4 1	13 46.99	-26 40.2	1.901	2.827	9.2	20.6
4 11	13 38.73	-10 46.6	2.052	3.051	1.8	22.4	4 11	13 38.59	-25 43.8	1.869	2.838	6.3	20.4
4 21	13 29.49	-10 8.0	2.041	3.042	2.2	22.4	4 21	13 29.84	-24 28.9	1.864	2.849	4.9	20.3
5 1	13 20.67	-9 30.0	2.060	3.032	6.1	22.7	5 1	13 21.76	-23 1.8	1.887	2.859	6.5	20.5
5 11	13 13.09	-8 57.4	2.106	3.021	9.7	22.9	5 11	13 15.21	-21 31.0	1.936	2.869	9.4	20.6
5 21	13 7.32	-8 33.7	2.175	3.010	12.8	23.0	5 21	13 10.75	-20 4.1	2.010	2.878	12.4	20.9
337914	2001 <i>XW</i> ₁₂₈		4 15.3 91°69	1°2/14.1	17		266437	2007 <i>HG</i> ₇		4 15.4 304°68	7°9/9.2	18	
3 12	13 56.58	-8 7.3	2.377	3.214	11.1	21.2	3 12	14 0.48	+8 49.2	1.674	2.532	14.0	19.1
3 22	13 51.69	-7 31.4	2.314	3.232	8.1	21.0	3 22	13 55.45	+9 41.6	1.598	2.516	11.1	18.9
4 1	13 45.29	-6 48.8	2.277	3.249	4.8	20.9	4 1	13 48.02	+10 28.1	1.545	2.499	8.7	18.7
4 11	13 38.00	-6 3.5	2.267	3.266	1.6	20.7	4 11	13 38.96	+11 0.5	1.517	2.483	7.9	18.6
4 21	13 30.51	-5 19.8	2.287	3.283	2.8	20.8	4 21	13 29.32	+11 11.9	1.514	2.467	9.5	18.7
5 1	13 23.55	-4 41.7	2.336	3.300	6.0	21.0	5 1	13 20.26	+10 58.3	1.536	2.451	12.5	18.8
5 11	13 17.76	-4 12.9	2.411	3.317	9.1	21.2	5 11	13 12.82	+10 19.0	1.580	2.435	15.7	19.0
5 21	13 13.53	-3 55.2	2.510	3.333	11.7	21.4	5 21	13 7.69	+9 16.7	1.642	2.420	18.7	19.2
523537	2017 <i>QT</i> ₃		4 15.3 280°00	3°1/12.7	17		331542	2000 <i>TZ</i> ₃₄		4 15.4 198°33	0°4/14.9	17	
3 12	13 57.0												

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2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
137409	1999 <i>TJ</i> ₁₈₆		4 15.4 235°22	3°9/18.3	17		458994	2011 <i>WV</i> ₁₂₆		4 15.4 151°83	2°0/17.2	16	
3 12	14 2.47	-20 56.1	1.835	2.636	15.4	20.5	3 12	14 2.09	-18 10.0	1.928	2.737	14.4	23.0
3 22	13 57.01	-21 14.0	1.741	2.626	12.3	20.2	3 22	13 56.29	-17 46.7	1.851	2.747	11.1	22.8
4 1	13 49.05	-21 14.5	1.668	2.616	8.7	20.0	4 1	13 48.35	-17 6.6	1.798	2.756	7.3	22.6
4 11	13 39.31	-20 57.2	1.620	2.605	5.2	19.8	4 11	13 39.04	-16 12.1	1.771	2.764	3.4	22.4
4 21	13 28.83	-20 24.0	1.600	2.594	4.1	19.7	4 21	13 29.36	-15 7.8	1.772	2.772	2.6	22.3
5 1	13 18.82	-19 39.4	1.607	2.582	7.1	19.8	5 1	13 20.35	-14 0.2	1.802	2.779	6.3	22.6
5 11	13 10.40	-18 50.7	1.639	2.570	10.9	20.0	5 11	13 12.91	-12 56.4	1.859	2.785	10.2	22.8
5 21	13 4.36	-18 4.9	1.695	2.558	14.6	20.2	5 21	13 7.63	-12 2.0	1.939	2.790	13.5	23.0
246503	2008 <i>AQ</i> ₁₁₇		4 15.4 285°41	4°0/19.1	18		151445	2002 <i>GW</i> ₄₉		4 15.4 232°56	6°8/22.5	16	
3 12	13 57.70	-22 55.8	2.308	3.094	13.1	20.5	3 12	14 0.31	-32 59.9	2.627	3.343	13.3	20.2
3 22	13 53.02	-23 12.6	2.208	3.081	10.5	20.3	3 22	13 54.92	-33 45.7	2.531	3.340	11.5	20.0
4 1	13 46.41	-23 14.0	2.130	3.068	7.7	20.1	4 1	13 47.56	-34 13.8	2.456	3.336	9.5	19.9
4 11	13 38.46	-22 59.9	2.078	3.055	5.0	19.9	4 11	13 38.83	-34 21.8	2.406	3.333	7.7	19.8
4 21	13 29.96	-22 31.7	2.053	3.042	4.0	19.8	4 21	13 29.55	-34 9.6	2.381	3.329	6.8	19.7
5 1	13 21.81	-21 52.8	2.056	3.029	6.0	19.9	5 1	13 20.63	-33 39.2	2.384	3.326	7.3	19.7
5 11	13 14.85	-21 8.7	2.086	3.016	9.0	20.1	5 11	13 12.92	-32 55.5	2.413	3.322	8.9	19.8
5 21	13 9.71	-20 24.9	2.140	3.003	12.0	20.3	5 21	13 7.05	-32 4.3	2.466	3.318	11.0	19.9
432939	2011 <i>XG</i> ₁		4 15.4 254°63	12°9/ 3.1	18		503146	2015 <i>GT</i> ₂₁		4 15.4 147°70	1°0/14.3	17	
3 12	13 57.26	+ 6 55.4	1.006	1.896	18.4	20.3	3 12	13 56.94	- 9 12.0	2.177	3.015	11.9	21.7
3 22	13 54.14	+10 37.4	0.954	1.888	14.9	20.0	3 22	13 52.23	- 8 34.6	2.101	3.019	8.8	21.5
4 1	13 47.69	+14 22.3	0.925	1.879	13.0	19.9	4 1	13 45.78	- 7 48.6	2.050	3.022	5.3	21.3
4 11	13 38.94	+17 45.3	0.918	1.869	13.9	19.9	4 11	13 38.24	- 6 58.1	2.026	3.025	1.7	21.0
4 21	13 29.40	+20 24.7	0.934	1.860	17.1	20.0	4 21	13 30.38	- 6 7.7	2.031	3.028	2.8	21.1
5 1	13 20.81	+22 7.6	0.969	1.850	21.0	20.2	5 1	13 23.03	- 5 22.5	2.064	3.031	6.5	21.4
5 11	13 14.61	+22 52.4	1.019	1.840	24.8	20.4	5 11	13 16.91	- 4 46.9	2.124	3.034	9.9	21.6
5 21	13 11.60	+22 45.7	1.080	1.830	28.0	20.6	5 21	13 12.52	- 4 23.7	2.206	3.037	12.8	21.8
161240	2003 <i>BK</i> ₉		4 15.4 268°21	4°2/19.7	18		481381	2006 <i>OS</i> ₅		4 15.4 288°87	10°8/25.8	17	
3 12	13 56.88	-24 35.2	2.287	3.066	13.4	19.9	3 12	14 8.59	-47 27.2	2.833	3.419	14.8	24.1
3 22	13 52.38	-24 40.0	2.191	3.060	10.8	19.7	3 22	14 1.91	-48 24.4	2.687	3.371	13.8	23.9
4 1	13 45.99	-24 27.5	2.119	3.053	8.0	19.5	4 1	13 52.34	-49 0.1	2.558	3.322	12.7	23.7
4 11	13 38.33	-23 57.6	2.071	3.046	5.3	19.3	4 11	13 40.47	-49 8.6	2.449	3.271	11.6	23.5
4 21	13 30.19	-23 12.5	2.051	3.039	4.2	19.3	4 21	13 27.27	-48 45.5	2.363	3.219	10.9	23.4
5 1	13 22.47	-22 16.4	2.059	3.032	6.0	19.3	5 1	13 14.09	-47 49.8	2.301	3.167	10.9	23.3
5 11	13 15.99	-21 15.4	2.093	3.025	8.9	19.5	5 11	13 2.30	-46 25.1	2.263	3.113	11.8	23.3
5 21	13 11.32	-20 15.5	2.152	3.018	11.8	19.7	5 21	12 52.95	-44 38.9	2.249	3.057	13.3	23.3
367167	2006 <i>WR</i> ₅₅		4 15.4 117°66	2°3/13.3	18		168352	1995 <i>VV</i> ₃		4 15.4 69°10	2°7/12.7	17	
3 12	14 1.02	- 5 13.4	2.001	2.844	12.7	21.5	3 12	13 56.78	- 3 6.5	2.182	3.031	11.5	20.5
3 22	13 55.21	- 4 32.4	1.941	2.862	9.3	21.3	3 22	13 52.03	- 2 30.0	2.116	3.040	8.5	20.3
4 1	13 47.53	- 3 46.0	1.906	2.879	5.6	21.1	4 1	13 45.61	- 1 50.1	2.076	3.049	5.2	20.1
4 11	13 38.74	- 2 59.1	1.898	2.895	2.5	21.0	4 11	13 38.18	- 1 11.4	2.063	3.057	2.8	20.0
4 21	13 29.73	- 2 16.9	1.920	2.911	4.0	21.1	4 21	13 30.49	- 0 38.5	2.078	3.066	4.2	20.1
5 1	13 21.42	- 1 44.2	1.969	2.927	7.5	21.3	5 1	13 23.34	- 0 15.3	2.121	3.075	7.3	20.3
5 11	13 14.55	- 1 24.3	2.044	2.942	10.8	21.6	5 11	13 17.42	- 0 4.7	2.190	3.084	10.4	20.5
5 21	13 9.62	- 1 18.7	2.142	2.956	13.7	21.8	5 21	13 13.18	- 0 7.5	2.281	3.093	13.1	20.7
74052	1998 <i>JB</i> ₁		4 15.4 294°69	2°9/13.5	18		370825	2004 <i>VX</i> ₁₈		4 15.4 228°81	2°6/18.1	18	
3 12	14 0.78	- 4 34.5	1.473	2.333	15.4	18.6	3 12	13 56.64	-21 22.2	2.082	2.883	13.8	20.2
3 22	13 56.04	- 4 10.3	1.390	2.318	11.6	18.3	3 22	13 52.26	-20 45.7	1.989	2.877	10.8	20.0
4 1	13 48.57	- 3 39.5	1.329	2.304	7.1	18.1	4 1	13 45.93	-19 49.7	1.919	2.871	7.4	19.7
4 11	13 39.19	- 3 7.3	1.292	2.290	3.2	17.8	4 11	13 38.32	-18 36.2	1.876	2.865	3.9	19.5
4 21	13 29.04	- 2 40.1	1.281	2.275	5.0	17.8	4 21	13 30.27	-17 10.0	1.860	2.858	2.9	19.4
5 1	13 19.47	- 2 24.0	1.296	2.261	9.7	18.1	5 1	13 22.72	-15 37.7	1.873	2.851	6.0	19.6
5 11	13 11.68	- 2 23.5	1.334	2.248	14.3	18.3	5 11	13 16.50	-14 7.4	1.913	2.844	9.6	19.8
5 21	13 6.49	- 2 40.5	1.392	2.234	18.3	18.5	5 21	13 12.19	-12 46.0	1.977	2.837	12.9	20.0
174064	2002 <i>DM</i> ₁₅		4 15.4 218°65	5°1/ 8.3	18		338119	2002 <i>QU</i> ₇₀		4 15.4 276°47	1°1/14.3	17	
3 12	13 53.85	+ 5 18.1	2.632	3.484	9.7	20.2	3 12	13 56.55	- 9 0.8	2.010	2.853	12.6	21.1
3 22	13 49.69	+ 6 42.1	2.562	3.479	7.5	20.1	3 22	13 52.17	- 8 24.3	1.925	2.845	9.3	20.9
4 1	13 44.14	+ 8 5.1	2.518	3.474	5.6	20.0	4 1	13 45.87	- 7 38.2	1.864	2.837	5.6	20.7
4 11	13 37.71	+ 9 21.2	2.503	3.469	5.2	19.9	4 11	13 38.31	- 6 46.9	1.830	2.830	1.8	20.4
4 21	13 31.02	+10 25.1	2.516	3.463	6.5	20.0	4 21	13 30.30	- 5 55.3	1.824	2.822	3.1	20.5
5 1	13 24.70	+11 12.7	2.557	3.458	8.7	20.1	5 1	13 22.76	- 5 9.1	1.846	2.814	7.0	20.7
5 11	13 19.34	+11 41.8	2.622	3.452	11.0	20.3	5 11	13 16.50	- 4 33.3	1.893	2.806	10.8	20.9
5 21	13 15.35	+11 52.1	2.707	3.446	13.0	20.4	5 21	13 12.11	- 4 11.0	1.963	2.798	14.0	21.1
496224	2011 <i>WU</i> ₁₀₉		4 15.4 331°44	2°3/17.0	17		264763	2002 <i>EY</i> ₁₀₇		4 15.4 65°51	5°2/20.3	18	
3 12	13 54.91	-17 49.6	1.217	2.067	18.6	20.8	3 12	13 59.05	-26 18.3	1.716	2.503	16.8	20.2
3 22	13 52.14	-17 27.6	1.138	2.056	14.5	20.5	3 22	13 54.31	-26 16.7	1.651	2.522	13.6	20.0
4 1	13 46.40	-16 40.6	1.078	2.046	9.6	20.1	4 1	13 47.23	-25 50.9	1.606	2.541	10.1	19.8
4 11	13 38.55	-15 31.3	1.040	2.037	4.3	19.8	4 11	13 38.71	-25 1.8	1.585	2.559	6.7	19.6
4 21	13 29.89	-14 6.4	1.026	2.028	3.3	19.7	4 21	13 29.86	-23 53.1	1.590	2.578	5.2	19.6
5 1	13 21.93	-12 36.8	1.036	2.020	8.7	20.0	5 1	13 21.83	-22 32.2	1.622	2.597	7.1	19.7
5 11	13 16.05	-11 14.6	1.068	2.013	14.0	20.3	5 11	13 15.58	-21 8.2	1.679	2.616	10.3	20.0
5 21	13 13.06	-10 8.8	1.119	2.007	18.7	20.5	5 21	13 11.65	-19 49.3	1.759	2.635	13.5	20.2
141083	2001 <i>XE</i> ₃₅		4 15.4 166°63	3°5/19.3	18		192873	1999 <i>X</i>					

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2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
223246	2003 <i>FQ</i> ₃₆		4 15.4 245 ^o 70		0 ^o 1/15.3 17		502978	2015 <i>FA</i> ₅₁		4 15.4 111 ^o 17		8 ^o 0/ 5.9 17	
3 12	13 58.39	-12 5.9	1.984	2.817	13.2	20.9	3 12	13 55.72	+ 8 43.1	1.890	2.751	12.5	20.7
3 22	13 53.63	-11 36.8	1.892	2.806	9.9	20.7	3 22	13 51.50	+10 51.3	1.841	2.757	10.0	20.6
4 1	13 46.83	-10 55.6	1.825	2.795	6.1	20.4	4 1	13 45.40	+12 54.8	1.817	2.763	8.3	20.5
4 11	13 38.63	-10 5.6	1.784	2.784	1.9	20.1	4 11	13 38.15	+14 43.4	1.820	2.768	8.3	20.5
4 21	13 29.91	- 9 11.6	1.772	2.772	2.5	20.1	4 21	13 30.62	+16 8.9	1.850	2.774	10.0	20.6
5 1	13 21.63	- 8 19.4	1.787	2.760	6.8	20.4	5 1	13 23.71	+17 6.3	1.904	2.779	12.5	20.8
5 11	13 14.71	- 7 34.9	1.829	2.748	10.7	20.6	5 11	13 18.18	+17 34.2	1.979	2.785	14.9	20.9
5 21	13 9.74	- 7 2.2	1.893	2.735	14.2	20.8	5 21	13 14.53	+17 34.7	2.072	2.790	17.1	21.1
235198	2003 <i>SL</i> ₁₄₈		4 15.4 199 ^o 98		5 ^o 5/ 8.6 18		389786	2011 <i>UW</i> ₅₃		4 15.4 295 ^o 92		1 ^o 9/17.2 16	
3 12	13 57.08	+ 6 24.7	2.508	3.356	10.3	20.9	3 12	13 55.87	-17 44.0	2.154	2.969	12.9	21.1
3 22	13 52.13	+ 7 38.9	2.438	3.352	8.0	20.7	3 22	13 51.80	-17 26.1	2.042	2.941	10.1	20.8
4 1	13 45.65	+ 8 51.0	2.394	3.348	6.1	20.6	4 1	13 45.77	-16 52.8	1.955	2.914	6.7	20.6
4 11	13 38.21	+ 9 55.0	2.379	3.343	5.6	20.6	4 11	13 38.34	-16 5.7	1.893	2.887	3.2	20.3
4 21	13 30.48	+10 45.7	2.391	3.337	6.9	20.6	4 21	13 30.28	-15 8.0	1.859	2.859	2.5	20.2
5 1	13 23.17	+11 19.1	2.431	3.331	9.1	20.8	5 1	13 22.51	-14 5.1	1.853	2.831	6.0	20.4
5 11	13 16.93	+11 33.6	2.495	3.325	11.5	20.9	5 11	13 15.91	-13 3.4	1.874	2.804	9.9	20.5
5 21	13 12.21	+11 29.4	2.580	3.318	13.6	21.0	5 21	13 11.13	-12 8.7	1.918	2.776	13.4	20.7
212567	2006 <i>SW</i> ₈₅		4 15.4 292 ^o 36		0 ^o 8/14.5 17		56802	2000 <i>PZ</i> ₉		4 15.4 302 ^o 19		0 ^o 8/15.9 18	
3 12	13 54.42	-10 57.9	2.183	3.022	11.9	20.8	3 12	14 1.70	-11 30.5	1.613	2.454	15.3	19.1
3 22	13 50.42	-10 6.3	2.100	3.018	8.8	20.6	3 22	13 56.77	-11 47.6	1.515	2.431	11.7	18.8
4 1	13 44.72	- 9 3.7	2.043	3.015	5.3	20.4	4 1	13 49.12	-11 54.9	1.439	2.409	7.4	18.5
4 11	13 37.94	- 7 54.4	2.012	3.012	1.6	20.1	4 11	13 39.45	-11 53.8	1.388	2.386	2.6	18.2
4 21	13 30.82	- 6 43.9	2.010	3.009	2.7	20.2	4 21	13 28.82	-11 46.9	1.363	2.364	2.8	18.1
5 1	13 24.15	- 5 38.2	2.037	3.006	6.4	20.4	5 1	13 18.54	-11 38.6	1.365	2.342	7.9	18.4
5 11	13 18.65	- 4 42.5	2.090	3.003	9.9	20.6	5 11	13 9.89	-11 34.0	1.391	2.321	12.6	18.6
5 21	13 14.81	- 4 0.4	2.166	3.000	12.9	20.8	5 21	13 3.77	-11 37.5	1.439	2.299	16.9	18.8
48974	1998 <i>QS</i> ₃₉		4 15.4 289 ^o 17		2 ^o 5/13.4 18		204121	2003 <i>WB</i> ₁₉₂		4 15.4 174 ^o 70		5 ^o 0/20.9 18	
3 12	13 58.51	- 6 30.3	1.564	2.421	14.8	19.2	3 12	13 58.58	-28 4.0	2.383	3.139	13.5	20.5
3 22	13 54.28	- 5 47.0	1.472	2.400	11.1	18.9	3 22	13 53.58	-28 9.1	2.293	3.141	11.2	20.3
4 1	13 47.50	- 4 53.2	1.404	2.379	6.8	18.6	4 1	13 46.69	-27 55.2	2.225	3.142	8.6	20.1
4 11	13 38.90	- 3 54.4	1.360	2.358	2.8	18.3	4 11	13 38.58	-27 22.0	2.181	3.143	6.1	20.0
4 21	13 29.52	- 2 58.0	1.343	2.337	4.7	18.4	4 21	13 30.05	-26 31.3	2.165	3.144	5.0	19.9
5 1	13 20.60	- 2 11.4	1.352	2.316	9.4	18.6	5 1	13 22.01	-25 27.5	2.177	3.144	6.2	20.0
5 11	13 13.30	- 1 41.0	1.384	2.295	14.0	18.8	5 11	13 15.25	-24 16.9	2.216	3.144	8.7	20.1
5 21	13 8.41	- 1 30.1	1.435	2.274	18.0	19.0	5 21	13 10.33	-23 5.9	2.280	3.144	11.3	20.3
173792	2001 <i>SY</i> ₁₃₃		4 15.4 80 ^o 65		1 ^o 3/13.9 18		404156	2013 <i>CS</i> ₄₆		4 15.4 313 ^o 86		1 ^o 7/16.3 16	
3 12	13 55.31	-10 2.4	2.218	3.056	11.7	20.1	3 12	14 1.95	-13 36.5	1.269	2.118	18.1	21.3
3 22	13 50.86	- 8 51.2	2.158	3.077	8.6	19.9	3 22	13 57.40	-13 54.7	1.190	2.109	13.9	21.0
4 1	13 44.86	- 7 30.5	2.124	3.097	5.1	19.7	4 1	13 49.66	-13 58.0	1.131	2.101	9.0	20.7
4 11	13 37.95	- 6 5.9	2.118	3.118	1.7	19.5	4 11	13 39.63	-13 47.6	1.095	2.093	3.6	20.3
4 21	13 30.88	- 4 43.4	2.142	3.138	3.0	19.6	4 21	13 28.65	-13 27.2	1.083	2.085	3.3	20.3
5 1	13 24.39	- 3 29.0	2.195	3.158	6.4	19.9	5 1	13 18.35	-13 3.0	1.096	2.077	8.8	20.6
5 11	13 19.11	- 2 27.5	2.274	3.178	9.6	20.1	5 11	13 10.21	-12 42.3	1.132	2.070	14.0	20.8
5 21	13 15.45	- 1 41.5	2.376	3.197	12.3	20.3	5 21	13 5.13	-12 31.3	1.187	2.063	18.6	21.1
347613	2001 <i>RJ</i> ₁₅₀		4 15.4 248 ^o 26		2 ^o 9/13.0 17		104527	2000 <i>GS</i> ₅₁		4 15.4 263 ^o 88		0 ^o 9/14.6 18	
3 12	14 0.39	- 6 21.4	1.592	2.445	14.8	21.3	3 12	13 59.75	- 7 46.5	2.128	2.965	12.2	20.0
3 22	13 55.58	- 5 22.2	1.505	2.431	11.0	21.0	3 22	13 54.46	- 7 40.0	2.043	2.960	9.1	19.8
4 1	13 48.23	- 4 11.7	1.441	2.416	6.7	20.7	4 1	13 47.25	- 7 27.2	1.982	2.954	5.5	19.6
4 11	13 39.11	- 2 56.4	1.403	2.400	3.1	20.4	4 11	13 38.77	- 7 11.0	1.949	2.949	1.7	19.3
4 21	13 29.29	- 1 44.4	1.392	2.384	5.0	20.5	4 21	13 29.84	- 6 54.9	1.945	2.943	2.7	19.4
5 1	13 20.00	- 0 44.1	1.407	2.367	9.6	20.7	5 1	13 21.37	- 6 42.6	1.969	2.938	6.6	19.6
5 11	13 12.37	- 0 1.9	1.447	2.350	14.1	21.0	5 11	13 14.18	- 6 37.4	2.019	2.932	10.2	19.8
5 21	13 7.16	+ 0 19.1	1.506	2.332	17.9	21.2	5 21	13 8.84	- 6 41.8	2.092	2.927	13.3	20.0
3681	Boyan		4 15.4 278 ^o 40		3 ^o 1/13.1 18		169271	2001 <i>SX</i> ₂₀₄		4 15.4 11 ^o 06		2 ^o 8/12.5 18	
3 12	13 59.50	- 6 6.5	1.446	2.307	15.6	16.9	3 12	13 54.47	- 5 20.1	1.993	2.847	12.2	19.9
3 22	13 55.21	- 5 12.5	1.357	2.286	11.7	16.6	3 22	13 50.55	- 4 15.3	1.921	2.848	9.0	19.7
4 1	13 48.17	- 4 6.5	1.290	2.266	7.2	16.3	4 1	13 44.84	- 3 3.3	1.874	2.849	5.5	19.5
4 11	13 39.13	- 2 55.2	1.247	2.245	3.3	16.0	4 11	13 38.01	- 1 50.1	1.854	2.850	2.8	19.3
4 21	13 29.24	- 1 47.3	1.231	2.224	5.4	16.0	4 21	13 30.85	- 0 42.2	1.862	2.851	4.5	19.4
5 1	13 19.84	- 0 51.5	1.240	2.202	10.3	16.2	5 1	13 24.21	+ 0 14.5	1.897	2.852	7.9	19.6
5 11	13 12.21	- 0 15.0	1.271	2.181	15.2	16.5	5 11	13 18.84	+ 0 55.5	1.958	2.854	11.3	19.8
5 21	13 7.18	- 0 1.2	1.322	2.159	19.4	16.7	5 21	13 15.23	+ 1 18.7	2.039	2.856	14.2	20.0
17754	1998 <i>DN</i> ₈		4 15.4 245 ^o 49		3 ^o 6/19.1 18		388284	2006 <i>SY</i> ₁₂		4 15.4 144 ^o 12		2 ^o 6/11.7 17	
3 12	13 57.77	-22 56.1	2.518	3.298	12.2	18.4	3 12	13 55.12	- 2 45.2	2.923	3.764	9.1	22.8
3 22	13 52.91	-23 3.3	2.417	3.288	9.9	18.2	3 22	13 50.43	- 1 40.7	2.856	3.776	6.7	22.7
4 1	13 46.28	-22 55.7	2.339	3.277	7.1	18.0	4 1	13 44.51	- 0 33.1	2.816	3.787	4.2	22.5
4 11	13 38.46	-22 33.5	2.288	3.266	4.6	17.9	4 11	13 37.87	+ 0 33.2	2.806	3.797	2.6	22.4
4 21	13 30.16	-21 58.5	2.264	3.255	3.6	17.8	4 21	13 31.05	+ 1 33.9	2.826	3.807	3.9	22.5
5 1	13 22.20	-21 14.1	2.270	3.243	5.5	17.9	5 1	13 24.63	+ 2 25.0	2.876	3.816	6.3	22.7
5 11	13 15.35	-20 25.6	2.303	3.231	8.3	18.0	5 11	13 19.11	+ 3 3.9	2.953	3.825	8.7	22.9
5 21	13 10.17	-19 37.											

4 15.4							4 15.4						
2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
214451	2005 <i>SL</i> ₅₆	4 15.4 272°69	0°4/14.9	16			380606	2004 <i>TC</i> ₆₈	4 15.4 206°17	2°6/12.7	18		
3 12	13 55.81	-10 34.0	2.452	3.283	11.0	21.5	3 12	13 59.61	-3 3.3	2.435	3.275	10.8	21.8
3 22	13 51.41	-10 5.1	2.351	3.265	8.2	21.3	3 22	13 54.10	-2 26.4	2.351	3.269	8.0	21.6
4 1	13 45.36	-9 27.1	2.276	3.247	5.0	21.1	4 1	13 46.93	-1 45.8	2.292	3.263	5.0	21.4
4 11	13 38.20	-8 43.0	2.228	3.228	1.5	20.8	4 11	13 38.68	-1 5.8	2.262	3.256	2.7	21.2
4 21	13 30.59	-7 56.8	2.210	3.209	2.3	20.8	4 21	13 30.07	-0 30.5	2.261	3.248	4.0	21.3
5 1	13 23.30	-7 12.9	2.220	3.190	5.9	21.0	5 1	13 21.87	-0 3.9	2.289	3.240	7.0	21.5
5 11	13 17.04	-6 35.8	2.257	3.171	9.2	21.2	5 11	13 14.78	+0 10.9	2.344	3.231	10.1	21.6
5 21	13 12.31	-6 8.6	2.318	3.151	12.2	21.4	5 21	13 9.32	+0 12.7	2.422	3.221	12.8	21.8
319587	2006 <i>SA</i> ₁₂₆	4 15.4 153°54	2°5/13.1	18			122308	2000 <i>QJ</i> ₈	4 15.4 294°87	4°6/18.1	17		
3 12	14 0.12	-5 34.5	1.945	2.790	12.9	21.4	3 12	14 1.78	-19 55.9	1.415	2.238	18.0	19.3
3 22	13 54.73	-4 45.5	1.875	2.797	9.5	21.2	3 22	13 57.26	-20 31.2	1.324	2.223	14.4	19.1
4 1	13 47.38	-3 49.7	1.830	2.803	5.7	21.0	4 1	13 49.64	-20 47.8	1.254	2.208	10.2	18.8
4 11	13 38.80	-2 52.5	1.812	2.809	2.6	20.8	4 11	13 39.69	-20 44.0	1.206	2.193	6.1	18.5
4 21	13 29.89	-1 59.9	1.823	2.815	4.2	20.9	4 21	13 28.67	-20 21.1	1.183	2.178	4.9	18.4
5 1	13 21.60	-1 17.3	1.862	2.819	7.9	21.2	5 1	13 18.14	-19 44.1	1.185	2.164	8.5	18.5
5 11	13 14.75	-0 48.8	1.926	2.824	11.4	21.4	5 11	13 9.59	-19 1.3	1.210	2.149	13.2	18.7
5 21	13 9.88	-0 36.2	2.012	2.828	14.4	21.6	5 21	13 3.98	-18 21.5	1.255	2.135	17.6	19.0
196832	2003 <i>SA</i> ₂₄₆	4 15.4 6°23	0°4/14.9	18			131619	2001 <i>XE</i> ₄₀	4 15.4 75°22	1°4/16.2	18		
3 12	13 57.69	-10 39.2	1.916	2.756	13.3	20.1	3 12	14 3.96	-13 15.6	1.402	2.243	17.2	19.5
3 22	13 53.07	-10 13.7	1.839	2.756	9.9	19.9	3 22	13 58.44	-13 29.1	1.334	2.248	13.1	19.2
4 1	13 46.46	-9 37.8	1.784	2.756	6.0	19.6	4 1	13 50.03	-13 28.9	1.286	2.254	8.3	19.0
4 11	13 38.54	-8 55.1	1.757	2.757	1.8	19.3	4 11	13 39.72	-13 16.7	1.262	2.260	3.2	18.7
4 21	13 30.21	-8 10.6	1.757	2.757	2.6	19.4	4 21	13 28.79	-12 56.3	1.265	2.266	3.0	18.7
5 1	13 22.43	-7 29.5	1.785	2.757	6.8	19.7	5 1	13 18.70	-12 33.6	1.293	2.272	8.0	19.0
5 11	13 16.04	-6 57.1	1.838	2.757	10.7	19.9	5 11	13 10.70	-12 14.9	1.346	2.278	12.7	19.3
5 21	13 11.62	-6 36.6	1.913	2.757	14.0	20.1	5 21	13 5.50	-12 5.3	1.419	2.284	16.8	19.5
83749	2001 <i>TO</i> ₁₃₇	4 15.4 141°48	4°9/9.5	18			264498	2001 <i>QZ</i> ₄₂	4 15.4 186°80	5°4/9.1	16		
3 12	13 55.90	+4 28.1	2.488	3.338	10.2	19.8	3 12	13 58.90	+5 7.1	2.411	3.257	10.7	21.6
3 22	13 51.22	+5 34.8	2.427	3.345	7.8	19.6	3 22	13 53.53	+6 24.9	2.342	3.257	8.2	21.5
4 1	13 45.08	+6 40.0	2.392	3.352	5.7	19.5	4 1	13 46.55	+7 41.6	2.299	3.256	6.1	21.3
4 11	13 38.07	+7 38.1	2.386	3.358	4.9	19.4	4 11	13 38.56	+8 50.6	2.285	3.254	5.4	21.3
4 21	13 30.84	+8 24.2	2.407	3.364	6.2	19.5	4 21	13 30.27	+9 46.5	2.300	3.251	6.8	21.4
5 1	13 24.07	+8 54.7	2.456	3.370	8.5	19.7	5 1	13 22.45	+10 25.0	2.342	3.248	9.2	21.5
5 11	13 18.38	+9 8.0	2.530	3.375	10.8	19.8	5 11	13 15.77	+10 44.1	2.409	3.244	11.7	21.7
5 21	13 14.17	+9 4.2	2.625	3.381	13.0	20.0	5 21	13 10.71	+10 44.1	2.497	3.239	13.9	21.8
178649	2000 <i>KQ</i> ₆₅	4 15.4 310°48	1°6/13.8	18			348423	2005 <i>NG</i> ₇₈	4 15.4 133°03	6°3/22.9	18		
3 12	13 53.01	-12 43.5	1.497	2.352	15.5	19.2	3 12	13 59.67	-33 24.4	2.731	3.443	13.0	21.6
3 22	13 50.23	-11 4.9	1.405	2.333	11.6	18.9	3 22	13 54.27	-33 52.2	2.645	3.452	11.1	21.5
4 1	13 45.03	-9 2.8	1.337	2.314	6.9	18.6	4 1	13 47.09	-34 1.4	2.581	3.461	9.1	21.4
4 11	13 38.17	-6 44.6	1.295	2.295	2.2	18.2	4 11	13 38.75	-33 50.8	2.540	3.469	7.3	21.3
4 21	13 30.65	-4 21.8	1.279	2.276	4.3	18.3	4 21	13 30.02	-33 21.1	2.526	3.477	6.3	21.2
5 1	13 23.65	-2 7.4	1.290	2.258	9.4	18.5	5 1	13 21.75	-32 35.1	2.540	3.485	6.7	21.2
5 11	13 18.25	-0 13.3	1.325	2.240	14.3	18.8	5 11	13 14.70	-31 37.9	2.580	3.493	8.3	21.3
5 21	13 15.18	+1 13.7	1.381	2.223	18.4	19.0	5 21	13 9.38	-30 35.5	2.646	3.500	10.2	21.5
131581	2001 <i>VG</i> ₁₂₁	4 15.4 262°46	0°6/16.6	18			403348	2009 <i>FB</i> ₃₄	4 15.4 100°68	2°0/16.9	18		
3 12	13 49.61	-14 47.1	4.476	5.283	6.8	20.5	3 12	14 3.88	-16 58.0	1.618	2.439	16.2	22.0
3 22	13 46.13	-14 31.7	4.382	5.280	5.2	20.4	3 22	13 57.86	-16 48.7	1.557	2.459	12.4	21.8
4 1	13 41.85	-14 10.2	4.315	5.276	3.3	20.2	4 1	13 49.41	-16 22.3	1.518	2.480	8.0	21.5
4 11	13 37.06	-13 44.2	4.276	5.272	1.3	20.1	4 11	13 39.46	-15 41.3	1.505	2.500	3.6	21.3
4 21	13 32.11	-13 15.4	4.268	5.269	1.1	20.0	4 21	13 29.20	-14 50.7	1.519	2.520	2.8	21.3
5 1	13 27.36	-12 45.7	4.290	5.265	3.1	20.2	5 1	13 19.85	-13 57.2	1.561	2.539	7.0	21.6
5 11	13 23.13	-12 17.4	4.341	5.261	5.0	20.3	5 11	13 12.40	-13 8.1	1.628	2.557	11.1	21.9
5 21	13 19.70	-11 52.3	4.417	5.258	6.7	20.4	5 21	13 7.42	-12 28.9	1.717	2.575	14.7	22.1
275512	1995 <i>YX</i> ₅	4 15.4 291°71	6°1/10.5	18			410276	2007 <i>TE</i> ₁₇₂	4 15.4 217°28	1°3/14.2	17		
3 12	14 0.19	+5 10.1	1.819	2.675	13.1	20.5	3 12	14 0.49	-9 30.1	1.979	2.815	13.1	22.5
3 22	13 55.03	+5 54.5	1.745	2.665	10.1	20.3	3 22	13 55.19	-8 38.8	1.889	2.806	9.7	22.3
4 1	13 47.71	+6 36.0	1.694	2.656	7.3	20.1	4 1	13 47.80	-7 36.1	1.823	2.795	5.9	22.0
4 11	13 38.95	+7 7.9	1.669	2.646	6.1	20.0	4 11	13 39.01	-6 26.6	1.785	2.785	1.9	21.7
4 21	13 29.71	+7 24.6	1.671	2.637	7.6	20.1	4 21	13 29.69	-5 16.4	1.776	2.773	3.3	21.8
5 1	13 21.05	+7 21.9	1.699	2.628	10.6	20.2	5 1	13 20.86	-4 12.2	1.796	2.760	7.5	22.0
5 11	13 13.88	+6 58.5	1.750	2.618	13.8	20.4	5 11	13 13.41	-3 19.9	1.841	2.747	11.4	22.2
5 21	13 8.82	+6 15.6	1.821	2.609	16.8	20.6	5 21	13 7.96	-2 43.3	1.909	2.733	14.8	22.4
344463	2002 <i>NX</i> ₆₅	4 15.4 272°29	2°3/17.6	16			188718	2005 <i>TV</i> ₁₈₀	4 15.4 174°83	0°1/15.5	18		
3 12	13 57.65	-19 6.3	2.198	3.003	13.0	22.0	3 12	14 0.46	-10 3.2	2.524	3.347	11.0	20.6
3 22	13 53.11	-18 51.4	2.088	2.980	10.2	21.7	3 22	13 54.71	-10 12.4	2.440	3.348	8.2	20.4
4 1	13 46.57	-18 20.7	2.002	2.957	6.9	21.5	4 1	13 47.30	-10 15.4	2.380	3.348	5.0	20.2
4 11	13 38.63	-17 35.3	1.942	2.933	3.6	21.2	4 11	13 38.81	-10 14.0	2.350	3.349	1.6	20.0
4 21	13 30.07	-16 38.2	1.910	2.909	2.7	21.1	4 21	13 29.96	-10 10.3	2.348	3.349	2.0	20.0
5 1	13 21.82	-15 34.6	1.907	2.884	6.0	21.3	5 1	13 21.52	-10 7.0	2.377	3.349	5.4	20.2
5 11	13 14.78	-14 30.9	1.930	2.860	9.7	21.4	5 11	13 14.19	-10 7.0	2.434	3.349	8.6	20.4
5 21	13 9.57	-13 33.2	1.978	2.834	13.1	21.6	5 21	13 8.48	-10 12.4	2.515	3.349	11.3	20.6
251088	2006 <i>SM</i> ₁₂₆	4 15.4 250°58	2°5/12.5	18			62092	2000 <i>RM</i> ₉₂	4 15.4 201°40	1°9/17.0	18		
3 12	13 54.78	-5 9.9	2.354	3.202	10.9	20.7	3 12	14 0.54	-17 50.6	1.818	2.634	14.9	19.6
3 22	13 50.60	-4 7.4	2.269	3.192	8.0	20.5	3 22	13 55.44	-17 25.1	1.732	2.631	11.5	19.4
4 1	13 44.84	-2 58.2	2.209	3.182	4.9	20.2	4 1	13 48.03	-16 41.6	1.667	2.628	7.6	19.2
4 11	13 38.04	-1 47.3	2.177	3.172	2.6	20.1	4 11	13 39.09	-15 42.5	1.629	2.624	3.4	18.9
4 21	13 30.88	-0 40.3	2.174	3.162	4.0	20.2	4 21	13 29.61	-14 32.6	1.618	2.619	2.6	18.8
5 1	13 24.11	+0 17.6	2.200	3.152	7.2								

EPHEMERIDES

2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
19850	2000 <i>TQ</i> ₂₅		4 15.4 179°53	1.7°/17.4	18		229153	2004 <i>SZ</i> ₄₃		4 15.4 131°49	1.3°/16.8	18	
3 12	13 57.67	-19 3.7	2.343	3.145	12.4	19.3	3 12	13 58.73	-16 31.1	2.179	2.993	12.8	20.6
3 22	13 52.78	-18 25.5	2.255	3.147	9.6	19.1	3 22	13 53.61	-16 6.8	2.104	3.004	9.8	20.4
4 1	13 46.17	-17 31.7	2.191	3.147	6.3	18.9	4 1	13 46.69	-15 28.9	2.053	3.014	6.3	20.2
4 11	13 38.47	-16 24.6	2.155	3.148	3.0	18.7	4 11	13 38.64	-14 39.9	2.028	3.024	2.7	20.0
4 21	13 30.43	-15 8.7	2.148	3.148	2.2	18.6	4 21	13 30.30	-13 44.2	2.033	3.033	2.1	20.0
5 1	13 22.87	-13 49.8	2.170	3.147	5.4	18.8	5 1	13 22.51	-12 46.9	2.066	3.042	5.7	20.2
5 11	13 16.52	-12 34.2	2.220	3.146	8.8	19.0	5 11	13 16.04	-11 53.9	2.126	3.051	9.1	20.5
5 21	13 11.87	-11 27.2	2.295	3.144	11.8	19.2	5 21	13 11.38	-11 9.4	2.210	3.059	12.2	20.7
116288	2003 <i>YV</i> ₅₄		4 15.4 90°07	1.7°/13.8	18		507499	2012 <i>UP</i> ₉₁		4 15.4 240°58	0°1°/15.3	17	
3 12	13 57.01	- 7 21.2	2.015	2.861	12.5	20.0	3 12	13 56.89	-12 0.2	2.146	2.978	12.3	22.0
3 22	13 52.45	- 6 42.9	1.940	2.862	9.2	19.8	3 22	13 52.36	-11 31.3	2.060	2.973	9.2	21.8
4 1	13 46.03	- 5 56.9	1.890	2.864	5.5	19.6	4 1	13 46.01	-10 51.6	1.999	2.969	5.7	21.5
4 11	13 38.43	- 5 7.7	1.866	2.865	2.0	19.4	4 11	13 38.46	-10 4.2	1.964	2.964	1.8	21.2
4 21	13 30.48	- 4 20.5	1.871	2.867	3.4	19.5	4 21	13 30.50	- 9 13.7	1.958	2.958	2.3	21.3
5 1	13 23.05	- 3 40.6	1.903	2.868	7.2	19.7	5 1	13 23.00	- 8 25.1	1.980	2.953	6.2	21.5
5 11	13 16.94	- 3 12.1	1.961	2.869	10.7	19.9	5 11	13 16.72	- 7 43.7	2.029	2.948	9.8	21.7
5 21	13 12.66	- 2 57.5	2.041	2.871	13.8	20.1	5 21	13 12.22	- 7 13.1	2.101	2.943	13.0	21.9
6603	Marycragg		4 15.4 344°52	13°2°/3.2	18		431908	2008 <i>TF</i> ₃₁		4 15.4 155°32	0°5°/14.9	17	
3 12	13 54.79	+17 2.1	1.309	2.178	16.4	16.5	3 12	13 59.68	- 9 28.3	1.967	2.805	13.1	21.5
3 22	13 51.71	+18 56.7	1.259	2.166	14.3	16.3	3 22	13 54.53	- 9 16.1	1.889	2.806	9.7	21.3
4 1	13 45.96	+20 35.7	1.229	2.156	13.2	16.2	4 1	13 47.36	- 8 55.4	1.835	2.806	5.9	21.0
4 11	13 38.47	+21 45.8	1.221	2.146	13.7	16.2	4 11	13 38.88	- 8 29.5	1.807	2.807	1.8	20.7
4 21	13 30.45	+22 17.7	1.234	2.138	15.5	16.3	4 21	13 29.98	- 8 2.3	1.808	2.808	2.6	20.8
5 1	13 23.24	+22 7.4	1.266	2.131	18.1	16.4	5 1	13 21.62	- 7 38.3	1.837	2.808	6.7	21.1
5 11	13 17.95	+21 16.8	1.314	2.126	20.7	16.6	5 11	13 14.66	- 7 21.8	1.891	2.809	10.5	21.3
5 21	13 15.22	+19 52.0	1.376	2.121	23.1	16.7	5 21	13 9.67	- 7 15.5	1.968	2.809	13.8	21.5
482454	2012 <i>EY</i> ₉		4 15.4 312°24	3°5°/14.8	18		24322	2000 <i>AM</i> ₄₃		4 15.4 194°38	2°0°/13.5	18	
3 12	14 21.22	+ 1 50.2	0.981	1.837	21.6	20.0	3 12	13 59.34	- 7 30.6	1.868	2.713	13.3	19.1
3 22	14 12.99	+ 0 35.8	0.905	1.828	16.7	19.7	3 22	13 54.35	- 6 36.9	1.790	2.712	9.9	18.9
4 1	13 59.88	- 0 52.2	0.848	1.820	10.7	19.3	4 1	13 47.28	- 5 33.6	1.736	2.710	5.9	18.6
4 11	13 43.02	- 2 36.6	0.815	1.812	4.6	18.9	4 11	13 38.86	- 4 26.2	1.709	2.707	2.3	18.4
4 21	13 24.51	- 4 35.5	0.807	1.804	5.9	19.0	4 21	13 30.01	- 3 21.1	1.710	2.705	3.9	18.5
5 1	13 7.03	- 6 44.0	0.825	1.797	12.5	19.3	5 1	13 21.73	- 2 25.0	1.739	2.701	7.9	18.7
5 11	12 52.91	- 8 56.4	0.867	1.791	18.9	19.6	5 11	13 14.90	- 1 43.1	1.794	2.697	11.8	18.9
5 21	12 43.41	-11 8.8	0.927	1.784	24.1	19.9	5 21	13 10.10	- 1 18.2	1.870	2.693	15.1	19.1
330454	2007 <i>EX</i> ₁₉		4 15.4 250°88	4°4°/10.8	17		271002	2002 <i>XB</i> ₇₅		4 15.4 111°00	2°5°/13.4	17	
3 12	13 56.58	- 1 44.2	1.929	2.786	12.5	20.6	3 12	14 1.91	- 4 34.8	1.788	2.635	13.7	20.8
3 22	13 52.29	- 0 17.6	1.847	2.774	9.3	20.4	3 22	13 56.18	- 4 5.7	1.724	2.647	10.1	20.5
4 1	13 46.03	+ 1 15.5	1.790	2.762	6.1	20.1	4 1	13 48.33	- 3 31.5	1.685	2.658	6.1	20.3
4 11	13 38.47	+ 2 47.4	1.761	2.749	4.4	20.0	4 11	13 39.16	- 2 57.1	1.673	2.669	2.8	20.1
4 21	13 30.43	+ 4 10.3	1.760	2.736	6.2	20.1	4 21	13 29.67	- 2 27.8	1.688	2.680	4.2	20.3
5 1	13 22.87	+ 5 17.1	1.786	2.723	9.6	20.3	5 1	13 20.92	- 2 8.2	1.730	2.691	8.1	20.5
5 11	13 16.62	+ 6 3.0	1.835	2.709	13.0	20.4	5 11	13 13.76	- 2 1.6	1.798	2.701	11.8	20.7
5 21	13 12.26	+ 6 26.4	1.905	2.696	16.0	20.6	5 21	13 8.76	- 2 9.2	1.887	2.711	14.9	21.0
495114	2011 <i>UY</i> ₂₄₈		4 15.4 322°10	1°6°/16.6	17		307975	2004 <i>PS</i> ₂₉		4 15.4 202°81	0°4°/15.1	17	
3 12	13 56.36	-16 43.7	1.296	2.144	17.9	20.7	3 12	14 3.13	-10 52.4	1.860	2.691	14.0	22.0
3 22	13 53.09	-16 13.6	1.217	2.135	13.8	20.4	3 22	13 57.29	-10 28.8	1.774	2.687	10.5	21.8
4 1	13 46.96	-15 20.3	1.157	2.126	8.9	20.1	4 1	13 49.15	- 9 54.0	1.712	2.682	6.4	21.5
4 11	13 38.84	-14 7.2	1.121	2.118	3.6	19.7	4 11	13 39.47	- 9 11.3	1.677	2.676	1.9	21.2
4 21	13 29.96	-12 41.6	1.109	2.111	3.0	19.7	4 21	13 29.23	- 8 25.6	1.670	2.669	2.8	21.2
5 1	13 21.77	-11 13.9	1.122	2.103	8.5	19.9	5 1	13 19.54	- 7 42.7	1.691	2.662	7.3	21.5
5 11	13 15.57	- 9 55.2	1.157	2.097	13.7	20.2	5 11	13 11.40	- 7 8.2	1.738	2.654	11.4	21.7
5 21	13 12.14	- 8 53.6	1.212	2.091	18.2	20.5	5 21	13 5.45	- 6 46.0	1.808	2.645	15.0	21.9
497681	2006 <i>SK</i> ₂₆		4 15.4 273°53	0°8°/16.2	17		459570	2013 <i>GF</i> ₁₀₅		4 15.4 354°43	4°6°/12.2	17	
3 12	13 58.34	-16 6.9	1.742	2.570	14.9	22.1	3 12	13 53.69	- 4 30.7	1.052	1.940	17.9	20.5
3 22	13 54.09	-15 21.1	1.636	2.545	11.5	21.8	3 22	13 51.33	- 3 23.5	0.991	1.935	13.3	20.2
4 1	13 47.41	-14 15.1	1.553	2.519	7.3	21.5	4 1	13 45.95	- 2 5.0	0.950	1.930	8.3	19.9
4 11	13 38.97	-12 51.9	1.495	2.493	2.7	21.1	4 11	13 38.54	- 0 45.6	0.931	1.927	4.7	19.7
4 21	13 29.74	-11 17.5	1.465	2.466	2.6	21.1	4 21	13 30.45	+ 0 23.2	0.934	1.925	7.1	19.8
5 1	13 20.89	- 9 40.6	1.462	2.439	7.5	21.3	5 1	13 23.24	+ 1 10.9	0.959	1.924	12.2	20.1
5 11	13 13.52	- 8 10.7	1.485	2.411	12.3	21.5	5 11	13 18.21	+ 1 31.4	1.003	1.925	17.1	20.3
5 21	13 8.41	- 6 55.7	1.530	2.383	16.4	21.7	5 21	13 16.07	+ 1 23.6	1.065	1.927	21.3	20.6
25640	Klintefelt		4 15.4 154°98	1°6°/13.9	18		514089	2014 <i>WS</i> ₁₃₇		4 15.4 276°60	2°6°/10.7	18	
3 12	13 57.65	- 7 9.4	2.138	2.981	12.0	19.1	3 12	13 50.78	+ 3 13.4	4.386	5.229	6.3	21.0
3 22	13 52.82	- 6 33.9	2.063	2.983	8.8	18.9	3 22	13 47.00	+ 3 39.8	4.302	5.218	4.7	20.9
4 1	13 46.22	- 5 51.5	2.012	2.985	5.3	18.7	4 1	13 42.40	+ 4 5.3	4.244	5.206	3.3	20.7
4 11	13 38.50	- 5 6.2	1.989	2.988	2.0	18.5	4 11	13 37.30	+ 4 27.7	4.216	5.195	2.6	20.7
4 21	13 30.45	- 4 22.9	1.994	2.990	3.3	18.6	4 21	13 32.03	+ 4 44.9	4.217	5.184	3.4	20.7
5 1	13 22.90	- 3 46.3	2.028	2.991	6.9	18.8	5 1	13 26.95	+ 4 55.1	4.248	5.173	4.9	20.8
5 11	13 16.60	- 3 20.3	2.087	2.993	10.2	19.0	5 11	13 22.40	+ 4 57.1	4.305	5.161	6.5	20.9
5 21	13 12.07	- 3 7.2	2.169	2.995	13.2	19.2	5 21	13 18.66	+ 4 50.5	4.386	5.150	8.0	21.0
424895	2008 <i>WH</i> ₃₈		4 15.4 108°38	2°8°/12.9	17		297710	2001 <i>VY</i> ₁₁₀					

EPHEMERIDES

2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V		
425295	2009 <i>WN</i> ₂₅₁						4 15.4 71°51'	363523	2003 <i>UZ</i> ₁₉₈						4 15.4 158°78'
3 12	14 1.03	+ 0 52.1	1.763	2.619	13.5	20.6	3 12	14 0.50	-18 6.7	2.031	2.840	13.8	21.5		
3 22	13 55.44	+ 1 32.0	1.713	2.637	10.1	20.4	3 22	13 55.09	-17 30.3	1.952	2.848	10.6	21.3		
4 1	13 47.81	+ 2 11.7	1.686	2.656	6.6	20.3	4 1	13 47.67	-16 37.2	1.895	2.854	6.9	21.1		
4 11	13 38.99	+ 2 45.2	1.686	2.674	4.5	20.2	4 11	13 39.00	-15 30.1	1.866	2.861	3.1	20.8		
4 21	13 29.97	+ 3 7.4	1.713	2.692	6.0	20.3	4 21	13 29.97	-14 14.3	1.866	2.866	2.4	20.8		
5 1	13 21.74	+ 3 14.3	1.767	2.711	9.2	20.5	5 1	13 21.55	-12 56.2	1.894	2.871	6.1	21.1		
5 11	13 15.14	+ 3 4.5	1.844	2.729	12.5	20.8	5 11	13 14.58	-11 43.1	1.950	2.875	9.8	21.3		
5 21	13 10.63	+ 2 38.5	1.943	2.747	15.3	21.0	5 21	13 9.61	-10 40.6	2.029	2.878	13.1	21.5		
359376	2010 <i>DW</i> ₃₁						4 15.4 318°73'	160776	2000 <i>SP</i> ₂₄₁						4 15.4 249°71'
3 12	13 57.22	-15 12.2	1.226	2.080	18.3	20.5	3 12	14 3.44	-11 35.1	1.847	2.676	14.1	20.6		
3 22	13 53.99	-15 3.7	1.143	2.065	14.1	20.2	3 22	13 57.77	-11 21.0	1.745	2.656	10.8	20.3		
4 1	13 47.69	-14 34.9	1.080	2.051	9.1	19.8	4 1	13 49.63	-10 55.2	1.666	2.635	6.7	20.0		
4 11	13 39.14	-13 48.2	1.040	2.037	3.7	19.5	4 11	13 39.71	-10 20.2	1.614	2.613	2.1	19.7		
4 21	13 29.64	-12 49.3	1.023	2.024	3.2	19.4	4 21	13 28.97	-9 40.1	1.590	2.590	2.7	19.7		
5 1	13 20.76	-11 47.2	1.029	2.012	8.9	19.7	5 1	13 18.60	-9 0.6	1.594	2.567	7.5	19.9		
5 11	13 13.95	-10 52.0	1.058	2.000	14.4	19.9	5 11	13 9.70	-8 27.6	1.624	2.542	11.9	20.1		
5 21	13 10.12	-10 11.6	1.105	1.989	19.2	20.2	5 21	13 3.06	-8 5.8	1.677	2.517	15.8	20.3		
490505	2009 <i>UF</i> ₅₃						4 15.4 194°09'	423184	2004 <i>JS</i> ₄₉						4 15.4 182°91'
3 12	14 0.32	-12 21.9	2.555	3.371	11.1	22.6	3 12	14 3.98	-0 35.6	1.857	2.703	13.3	20.8		
3 22	13 54.63	-12 1.3	2.464	3.369	8.3	22.4	3 22	13 57.78	-0 18.8	1.783	2.703	10.0	20.6		
4 1	13 47.28	-11 31.3	2.399	3.365	5.1	22.2	4 1	13 49.38	-0 1.2	1.733	2.703	6.3	20.3		
4 11	13 38.87	-10 54.6	2.362	3.361	1.7	21.9	4 11	13 39.55	+ 0 12.8	1.711	2.703	3.7	20.2		
4 21	13 30.08	-10 14.4	2.355	3.356	1.9	21.9	4 21	13 29.27	+ 0 18.6	1.716	2.703	5.1	20.3		
5 1	13 21.69	-9 34.8	2.379	3.350	5.4	22.2	5 1	13 19.64	+ 0 12.8	1.750	2.702	8.7	20.5		
5 11	13 14.40	-8 59.9	2.430	3.343	8.7	22.3	5 11	13 11.57	-0 6.6	1.808	2.701	12.2	20.7		
5 21	13 8.70	-8 33.0	2.506	3.336	11.5	22.5	5 21	13 5.67	-0 39.7	1.888	2.700	15.4	20.9		
251703	1996 <i>TL</i> ₁₈						4 15.4 277°20'	277461	2005 <i>VR</i> ₆						4 15.4 244°19'
3 12	13 59.43	-13 22.3	1.548	2.390	15.8	21.0	3 12	13 59.44	-21 28.4	2.034	2.831	14.2	21.1		
3 22	13 55.07	-13 0.2	1.458	2.375	12.0	20.7	3 22	13 54.58	-21 24.5	1.936	2.819	11.3	20.9		
4 1	13 48.08	-12 22.0	1.389	2.360	7.6	20.4	4 1	13 47.56	-21 2.9	1.859	2.807	8.0	20.6		
4 11	13 39.22	-11 30.9	1.345	2.344	2.6	20.1	4 11	13 39.03	-20 24.0	1.809	2.794	4.6	20.4		
4 21	13 29.57	-10 32.5	1.328	2.329	2.8	20.0	4 21	13 29.89	-19 30.5	1.785	2.781	3.6	20.3		
5 1	13 20.44	-9 34.2	1.336	2.313	8.0	20.3	5 1	13 21.17	-18 27.7	1.790	2.767	6.3	20.5		
5 11	13 13.02	-8 43.9	1.369	2.298	12.8	20.5	5 11	13 13.84	-17 22.7	1.822	2.753	10.0	20.6		
5 21	13 8.09	-8 7.7	1.422	2.282	17.0	20.8	5 21	13 8.56	-16 22.1	1.876	2.739	13.4	20.8		
248409	2005 <i>SN</i> ₁₄₁						4 15.4 288°09'	102456	1999 <i>TJ</i> ₂₂₁						4 15.4 220°70'
3 12	13 56.91	-8 28.1	2.266	3.104	11.5	20.7	3 12	13 59.31	-5 41.3	1.867	2.716	13.2	20.7		
3 22	13 52.33	-8 9.2	2.175	3.092	8.6	20.5	3 22	13 54.40	-4 38.4	1.784	2.708	9.8	20.5		
4 1	13 45.99	-7 43.0	2.109	3.081	5.2	20.3	4 1	13 47.38	-3 26.6	1.726	2.700	6.0	20.2		
4 11	13 38.49	-7 12.7	2.070	3.069	1.6	20.0	4 11	13 38.96	-2 12.2	1.695	2.691	2.9	20.0		
4 21	13 30.54	-6 42.1	2.060	3.058	2.6	20.1	4 21	13 30.04	-1 1.9	1.692	2.682	4.7	20.1		
5 1	13 22.97	-5 15.3	2.078	3.046	6.3	20.3	5 1	13 21.64	-0 2.9	1.717	2.672	8.6	20.3		
5 11	13 16.54	-5 56.2	2.122	3.035	9.8	20.5	5 11	13 14.67	+ 0 39.7	1.766	2.662	12.4	20.5		
5 21	13 11.78	-5 47.4	2.189	3.023	12.8	20.7	5 21	13 9.74	+ 1 3.3	1.837	2.651	15.7	20.7		
112396	2002 <i>NR</i> ₃₃						4 15.4 316°55'	425695	2011 <i>AY</i> ₇₂						4 15.4 138°31'
3 12	13 56.09	-8 59.3	1.301	2.168	16.6	19.9	3 12	14 4.15	-15 17.4	2.185	2.992	13.0	21.4		
3 22	13 52.94	-8 19.5	1.216	2.148	12.5	19.6	3 22	13 57.65	-15 23.2	2.110	3.006	9.9	21.3		
4 1	13 46.94	-7 24.8	1.152	2.129	7.6	19.3	4 1	13 49.19	-15 17.6	2.059	3.019	6.4	21.1		
4 11	13 38.90	-6 20.8	1.111	2.110	2.6	18.9	4 11	13 39.49	-15 2.0	2.036	3.031	2.8	20.8		
4 21	13 29.97	-5 15.8	1.094	2.092	4.4	19.0	4 21	13 29.44	-14 39.1	2.042	3.042	2.3	20.8		
5 1	13 21.59	-4 19.0	1.102	2.075	9.9	19.2	5 1	13 19.99	-14 12.9	2.078	3.053	5.8	21.1		
5 11	13 15.08	-3 38.8	1.131	2.059	15.1	19.5	5 11	13 11.96	-13 48.1	2.142	3.063	9.2	21.3		
5 21	13 11.30	-3 19.9	1.179	2.043	19.6	19.7	5 21	13 5.90	-13 28.5	2.229	3.073	12.3	21.5		
499126	2009 <i>KG</i> ₃₀						4 15.4 347°76'	61208	Stonařov						4 15.4 216°73'
3 12	13 56.11	-7 48.8	1.250	2.121	16.9	20.9	3 12	14 2.05	-4 21.3	1.838	2.684	13.5	19.8		
3 22	13 52.83	-7 6.7	1.181	2.115	12.6	20.6	3 22	13 56.49	-3 34.9	1.755	2.677	10.0	19.6		
4 1	13 46.76	-6 11.9	1.132	2.110	7.6	20.3	4 1	13 48.70	-2 41.9	1.696	2.668	6.2	19.4		
4 11	13 38.79	-5 11.0	1.106	2.106	2.8	20.0	4 11	13 39.39	-1 47.8	1.663	2.659	3.1	19.1		
4 21	13 30.17	-4 12.6	1.105	2.102	4.7	20.1	4 21	13 29.54	-0 58.7	1.659	2.649	4.8	19.2		
5 1	13 22.31	-3 25.6	1.128	2.099	9.9	20.4	5 1	13 20.22	-0 20.8	1.683	2.638	8.7	19.4		
5 11	13 16.41	-2 56.7	1.172	2.097	14.8	20.7	5 11	13 12.41	+ 0 1.7	1.731	2.627	12.6	19.6		
5 21	13 13.22	-2 49.0	1.235	2.096	19.0	20.9	5 21	13 6.75	+ 0 6.7	1.801	2.615	15.9	19.8		
338108	2002 <i>QQ</i> ₂₆						4 15.4 244°20'	246514	2008 <i>CS</i> ₂₁₀						4 15.4 297°03'
3 12	13 55.52	+ 2 11.5	2.252	3.107	11.0	21.5	3 12	13 55.53	-6 35.1	2.295	3.139	11.2	20.7		
3 22	13 51.25	+ 3 38.3	2.174	3.096	8.3	21.3	3 22	13 51.23	-5 59.8	2.212	3.134	8.3	20.5		
4 1	13 45.30	+ 5 7.2	2.121	3.085	5.9	21.1	4 1	13 45.30	-5 18.3	2.154	3.128	5.0	20.3		
4 11	13 38.27	+ 6 31.4	2.097	3.074	5.0	21.1	4 11	13 38.30	-4 34.3	2.124	3.122	2.0	20.0		
4 21	13 30.85	+ 7 44.3	2.101	3.062	6.6	21.1	4 21	13 30.94	-3 52.4	2.122	3.117	3.2	20.1		
5 1	13 23.85	+ 8 40.3	2.132	3.050	9.3	21.3	5 1	13 23.99	-3 17.0	2.149	3.111	6.6	20.3		
5 11	13 17.96	+ 9 16.2	2.187	3.038	12.1	21.4	5 11	13 18.15	-2 51.9	2.201	3.106	9.8	20.5		
5 21	13 13.70	+ 9 31.3	2.263	3.025	14.6	21.6	5 21	13 13.92	-2 39.1	2.276	3.100	12.7	20.7		
499185	2009 <i>SR</i> ₂₅₀						4 15.4 206°28'	161917	2007 <i>EK</i> ₃₆						4 15.4 30°16'
3 12	13 59.97	-9 55.3	2.316	3.144	11.7	23.2	3 12	13 55.98	+ 3 22.7	1.269	2.149	16.0	18.9		
3 22	13 54.53	-9 26.6	2.226	3.138	8.7	23.0	3 22	13 52.33	+ 4 51.3	1.229	2.164	12.1	18.8		
4 1	13 47.30	-8 49.2	2.162	3.132	5.3	22.8	4 1	13 46.19	+ 6 17.4	1.211	2.179	8.7	18.6		
4 11	13 38.89	-8 6.3	2.125	3.125	1.6	22.5	4 11	13 38.57	+ 7 30.1	1.216	2.196	7.5	18.6		
4 21	13 30.07	-7 21.9	2.118	3.117	2.5	22.6	4 21	13 30.69	+ 8 20.4	1.246	2.213	9.4	18.7		
5 1	13 21.66	-6 40.8	2.141	3.109	6.2	22.8	5 1	13 23.79	+ 8 42.9	1.298	2.231	12.8	19.0		
5 11	13 14.44	-6 7.4	2.190	3.099	9.7	23.0	5 11	13 18.82	+ 8 36.7	1.370	2.250	16.2	19.2		
5 21	13 8.95	-5 44.6	2.263	3.090	12.7	23.2	5 21	13 16.27	+ 8 4.6	1.460	2.270	19.2	19.5		

EPHEMERIDES

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2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
198399	2004 VT ₅₂	4 15.4 151°87			0°8/14.6 17		260895	2005 QF ₁₇₁	4 15.4 248°40			1°4/17.0 18	
3 12	13 57.86	-10 15.9	2.194	3.028	12.0	21.3	3 12	13 55.36	-17 6.7	2.519	3.329	11.4	20.6
3 22	13 52.96	-9 34.0	2.119	3.034	8.9	21.1	3 22	13 51.08	-16 39.4	2.423	3.320	8.8	20.4
4 1	13 46.33	-8 42.5	2.068	3.040	5.4	20.9	4 1	13 45.21	-15 59.2	2.351	3.311	5.7	20.2
4 11	13 38.61	-7 45.6	2.045	3.045	1.6	20.7	4 11	13 38.30	-15 8.1	2.306	3.301	2.5	20.0
4 21	13 30.58	-6 48.0	2.051	3.050	2.6	20.8	4 21	13 31.02	-14 9.8	2.291	3.291	2.0	19.9
5 1	13 23.07	-5 55.2	2.086	3.054	6.3	21.0	5 1	13 24.09	-13 9.0	2.304	3.281	5.1	20.1
5 11	13 16.80	-5 11.9	2.147	3.058	9.8	21.2	5 11	13 18.20	-12 10.9	2.345	3.271	8.4	20.3
5 21	13 12.26	-4 41.0	2.231	3.062	12.7	21.4	5 21	13 13.84	-11 19.8	2.411	3.261	11.2	20.5
35705	1999 FK ₁₇	4 15.4 138°32			1°3/14.3 18		341763	2007 VK ₃₂₆	4 15.4 173°03			3°1/12.5 18	
3 12	14 0.16	-10 20.0	1.625	2.471	15.0	19.2	3 12	13 59.14	-1 15.3	2.293	3.138	11.2	20.9
3 22	13 55.18	-9 23.6	1.557	2.478	11.1	18.9	3 22	13 53.84	-0 45.9	2.219	3.139	8.3	20.7
4 1	13 47.88	-8 14.0	1.512	2.486	6.7	18.7	4 1	13 46.85	-0 14.6	2.170	3.140	5.3	20.5
4 11	13 39.12	-6 57.1	1.493	2.493	2.1	18.4	4 11	13 38.80	+0 14.2	2.149	3.141	3.1	20.4
4 21	13 29.96	-5 40.5	1.501	2.499	3.6	18.5	4 21	13 30.43	+0 36.5	2.157	3.142	4.4	20.4
5 1	13 21.55	-4 32.1	1.537	2.505	8.1	18.8	5 1	13 22.54	+0 48.7	2.193	3.142	7.4	20.6
5 11	13 14.85	-3 38.6	1.597	2.511	12.3	19.1	5 11	13 15.85	+0 48.6	2.255	3.143	10.4	20.8
5 21	13 10.43	-3 3.4	1.678	2.516	15.9	19.3	5 21	13 10.83	+0 35.5	2.340	3.143	13.1	21.0
297747	2001 XY ₃₅	4 15.4 105°93			0°6/15.9 18		125730	2001 XV ₁₁₁	4 15.4 160°04			4°9/11.2 18	
3 12	14 4.94	-13 2.7	1.604	2.435	15.8	21.7	3 12	14 0.98	-0 47.4	1.664	2.521	14.1	20.1
3 22	13 58.66	-12 49.2	1.545	2.456	11.9	21.5	3 22	13 55.71	+0 28.4	1.600	2.526	10.5	19.9
4 1	13 49.94	-11 22.2	1.508	2.476	7.4	21.3	4 1	13 48.19	+1 48.2	1.560	2.531	6.9	19.7
4 11	13 39.74	-10 45.0	1.496	2.495	2.5	21.0	4 11	13 39.24	+3 3.8	1.547	2.535	4.9	19.6
4 21	13 29.22	-11 2.9	1.513	2.514	2.6	21.1	4 21	13 29.90	+4 7.2	1.561	2.538	6.7	19.7
5 1	13 19.62	-10 22.0	1.556	2.532	7.3	21.4	5 1	13 21.29	+4 51.9	1.601	2.541	10.3	19.9
5 11	13 11.92	-9 48.5	1.625	2.549	11.5	21.7	5 11	13 14.35	+5 14.5	1.664	2.544	13.9	20.1
5 21	13 6.70	-9 26.4	1.716	2.566	15.1	22.0	5 21	13 9.64	+5 14.7	1.748	2.546	17.0	20.3
115233	2003 SH ₁₄₅	4 15.4 216°04			1°2/16.6 18 R		472953	2015 GW ₃₁	4 15.4 302°80			0°1/15.5 17	
3 12	13 58.47	-15 24.2	2.256	3.073	12.4	20.0	3 12	13 56.77	-11 55.9	1.925	2.763	13.3	21.3
3 22	13 53.53	-15 10.6	2.166	3.068	9.4	19.8	3 22	13 52.57	-11 34.0	1.835	2.751	10.0	21.1
4 1	13 46.76	-14 44.8	2.100	3.063	6.1	19.6	4 1	13 46.33	-11 0.4	1.768	2.739	6.2	20.8
4 11	13 38.77	-14 8.9	2.061	3.057	2.5	19.4	4 11	13 38.69	-10 18.3	1.728	2.727	2.0	20.5
4 21	13 30.36	-13 26.3	2.051	3.051	2.1	19.3	4 21	13 30.52	-9 32.2	1.715	2.715	2.4	20.5
5 1	13 22.37	-12 41.5	2.069	3.045	5.7	19.6	5 1	13 22.79	-8 47.8	1.729	2.704	6.8	20.8
5 11	13 15.59	-11 59.8	2.114	3.039	9.2	19.8	5 11	13 16.39	-8 10.5	1.769	2.693	10.7	21.0
5 21	13 10.57	-11 25.3	2.183	3.032	12.3	19.9	5 21	13 11.95	-7 44.4	1.831	2.682	14.2	21.2
18969	Valfriedmann	4 15.4 0°68			1°5/16.5 18		224841	2006 XR ₁₇	4 15.4 350°64			9°4/ 8.5 17	
3 12	13 57.57	-15 44.9	1.241	2.093	18.3	18.3	3 12	13 59.09	+10 3.8	1.396	2.265	15.6	19.2
3 22	13 54.04	-15 26.2	1.171	2.091	14.0	18.0	3 22	13 54.73	+11 13.0	1.359	2.260	12.6	19.0
4 1	13 47.57	-14 46.5	1.120	2.090	9.0	17.8	4 1	13 47.77	+12 13.6	1.304	2.256	10.1	18.8
4 11	13 39.11	-13 49.2	1.093	2.090	3.6	17.4	4 11	13 39.14	+12 55.4	1.292	2.253	9.5	18.7
4 21	13 29.97	-12 41.1	1.089	2.091	3.0	17.4	4 21	13 30.03	+13 10.7	1.303	2.250	11.2	18.8
5 1	13 21.65	-11 31.9	1.110	2.092	8.5	17.7	5 1	13 21.74	+12 55.5	1.337	2.249	14.2	19.0
5 11	13 15.42	-10 31.5	1.153	2.093	13.6	18.0	5 11	13 15.34	+12 10.4	1.390	2.248	17.4	19.2
5 21	13 12.04	-9 46.8	1.216	2.096	18.0	18.3	5 21	13 11.47	+10 59.5	1.461	2.247	20.3	19.4
235171	2003 SH ₄₇	4 15.4 145°52			2°8/18.4 18		141440	2002 CC ₃₁	4 15.4 74°41			1°5/14.0 18	
3 12	13 58.80	-21 6.1	2.356	3.147	12.7	20.3	3 12	13 57.51	-6 39.7	2.272	3.113	11.4	20.3
3 22	13 53.66	-20 56.1	2.274	3.155	10.0	20.1	3 22	13 52.60	-6 15.5	2.207	3.126	8.4	20.1
4 1	13 46.77	-20 30.7	2.216	3.163	6.9	19.9	4 1	13 46.06	-5 45.8	2.166	3.138	5.0	19.9
4 11	13 38.76	-19 51.3	2.184	3.170	3.9	19.8	4 11	13 38.54	-5 14.3	2.152	3.151	1.8	19.7
4 21	13 30.42	-19 1.0	2.181	3.177	3.0	19.7	4 21	13 30.78	-4 44.9	2.168	3.163	3.0	19.8
5 1	13 22.59	-18 4.3	2.207	3.183	5.4	19.9	5 1	13 23.55	-4 21.4	2.212	3.176	6.3	20.0
5 11	13 16.00	-17 7.1	2.260	3.189	8.5	20.1	5 11	13 17.51	-4 7.0	2.282	3.188	9.5	20.2
5 21	13 11.15	-16 14.5	2.338	3.194	11.3	20.3	5 21	13 13.12	-4 3.3	2.375	3.201	12.2	20.4
217045	2001 QM ₁₄₇	4 15.4 156°28			5°5/ 9.7 18		520040	2013 VW ₂₈	4 15.4 262°60			0°1/15.5 17	
3 12	14 0.90	+ 6 24.2	2.382	3.224	10.9	21.1	3 12	13 59.42	-11 57.1	1.980	2.812	13.2	21.9
3 22	13 54.98	+ 7 23.1	2.322	3.233	8.4	21.0	3 22	13 54.57	-11 37.4	1.882	2.795	10.0	21.7
4 1	13 47.45	+ 8 18.8	2.288	3.242	6.3	20.8	4 1	13 47.58	-11 6.2	1.808	2.778	6.2	21.4
4 11	13 38.95	+ 9 5.3	2.282	3.250	5.5	20.8	4 11	13 39.10	-10 26.3	1.761	2.760	2.0	21.1
4 21	13 30.22	+ 9 38.2	2.305	3.257	6.8	20.9	4 21	13 30.00	-9 41.8	1.742	2.742	2.4	21.1
5 1	13 22.04	+ 9 54.1	2.355	3.263	9.0	21.0	5 1	13 21.29	-8 58.3	1.750	2.724	6.8	21.3
5 11	13 15.09	+ 9 52.1	2.430	3.268	11.5	21.2	5 11	13 13.90	-8 21.4	1.785	2.705	10.9	21.5
5 21	13 9.81	+ 9 32.8	2.526	3.273	13.6	21.4	5 21	13 8.50	-7 55.1	1.842	2.687	14.4	21.7
36336	2000 ND ₅	4 15.4 265°18			1°6/16.9 18		140652	2001 UX ₃₃	4 15.4 196°76			3°4/11.2 18	
3 12	14 0.70	-16 20.2	2.166	2.977	13.0	19.8	3 12	13 56.73	+ 0 55.1	2.806	3.649	9.4	20.7
3 22	13 55.50	-16 10.5	2.053	2.950	10.1	19.6	3 22	13 51.81	+ 1 42.4	2.728	3.646	7.0	20.5
4 1	13 48.17	-15 47.1	1.963	2.923	6.6	19.3	4 1	13 45.53	+ 2 30.5	2.677	3.643	4.7	20.3
4 11	13 39.30	-15 11.3	1.900	2.895	2.9	19.0	4 11	13 38.38	+ 3 15.2	2.654	3.639	3.4	20.3
4 21	13 29.70	-14 26.0	1.866	2.866	2.4	18.9	4 21	13 30.97	+ 3 52.6	2.661	3.634	4.6	20.3
5 1	13 20.35	-13 35.9	1.860	2.836	6.2	19.1	5 1	13 23.92	+ 4 19.3	2.697	3.630	7.0	20.5
5 11	13 12.21	-12 47.2	1.882	2.806	10.2	19.3	5 11	13 17.81	+ 4 33.1	2.759	3.624	9.4	20.6
5 21	13 5.98	-12 5.0	1.927	2.775	13.7	19.4	5 21	13 13.05	+ 4 33.4	2.843	3.619	11.6	20.8
510443	2011 VJ ₁₄	4 15.4 210°42			1°0/16.6 17		488970	2005 UK ₂₉₁	4 15.4 105°97			0°4/15.1 17	
3 12	13 55.08	-16 3.9	2.728	3.539	10.6	22.4	3 12	14 3.63	- 9 9.5	1.924	2.757	13.5	21.5
3 22	13 50.72	-15 33.4	2.636	3.535	8.1	22.2	3 22	13 57.41	- 9 8.2	1.858	2.771	10.1	21.3
4 1	13 44.91	-14 51.6	2.569	3.531	5.2	22.0	4 1	13 49.11	- 8 59.2	1.815	2.786	6.1	21.1
4 11	13 38.19	-14 0.7	2.530	3.526	2.1	21.8	4 11	13 39.52	- 8 45.4	1.800	2.800	1.8	20.8
4 21	13 31.16	-13 4.3	2.521	3.522	1.7	21.8	4 21	13 29.60	- 8 30.2	1.813	2.813	2.6	20.9
5 1	13 24.49	-12 6.6	2.541	3.517	4.8	22.0	5 1	13 20.37	- 8 17.5	1.855	2.827	6.7	21.2
5 11	13 18.78	-11 12.2	2.589	3.511	7.8	22.1	5 11	13 12.70	- 8 11.3	1.923	2.840	10.4	21.5
5 21	13 14.47	-10 25.0	2.661	3.506	10.5	22.3	5 21	13 7.14	- 8 13.8	2.014	2.852	13.6	21.7

EPHEMERIDES

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2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
29255	1993 <i>FF₄</i>	4 15.4 90°78		0°3/15.1 18				402142	2004 <i>RT₁₄</i>	4 15.5 214°08		0°6/15.9 17	
3 12	13 57.78	−10 43.6	2.251	3.082	11.8	19.1	3 12	14 2.84	−13 50.0	1.944	2.765	13.9	22.7
354887	2006 <i>BC₁₄₇</i>	4 15.4 338°96		5°9/11.4 17				38452	1999 <i>TE₁</i>	4 15.5 232°45		0°6/14.8 18	
3 12	13 55.44	−1 37.3	1.098	1.984	17.5	19.5	3 12	13 55.98	−9 42.5	2.849	3.676	9.8	19.5
391296	2006 <i>SZ₃₀₉</i>	4 15.4 63°50		2°0/17.2 17				317678	2003 <i>JH₁₈</i>	4 15.5 299°24		1°6/14.2 16	
3 12	13 58.70	−16 41.3	2.155	2.969	12.9	21.0	3 12	13 56.59	−10 38.1	1.350	2.210	16.5	20.7
28935	Kevincyr	4 15.4 212°22		2°9/13.0 18				123533	2000 <i>XX₁₅</i>	4 15.5 185°84		7°5/22.4 18	
3 12	14 0.85	−5 11.2	1.710	2.561	14.1	19.1	3 12	14 2.10	−32 22.2	2.105	2.839	15.8	19.7
299970	2006 <i>TG₉₅</i>	4 15.4 109°72		0°7/14.7 17				309240	2007 <i>RR₁₁</i>	4 15.5 124°85		0°9/14.7 18	
3 12	13 55.83	−10 22.7	2.417	3.250	11.1	21.5	3 12	13 59.31	−11 50.2	1.561	2.406	15.5	20.6
511129	2013 <i>WZ₁₀₅</i>	4 15.4 193°74		9°6/ 3.7 18				195383	2002 <i>GJ₅</i>	4 15.5 289°03		10°7/12.6 18	
3 12	14 2.68	+23 2.6	2.534	3.339	11.5	21.6	3 12	14 18.61	+11 54.0	1.017	1.872	21.1	19.5
368263	2001 <i>YF₁₃₇</i>	4 15.4 200°18		4°4/20.0 17				347481	1174 <i>T₋₃</i>	4 15.5 179°36		2°3/18.2 18	
3 12	14 2.24	−26 3.5	2.594	3.349	12.6	21.9	3 12	13 57.74	−20 24.9	2.802	3.588	11.0	21.7
161916	2007 <i>EO₃₄</i>	4 15.4 259°36		1°2/13.1 18				313610	2003 <i>QD₄₄</i>	4 15.5 218°29		1°1/16.4 16	
3 12	13 49.41	−4 31.2	4.550	5.387	6.2	20.2	3 12	14 3.61	−14 15.0	2.002	2.819	13.7	21.6
50475	2000 <i>DQ₇₃</i>	4 15.5 145°93		0°9/14.5 18				498167	2007 <i>TZ₁₇₇</i>	4 15.5 145°56		0°7/14.7 17	
3 12	13 57.29	−9 24.7	2.217	3.053	11.8	19.3	3 12	13 59.13	−8 32.9	2.626	3.454	10.5	22.6

EPHEMERIDES

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2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
29012	4285 <i>P-L</i>		4 15.5 163°48	2°6/18.0	18		8379	Straczynski		4 15.5 95°78	0°6/15.9	18	
3 12	13 59.31	-19 12.0	2.427	3.224	12.2	19.8	3 12	14 3.76	-12 20.7	1.895	2.721	14.0	17.6
3 22	13 54.07	-19 18.9	2.341	3.226	9.5	19.6	3 22	13 57.55	-12 22.7	1.832	2.740	10.5	17.4
4 1	13 47.08	-19 13.0	2.279	3.229	6.5	19.4	4 1	13 49.23	-12 14.2	1.792	2.759	6.5	17.2
4 11	13 38.95	-18 55.1	2.243	3.231	3.6	19.2	4 11	13 39.63	-11 57.7	1.779	2.777	2.3	16.9
4 21	13 30.43	-18 27.5	2.236	3.233	2.8	19.2	4 21	13 29.73	-11 36.6	1.795	2.796	2.3	17.0
5 1	13 22.34	-17 53.8	2.259	3.235	5.3	19.4	5 1	13 20.56	-11 15.2	1.839	2.814	6.4	17.3
5 11	13 15.43	-17 18.7	2.308	3.236	8.4	19.5	5 11	13 13.00	-10 58.1	1.909	2.831	10.2	17.5
5 21	13 10.21	-16 46.5	2.382	3.237	11.2	19.7	5 21	13 7.57	-10 48.6	2.003	2.849	13.4	17.8
45865	2000 <i>UT</i> ₉₇		4 15.5 255°96	1°6/16.5	18		371601	2006 <i>WB</i> ₁₄₆		4 15.5 33°84	0°5/15.9	17	
3 12	14 3.37	-14 25.7	1.652	2.481	15.6	19.0	3 12	13 59.96	-12 36.6	1.507	2.352	16.0	21.0
3 22	13 58.00	-14 33.7	1.559	2.467	12.0	18.8	3 22	13 55.33	-12 28.0	1.438	2.356	12.1	20.8
4 1	13 49.95	-14 28.0	1.488	2.453	7.8	18.5	4 1	13 48.18	-12 5.8	1.390	2.361	7.5	20.5
4 11	13 39.96	-14 10.0	1.442	2.439	3.2	18.2	4 11	13 39.37	-11 33.3	1.367	2.366	2.6	20.2
4 21	13 29.11	-13 42.8	1.423	2.424	2.8	18.1	4 21	13 30.04	-10 55.3	1.370	2.371	2.7	20.2
5 1	13 18.74	-13 11.5	1.431	2.409	7.5	18.3	5 1	13 21.45	-10 18.3	1.399	2.377	7.6	20.6
5 11	13 10.05	-12 42.7	1.464	2.393	12.1	18.6	5 11	13 14.68	-9 48.7	1.452	2.383	12.1	20.8
5 21	13 3.87	-12 22.0	1.519	2.378	16.2	18.8	5 21	13 10.37	-9 30.8	1.526	2.389	15.9	21.1
74306	1998 <i>TS</i> ₂₉		4 15.5 209°96	0°1/15.5	17		380335	2002 <i>PB</i> ₁₁₃		4 15.5 275°63	18°2/24.4	18	
3 12	13 58.26	-11 51.8	2.248	3.076	12.0	21.0	3 12	14 10.55	-40 52.7	1.206	1.931	25.7	21.1
3 22	13 53.36	-11 30.4	2.162	3.072	9.0	20.8	3 22	14 5.97	-43 31.7	1.128	1.922	23.6	20.9
4 1	13 46.68	-10 59.2	2.100	3.069	5.5	20.6	4 1	13 56.37	-45 41.1	1.065	1.912	21.4	20.7
4 11	13 38.83	-10 21.0	2.066	3.065	1.8	20.3	4 11	13 42.41	-47 6.6	1.018	1.903	19.4	20.5
4 21	13 30.58	-9 39.5	2.060	3.061	2.1	20.3	4 21	13 25.90	-47 36.6	0.988	1.894	18.3	20.4
5 1	13 22.77	-8 59.5	2.083	3.056	6.0	20.6	5 1	13 9.78	-47 8.0	0.977	1.885	18.5	20.4
5 11	13 16.16	-8 25.5	2.133	3.052	9.4	20.8	5 11	12 56.97	-45 50.8	0.983	1.875	20.1	20.4
5 21	13 11.26	-8 0.9	2.207	3.047	12.5	21.0	5 21	12 49.27	-44 2.7	1.005	1.866	22.4	20.5
122320	2000 <i>QX</i> ₁₃		4 15.5 204°52	2°1/17.4	18		112811	2002 <i>QD</i> ₃		4 15.5 158°23	1°1/16.6	18	
3 12	14 0.28	-17 52.4	2.172	2.979	13.1	20.6	3 12	13 57.18	-15 57.5	2.234	3.051	12.4	20.2
3 22	13 55.01	-17 45.4	2.081	2.975	10.2	20.4	3 22	13 52.56	-15 29.9	2.152	3.054	9.5	20.0
4 1	13 47.77	-17 24.2	2.014	2.970	6.8	20.2	4 1	13 46.20	-14 49.0	2.094	3.057	6.1	19.8
4 11	13 39.20	-16 50.3	1.973	2.965	3.3	20.0	4 11	13 38.71	-13 57.7	2.063	3.059	2.4	19.6
4 21	13 30.15	-16 6.8	1.961	2.960	2.6	19.9	4 21	13 30.88	-12 59.9	2.060	3.061	2.0	19.5
5 1	13 21.55	-15 18.4	1.977	2.954	5.8	20.1	5 1	13 23.52	-12 1.1	2.087	3.063	5.6	19.8
5 11	13 14.26	-14 30.8	2.020	2.948	9.4	20.3	5 11	13 17.39	-11 6.7	2.140	3.065	9.1	20.0
5 21	13 8.86	-13 49.2	2.088	2.941	12.6	20.5	5 21	13 12.99	-10 21.2	2.217	3.067	12.1	20.2
94039	2000 <i>XW</i> ₅₀		4 15.5 78°33	4°7/19.4	17		444013	2004 <i>DM</i> ₈		4 15.5 17°40	4°6/18.1	18	
3 12	14 0.99	-23 29.3	1.862	2.654	15.5	19.7	3 12	14 2.95	-19 23.9	1.200	2.035	19.9	20.5
3 22	13 55.82	-23 50.9	1.788	2.664	12.5	19.5	3 22	13 58.39	-19 59.0	1.130	2.036	15.8	20.3
4 1	13 48.36	-23 53.5	1.735	2.673	9.1	19.3	4 1	13 50.48	-20 12.6	1.079	2.038	11.0	20.0
4 11	13 39.39	-23 36.8	1.706	2.683	5.9	19.2	4 11	13 40.19	-20 3.7	1.050	2.039	6.3	19.7
4 21	13 29.95	-23 3.0	1.704	2.693	4.7	19.1	4 21	13 29.03	-19 34.9	1.045	2.042	4.9	19.7
5 1	13 21.16	-22 17.0	1.729	2.703	6.8	19.3	5 1	13 18.75	-18 52.9	1.063	2.044	8.9	19.9
5 11	13 13.99	-21 25.9	1.779	2.713	10.1	19.5	5 11	13 10.85	-18 7.6	1.104	2.047	13.8	20.2
5 21	13 9.07	-20 36.5	1.853	2.722	13.2	19.7	5 21	13 6.20	-17 28.1	1.164	2.050	18.2	20.4
187369	2005 <i>UT</i> ₂₈₁		4 15.5 227°68	2°3/13.2	18		287977	2003 <i>UA</i> ₁₅₉		4 15.5 156°98	0°4/15.1	18	
3 12	13 58.94	-5 55.1	2.126	2.969	12.0	21.0	3 12	14 1.09	-11 13.9	1.803	2.638	14.2	21.3
3 22	13 53.97	-5 5.8	2.038	2.959	8.9	20.8	3 22	13 55.78	-10 41.6	1.728	2.644	10.6	21.1
4 1	13 47.11	-4 9.0	1.975	2.948	5.4	20.6	4 1	13 48.29	-9 57.4	1.677	2.648	6.4	20.8
4 11	13 39.00	-3 9.6	1.940	2.937	2.5	20.3	4 11	13 39.39	-9 5.4	1.653	2.653	2.0	20.5
4 21	13 30.42	-2 13.1	1.933	2.925	3.9	20.4	4 21	13 30.07	-8 11.0	1.656	2.656	2.8	20.6
5 1	13 22.27	-1 25.1	1.955	2.913	7.5	20.6	5 1	13 21.39	-7 20.7	1.688	2.660	7.2	20.9
5 11	13 15.36	-0 50.1	2.003	2.900	11.0	20.8	5 11	13 14.28	-6 40.1	1.745	2.663	11.2	21.1
5 21	13 10.26	-0 30.5	2.072	2.886	14.1	21.0	5 21	13 9.32	-6 12.9	1.824	2.665	14.7	21.4
196622	2003 <i>RN</i> ₅		4 15.5 203°93	3°6/11.3	18		411633	2011 <i>UJ</i> ₁₈₇		4 15.5 61°09	4°8/12.2	18	
3 12	13 58.00	+ 0 22.8	2.598	3.442	10.1	21.0	3 12	14 1.44	-1 11.1	1.384	2.249	15.9	20.5
3 22	13 52.90	+ 1 16.5	2.518	3.437	7.5	20.8	3 22	13 56.50	-0 20.7	1.322	2.253	11.9	20.3
4 1	13 46.28	+ 2 11.8	2.464	3.431	5.0	20.7	4 1	13 48.91	+ 0 33.4	1.283	2.256	7.6	20.1
4 11	13 38.70	+ 3 4.1	2.439	3.424	3.6	20.6	4 11	13 39.61	+ 1 23.2	1.268	2.260	4.9	19.9
4 21	13 30.81	+ 3 48.7	2.443	3.417	4.9	20.6	4 21	13 29.83	+ 2 1.0	1.279	2.264	6.7	20.0
5 1	13 23.30	+ 4 21.8	2.475	3.409	7.5	20.8	5 1	13 20.89	+ 2 20.5	1.315	2.268	10.8	20.3
5 11	13 16.81	+ 4 40.7	2.534	3.401	10.1	20.9	5 11	13 13.92	+ 2 18.8	1.372	2.272	14.9	20.5
5 21	13 11.80	+ 4 44.7	2.615	3.392	12.5	21.1	5 21	13 9.53	+ 1 55.9	1.449	2.276	18.5	20.7
259232	2003 <i>BM</i> ₄₄		4 15.5 81°84	1°4/16.6	18		181923	1999 <i>TD</i> ₁₀₅		4 15.5 167°38	1°4/16.7	18	
3 12	14 1.97	-15 25.1	1.711	2.536	15.3	20.6	3 12	14 1.29	-16 28.4	2.051	2.864	13.6	21.5
3 22	13 56.39	-15 13.5	1.652	2.558	11.6	20.4	3 22	13 55.76	-16 3.5	1.970	2.869	10.4	21.3
4 1	13 48.58	-14 47.2	1.615	2.579	7.4	20.2	4 1	13 48.21	-15 23.9	1.912	2.873	6.7	21.1
4 11	13 39.43	-14 9.0	1.604	2.600	3.0	20.0	4 11	13 39.36	-14 32.2	1.881	2.877	2.8	20.9
4 21	13 29.99	-13 23.6	1.620	2.621	2.5	20.0	4 21	13 30.11	-13 32.6	1.879	2.880	2.3	20.8
5 1	13 21.38	-12 37.1	1.664	2.642	6.7	20.3	5 1	13 21.44	-12 31.2	1.906	2.882	6.1	21.1
5 11	13 14.49	-11 55.9	1.734	2.663	10.6	20.6	5 11	13 14.18	-11 34.2	1.960	2.884	9.8	21.3
5 21	13 9.87	-11 24.5	1.826	2.683	14.0	20.8	5 21	13 8.92	-10 46.6	2.037	2.885	13.1	21.5
173632	2001 <i>FT</i> ₈₇		4 15.5 321°14	3°4/13.1	17		379339	2009 <i>WS</i> ₈₅		4 15.5 238°58	2°1/17.3		

EPHEMERIDES

4 15.5

4 15.5

2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
149009	2002 AG ₄₂		4 15.5 353°41	1°3/14.4	18		55561	Madenberg		4 15.5 238°16	3°7/12.6	16	
3 12	13 55.76	- 9 41.7	1.508	2.366	15.2	19.3	3 12	14 1.66	- 3 18.8	1.660	2.513	14.3	20.1
3 22	13 52.21	- 8 59.3	1.435	2.363	11.3	19.1	3 22	13 56.51	- 2 28.6	1.578	2.503	10.7	19.9
4 1	13 46.29	- 8 3.9	1.384	2.360	6.8	18.8	4 1	13 48.93	- 1 31.9	1.519	2.492	6.7	19.6
4 11	13 38.80	- 7 1.3	1.358	2.358	2.2	18.5	4 11	13 39.67	- 0 35.1	1.486	2.481	3.8	19.4
4 21	13 30.79	- 5 58.4	1.358	2.357	3.6	18.6	4 21	13 29.79	+ 0 14.8	1.481	2.469	5.5	19.5
5 1	13 23.43	- 5 3.1	1.383	2.356	8.4	18.8	5 1	13 20.46	+ 0 51.0	1.502	2.457	9.6	19.7
5 11	13 17.72	- 4 22.0	1.432	2.355	12.8	19.1	5 11	13 12.76	+ 1 9.1	1.547	2.444	13.7	19.9
5 21	13 14.32	- 3 58.7	1.501	2.356	16.6	19.3	5 21	13 7.38	+ 1 7.5	1.612	2.431	17.3	20.1
354826	2005 WE ₁₇₅		4 15.5 204°98	3°7/18.4	17		206832	2004 EL ₄₆		4 15.5 51°79	2°5/13.3	17	
3 12	14 2.67	-21 22.9	1.689	2.493	16.4	21.7	3 12	13 57.93	- 4 35.0	1.889	2.741	12.9	20.3
3 22	13 57.40	-21 19.0	1.602	2.490	13.0	21.5	3 22	13 53.22	- 3 59.6	1.830	2.755	9.5	20.1
4 1	13 49.52	-20 54.2	1.535	2.485	9.1	21.2	4 1	13 46.61	- 3 19.4	1.794	2.768	5.8	19.9
4 11	13 39.84	-20 9.0	1.493	2.480	5.2	21.0	4 11	13 38.86	- 2 39.2	1.786	2.782	2.7	19.8
4 21	13 29.48	-19 6.8	1.478	2.475	3.9	20.9	4 21	13 30.85	- 2 4.4	1.805	2.796	4.1	19.9
5 1	13 19.73	-17 54.5	1.490	2.469	7.2	21.1	5 1	13 23.48	- 1 39.3	1.851	2.811	7.7	20.1
5 11	13 11.74	-16 41.2	1.528	2.462	11.4	21.3	5 11	13 17.54	- 1 27.4	1.921	2.825	11.1	20.4
5 21	13 6.24	-15 34.8	1.588	2.454	15.2	21.5	5 21	13 13.50	- 1 29.8	2.014	2.840	14.0	20.6
429652	2011 GG ₁₃		4 15.5 298°06	2°2/17.2	17		196606	2003 QX ₇₅		4 15.5 288°58	2°4/12.9	18	
3 12	13 59.07	-16 40.9	1.811	2.634	14.6	21.3	3 12	13 55.39	- 8 4.8	1.863	2.714	13.1	19.8
3 22	13 54.54	-16 45.0	1.720	2.623	11.4	21.1	3 22	13 51.68	- 6 47.1	1.767	2.692	9.7	19.5
4 1	13 47.71	-16 34.3	1.652	2.613	7.6	20.8	4 1	13 45.92	- 5 16.1	1.696	2.671	5.9	19.2
4 11	13 39.27	-16 10.2	1.609	2.603	3.6	20.6	4 11	13 38.72	- 3 37.9	1.651	2.649	2.6	19.0
4 21	13 30.18	-15 35.6	1.592	2.592	2.8	20.5	4 21	13 30.94	- 2 0.6	1.634	2.627	4.4	19.1
5 1	13 21.55	-14 55.7	1.603	2.582	6.7	20.7	5 1	13 23.55	- 0 32.6	1.645	2.605	8.5	19.2
5 11	13 14.42	-14 16.9	1.639	2.572	10.8	20.9	5 11	13 17.46	+ 0 38.8	1.681	2.583	12.6	19.4
5 21	13 9.47	-13 44.8	1.698	2.563	14.5	21.1	5 21	13 13.32	+ 1 29.5	1.738	2.561	16.1	19.6
30264	2000 HT ₄₄		4 15.5 196°25	2°0/13.6	17		359986	2012 VQ ₃₃		4 15.5 84°69	2°7/12.8	17	
3 12	13 59.50	- 6 54.9	2.041	2.883	12.5	19.9	3 12	13 57.49	- 3 4.4	2.232	3.079	11.4	20.8
3 22	13 54.41	- 6 8.6	1.961	2.881	9.2	19.7	3 22	13 52.66	- 2 26.6	2.167	3.089	8.4	20.6
4 1	13 47.39	- 5 14.3	1.905	2.878	5.6	19.4	4 1	13 46.19	- 1 45.7	2.128	3.100	5.2	20.4
4 11	13 39.11	- 4 16.9	1.877	2.875	2.3	19.2	4 11	13 38.72	- 1 6.0	2.116	3.110	2.8	20.3
4 21	13 30.42	- 3 21.8	1.878	2.872	3.7	19.3	4 21	13 31.01	- 0 32.0	2.133	3.121	4.1	20.4
5 1	13 22.24	- 2 34.7	1.906	2.867	7.4	19.5	5 1	13 23.83	- 0 7.8	2.178	3.131	7.2	20.6
5 11	13 15.39	- 2 0.2	1.961	2.863	11.0	19.7	5 11	13 17.86	+ 0 4.2	2.249	3.142	10.2	20.8
5 21	13 10.42	- 1 40.7	2.038	2.858	14.1	19.9	5 21	13 13.54	+ 0 2.7	2.341	3.152	12.8	21.0
465177	2007 EZ ₁₂₁		4 15.5 184°12	0°7/14.9	17		430643	2003 SU ₁₀₅		4 15.5 194°11	1°1/16.9	18	
3 12	14 1.61	- 9 8.1	2.084	2.916	12.6	22.1	3 12	13 57.85	-16 43.4	2.875	3.676	10.4	21.9
3 22	13 55.96	- 8 52.0	2.003	2.917	9.4	21.9	3 22	13 52.74	-16 13.4	2.780	3.673	7.9	21.7
4 1	13 48.33	- 8 27.8	1.946	2.916	5.7	21.6	4 1	13 46.20	-15 32.0	2.711	3.669	5.1	21.5
4 11	13 39.42	- 7 58.8	1.916	2.916	1.8	21.4	4 11	13 38.74	-14 41.4	2.670	3.665	2.2	21.3
4 21	13 30.07	- 7 28.9	1.916	2.915	2.6	21.4	4 21	13 30.97	-13 44.7	2.659	3.660	1.7	21.3
5 1	13 21.24	- 7 2.4	1.944	2.913	6.6	21.7	5 1	13 23.55	-12 46.1	2.679	3.654	4.7	21.5
5 11	13 13.76	- 6 43.6	1.999	2.911	10.3	21.9	5 11	13 17.09	-11 50.2	2.728	3.648	7.6	21.6
5 21	13 8.20	- 6 35.1	2.076	2.909	13.4	22.1	5 21	13 12.03	-11 0.8	2.802	3.640	10.2	21.8
87923	2000 SV ₃₁₈		4 15.5 232°61	5°3/20.4	18		510341	2011 SP ₁₁₁		4 15.5 240°89	4°6/20.6	18	
3 12	14 2.23	-27 11.8	2.380	3.134	13.6	19.5	3 12	13 59.73	-27 20.4	2.809	3.556	11.9	22.4
3 22	13 56.60	-27 35.5	2.273	3.121	11.3	19.4	3 22	13 54.45	-27 37.8	2.698	3.541	9.9	22.2
4 1	13 48.86	-27 41.9	2.189	3.106	8.7	19.2	4 1	13 47.41	-27 40.0	2.610	3.524	7.6	22.1
4 11	13 39.63	-27 29.4	2.130	3.092	6.3	19.0	4 11	13 39.17	-27 26.2	2.548	3.507	5.5	21.9
4 21	13 29.74	-26 58.8	2.099	3.076	5.3	18.9	4 21	13 30.40	-26 57.1	2.514	3.490	4.6	21.8
5 1	13 20.18	-26 13.1	2.096	3.060	6.6	18.9	5 1	13 21.89	-26 15.4	2.509	3.472	5.7	21.9
5 11	13 11.88	-25 18.1	2.120	3.044	9.2	19.1	5 11	13 14.41	-25 25.7	2.531	3.454	8.0	22.0
5 21	13 5.52	-24 20.2	2.169	3.027	12.0	19.2	5 21	13 8.52	-24 33.3	2.579	3.435	10.4	22.1
213836	2003 RQ ₁₂		4 15.5 140°10	1°5/14.2	18		474120	4504 P-L		4 15.5 251°87	2°0/17.6	18	
3 12	14 1.75	- 8 34.6	1.905	2.743	13.4	21.4	3 12	13 58.82	-17 53.0	2.769	3.565	10.9	22.1
3 22	13 56.07	- 7 50.0	1.838	2.755	9.9	21.2	3 22	13 53.66	-17 57.9	2.661	3.547	8.5	21.9
4 1	13 48.37	- 6 56.1	1.795	2.767	5.9	20.9	4 1	13 46.89	-17 52.2	2.577	3.530	5.7	21.7
4 11	13 39.41	- 5 58.0	1.779	2.778	2.0	20.7	4 11	13 38.99	-17 36.6	2.522	3.512	3.0	21.4
4 21	13 30.15	- 5 1.3	1.792	2.788	3.3	20.8	4 21	13 30.62	-17 12.8	2.496	3.493	2.3	21.4
5 1	13 21.55	- 4 12.1	1.833	2.798	7.3	21.1	5 1	13 22.51	-16 43.9	2.499	3.475	4.9	21.5
5 11	13 14.47	- 3 35.1	1.900	2.807	11.0	21.3	5 11	13 15.34	-16 13.8	2.531	3.456	7.9	21.7
5 21	13 9.43	- 3 12.9	1.989	2.815	14.2	21.5	5 21	13 9.65	-15 46.3	2.588	3.436	10.6	21.8
275213	2009 WA ₁₈₀		4 15.5 274°21	0°6/14.9	17		74871	1999 TT ₉₇		4 15.5 213°49	2°7/13.0	17	
3 12	13 57.85	-10 55.0	1.823	2.665	13.8	21.2	3 12	13 59.68	- 5 59.8	1.849	2.697	13.3	20.1
3 22	13 53.47	-10 20.9	1.740	2.658	10.3	21.0	3 22	13 54.76	- 4 59.8	1.768	2.691	9.9	19.8
4 1	13 46.96	- 9 34.8	1.679	2.652	6.3	20.7	4 1	13 47.72	- 3 50.9	1.712	2.685	6.0	19.6
4 11	13 39.02	- 8 40.9	1.646	2.645	1.9	20.4	4 11	13 39.27	- 2 39.1	1.682	2.679	2.8	19.4
4 21	13 30.57	- 7 44.5	1.639	2.639	2.8	20.5	4 21	13 30.33	- 1 31.3	1.681	2.671	4.5	19.5
5 1	13 22.65	- 6 52.2	1.660	2.632	7.2	20.7	5 1	13 21.94	- 0 34.4	1.707	2.664	8.5	19.7
5 11	13 16.16	- 6 9.8	1.706	2.626	11.3	21.0	5 11	13 14.99	+ 0 6.5	1.758	2.656	12.3	19.9
5 21	13 11.72	- 5 41.2	1.774	2.620	14.8	21.2	5 21	13 10.09	+ 0 28.9	1.830	2.647	15.6	20.1
469753	2005 QQ ₁₃		4 15.5 186°86	1°0/16.7	17		242723	2005 UD ₁₅₆		4 15.5 220°54	4°9/10.2	18	
3 12	13 56.69	-15 19.6	3.										

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2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
53284	1999 <i>FK</i> ₄₇		4 15.5 211°21'	3°1/18.5 18			18727	Peacock		4 15.5 318°91'	1°2/14.3 18		
3 12	14 1.35	-21 5.2	2.283	3.071	13.1	18.5	3 12	13 54.67	-9 13.8	2.071	2.916	12.2	18.0
3 22	13 55.83	-21 7.3	2.185	3.064	10.4	18.3	3 22	13 50.88	-8 29.8	1.986	2.907	9.1	17.8
4 1	13 48.33	-20 54.0	2.111	3.056	7.3	18.1	4 1	13 45.28	-7 36.0	1.925	2.899	5.5	17.6
4 11	13 39.47	-20 25.8	2.064	3.048	4.3	17.9	4 11	13 38.50	-6 36.6	1.891	2.890	1.8	17.3
4 21	13 30.08	-19 45.0	2.045	3.040	3.3	17.8	4 21	13 31.30	-5 37.1	1.884	2.882	3.0	17.4
5 1	13 21.09	-18 55.7	2.055	3.030	5.8	17.9	5 1	13 24.53	-4 43.3	1.906	2.874	6.8	17.6
5 11	13 13.38	-18 3.9	2.092	3.020	9.1	18.1	5 11	13 18.96	-4 0.1	1.953	2.866	10.5	17.8
5 21	13 7.55	-17 15.1	2.154	3.010	12.2	18.3	5 21	13 15.12	-3 31.0	2.022	2.859	13.6	18.0
192319	1994 <i>RY</i> ₂₄		4 15.5 210°12'	1°4/16.9 18			325021	2008 <i>CC</i> ₂₄		4 15.5 265°09'	2°9/17.6 17		
3 12	13 58.59	-16 15.7	2.209	3.023	12.7	20.7	3 12	14 1.36	-18 15.0	1.728	2.545	15.5	20.7
3 22	13 53.72	-15 58.5	2.120	3.019	9.7	20.5	3 22	13 56.45	-18 25.4	1.635	2.533	12.2	20.4
4 1	13 46.99	-15 28.1	2.054	3.015	6.3	20.2	4 1	13 49.00	-18 19.5	1.564	2.521	8.3	20.2
4 11	13 39.03	-14 46.4	2.015	3.011	2.7	20.0	4 11	13 39.74	-17 57.6	1.518	2.509	4.3	19.9
4 21	13 30.63	-13 57.3	2.005	3.006	2.2	19.9	4 21	13 29.72	-17 22.4	1.498	2.496	3.4	19.8
5 1	13 22.67	-13 5.5	2.023	3.000	5.7	20.2	5 1	13 20.17	-16 39.1	1.505	2.484	7.1	20.0
5 11	13 15.95	-12 16.8	2.069	2.995	9.3	20.4	5 11	13 12.23	-15 54.9	1.538	2.471	11.3	20.2
5 21	13 11.03	-11 35.6	2.138	2.989	12.4	20.6	5 21	13 6.67	-15 16.2	1.592	2.459	15.2	20.4
224957	2007 <i>EA</i> ₁₃		4 15.5 9°45'	1°9/16.9 17			501374	2013 <i>YW</i> ₄₈		4 15.5 165°67'	2°6/18.8 17		
3 12	13 58.46	-16 4.0	1.572	2.406	15.9	20.5	3 12	13 59.06	-22 6.5	2.792	3.569	11.3	22.5
3 22	13 54.24	-15 58.8	1.497	2.407	12.3	20.2	3 22	13 53.68	-21 49.2	2.704	3.575	8.9	22.3
4 1	13 47.56	-15 37.2	1.443	2.408	8.0	20.0	4 1	13 46.78	-21 17.8	2.639	3.581	6.3	22.2
4 11	13 39.25	-15 1.2	1.414	2.409	3.5	19.7	4 11	13 38.93	-20 33.4	2.603	3.586	3.7	22.0
4 21	13 30.37	-14 15.5	1.410	2.411	2.8	19.6	4 21	13 30.80	-19 39.0	2.596	3.590	2.7	21.9
5 1	13 22.16	-13 26.5	1.433	2.413	7.2	19.9	5 1	13 23.08	-18 38.5	2.619	3.594	4.8	22.1
5 11	13 15.67	-12 41.6	1.480	2.416	11.5	20.2	5 11	13 16.43	-17 36.9	2.671	3.597	7.5	22.3
5 21	13 11.56	-12 6.5	1.549	2.419	15.3	20.4	5 21	13 11.29	-16 39.1	2.748	3.599	10.0	22.4
274575	2008 <i>SD</i> ₃₀₄		4 15.5 271°58'	3°6/12.3 17			379310	2009 <i>VH</i> ₉₁		4 15.5 251°17'	5°6/10.7 18		
3 12	13 58.18	-2 3.7	1.913	2.767	12.7	20.5	3 12	14 2.36	+4 47.6	2.035	2.882	12.3	20.7
3 22	13 53.53	-1 16.6	1.839	2.764	9.4	20.3	3 22	13 56.65	+5 31.9	1.950	2.866	9.5	20.5
4 1	13 46.91	-0 25.6	1.789	2.761	6.0	20.0	4 1	13 48.86	+6 14.3	1.889	2.849	6.8	20.3
4 11	13 39.00	+0 23.5	1.765	2.758	3.6	19.9	4 11	13 39.65	+6 48.8	1.856	2.832	5.6	20.2
4 21	13 30.69	+1 4.9	1.769	2.754	5.2	20.0	4 21	13 29.91	+7 9.8	1.850	2.815	7.0	20.2
5 1	13 22.90	+1 33.6	1.800	2.751	8.6	20.2	5 1	13 20.61	+7 13.2	1.871	2.797	10.0	20.3
5 11	13 16.49	+1 46.2	1.856	2.748	12.0	20.4	5 11	13 12.66	+6 57.3	1.917	2.779	13.1	20.5
5 21	13 12.01	+1 41.7	1.932	2.744	15.1	20.6	5 21	13 6.69	+6 22.7	1.983	2.760	15.9	20.7
522723	2016 <i>LL</i> ₆₂		4 15.5 242°14'	1°9/17.6 17			494984	2010 <i>AJ</i> ₃₇		4 15.5 111°66'	4°5/12.4 18		
3 12	13 56.42	-18 37.7	2.363	3.169	12.2	21.6	3 12	14 2.34	-2 42.6	1.344	2.208	16.4	21.6
3 22	13 52.04	-18 16.9	2.269	3.162	9.5	21.4	3 22	13 57.22	-1 42.8	1.285	2.215	12.2	21.4
4 1	13 45.93	-17 41.7	2.199	3.155	6.3	21.2	4 1	13 49.39	-0 37.0	1.248	2.222	7.7	21.2
4 11	13 38.70	-16 53.9	2.156	3.148	3.1	21.0	4 11	13 39.81	+0 26.2	1.235	2.228	4.6	21.0
4 21	13 31.05	-15 57.1	2.141	3.140	2.3	20.9	4 21	13 29.79	+1 18.3	1.248	2.235	6.5	21.1
5 1	13 23.80	-14 56.1	2.155	3.133	5.3	21.1	5 1	13 20.67	+1 52.0	1.286	2.241	10.8	21.4
5 11	13 17.68	-13 56.5	2.196	3.125	8.7	21.3	5 11	13 13.59	+2 3.5	1.346	2.247	15.1	21.6
5 21	13 13.21	-13 3.4	2.261	3.117	11.7	21.5	5 21	13 9.19	+1 52.5	1.425	2.253	18.7	21.9
266676	2009 <i>FV</i> ₅₆		4 15.5 179°66'	15°5/6.9 17			298750	2004 <i>GY</i> ₈₂		4 15.5 356°53'	0°5/14.9 17		
3 12	14 15.62	+23 51.6	1.307	2.128	19.3	20.0	3 12	13 54.37	-12 13.5	1.971	2.811	12.9	20.6
3 22	14 7.31	+25 6.6	1.262	2.130	17.1	19.9	3 22	13 50.69	-11 19.4	1.892	2.810	9.6	20.4
4 1	13 55.57	+25 55.4	1.235	2.131	15.7	19.8	4 1	13 45.17	-10 12.1	1.837	2.809	5.8	20.1
4 11	13 41.72	+26 5.1	1.230	2.131	15.6	19.7	4 11	13 38.47	-8 56.5	1.809	2.809	1.8	19.8
4 21	13 27.50	+25 29.0	1.247	2.131	16.9	19.8	4 21	13 31.39	-7 38.6	1.808	2.808	2.6	19.9
5 1	13 14.71	+24 7.5	1.284	2.130	19.1	20.0	5 1	13 24.83	-6 25.2	1.836	2.808	6.7	20.2
5 11	13 4.70	+22 8.0	1.341	2.129	21.5	20.1	5 11	13 19.54	-5 22.7	1.889	2.808	10.4	20.4
5 21	12 58.10	+19 40.9	1.413	2.127	23.9	20.3	5 21	13 16.06	-4 35.0	1.965	2.809	13.7	20.6
405411	2004 <i>RT</i> ₉₈		4 15.5 281°60'	1°3/14.4 16			390075	2012 <i>UT</i> ₁₂₃		4 15.5 64°69'	2°1/17.6 17		
3 12	13 57.90	-11 28.5	1.423	2.277	16.2	21.3	3 12	13 56.39	-18 38.1	2.178	2.988	13.0	21.0
3 22	13 54.22	-10 25.6	1.331	2.257	12.2	21.0	3 22	13 52.08	-18 19.2	2.096	2.991	10.0	20.8
4 1	13 47.79	-9 3.0	1.261	2.236	7.5	20.7	4 1	13 45.97	-17 45.2	2.038	2.994	6.7	20.6
4 11	13 39.39	-7 26.6	1.216	2.216	2.3	20.3	4 11	13 38.71	-16 58.4	2.006	2.998	3.3	20.4
4 21	13 30.13	-5 45.5	1.196	2.195	4.0	20.4	4 21	13 31.09	-16 2.3	2.002	3.001	2.4	20.4
5 1	13 21.37	-4 10.7	1.203	2.174	9.5	20.6	5 1	13 23.97	-15 2.5	2.026	3.005	5.6	20.6
5 11	13 14.37	-2 52.5	1.232	2.153	14.6	20.8	5 11	13 18.09	-14 4.7	2.077	3.008	9.0	20.8
5 21	13 9.96	-1 57.3	1.281	2.132	19.1	21.1	5 21	13 13.98	-13 14.1	2.152	3.012	12.0	21.0
197130	2003 <i>UX</i> ₂₃₀		4 15.5 272°73'	1°6/16.9 18			215476	2002 <i>RP</i> ₁₃₄		4 15.5 285°51'	3°0/13.3 18		
3 12	13 57.72	-16 30.4	2.009	2.829	13.5	20.8	3 12	14 2.81	-4 37.8	1.718	2.566	14.2	21.1
3 22	13 53.33	-16 13.6	1.913	2.816	10.4	20.5	3 22	13 57.68	-4 3.2	1.608	2.530	10.7	20.8
4 1	13 46.88	-15 41.9	1.841	2.803	6.8	20.3	4 1	13 49.90	-3 20.5	1.521	2.494	6.7	20.5
4 11	13 39.03	-14 57.4	1.795	2.790	3.0	20.0	4 11	13 40.10	-2 34.8	1.460	2.457	3.2	20.2
4 21	13 30.62	-14 3.9	1.776	2.777	2.4	19.9	4 21	13 29.25	-1 52.2	1.427	2.419	4.9	20.2
5 1	13 22.62	-13 7.0	1.786	2.764	6.2	20.1	5 1	13 18.60	-1 19.6	1.420	2.380	9.5	20.4
5 11	13 15.94	-12 13.2	1.821	2.751	10.1	20.4	5 11	13 9.37	-1 2.6	1.438	2.341	14.2	20.5
5 21	13 11.20	-11 27.8	1.880	2.738	13.6	20.5	5 21	13 2.49	-1 4.0	1.477	2.302	18.3	20.7
428729	2008 <i>RG</i> ₈₅		4 15.5 274°00'	5°4/19.2 16			<						

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2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V	
457513	2008 VZ ₆₅	4 15.5 184°54' 1.7°/14.2 16						86017	1999 JA ₁₀₁	4 15.5 87°53' 12.6°/ 3.4 18				
3 12	14 2.89	- 8 12.7	1.760	2.600	14.2	22.3	3 12	14 2.96	+24 19.6	1.813	2.632	14.8	18.4	
3 22	13 57.23	- 7 31.5	1.682	2.601	10.6	22.1	3 22	13 57.10	+25 44.9	1.778	2.638	13.3	18.3	
4 1	13 49.27	- 6 40.3	1.628	2.601	6.4	21.8	4 1	13 49.04	+26 49.8	1.765	2.644	12.6	18.3	
4 11	13 39.79	- 5 44.1	1.601	2.600	2.2	21.6	4 11	13 39.67	+27 25.5	1.774	2.650	12.9	18.3	
4 21	13 29.82	- 4 49.0	1.602	2.599	3.7	21.6	4 21	13 30.10	+27 27.3	1.805	2.656	14.0	18.4	
5 1	13 20.48	- 4 1.4	1.631	2.596	8.0	21.9	5 1	13 21.41	+26 54.6	1.857	2.662	15.7	18.5	
5 11	13 12.75	- 3 26.9	1.685	2.593	12.1	22.1	5 11	13 14.49	+25 50.6	1.927	2.668	17.4	18.7	
5 21	13 7.28	- 3 8.3	1.761	2.590	15.6	22.3	5 21	13 9.82	+24 21.0	2.014	2.674	19.0	18.8	
62114	2000 RV ₉₉	4 15.5 243°79' 3°1/22.1 18						436729	2011 UO ₁₇₈	4 15.5 234°95' 1°6/13.5 18				
3 12	13 50.83	-29 59.3	5.033	5.751	7.3	19.9	3 12	13 56.57	- 5 57.6	2.993	3.826	9.2	22.4	
3 22	13 47.18	-29 59.0	4.923	5.741	6.1	19.8	3 22	13 51.79	- 5 20.1	2.895	3.810	6.8	22.2	
4 1	13 42.68	-29 48.9	4.837	5.731	4.9	19.7	4 1	13 45.65	- 4 37.5	2.823	3.794	4.1	22.0	
4 11	13 37.65	-29 29.2	4.778	5.721	3.7	19.6	4 11	13 38.64	- 3 53.0	2.780	3.777	1.8	21.8	
4 21	13 32.43	-29 0.8	4.747	5.711	3.1	19.6	4 21	13 31.28	- 3 10.1	2.768	3.760	2.8	21.9	
5 1	13 27.39	-28 25.2	4.745	5.701	3.5	19.6	5 1	13 24.19	- 2 32.5	2.785	3.742	5.6	22.0	
5 11	13 22.87	-27 44.8	4.772	5.690	4.6	19.7	5 11	13 17.93	- 2 3.2	2.830	3.724	8.3	22.2	
5 21	13 19.14	-27 2.2	4.825	5.680	5.9	19.8	5 21	13 12.94	- 1 44.2	2.899	3.705	10.7	22.3	
317080	2001 SZ ₂₅₈	4 15.5 293°51' 1°4/16.6 17						521273	2015 HG ₁₉₄	4 15.5 250°73' 4°5/10.2 18				
3 12	13 58.58	-15 38.9	1.658	2.491	15.3	21.0	3 12	13 55.22	+ 2 14.4	2.366	3.220	10.6	21.7	
3 22	13 54.31	-15 22.7	1.574	2.484	11.8	20.8	3 22	13 51.01	+ 3 20.9	2.294	3.216	8.0	21.5	
4 1	13 47.64	-14 50.0	1.511	2.476	7.6	20.5	4 1	13 45.25	+ 4 28.2	2.247	3.211	5.6	21.3	
4 11	13 39.32	-14 3.3	1.473	2.469	3.1	20.2	4 11	13 38.51	+ 5 30.3	2.227	3.207	4.5	21.3	
4 21	13 30.38	-13 7.4	1.461	2.462	2.6	20.2	4 21	13 31.46	+ 6 22.1	2.236	3.203	5.9	21.3	
5 1	13 21.99	-12 9.1	1.476	2.456	7.1	20.4	5 1	13 24.82	+ 6 59.1	2.272	3.198	8.5	21.5	
5 11	13 15.22	-11 16.1	1.516	2.449	11.5	20.7	5 11	13 19.25	+ 7 19.0	2.333	3.193	11.1	21.7	
5 21	13 10.75	-10 34.1	1.578	2.442	15.4	20.9	5 21	13 15.20	+ 7 21.1	2.415	3.189	13.5	21.8	
377924	2006 EX ₇₂	4 15.5 89°54' 0°1/15.5 17						288405	2004 DY ₁₉	4 15.5 91°44' 1°8/13.4 18				
3 12	13 59.97	-11 24.3	1.941	2.774	13.4	20.9	3 12	13 56.45	- 7 59.5	2.207	3.048	11.7	21.2	
3 22	13 54.79	-11 7.8	1.873	2.786	10.0	20.7	3 22	13 51.89	- 6 51.8	2.147	3.067	8.5	21.0	
4 1	13 47.63	-10 41.0	1.828	2.798	6.1	20.5	4 1	13 45.73	- 5 36.3	2.112	3.086	5.1	20.8	
4 11	13 39.25	-10 7.4	1.811	2.810	1.9	20.3	4 11	13 38.64	- 4 18.3	2.106	3.104	2.1	20.6	
4 21	13 30.53	- 9 31.1	1.821	2.822	2.4	20.3	4 21	13 31.36	- 3 3.9	2.129	3.122	3.4	20.7	
5 1	13 22.45	- 8 57.1	1.860	2.834	6.5	20.6	5 1	13 24.65	- 1 58.7	2.180	3.140	6.7	21.0	
5 11	13 15.81	- 8 30.1	1.924	2.845	10.2	20.8	5 11	13 19.15	- 1 7.0	2.258	3.157	9.9	21.2	
5 21	13 11.15	- 8 13.3	2.011	2.857	13.3	21.1	5 21	13 15.29	- 0 30.9	2.358	3.174	12.6	21.4	
427374	2014 XO	4 15.5 210°24' 3°0/21.7 18						198318	2004 TJ ₃₄₂	4 15.5 295°04' 0°6/15.9 17				
3 12	13 51.37	-29 1.9	5.003	5.727	7.3	21.5	3 12	13 57.62	-13 47.4	1.755	2.591	14.5	20.7	
3 22	13 47.56	-29 6.6	4.900	5.723	6.1	21.4	3 22	13 53.62	-13 23.2	1.654	2.568	11.1	20.4	
4 1	13 42.91	-29 1.9	4.821	5.720	4.8	21.3	4 1	13 47.29	-12 43.9	1.576	2.545	7.0	20.1	
4 11	13 37.73	-28 48.0	4.769	5.716	3.6	21.2	4 11	13 39.26	-11 52.0	1.523	2.521	2.5	19.8	
4 21	13 32.36	-28 25.7	4.745	5.712	3.0	21.2	4 21	13 30.48	-10 52.6	1.497	2.498	2.5	19.7	
5 1	13 27.17	-27 56.5	4.751	5.707	3.5	21.2	5 1	13 22.07	- 9 52.3	1.498	2.475	7.3	20.0	
5 11	13 22.51	-27 22.7	4.785	5.703	4.6	21.3	5 11	13 15.08	- 8 58.6	1.524	2.452	11.8	20.2	
5 21	13 18.65	-26 46.8	4.845	5.699	5.9	21.4	5 21	13 10.29	- 8 17.1	1.571	2.429	15.8	20.4	
205266	2000 SM ₅₁	4 15.5 261°33' 2°3/17.2 17						83613	2001 SR ₂₈₆	4 15.5 226°33' 4°9/10.0 18				
3 12	14 1.01	-17 25.4	1.586	2.411	16.3	21.1	3 12	13 57.15	+ 4 19.2	2.407	3.256	10.6	19.2	
3 22	13 56.38	-17 18.7	1.494	2.398	12.7	20.8	3 22	13 52.42	+ 5 16.3	2.333	3.250	8.1	19.1	
4 1	13 49.06	-16 53.5	1.423	2.385	8.5	20.5	4 1	13 46.11	+ 6 12.2	2.284	3.244	5.8	18.9	
4 11	13 39.81	-16 11.1	1.376	2.371	4.0	20.2	4 11	13 38.79	+ 7 1.4	2.263	3.238	4.9	18.8	
4 21	13 29.75	-15 15.5	1.356	2.356	3.1	20.1	4 21	13 31.14	+ 7 39.2	2.271	3.231	6.2	18.9	
5 1	13 20.18	-14 13.8	1.362	2.342	7.5	20.4	5 1	13 23.91	+ 8 1.8	2.305	3.225	8.7	19.0	
5 11	13 12.34	-13 14.4	1.393	2.327	12.2	20.6	5 11	13 17.77	+ 8 7.2	2.364	3.218	11.2	19.2	
5 21	13 7.04	-12 24.6	1.445	2.313	16.4	20.8	5 21	13 13.18	+ 7 55.4	2.445	3.210	13.6	19.4	
53409	1999 LU ₇	4 15.5 270°78' 0°1/15.6 14 C						333841	1121 T ₋₃	4 15.5 245°66' 2°7/18.2 17				
3 12	14 6.99	-14 26.9	2.097	2.904	13.5	23.4	3 12	14 0.22	-20 27.9	2.514	3.301	12.1	22.4	
3 22	14 0.57	-13 34.7	1.961	2.860	10.4	23.1	3 22	13 54.93	-20 21.9	2.402	3.281	9.6	22.2	
4 1	13 51.61	-12 24.2	1.850	2.814	6.6	22.8	4 1	13 47.80	-20 1.6	2.313	3.260	6.7	22.0	
4 11	13 40.66	-10 57.5	1.768	2.767	2.2	22.4	4 11	13 39.37	-19 27.6	2.252	3.238	3.8	21.8	
4 21	13 28.62	- 9 19.9	1.717	2.717	2.6	22.3	4 21	13 30.38	-18 42.1	2.219	3.216	2.9	21.7	
5 1	13 16.62	- 7 39.1	1.696	2.665	7.5	22.5	5 1	13 21.66	-17 49.0	2.217	3.192	5.4	21.8	
5 11	13 5.83	- 6 4.2	1.705	2.610	12.2	22.7	5 11	13 14.02	-16 53.9	2.242	3.168	8.7	21.9	
5 21	12 57.14	- 4 42.5	1.737	2.554	16.3	22.8	5 21	13 8.05	-16 1.9	2.292	3.144	11.7	22.1	
117513	2005 CA ₄₃	4 15.5 348°50' 1°5/16.5 17						363232	2001 XV ₄₇	4 15.5 139°81' 11°5/ 1.7 18				
3 12	13 57.14	-14 49.5	1.231	2.086	18.2	19.8	3 12	14 12.25	-52 9.1	2.704	3.247	16.1	20.5	
3 22	13 53.88	-14 43.4	1.157	2.080	14.0	19.5	3 22	14 4.65	-53 19.5	2.625	3.262	15.0	20.4	
4 1	13 47.67	-14 18.3	1.104	2.075	9.0	19.2	4 1	13 54.07	-54 4.3	2.561	3.276	13.8	20.3	
4 11	13 39.38	-13 37.1	1.072	2.070	3.6	18.9	4 11	13 41.40	-54 18.4	2.516	3.290	12.7	20.2	
4 21	13 30.33	-12 45.4	1.065	2.067	3.0	18.8	4 21	13 27.94	-53 59.3	2.491	3.302	11.9	20.2	
5 1	13 22.02	-11 51.8	1.082	2.064	8.5	19.1	5 1	13 15.23	-53 8.5	2.488	3.314	11.5	20.2	
5 11	13 15.76	-11 5.5	1.120	2.063	13.7	19.4	5 11	13 4.57	-51 51.6	2.508	3.326	11.8	20.2	
5 21	13 12.37	-10 33.0	1.178	2.062	18.2	19.7	5 21	12 56.79	-50 16.9	2.550	3.336	12.5	20.3	
405431	2004 SJ ₄₉	4 15.5 241°76' 1°5/14.5 16						39775	1997 GB ₃₀	4 15.5 331°23' 5°0/11.6 18				
3 12	14 4.36	- 7 34.0	1.698	2.539	14.6	21.7	3 12	13 58.79	+ 1 16.9	1.653	2.515	13.9	18.1	
3 22	13 58.63	- 7 15.7	1.607	2.525	11.0	21.4	3 22	13 54.32	+ 1 5					

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2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
386214	2007 <i>WB</i> ₄		4 15.5 123°23	3°0/12.9 17			152941	2000 <i>FM</i> ₁₀		4 15.5 259°64	1°1/16.0 18		
3 12	14 1.87	- 0 37.1	2.273	3.114	11.4	20.8	3 12	14 24.57	-14 41.3	1.470	2.267	18.7	21.2
3 22	13 55.92	- 0 23.7	2.202	3.120	8.5	20.6	3 22	14 15.65	-14 26.3	1.334	2.226	14.9	20.8
4 1	13 48.23	- 0 9.7	2.157	3.126	5.4	20.4	4 1	14 2.11	-13 50.8	1.221	2.180	9.8	20.4
4 11	13 39.45	+ 0 1.2	2.139	3.131	3.1	20.2	4 11	13 44.41	-12 53.1	1.134	2.131	3.7	19.9
4 21	13 30.38	+ 0 5.6	2.151	3.137	4.3	20.3	4 21	13 23.89	-11 35.6	1.078	2.078	3.8	19.7
5 1	13 21.83	+ 0 0.7	2.191	3.142	7.3	20.5	5 1	13 2.78	-10 6.8	1.053	2.021	11.1	19.9
5 11	13 14.55	- 0 15.2	2.258	3.147	10.3	20.7	5 11	12 43.56	- 8 40.0	1.057	1.959	18.2	20.1
5 21	13 9.02	- 0 42.3	2.348	3.153	13.0	20.9	5 21	12 28.05	- 7 27.5	1.083	1.893	24.5	20.3
300155	2006 <i>VZ</i> ₉₁		4 15.5 49°09	0°2/15.4 17			251028	2006 <i>QO</i> ₇₉		4 15.5 174°79	2°8/12.6 16		
3 12	13 58.90	-10 7.8	2.250	3.081	11.9	20.8	3 12	13 59.64	- 5 16.3	2.132	2.974	12.0	21.9
3 22	13 53.85	-10 3.2	2.171	3.083	8.9	20.6	3 22	13 54.42	- 4 6.3	2.057	2.978	8.9	21.7
4 1	13 47.04	- 9 51.1	2.116	3.085	5.4	20.4	4 1	13 47.39	- 2 49.1	2.008	2.980	5.4	21.5
4 11	13 39.10	- 9 33.9	2.088	3.087	1.7	20.2	4 11	13 39.23	- 1 30.7	1.987	2.982	2.8	21.4
4 21	13 30.79	- 9 14.7	2.089	3.090	2.2	20.2	4 21	13 30.72	- 0 17.4	1.996	2.983	4.4	21.5
5 1	13 22.94	- 8 57.2	2.119	3.092	5.9	20.4	5 1	13 22.75	+ 0 44.7	2.033	2.984	7.8	21.7
5 11	13 16.29	- 8 45.0	2.175	3.094	9.3	20.7	5 11	13 16.06	+ 1 31.4	2.096	2.983	11.1	21.9
5 21	13 11.37	- 8 40.7	2.255	3.096	12.2	20.9	5 21	13 11.16	+ 2 0.4	2.181	2.982	13.9	22.1
499036	2009 <i>DU</i> ₅₃		4 15.5 347°82	3°1/13.6 17			19379	Labrecque		4 15.5 164°01	9°9/24.7 18		
3 12	13 56.55	- 5 52.2	1.114	1.994	17.8	20.9	3 12	14 11.83	-39 54.7	2.277	2.938	16.5	18.5
3 22	13 53.58	- 5 19.7	1.047	1.986	13.3	20.6	3 22	14 4.29	-41 7.9	2.190	2.945	14.7	18.4
4 1	13 47.54	- 4 36.8	0.999	1.979	8.2	20.3	4 1	13 53.87	-41 57.4	2.122	2.952	12.8	18.2
4 11	13 39.37	- 3 50.7	0.974	1.972	3.5	20.0	4 11	13 41.38	-42 18.3	2.076	2.958	11.0	18.1
4 21	13 30.43	- 3 9.9	0.971	1.968	5.4	20.0	4 21	13 28.04	-42 8.0	2.055	2.963	10.0	18.1
5 1	13 22.29	- 2 42.8	0.991	1.964	10.8	20.3	5 1	13 15.25	-41 28.5	2.060	2.967	10.2	18.1
5 11	13 16.29	- 2 35.4	1.032	1.961	16.0	20.6	5 11	13 4.30	-40 26.5	2.090	2.970	11.4	18.2
5 21	13 13.25	- 2 49.7	1.090	1.960	20.4	20.9	5 21	12 56.06	-39 10.9	2.143	2.972	13.2	18.3
510327	2011 <i>SD</i> ₃₇		4 15.5 207°57	0°6/14.7 17			133407	2003 <i>SJ</i> ₁₇₃		4 15.5 178°52	2°5/12.9 18		
3 12	13 54.75	-11 17.5	2.692	3.520	10.2	22.0	3 12	13 58.50	- 3 51.3	2.462	3.302	10.7	20.8
3 22	13 50.53	-10 21.8	2.604	3.516	7.6	21.9	3 22	13 53.37	- 3 8.4	2.385	3.304	7.9	20.6
4 1	13 44.92	- 9 16.5	2.542	3.512	4.6	21.7	4 1	13 46.68	- 2 21.3	2.334	3.305	4.9	20.4
4 11	13 38.42	- 8 5.3	2.508	3.508	1.4	21.4	4 11	13 39.00	- 1 34.3	2.311	3.305	2.5	20.3
4 21	13 31.62	- 6 52.8	2.504	3.503	2.2	21.5	4 21	13 31.02	- 0 51.8	2.317	3.306	3.8	20.4
5 1	13 25.19	- 5 44.0	2.531	3.498	5.4	21.7	5 1	13 23.47	- 0 17.9	2.353	3.305	6.8	20.6
5 11	13 19.71	- 4 43.4	2.585	3.493	8.4	21.9	5 11	13 17.02	+ 0 4.3	2.415	3.304	9.7	20.7
5 21	13 15.59	- 3 54.3	2.663	3.487	11.1	22.0	5 21	13 12.12	+ 0 13.4	2.500	3.303	12.3	20.9
203779	2002 <i>SK</i> ₆₃		4 15.5 270°39	0°2/15.3 17			105243	2000 <i>PB</i> ₂₆		4 15.5 145°78	4°6/21.5 18		
3 12	13 58.39	-11 0.3	2.122	2.954	12.4	21.2	3 12	14 1.68	-29 43.5	3.326	4.046	10.7	19.9
3 22	13 53.71	-10 41.7	2.027	2.940	9.4	21.0	3 22	13 55.56	-30 11.9	3.238	4.057	9.0	19.8
4 1	13 47.10	-10 13.3	1.956	2.926	5.8	20.7	4 1	13 47.96	-30 26.4	3.174	4.069	7.1	19.7
4 11	13 39.16	- 9 37.9	1.913	2.912	1.8	20.5	4 11	13 39.41	-30 26.2	3.136	4.079	5.4	19.6
4 21	13 30.69	- 8 59.5	1.897	2.898	2.4	20.5	4 21	13 30.52	-30 11.9	3.127	4.090	4.7	19.5
5 1	13 22.60	- 8 22.9	1.910	2.883	6.4	20.7	5 1	13 21.98	-29 45.6	3.148	4.099	5.3	19.6
5 11	13 15.73	- 7 52.9	1.949	2.868	10.2	20.9	5 11	13 14.42	-29 11.1	3.197	4.108	6.9	19.7
5 21	13 10.68	- 7 32.9	2.011	2.854	13.4	21.1	5 21	13 8.29	-28 32.4	3.272	4.117	8.7	19.8
279271	2009 <i>VR</i> ₁₁₄		4 15.5 122°74	2°6/13.1 17			153786	2001 <i>VH</i> ₆₅		4 15.5 160°73	1°0/16.4 18		
3 12	13 59.92	- 4 1.9	2.123	2.967	12.0	21.2	3 12	14 0.75	-14 45.8	2.140	2.957	12.9	21.0
3 22	13 54.55	- 3 23.5	2.058	2.978	8.8	21.0	3 22	13 55.33	-14 29.4	2.060	2.962	9.8	20.8
4 1	13 47.42	- 2 40.9	2.018	2.990	5.4	20.8	4 1	13 48.00	-14 0.8	2.004	2.967	6.2	20.6
4 11	13 39.20	- 1 58.7	2.005	3.001	2.7	20.7	4 11	13 39.44	-13 22.4	1.975	2.972	2.4	20.3
4 21	13 30.72	- 1 21.7	2.021	3.011	4.0	20.8	4 21	13 30.50	-12 37.9	1.975	2.976	2.1	20.3
5 1	13 22.82	- 0 54.2	2.066	3.022	7.3	21.0	5 1	13 22.08	-11 52.4	2.003	2.979	5.9	20.5
5 11	13 16.23	- 0 39.2	2.136	3.032	10.5	21.2	5 11	13 15.00	-11 11.0	2.059	2.982	9.5	20.8
5 21	13 11.45	- 0 38.0	2.229	3.041	13.3	21.4	5 21	13 9.80	-10 38.1	2.138	2.984	12.6	21.0
44953	1999 <i>VB</i> ₇₂		4 15.5 137°14	4°0/11.9 18			299871	2006 <i>SL</i> ₂₉₃		4 15.5 42°70	2°5/17.9 18		
3 12	14 1.03	- 1 23.8	1.863	2.714	13.1	19.1	3 12	13 58.08	-18 53.1	2.167	2.973	13.1	20.5
3 22	13 55.59	- 0 25.4	1.801	2.724	9.7	18.9	3 22	13 53.42	-18 54.5	2.084	2.975	10.3	20.3
4 1	13 48.14	+ 0 36.2	1.763	2.733	6.2	18.7	4 1	13 46.88	-18 41.6	2.023	2.977	7.0	20.1
4 11	13 39.44	+ 1 34.4	1.752	2.742	4.1	18.6	4 11	13 39.10	-18 15.7	1.989	2.979	3.7	19.9
4 21	13 30.44	+ 2 23.0	1.770	2.751	5.6	18.7	4 21	13 30.91	-17 39.6	1.982	2.980	2.8	19.9
5 1	13 22.11	+ 2 56.8	1.814	2.759	9.0	18.9	5 1	13 23.18	-16 57.8	2.004	2.982	5.7	20.0
5 11	13 15.29	+ 3 12.9	1.883	2.767	12.3	19.1	5 11	13 16.73	-16 15.5	2.052	2.984	9.0	20.2
5 21	13 10.49	+ 3 10.7	1.973	2.774	15.2	19.3	5 21	13 12.12	-15 37.9	2.124	2.986	12.1	20.4
249784	2000 <i>WD</i> ₁₄₆		4 15.5 246°97	2°3/12.3 16			139012	2001 <i>DH</i> ₄₅		4 15.5 297°23	4°4/11.9 18		
3 12	13 54.99	- 5 9.2	2.762	3.602	9.6	21.0	3 12	13 57.26	- 3 34.8	1.469	2.336	15.1	19.2
3 22	13 50.73	- 3 59.4	2.666	3.586	7.1	20.8	3 22	13 53.59	- 2 22.4	1.385	2.318	11.3	18.9
4 1	13 45.07	- 2 43.0	2.597	3.568	4.4	20.6	4 1	13 47.36	- 1 0.1	1.325	2.300	7.2	18.6
4 11	13 38.49	- 1 24.5	2.557	3.551	2.4	20.5	4 11	13 39.34	+ 0 23.8	1.288	2.282	4.4	18.4
4 21	13 31.55	- 0 9.1	2.547	3.533	3.7	20.5	4 21	13 30.58	+ 1 39.9	1.278	2.264	6.5	18.5
5 1	13 24.91	+ 0 58.3	2.566	3.514	6.5	20.7	5 1	13 22.34	+ 2 39.1	1.292	2.246	10.9	18.7
5 11	13 19.15	+ 1 53.6	2.613	3.495	9.3	20.8	5 11	13 15.77	+ 3 15.1	1.329	2.229	15.3	18.9
5 21	13 14.72	+ 2 34.4	2.683	3.476	11.8	21.0	5 21	13 11.63	+ 3 25.6	1.384	2.212	19.2	19.1
428889	2008 <i>UW</i> ₃₃₅		4 15.5 174°28	0°8/16.3 17			306951	2001 <i>UV</i> ₁₇₀					

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2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
422430	2014 <i>SH</i> ₂₈₈		4 15.5 262°65	1°0/14.8 16			93463	2000 <i>SC</i> ₃₆₈		4 15.5 236°55	1°8/13.9 18		
3 12	14 3.47	- 9 0.1	1.616	2.459	15.2	21.8	3 12	13 58.44	- 7 44.3	1.942	2.787	12.9	20.4
3 22	13 58.21	- 8 42.9	1.520	2.439	11.5	21.6	3 22	13 53.83	- 6 58.8	1.859	2.780	9.6	20.2
4 1	13 50.24	- 8 15.1	1.447	2.419	7.1	21.2	4 1	13 47.20	- 6 4.2	1.800	2.773	5.8	20.0
4 11	13 40.28	- 7 40.2	1.399	2.398	2.2	20.9	4 11	13 39.24	- 5 5.1	1.767	2.766	2.2	19.7
4 21	13 29.42	- 7 3.3	1.378	2.377	3.4	20.9	4 21	13 30.81	- 4 7.5	1.763	2.758	3.6	19.8
5 1	13 18.97	- 6 30.7	1.384	2.355	8.5	21.1	5 1	13 22.86	- 3 17.3	1.786	2.750	7.6	20.0
5 11	13 10.18	- 6 8.5	1.414	2.333	13.3	21.4	5 11	13 16.26	- 2 39.7	1.835	2.742	11.3	20.2
5 21	13 3.88	- 6 0.5	1.466	2.310	17.4	21.6	5 21	13 11.60	- 2 17.5	1.905	2.734	14.6	20.4
15831	1995 <i>BG</i> ₃		4 15.5 8°21	6°7/21.8 18			133390	2003 <i>SL</i> ₁₆₀		4 15.5 318°26	0°3/15.7 17		
3 12	13 57.89	-29 36.8	1.866	2.632	16.4	17.4	3 12	14 0.89	-10 49.4	1.740	2.579	14.4	19.5
3 22	13 53.78	-29 57.7	1.783	2.633	13.8	17.2	3 22	13 55.98	-10 57.9	1.654	2.570	10.9	19.2
4 1	13 47.33	-29 55.0	1.719	2.634	10.8	17.1	4 1	13 48.70	-10 57.1	1.590	2.561	6.8	19.0
4 11	13 39.29	-29 27.2	1.677	2.635	8.1	16.9	4 11	13 39.76	-10 49.0	1.553	2.552	2.3	18.6
4 21	13 30.69	-28 35.9	1.661	2.636	6.7	16.8	4 21	13 30.17	-10 37.0	1.542	2.543	2.5	18.6
5 1	13 22.66	-27 26.1	1.671	2.638	7.7	16.9	5 1	13 21.07	-10 25.2	1.559	2.535	7.2	18.9
5 11	13 16.25	-26 6.2	1.706	2.640	10.4	17.0	5 11	13 13.51	-10 18.5	1.600	2.528	11.4	19.1
5 21	13 12.09	-24 44.9	1.764	2.643	13.3	17.2	5 21	13 8.20	-10 20.2	1.664	2.520	15.1	19.4
276540	2003 <i>ST</i> ₈₀		4 15.5 278°45	3°5/18.8 17			397381	2006 <i>UA</i> ₃₆₁		4 15.5 216°23	3°7/11.6 18		
3 12	13 57.87	-22 2.5	1.997	2.795	14.4	20.6	3 12	13 58.47	+ 1 33.3	2.559	3.403	10.2	21.1
3 22	13 53.63	-21 53.3	1.893	2.777	11.5	20.4	3 22	13 53.34	+ 2 9.2	2.480	3.398	7.7	20.9
4 1	13 47.22	-21 25.1	1.811	2.758	8.2	20.2	4 1	13 46.68	+ 2 45.2	2.426	3.392	5.1	20.7
4 11	13 39.28	-20 38.4	1.755	2.740	4.8	19.9	4 11	13 39.04	+ 3 17.0	2.401	3.386	3.7	20.6
4 21	13 30.68	-19 35.9	1.725	2.721	3.6	19.8	4 21	13 31.08	+ 3 40.7	2.405	3.380	4.9	20.7
5 1	13 22.46	-18 23.5	1.723	2.702	6.4	19.9	5 1	13 23.51	+ 3 53.1	2.438	3.374	7.4	20.8
5 11	13 15.58	-17 8.5	1.748	2.683	10.1	20.1	5 11	13 16.98	+ 3 52.2	2.496	3.368	10.1	21.0
5 21	13 10.74	-15 58.4	1.795	2.664	13.7	20.3	5 21	13 11.95	+ 3 37.7	2.577	3.361	12.5	21.1
227434	2005 <i>VV</i> ₁₂₃		4 15.5 230°95	0°5/15.1 18			370928	2005 <i>OM</i> ₆		4 15.5 211°53	0°2/15.3 17		
3 12	13 58.33	-11 36.8	1.985	2.820	13.1	20.5	3 12	14 1.17	-11 9.7	2.269	3.093	12.0	22.4
3 22	13 53.73	-10 54.4	1.898	2.813	9.8	20.3	3 22	13 55.64	-10 47.0	2.177	3.086	9.0	22.1
4 1	13 47.14	- 9 59.6	1.834	2.805	6.0	20.0	4 1	13 48.23	-10 14.6	2.109	3.078	5.6	21.9
4 11	13 39.21	- 8 56.4	1.797	2.797	1.8	19.7	4 11	13 39.57	- 9 35.5	2.069	3.069	1.7	21.6
4 21	13 30.80	- 7 50.3	1.789	2.788	2.6	19.8	4 21	13 30.44	- 8 53.6	2.059	3.059	2.3	21.7
5 1	13 22.87	- 6 47.7	1.808	2.780	6.8	20.0	5 1	13 21.71	- 8 13.4	2.078	3.049	6.1	21.9
5 11	13 16.26	- 5 54.7	1.854	2.771	10.7	20.2	5 11	13 14.20	- 7 39.6	2.124	3.038	9.7	22.1
5 21	13 11.56	- 5 15.4	1.922	2.761	14.1	20.4	5 21	13 8.46	- 7 15.6	2.194	3.026	12.8	22.3
343553	2010 <i>FW</i> ₂₉		4 15.5 251°97	2°5/12.9 17			11880	1990 <i>QQ</i> ₄		4 15.5 224°77	0°1/15.6 18		
3 12	13 56.27	- 5 29.3	2.117	2.966	11.8	21.1	3 12	14 0.82	-11 0.3	2.026	2.857	13.0	18.0
3 22	13 52.01	- 4 34.5	2.038	2.962	8.7	20.9	3 22	13 55.56	-10 53.1	1.941	2.853	9.8	17.8
4 1	13 45.99	- 3 32.8	1.984	2.958	5.3	20.7	4 1	13 48.26	-10 36.6	1.880	2.849	6.0	17.5
4 11	13 38.83	- 2 29.4	1.957	2.953	2.6	20.5	4 11	13 39.59	-10 13.3	1.845	2.844	1.9	17.2
4 21	13 31.29	- 1 30.0	1.959	2.949	4.1	20.6	4 21	13 30.42	- 9 46.9	1.839	2.840	2.3	17.2
5 1	13 24.21	- 0 40.2	1.988	2.945	7.5	20.8	5 1	13 21.73	- 9 21.6	1.861	2.835	6.5	17.5
5 11	13 18.33	- 0 4.1	2.042	2.940	10.8	21.0	5 11	13 14.40	- 9 2.1	1.909	2.830	10.3	17.7
5 21	13 14.17	+ 0 16.0	2.119	2.936	13.8	21.2	5 21	13 9.01	- 8 51.5	1.981	2.825	13.6	17.9
199518	2006 <i>DQ</i> ₁₄₁		4 15.5 185°82	1°4/14.2 17			338619	2003 <i>SU</i> ₂₂₉		4 15.5 295°20	1°5/14.5 17		
3 12	13 58.88	- 7 47.6	2.156	2.995	12.0	20.9	3 12	14 1.88	- 6 24.5	1.835	2.678	13.6	21.0
3 22	13 53.92	- 7 13.0	2.077	2.995	8.9	20.7	3 22	13 56.71	- 6 22.1	1.737	2.657	10.2	20.8
4 1	13 47.14	- 6 30.9	2.022	2.994	5.4	20.4	4 1	13 49.18	- 6 14.0	1.663	2.635	6.3	20.5
4 11	13 39.19	- 5 45.3	1.995	2.994	1.9	20.2	4 11	13 39.94	- 6 3.3	1.615	2.614	2.2	20.2
4 21	13 30.87	- 5 0.8	1.996	2.993	3.1	20.3	4 21	13 29.94	- 5 53.9	1.594	2.592	3.4	20.2
5 1	13 23.03	- 4 22.2	2.026	2.991	6.7	20.5	5 1	13 20.29	- 5 49.8	1.601	2.571	7.8	20.4
5 11	13 16.43	- 3 53.8	2.082	2.990	10.2	20.7	5 11	13 12.06	- 5 54.9	1.634	2.549	12.0	20.6
5 21	13 11.61	- 3 38.0	2.161	2.988	13.2	20.9	5 21	13 6.00	- 6 11.5	1.688	2.528	15.7	20.8
318635	2005 <i>LN</i> ₁₂		4 15.5 238°06	4°6/11.1 18			428886	2008 <i>UJ</i> ₃₁₅		4 15.5 110°20	2°5/17.7 17		
3 12	13 59.28	- 0 20.5	1.935	2.788	12.6	20.4	3 12	14 0.02	-18 8.8	1.990	2.800	14.0	21.3
3 22	13 54.46	+ 0 49.1	1.852	2.776	9.5	20.2	3 22	13 55.04	-18 14.9	1.908	2.802	10.9	21.1
4 1	13 47.60	+ 2 2.8	1.795	2.764	6.3	20.0	4 1	13 47.97	-18 6.5	1.848	2.804	7.4	20.9
4 11	13 39.37	+ 3 13.8	1.765	2.752	4.6	19.8	4 11	13 39.51	-17 44.6	1.815	2.806	3.8	20.7
4 21	13 30.63	+ 4 15.0	1.763	2.738	6.3	19.9	4 21	13 30.57	-17 12.1	1.809	2.808	2.9	20.6
5 1	13 22.37	+ 5 0.3	1.787	2.725	9.6	20.1	5 1	13 22.16	-16 33.7	1.831	2.809	6.1	20.8
5 11	13 15.45	+ 5 25.9	1.836	2.711	13.0	20.2	5 11	13 15.16	-15 55.1	1.879	2.811	9.7	21.1
5 21	13 10.48	+ 5 30.7	1.905	2.697	16.0	20.4	5 21	13 10.18	-15 21.5	1.951	2.813	13.0	21.3
118483	2000 <i>CJ</i> ₁₆		4 15.5 328°37	4°2/12.5 18			500068	2011 <i>UY</i> ₃₈₁		4 15.5 190°85	3°9/10.7 17		
3 12	13 57.52	- 5 17.7	1.200	2.075	17.2	19.1	3 12	13 57.03	+ 3 7.6	2.808	3.651	9.4	21.5
3 22	13 54.11	- 4 4.9	1.132	2.069	12.8	18.8	3 22	13 52.14	+ 3 52.5	2.734	3.650	7.1	21.3
4 1	13 47.79	- 2 39.7	1.085	2.063	7.9	18.5	4 1	13 45.89	+ 4 36.7	2.687	3.649	4.9	21.2
4 11	13 39.49	- 1 11.7	1.061	2.057	4.3	18.3	4 11	13 38.80	+ 5 15.8	2.668	3.647	3.9	21.1
4 21	13 30.50	+ 0 8.0	1.062	2.052	6.6	18.4	4 21	13 31.46	+ 5 46.2	2.678	3.644	5.1	21.2
5 1	13 22.29	+ 1 9.0	1.085	2.048	11.5	18.6	5 1	13 24.48	+ 6 4.7	2.716	3.642	7.3	21.3
5 11	13 16.12	+ 1 44.4	1.130	2.043	16.3	18.9	5 11	13 18.44	+ 6 9.7	2.781	3.639	9.6	21.5
5 21	13 12.75	+ 1 52.4	1.193	2.040	20.5	19.1	5 21	13 13.75	+ 6 0.9	2.867	3.635	11.7	21.6
471440	2011 <i>UL</i> ₁₁₅		4 15.5 134°94	1°5/17.4 18			373520	2001 <i>SM</i> ₁₄					

EPHEMERIDES

4 15.5

4 15.6

2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
281522	2008 <i>TJ</i> ₇₅		4 15.5 201°66	0°4/15.9	17		381819	2009 <i>VM</i> ₆₀		4 15.6 189°62	4°4/10.2	17	
3 12	13 57.60	-13 59.1	2.143	2.968	12.6	21.2	3 12	13 57.94	+ 0 35.6	2.365	3.213	10.8	22.2
3 22	13 53.05	-13 24.8	2.058	2.967	9.5	21.0	3 22	13 53.06	+ 2 4.5	2.291	3.212	8.1	22.0
4 1	13 46.66	-12 37.8	1.997	2.964	5.9	20.7	4 1	13 46.57	+ 3 36.3	2.245	3.210	5.5	21.8
4 11	13 39.09	-11 41.3	1.964	2.962	2.0	20.5	4 11	13 39.06	+ 5 4.3	2.227	3.207	4.4	21.8
4 21	13 31.11	-10 40.0	1.958	2.960	2.1	20.5	4 21	13 31.23	+ 6 22.2	2.238	3.204	5.9	21.8
5 1	13 23.61	- 9 39.5	1.982	2.957	6.0	20.7	5 1	13 23.84	+ 7 24.6	2.278	3.201	8.6	22.0
5 11	13 17.35	- 8 45.6	2.032	2.954	9.6	20.9	5 11	13 17.57	+ 8 8.2	2.343	3.196	11.3	22.2
5 21	13 12.87	- 8 2.5	2.105	2.951	12.8	21.1	5 21	13 12.88	+ 8 32.1	2.429	3.191	13.7	22.3
386146	2007 <i>TM</i> ₁₈₈		4 15.5 121°36	0°2/15.3	17		465144	2007 <i>BK</i> ₇₆		4 15.6 97°20	5°1/11.1	17	
3 12	13 58.14	-11 22.3	2.611	3.433	10.7	22.5	3 12	13 59.74	+ 0 52.5	1.726	2.585	13.6	21.6
3 22	13 53.00	-10 51.6	2.541	3.450	7.9	22.4	3 22	13 54.79	+ 1 59.2	1.670	2.595	10.2	21.4
4 1	13 46.41	-10 12.8	2.498	3.466	4.8	22.2	4 1	13 47.76	+ 3 7.0	1.636	2.605	6.8	21.3
4 11	13 38.96	- 9 28.8	2.483	3.482	1.5	22.0	4 11	13 39.44	+ 4 8.5	1.630	2.615	5.1	21.2
4 21	13 31.31	- 8 43.4	2.497	3.497	1.9	22.0	4 21	13 30.82	+ 4 56.8	1.650	2.624	6.8	21.3
5 1	13 24.12	- 8 0.6	2.542	3.512	5.2	22.3	5 1	13 22.91	+ 5 26.8	1.696	2.634	10.0	21.5
5 11	13 18.02	- 7 24.2	2.614	3.526	8.2	22.5	5 11	13 16.57	+ 5 35.9	1.765	2.643	13.3	21.7
5 21	13 13.39	- 6 56.9	2.710	3.540	10.7	22.7	5 21	13 12.32	+ 5 24.5	1.855	2.652	16.1	21.9
414102	2007 <i>TJ</i> ₂₉₈		4 15.5 233°73	0°9/14.8	16		496148	2010 <i>SZ</i> ₁₉		4 15.6 223°74	0°8/16.3	17	
3 12	14 2.24	- 9 55.8	1.928	2.761	13.5	22.3	3 12	14 2.00	-14 20.1	1.982	2.802	13.7	22.7
3 22	13 56.82	- 9 21.2	1.833	2.747	10.1	22.1	3 22	13 56.60	-14 2.1	1.888	2.792	10.4	22.5
4 1	13 49.16	- 8 35.5	1.761	2.732	6.2	21.8	4 1	13 49.01	-13 30.8	1.817	2.782	6.6	22.2
4 11	13 39.93	- 7 42.4	1.716	2.715	2.0	21.5	4 11	13 39.90	-12 48.5	1.773	2.770	2.5	21.9
4 21	13 30.06	- 6 47.1	1.700	2.699	3.0	21.5	4 21	13 30.20	-11 59.1	1.757	2.758	2.3	21.9
5 1	13 20.61	- 5 55.9	1.712	2.681	7.4	21.7	5 1	13 20.93	-11 8.4	1.770	2.745	6.5	22.1
5 11	13 12.56	- 5 14.6	1.750	2.662	11.5	21.9	5 11	13 13.06	-10 22.4	1.809	2.732	10.6	22.3
5 21	13 6.60	- 4 47.1	1.811	2.643	15.1	22.1	5 21	13 7.25	- 9 46.0	1.871	2.718	14.1	22.5
205701	2002 <i>AC</i> ₁₃		4 15.5 354°57	4°7/12.1	18		164219	2004 <i>QK</i> ₃		4 15.6 171°92	11°1/21.3	18	
3 12	13 57.55	- 3 21.9	1.251	2.126	16.6	19.8	3 12	14 14.55	-31 19.3	1.409	2.164	21.3	20.6
3 22	13 53.98	- 2 12.5	1.188	2.124	12.3	19.5	3 22	14 7.61	-33 8.9	1.331	2.167	18.4	20.3
4 1	13 47.64	- 0 54.5	1.145	2.122	7.8	19.3	4 1	13 56.63	-34 34.1	1.271	2.169	15.2	20.1
4 11	13 39.46	+ 0 22.4	1.126	2.120	4.8	19.1	4 11	13 42.53	-35 26.1	1.233	2.171	12.4	20.0
4 21	13 30.70	+ 1 28.2	1.132	2.120	6.9	19.2	4 21	13 26.96	-35 39.5	1.218	2.172	11.1	19.9
5 1	13 22.74	+ 2 14.2	1.161	2.119	11.4	19.5	5 1	13 12.08	-35 16.2	1.227	2.172	12.3	20.0
5 11	13 16.76	+ 2 35.2	1.212	2.120	15.9	19.7	5 11	12 59.87	-34 26.0	1.259	2.172	15.0	20.1
5 21	13 13.44	+ 2 30.5	1.280	2.120	19.7	20.0	5 21	12 51.51	-33 22.2	1.311	2.171	18.2	20.3
138524	2000 <i>OJ</i> ₈		4 15.5 118°50	0°9/16.5	18		303915	2005 <i>UQ</i> ₈₁		4 15.6 249°54	0°9/14.6	16	
3 12	14 4.95	-16 13.8	2.487	3.283	12.0	22.1	3 12	13 59.11	- 7 31.1	2.600	3.430	10.5	20.9
3 22	13 57.96	-15 34.6	2.424	3.315	9.0	21.9	3 22	13 53.92	- 7 20.5	2.505	3.418	7.8	20.7
4 1	13 49.37	-14 43.2	2.387	3.346	5.7	21.8	4 1	13 47.13	- 7 4.5	2.435	3.405	4.7	20.5
4 11	13 39.88	-13 42.7	2.379	3.375	2.2	21.6	4 11	13 39.27	- 6 45.8	2.394	3.393	1.6	20.3
4 21	13 30.27	-12 37.4	2.403	3.403	1.8	21.6	4 21	13 30.98	- 6 27.2	2.382	3.380	2.4	20.3
5 1	13 21.34	-11 32.4	2.457	3.430	5.2	21.9	5 1	13 23.02	- 6 12.1	2.400	3.367	5.7	20.5
5 11	13 13.74	-10 32.9	2.541	3.456	8.3	22.1	5 11	13 16.05	- 6 3.3	2.445	3.353	8.8	20.7
5 21	13 7.90	- 9 42.7	2.650	3.480	11.0	22.3	5 21	13 10.59	- 6 3.0	2.514	3.339	11.6	20.8
287389	2002 <i>VX</i> ₆₃		4 15.5 190°17	0°6/16.0	17		111402	2001 <i>XA</i> ₁₇₆		4 15.6 241°32	0°2/15.7	17	
3 12	14 3.66	-13 57.9	1.690	2.517	15.3	22.2	3 12	14 1.54	-13 17.1	1.728	2.560	14.8	20.4
3 22	13 58.05	-13 32.9	1.608	2.517	11.7	21.9	3 22	13 56.57	-12 45.0	1.634	2.546	11.3	20.1
4 1	13 49.96	-12 52.6	1.548	2.515	7.3	21.7	4 1	13 49.14	-11 57.4	1.563	2.532	7.1	19.8
4 11	13 40.18	-12 0.3	1.515	2.513	2.6	21.4	4 11	13 39.99	-10 57.7	1.518	2.517	2.3	19.5
4 21	13 29.82	-11 1.2	1.509	2.510	2.6	21.4	4 21	13 30.11	- 9 51.4	1.500	2.501	2.6	19.5
5 1	13 20.09	-10 2.4	1.531	2.507	7.4	21.7	5 1	13 20.70	- 8 45.9	1.510	2.484	7.5	19.7
5 11	13 12.07	- 9 11.2	1.579	2.502	11.8	21.9	5 11	13 12.85	- 7 48.8	1.545	2.468	12.1	19.9
5 21	13 6.45	- 8 32.6	1.648	2.497	15.6	22.1	5 21	13 7.31	- 7 5.6	1.602	2.450	16.0	20.1
387302	2012 <i>VK</i> ₂₀		4 15.5 32°50	0°5/15.2	17		293980	2007 <i>TC</i> ₆₃		4 15.6 89°30	0°5/16.1	17	
3 12	14 1.04	- 8 33.4	1.832	2.673	13.7	20.1	3 12	13 56.03	-14 58.4	2.135	2.960	12.6	21.0
3 22	13 55.78	- 8 39.7	1.763	2.681	10.2	19.9	3 22	13 51.84	-14 13.0	2.059	2.966	9.5	20.8
4 1	13 48.40	- 8 38.9	1.717	2.689	6.2	19.7	4 1	13 45.90	-13 14.0	2.006	2.973	6.0	20.5
4 11	13 39.66	- 8 33.8	1.698	2.698	1.9	19.4	4 11	13 38.87	-12 5.0	1.981	2.979	2.1	20.3
4 21	13 30.52	- 8 27.7	1.707	2.707	2.6	19.5	4 21	13 31.53	-10 51.3	1.984	2.985	2.0	20.3
5 1	13 22.01	- 8 24.2	1.743	2.717	6.8	19.8	5 1	13 24.70	- 9 39.2	2.016	2.991	5.9	20.6
5 11	13 15.02	- 8 26.9	1.805	2.727	10.7	20.0	5 11	13 19.12	- 8 34.5	2.074	2.997	9.4	20.8
5 21	13 10.13	- 8 38.0	1.889	2.737	14.0	20.3	5 21	13 15.26	- 7 41.7	2.156	3.004	12.5	21.0
222722	2002 <i>AO</i> ₁₄₉		4 15.6 96°93	0°9/16.3	17		433376	2013 <i>SM</i> ₅₁		4 15.6 198°45	1°4/14.1	17	
3 12	14 0.52	-14 30.6	1.878	2.704	14.1	20.8	3 12	14 0.15	- 7 17.7	2.459	3.290	11.0	22.3
3 22	13 55.32	-14 11.8	1.811	2.718	10.7	20.6	3 22	13 54.71	- 6 43.4	2.372	3.286	8.1	22.1
4 1	13 48.07	-13 39.8	1.767	2.732	6.7	20.4	4 1	13 47.60	- 6 2.5	2.311	3.282	4.9	21.9
4 11	13 39.54	-12 57.5	1.749	2.747	2.5	20.2	4 11	13 39.42	- 5 18.6	2.278	3.276	1.8	21.7
4 21	13 30.68	-12 9.5	1.759	2.760	2.2	20.2	4 21	13 30.86	- 4 35.8	2.275	3.270	2.9	21.8
5 1	13 22.49	-11 21.6	1.797	2.774	6.3	20.5	5 1	13 22.71	- 3 58.5	2.302	3.264	6.3	22.0
5 11	13 15.83	-10 39.4	1.861	2.788	10.1	20.7	5 11	13 15.66	- 3 30.2	2.355	3.256	9.4	22.1
5 21	13 11.22	-10 7.3	1.948	2.801	13.4	21.0	5 21	13 10.21	- 3 13.4	2.433	3.248	12.2	22.3
471180	2010 <i>KF</</i>												

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2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
373537	2001 <i>TJ</i> ₁₇₈		4 15.6 255°88	1.9°/17.1	17		381942	2010 <i>CH</i> ₂₄₅		4 15.6 241°77	8°5'/5.9	18	
3 12	14 0.70	-16 35.2	1.892	2.710	14.3	21.6	3 12	14 1.57	+14 36.6	2.245	3.080	11.8	21.6
3 22	13 55.80	-16 31.0	1.796	2.697	11.1	21.3	3 22	13 56.01	+15 58.9	2.170	3.062	9.9	21.5
4 1	13 48.61	-16 11.9	1.723	2.684	7.3	21.1	4 1	13 48.53	+17 13.5	2.120	3.043	8.6	21.3
4 11	13 39.82	-15 39.5	1.676	2.670	3.4	20.8	4 11	13 39.76	+18 12.7	2.097	3.024	8.7	21.3
4 21	13 30.35	-14 56.9	1.655	2.656	2.6	20.7	4 21	13 30.53	+18 50.3	2.099	3.004	10.0	21.3
5 1	13 21.30	-14 9.5	1.663	2.642	6.6	20.9	5 1	13 21.72	+19 2.5	2.127	2.983	12.1	21.4
5 11	13 13.68	-13 23.8	1.697	2.627	10.7	21.1	5 11	13 14.17	+18 49.0	2.176	2.961	14.4	21.6
5 21	13 8.20	-12 45.5	1.753	2.612	14.4	21.3	5 21	13 8.43	+18 11.5	2.244	2.939	16.5	21.7
506986	2008 <i>SE</i> ₂₀₅		4 15.6 229°18	2°6'/13.1	18		98591	2000 <i>WB</i> ₅₅		4 15.6 98°87	3°4'/18.1	18	
3 12	14 1.47	- 2 35.8	2.402	3.239	11.0	21.9	3 12	14 3.16	-19 28.4	1.599	2.413	16.7	18.6
3 22	13 55.77	- 2 10.0	2.311	3.228	8.2	21.7	3 22	13 57.79	-19 38.2	1.529	2.424	13.1	18.4
4 1	13 48.31	- 1 41.2	2.245	3.215	5.1	21.5	4 1	13 49.84	-19 29.3	1.480	2.434	9.0	18.2
4 11	13 39.67	- 1 13.3	2.208	3.202	2.7	21.3	4 11	13 40.20	-19 2.5	1.455	2.445	4.9	18.0
4 21	13 30.58	- 0 50.1	2.200	3.188	4.0	21.4	4 21	13 30.05	-18 21.3	1.457	2.455	3.7	17.9
5 1	13 21.85	- 0 35.3	2.222	3.174	7.1	21.6	5 1	13 20.66	-17 32.1	1.486	2.465	7.1	18.1
5 11	13 14.25	- 0 31.7	2.270	3.159	10.2	21.7	5 11	13 13.15	-16 42.5	1.539	2.475	11.2	18.4
5 21	13 8.31	- 0 40.5	2.341	3.144	13.0	21.9	5 21	13 8.15	-15 59.4	1.615	2.484	14.9	18.6
436026	2009 <i>HN</i> ₇₈		4 15.6 308°42	1°8'/13.8	17		197547	2004 <i>FR</i> ₂₇		4 15.6 351°41	2°9'/17.2	18	
3 12	13 56.99	- 6 7.7	2.159	3.004	11.8	21.5	3 12	14 2.13	-15 56.1	1.157	2.005	19.5	20.3
3 22	13 52.58	- 5 37.2	2.077	2.999	8.7	21.3	3 22	13 57.96	-16 21.1	1.086	2.003	15.2	20.0
4 1	13 46.40	- 5 0.7	2.020	2.993	5.3	21.0	4 1	13 50.43	-16 27.6	1.034	2.000	10.1	19.7
4 11	13 39.06	- 4 22.0	1.989	2.987	2.1	20.8	4 11	13 40.50	-16 16.2	1.003	1.998	4.8	19.4
4 21	13 31.32	- 3 45.8	1.987	2.982	3.4	20.9	4 21	13 29.64	-15 50.2	0.996	1.997	3.8	19.3
5 1	13 24.01	- 3 16.5	2.013	2.977	6.9	21.1	5 1	13 19.59	-15 16.6	1.013	1.996	8.9	19.6
5 11	13 17.89	- 2 57.9	2.065	2.972	10.3	21.3	5 11	13 11.90	-14 44.4	1.052	1.996	14.2	19.9
5 21	13 13.47	- 2 51.9	2.139	2.967	13.3	21.5	5 21	13 7.44	-14 21.1	1.109	1.997	18.8	20.2
55857	1996 <i>XU</i> ₂		4 15.6 135°07	3°0'/19.0	18		214746	2006 <i>TY</i> ₅₆		4 15.6 161°33	1°4'/13.9	18	
3 12	13 57.80	-22 15.4	2.573	3.356	12.0	20.0	3 12	13 56.47	- 7 19.6	2.536	3.372	10.5	21.2
3 22	13 52.97	-22 8.6	2.490	3.363	9.5	19.8	3 22	13 51.90	- 6 40.5	2.458	3.375	7.7	21.0
4 1	13 46.53	-21 47.3	2.430	3.371	6.7	19.7	4 1	13 45.86	- 5 55.1	2.406	3.378	4.7	20.9
4 11	13 39.08	-21 12.5	2.397	3.378	4.1	19.5	4 11	13 38.88	- 5 7.2	2.382	3.381	1.8	20.6
4 21	13 31.31	-20 26.6	2.392	3.385	3.1	19.5	4 21	13 31.62	- 4 20.9	2.388	3.383	2.8	20.7
5 1	13 23.99	-19 33.9	2.417	3.392	5.0	19.6	5 1	13 24.77	- 3 40.3	2.422	3.385	6.0	20.9
5 11	13 17.78	-18 39.5	2.469	3.399	7.8	19.8	5 11	13 18.95	- 3 9.1	2.484	3.387	8.9	21.1
5 21	13 13.15	-17 48.1	2.546	3.405	10.4	20.0	5 21	13 14.59	- 2 49.3	2.568	3.388	11.5	21.3
450501	2005 <i>YG</i> ₂₀₄		4 15.6 271°90	6°0'/1.5	18		346706	2008 <i>YO</i> ₁₅₉		4 15.6 27°03	1°1'/14.6	17	
3 12	13 50.66	+23 8.3	4.394	5.199	7.0	20.6	3 12	13 57.05	- 8 42.0	1.902	2.748	13.1	20.6
3 22	13 47.13	+24 9.1	4.346	5.195	6.3	20.6	3 22	13 52.77	- 8 16.4	1.833	2.754	9.7	20.4
4 1	13 42.75	+25 1.6	4.323	5.190	6.0	20.5	4 1	13 46.55	- 7 42.4	1.787	2.760	5.8	20.1
4 11	13 37.84	+25 42.6	4.326	5.185	6.3	20.5	4 11	13 39.12	- 7 4.1	1.768	2.767	1.9	19.9
4 21	13 32.78	+26 9.9	4.355	5.180	6.9	20.6	4 21	13 31.34	- 6 26.1	1.776	2.774	2.9	20.0
5 1	13 27.95	+26 22.1	4.407	5.175	7.8	20.6	5 1	13 24.12	- 5 53.7	1.811	2.782	6.9	20.2
5 11	13 23.70	+26 19.2	4.480	5.170	8.8	20.7	5 11	13 18.28	- 5 31.1	1.871	2.789	10.6	20.5
5 21	13 20.30	+26 2.0	4.572	5.166	9.7	20.8	5 21	13 14.33	- 5 20.8	1.954	2.798	13.7	20.7
169284	2001 <i>SB</i> ₂₄₈		4 15.6 208°31	1°1'/14.3	17		229109	2004 <i>RQ</i> ₅₆		4 15.6 262°70	0°3'/15.9	17	
3 12	13 57.13	- 8 3.6	2.683	3.514	10.2	21.1	3 12	13 58.41	-13 31.1	1.919	2.750	13.6	21.4
3 22	13 52.37	- 7 29.4	2.594	3.509	7.5	20.9	3 22	13 53.99	-13 0.7	1.826	2.737	10.3	21.2
4 1	13 46.14	- 6 48.7	2.532	3.503	4.5	20.7	4 1	13 47.45	-12 16.4	1.756	2.724	6.5	20.9
4 11	13 38.96	- 6 4.7	2.498	3.497	1.6	20.5	4 11	13 39.46	-11 21.3	1.712	2.711	2.2	20.6
4 21	13 31.46	- 5 21.2	2.494	3.491	2.5	20.6	4 21	13 30.89	-10 20.5	1.697	2.698	2.3	20.6
5 1	13 24.31	- 4 42.1	2.520	3.484	5.7	20.8	5 1	13 22.76	- 9 20.2	1.709	2.684	6.7	20.8
5 11	13 18.12	- 4 11.0	2.573	3.477	8.6	20.9	5 11	13 15.98	- 8 26.9	1.746	2.671	10.8	21.0
5 21	13 13.35	- 3 50.2	2.649	3.469	11.2	21.1	5 21	13 11.21	- 7 45.6	1.807	2.657	14.4	21.2
215734	2004 <i>DV</i> ₁₉		4 15.6 147°72	3°5'/18.9	18		382788	2003 <i>SE</i> ₃₄₉		4 15.6 156°66	0°8'/16.3	17	
3 12	13 59.81	-21 49.3	2.305	3.092	13.0	20.8	3 12	14 0.08	-13 36.9	2.193	3.013	12.5	22.0
3 22	13 54.70	-22 1.8	2.219	3.095	10.4	20.6	3 22	13 54.86	-13 27.3	2.112	3.017	9.5	21.8
4 1	13 47.71	-21 59.4	2.156	3.098	7.4	20.5	4 1	13 47.79	-13 7.1	2.055	3.020	6.0	21.6
4 11	13 39.49	-21 42.4	2.120	3.101	4.6	20.3	4 11	13 39.52	-12 38.3	2.026	3.023	2.2	21.4
4 21	13 30.83	-21 12.8	2.111	3.103	3.6	20.2	4 21	13 30.86	-12 4.6	2.025	3.026	2.0	21.4
5 1	13 22.63	-20 34.3	2.131	3.106	5.7	20.4	5 1	13 22.69	-11 30.1	2.053	3.029	5.8	21.6
5 11	13 15.68	-19 52.4	2.178	3.108	8.7	20.5	5 11	13 15.80	-10 59.6	2.108	3.031	9.3	21.8
5 21	13 10.54	-19 12.1	2.249	3.110	11.5	20.7	5 21	13 10.71	-10 36.8	2.187	3.034	12.4	22.0
130796	2000 <i>TQ</i> ₃₉		4 15.6 178°23	4°4'/12.0	18		430058	2013 <i>SK</i> ₂₂		4 15.6 178°10	1°1'/14.5	17	
3 12	14 2.69	- 0 47.2	1.727	2.579	13.9	19.8	3 12	13 59.24	- 9 16.9	2.253	3.085	11.8	22.1
3 22	13 57.13	+ 0 6.2	1.658	2.581	10.4	19.6	3 22	13 54.15	- 8 35.0	2.172	3.087	8.8	21.9
4 1	13 49.30	+ 1 2.7	1.612	2.582	6.8	19.4	4 1	13 47.32	- 7 44.2	2.117	3.088	5.3	21.7
4 11	13 40.00	+ 1 55.6	1.593	2.583	4.4	19.3	4 11	13 39.37	- 6 48.7	2.090	3.089	1.7	21.5
4 21	13 30.26	+ 2 38.2	1.601	2.583	6.1	19.4	4 21	13 31.07	- 5 53.1	2.092	3.089	2.8	21.5
5 1	13 21.18	+ 3 4.9	1.636	2.582	9.7	19.6	5 1	13 23.25	- 5 2.7	2.122	3.089	6.4	21.8
5 11	13 13.72	+ 3 12.7	1.695	2.581	13.3	19.8	5 11	13 16.63	- 4 22.0	2.180	3.088	9.8	22.0
5 21	13 8.49	+ 3 1.3	1.774	2.580	16.5	20.0	5 21	13 11.73	- 3 53.9	2.261	3.086	12.7	22.2
415294	2013 <i>GY</i> ₅₃		4 15.6 313°01	3°3'/13.6	17		300044	2006 <i>UU</i> ₁₃₇					

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2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
183767	2004 <i>BD</i> ₄		4 15.6 113°06'	0°7/16.2	18		134294	2006 <i>DE</i> ₄₀		4 15.6 347°55'	3°4/18.5	17	
3 12	14 2.32	-14 16.9	1.850	2.674	14.4	21.6	3 12	13 50.65	-21 6.2	1.303	2.144	18.2	18.2
3 22	13 56.67	-13 50.6	1.785	2.692	10.8	21.4	3 22	13 49.05	-20 43.6	1.221	2.131	14.5	17.9
4 1	13 48.92	-13 10.7	1.743	2.709	6.8	21.2	4 1	13 44.80	-19 53.3	1.158	2.119	10.0	17.6
4 11	13 39.88	-12 20.6	1.728	2.726	2.4	20.9	4 11	13 38.70	-18 37.4	1.117	2.109	5.4	17.3
4 21	13 30.54	-11 25.4	1.740	2.742	2.3	21.0	4 21	13 31.88	-17 2.0	1.100	2.100	3.7	17.2
5 1	13 21.92	-10 31.3	1.781	2.757	6.5	21.3	5 1	13 25.68	-15 17.7	1.107	2.093	7.8	17.4
5 11	13 14.90	-9 44.3	1.849	2.772	10.4	21.5	5 11	13 21.30	-13 36.9	1.137	2.088	12.7	17.6
5 21	13 10.00	-9 8.5	1.939	2.787	13.7	21.7	5 21	13 19.49	-12 10.1	1.187	2.084	17.1	17.9
314129	2005 <i>ER</i> ₁₆₄		4 15.6 81°26'	2°3/13.7	18		184806	2005 <i>TH</i> ₁₂₁		4 15.6 334°54'	1°0/14.7	17	
3 12	14 1.22	-7 43.1	1.495	2.348	15.6	20.7	3 12	13 56.12	-8 54.9	1.976	2.821	12.7	20.2
3 22	13 56.12	-6 44.3	1.443	2.369	11.5	20.5	3 22	13 52.15	-8 30.6	1.892	2.813	9.5	20.0
4 1	13 48.66	-5 35.5	1.414	2.389	6.9	20.3	4 1	13 46.26	-7 57.6	1.831	2.805	5.7	19.7
4 11	13 39.79	-4 23.7	1.410	2.409	2.7	20.0	4 11	13 39.09	-7 19.6	1.798	2.797	1.8	19.4
4 21	13 30.67	-3 17.0	1.434	2.429	4.4	20.2	4 21	13 31.45	-6 41.2	1.791	2.790	2.8	19.5
5 1	13 22.46	-2 22.7	1.483	2.448	8.7	20.5	5 1	13 24.26	-6 7.4	1.812	2.783	6.8	19.7
5 11	13 16.09	-1 45.8	1.557	2.467	12.8	20.8	5 11	13 18.33	-5 42.8	1.858	2.777	10.6	19.9
5 21	13 12.09	-1 28.3	1.651	2.486	16.2	21.0	5 21	13 14.24	-5 30.4	1.926	2.771	13.9	20.1
213369	2001 <i>TY</i> ₁₈₀		4 15.6 204°72'	1°1/16.6	17		102906	1999 <i>XJ</i> ₁₈		4 15.6 152°44'	0°3/15.4	18	
3 12	13 59.05	-14 25.8	2.334	3.151	12.0	20.5	3 12	14 2.75	-11 10.2	1.931	2.760	13.6	19.7
3 22	13 54.05	-14 23.4	2.248	3.149	9.1	20.3	3 22	13 57.01	-10 46.4	1.857	2.768	10.2	19.5
4 1	13 47.30	-14 10.8	2.185	3.148	5.9	20.1	4 1	13 49.17	-10 11.9	1.807	2.776	6.2	19.3
4 11	13 39.39	-13 49.5	2.150	3.147	2.4	19.8	4 11	13 40.00	-9 30.3	1.783	2.783	1.9	19.0
4 21	13 31.07	-13 22.4	2.144	3.145	2.0	19.8	4 21	13 30.43	-8 46.3	1.789	2.789	2.5	19.1
5 1	13 23.16	-12 53.4	2.166	3.143	5.4	20.0	5 1	13 21.48	-8 5.1	1.822	2.795	6.7	19.3
5 11	13 16.42	-12 26.8	2.216	3.141	8.8	20.2	5 11	13 14.02	-7 32.0	1.882	2.800	10.6	19.6
5 21	13 11.36	-12 6.1	2.290	3.139	11.8	20.4	5 21	13 8.64	-7 10.3	1.965	2.804	13.9	19.8
264679	2001 <i>YY</i> ₆₃		4 15.6 78°03'	3°1/13.1	18		463327	2012 <i>KP</i> ₄₂		4 15.6 38°77'	11°2/6.6	17	
3 12	14 0.71	-3 37.2	1.725	2.578	13.9	20.5	3 12	13 57.89	+11 40.9	1.249	2.124	16.6	19.7
3 22	13 55.54	-2 57.2	1.667	2.592	10.2	20.3	3 22	13 53.90	+13 38.8	1.224	2.144	13.6	19.6
4 1	13 48.25	-2 12.7	1.632	2.605	6.3	20.1	4 1	13 47.37	+15 22.6	1.220	2.164	11.5	19.5
4 11	13 39.67	-1 29.5	1.624	2.619	3.3	20.0	4 11	13 39.39	+16 39.8	1.238	2.186	11.4	19.6
4 21	13 30.79	-0 53.2	1.643	2.633	4.8	20.1	4 21	13 31.24	+17 22.3	1.279	2.208	13.1	19.7
5 1	13 22.65	-0 28.9	1.689	2.646	8.5	20.3	5 1	13 24.17	+17 27.5	1.340	2.230	15.7	19.9
5 11	13 16.11	-0 19.8	1.759	2.660	12.1	20.6	5 11	13 19.12	+16 57.9	1.420	2.254	18.3	20.2
5 21	13 11.69	-0 26.7	1.850	2.673	15.2	20.8	5 21	13 16.54	+15 59.5	1.516	2.277	20.7	20.4
497774	2006 <i>SS</i> ₃₃₁		4 15.6 141°45'	0°4/16.0	17		427165	2014 <i>UX</i> ₁₉₁		4 15.6 76°60'	15°1/30.9	18	
3 12	13 58.99	-12 31.5	2.705	3.520	10.6	22.4	3 12	14 4.19	+31 17.8	1.741	2.534	16.4	20.3
3 22	13 53.70	-12 23.7	2.625	3.529	7.9	22.2	3 22	13 58.09	+33 14.3	1.738	2.559	15.4	20.3
4 1	13 46.93	-12 7.9	2.572	3.537	4.9	22.0	4 1	13 49.69	+34 41.2	1.756	2.584	15.1	20.3
4 11	13 39.24	-11 46.1	2.546	3.544	1.7	21.8	4 11	13 40.08	+35 30.4	1.794	2.609	15.5	20.4
4 21	13 31.27	-11 20.9	2.551	3.552	1.7	21.8	4 21	13 30.46	+35 38.9	1.851	2.633	16.4	20.5
5 1	13 23.71	-10 55.8	2.585	3.559	4.9	22.0	5 1	13 21.96	+35 8.1	1.926	2.657	17.6	20.7
5 11	13 17.17	-10 33.9	2.647	3.565	7.8	22.2	5 11	13 15.44	+34 3.3	2.016	2.681	18.8	20.8
5 21	13 12.10	-10 18.1	2.734	3.572	10.4	22.4	5 21	13 11.31	+32 31.8	2.119	2.704	19.9	21.0
317950	2003 <i>WO</i> ₁₁₃		4 15.6 155°36'	0°3/15.8	16		336377	2008 <i>UW</i> ₆₀		4 15.6 291°82'	1°8/17.2	17	
3 12	14 2.79	-12 41.3	1.945	2.770	13.7	22.5	3 12	13 58.45	-16 44.1	1.946	2.766	13.9	21.2
3 22	13 57.04	-12 20.5	1.870	2.778	10.3	22.3	3 22	13 53.96	-16 33.3	1.862	2.763	10.7	20.9
4 1	13 49.19	-11 48.0	1.817	2.785	6.4	22.1	4 1	13 47.40	-16 7.9	1.800	2.761	7.0	20.7
4 11	13 39.99	-11 6.8	1.792	2.791	2.1	21.8	4 11	13 39.46	-15 29.7	1.764	2.758	3.2	20.5
4 21	13 30.39	-10 21.4	1.796	2.797	2.3	21.9	4 21	13 31.03	-14 42.6	1.755	2.756	2.4	20.4
5 1	13 21.39	-9 37.3	1.828	2.802	6.5	22.1	5 1	13 23.10	-13 52.0	1.774	2.753	6.2	20.6
5 11	13 13.90	-8 59.8	1.886	2.806	10.4	22.4	5 11	13 16.55	-13 4.2	1.819	2.751	10.0	20.8
5 21	13 8.47	-8 32.8	1.967	2.810	13.7	22.6	5 21	13 11.99	-12 24.3	1.887	2.748	13.4	21.1
299915	2006 <i>SD</i> ₄₀₅		4 15.6 233°26'	0°2/15.4	17		210960	2001 <i>UG</i> ₁₂₈		4 15.6 164°57'	2°5/18.3	18	
3 12	13 56.66	-11 42.8	2.624	3.448	10.6	21.8	3 12	14 0.24	-19 40.1	2.826	3.611	11.0	21.6
3 22	13 52.12	-11 12.6	2.529	3.438	7.9	21.6	3 22	13 54.68	-19 49.1	2.738	3.616	8.6	21.5
4 1	13 46.05	-10 33.3	2.460	3.428	4.9	21.3	4 1	13 47.58	-19 46.8	2.674	3.620	6.0	21.3
4 11	13 38.99	-9 47.7	2.418	3.418	1.5	21.1	4 11	13 39.48	-19 33.7	2.638	3.624	3.4	21.1
4 21	13 31.55	-8 59.5	2.407	3.407	1.9	21.1	4 21	13 31.03	-19 11.8	2.632	3.627	2.6	21.1
5 1	13 24.44	-8 12.8	2.424	3.396	5.3	21.3	5 1	13 22.96	-18 43.9	2.656	3.630	4.7	21.2
5 11	13 18.31	-7 32.0	2.469	3.384	8.5	21.5	5 11	13 15.91	-18 13.9	2.707	3.633	7.4	21.4
5 21	13 13.62	-7 0.1	2.538	3.373	11.2	21.7	5 21	13 10.34	-17 45.6	2.785	3.635	9.9	21.6
89637	2001 <i>XA</i> ₂₁₄		4 15.6 142°97'	7°8/7.9	18		107126	2001 <i>AN</i> ₄₆		4 15.6 94°94'	2°0/15.1	18	
3 12	13 59.71	+9 51.8	1.929	2.780	12.7	19.5	3 12	14 21.50	-2 33.8	1.079	1.925	20.8	19.1
3 22	13 54.66	+11 13.3	1.874	2.785	10.2	19.3	3 22	14 12.38	-3 31.9	1.021	1.940	15.7	18.8
4 1	13 47.67	+12 28.3	1.845	2.789	8.2	19.2	4 1	13 59.18	-4 31.2	0.983	1.955	9.7	18.6
4 11	13 39.49	+13 28.9	1.841	2.794	7.9	19.2	4 11	13 43.27	-5 33.0	0.970	1.969	3.4	18.2
4 21	13 31.01	+14 8.7	1.863	2.798	9.3	19.3	4 21	13 26.67	-6 37.3	0.984	1.983	4.5	18.3
5 1	13 23.16	+14 24.2	1.911	2.802	11.7	19.5	5 1	13 11.59	-7 44.2	1.025	1.997	10.6	18.7
5 11	13 16.75	+14 14.8	1.980	2.805	14.2	19.6	5 11	12 59.74	-8 54.1	1.089	2.011	16.0	19.1
5 21	13 12.28	+13 42.7	2.068	2.809	16.5	19.8	5 21	12 51.90	-10 7.5	1.173	2.024	20.5	19.4
37742	1996 <i>WB</i> ₂		4 15.6 108°										

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2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
20543	1999 RZ ₉₈		4 15.6 254°73	1°1/16.5 18			99330	2001 VT ₁₅		4 15.6 136°43	12°7/ 6.6 18		
3 12	14 2.61	-12 45.7	2.448	3.261	11.6	17.8	3 12	14 14.27	+25 38.5	1.831	2.625	15.6	19.2
3 22	13 56.67	-13 9.1	2.358	3.258	8.9	17.6	3 22	14 5.43	+26 39.3	1.794	2.639	13.9	19.1
4 1	13 48.91	-13 25.1	2.293	3.255	5.7	17.4	4 1	13 54.16	+27 17.5	1.780	2.652	12.9	19.0
4 11	13 39.94	-13 34.4	2.256	3.252	2.3	17.2	4 11	13 41.54	+27 24.8	1.789	2.665	12.8	19.0
4 21	13 30.50	-13 38.6	2.248	3.249	2.0	17.2	4 21	13 28.85	+26 57.2	1.822	2.676	13.8	19.1
5 1	13 21.43	-13 40.2	2.271	3.246	5.4	17.4	5 1	13 17.36	+25 55.5	1.878	2.687	15.4	19.3
5 11	13 13.51	-13 42.3	2.321	3.243	8.6	17.6	5 11	13 8.00	+24 24.7	1.955	2.697	17.2	19.4
5 21	13 7.30	-13 47.5	2.396	3.240	11.5	17.8	5 21	13 1.27	+22 31.6	2.050	2.706	18.8	19.6
5988	Gorodnitskij		4 15.6 305°73	3°7/11.9 18			349476	2008 DX ₂₃		4 15.6 299°37	2°8/18.3 17		
3 12	13 54.79	- 5 29.4	1.674	2.536	13.8	16.9	3 12	13 58.49	-19 30.4	2.320	3.119	12.6	20.6
3 22	13 51.49	- 3 59.3	1.589	2.520	10.2	16.7	3 22	13 53.77	-19 41.6	2.228	3.114	9.9	20.5
4 1	13 46.02	- 2 17.2	1.529	2.504	6.4	16.4	4 1	13 47.22	-19 39.6	2.160	3.109	6.9	20.2
4 11	13 39.06	- 0 31.1	1.494	2.489	3.7	16.2	4 11	13 39.43	-19 25.0	2.118	3.104	3.9	20.1
4 21	13 31.53	+ 1 9.4	1.487	2.473	5.8	16.3	4 21	13 31.17	-18 59.8	2.104	3.100	3.0	20.0
5 1	13 24.48	+ 2 35.1	1.506	2.458	9.8	16.5	5 1	13 23.29	-18 27.5	2.118	3.095	5.5	20.1
5 11	13 18.85	+ 3 39.1	1.548	2.443	13.8	16.7	5 11	13 16.58	-17 53.2	2.159	3.090	8.7	20.3
5 21	13 15.30	+ 4 18.3	1.610	2.429	17.3	16.9	5 21	13 11.61	-17 21.3	2.224	3.086	11.6	20.5
89334	2001 VM ₅₃		4 15.6 302°60	3°2/17.9 18			277763	2006 DN ₁₅₃		4 15.6 76°53	0°7/14.9 18		
3 12	13 59.54	-18 46.4	1.612	2.434	16.2	19.2	3 12	13 58.37	-11 36.2	1.845	2.683	13.8	20.8
3 22	13 55.40	-18 57.6	1.519	2.419	12.8	19.0	3 22	13 53.70	-10 42.1	1.786	2.703	10.2	20.6
4 1	13 48.63	-18 51.0	1.446	2.403	8.8	18.7	4 1	13 47.09	- 9 36.2	1.751	2.723	6.1	20.4
4 11	13 39.96	-18 26.8	1.397	2.388	4.8	18.4	4 11	13 39.34	- 8 23.6	1.743	2.743	1.9	20.1
4 21	13 30.44	-17 47.8	1.374	2.373	3.6	18.3	4 21	13 31.36	- 7 10.8	1.764	2.763	2.8	20.2
5 1	13 21.36	-16 59.7	1.377	2.358	7.4	18.5	5 1	13 24.08	- 6 4.7	1.812	2.783	6.9	20.5
5 11	13 13.93	-16 10.1	1.405	2.343	11.8	18.7	5 11	13 18.29	- 5 10.6	1.885	2.802	10.6	20.8
5 21	13 8.98	-15 26.4	1.454	2.329	15.9	18.9	5 21	13 14.44	- 4 32.1	1.981	2.822	13.7	21.0
179497	2002 CX ₇₇		4 15.6 309°72	4°4/19.8 17			343582	2010 FX ₉₄		4 15.6 239°27	1°1/14.7 17		
3 12	13 59.31	-24 13.4	2.359	3.135	13.1	20.1	3 12	14 1.26	- 7 7.7	2.102	2.939	12.4	21.0
3 22	13 54.42	-24 38.6	2.268	3.132	10.7	19.9	3 22	13 55.82	- 7 3.5	2.022	2.938	9.2	20.8
4 1	13 47.63	-24 48.6	2.199	3.130	8.0	19.7	4 1	13 48.45	- 6 53.8	1.966	2.938	5.6	20.6
4 11	13 39.55	-24 42.6	2.155	3.127	5.4	19.6	4 11	13 39.82	- 6 41.3	1.938	2.937	1.9	20.3
4 21	13 30.97	-24 21.9	2.139	3.124	4.4	19.5	4 21	13 30.75	- 6 29.4	1.938	2.936	2.8	20.4
5 1	13 22.77	-23 49.6	2.151	3.122	6.0	19.6	5 1	13 22.17	- 6 21.8	1.967	2.935	6.6	20.6
5 11	13 15.79	-23 10.9	2.190	3.120	8.7	19.8	5 11	13 14.90	- 6 21.4	2.021	2.935	10.2	20.8
5 21	13 10.60	-22 31.1	2.253	3.117	11.4	19.9	5 21	13 9.49	- 6 30.5	2.099	2.934	13.3	21.0
136211	2003 WN ₃₃		4 15.6 134°31	3°2/18.3 18			91347	1999 JL ₃₉		4 15.6 283°45	0°2/15.4 17		
3 12	14 2.01	-20 36.6	1.775	2.580	15.7	20.4	3 12	14 0.64	-10 51.3	1.864	2.699	13.8	19.7
3 22	13 56.77	-20 31.3	1.699	2.588	12.3	20.2	3 22	13 55.89	-10 37.1	1.760	2.674	10.5	19.4
4 1	13 49.17	-20 6.9	1.644	2.596	8.5	19.9	4 1	13 48.81	-10 12.1	1.679	2.649	6.5	19.1
4 11	13 40.05	-19 24.8	1.615	2.603	4.7	19.7	4 11	13 40.02	- 9 38.9	1.624	2.623	2.1	18.8
4 21	13 30.44	-18 28.7	1.613	2.610	3.5	19.7	4 21	13 30.43	- 9 1.6	1.597	2.597	2.6	18.8
5 1	13 21.52	-17 25.0	1.638	2.617	6.6	19.9	5 1	13 21.15	- 8 25.7	1.597	2.571	7.3	19.0
5 11	13 14.26	-16 21.6	1.689	2.623	10.5	20.1	5 11	13 13.21	- 7 56.9	1.623	2.545	11.7	19.2
5 21	13 9.30	-15 25.3	1.763	2.629	14.0	20.3	5 21	13 7.41	- 7 39.4	1.670	2.518	15.5	19.4
143598	2003 FV ₇₅		4 15.6 228°87	7°6/21.9 18			349043	2006 VK ₁₀₁		4 15.6 142°42	6°6/ 7.6 18		
3 12	14 3.98	-31 19.1	2.059	2.798	15.9	19.1	3 12	13 59.17	+14 0.0	2.771	3.602	9.9	21.1
3 22	13 58.46	-32 8.7	1.963	2.791	13.6	18.9	3 22	13 53.72	+14 51.4	2.718	3.610	8.1	21.0
4 1	13 50.40	-32 37.6	1.888	2.784	11.1	18.7	4 1	13 46.90	+15 34.8	2.691	3.617	6.9	21.0
4 11	13 40.51	-32 42.4	1.835	2.776	8.7	18.5	4 11	13 39.26	+16 5.4	2.691	3.625	6.7	20.9
4 21	13 29.81	-32 22.4	1.809	2.769	7.6	18.4	4 21	13 31.45	+16 19.7	2.719	3.632	7.7	21.0
5 1	13 19.53	-31 40.3	1.808	2.761	8.4	18.5	5 1	13 24.11	+16 15.9	2.772	3.638	9.3	21.1
5 11	13 10.81	-30 42.7	1.833	2.752	10.7	18.6	5 11	13 17.81	+15 54.0	2.850	3.645	11.1	21.3
5 21	13 4.45	-29 37.9	1.881	2.744	13.4	18.7	5 21	13 12.95	+15 15.7	2.948	3.651	12.7	21.4
110569	2001 TS ₁₁₄		4 15.6 154°74	1°5/16.9 18			497132	2004 PS ₉₅		4 15.6 226°30	2°2/13.3 18		
3 12	14 0.78	-16 29.9	2.133	2.944	13.1	20.0	3 12	14 0.73	- 4 23.6	2.543	3.377	10.6	22.7
3 22	13 55.45	-16 13.0	2.053	2.951	10.1	19.8	3 22	13 55.20	- 3 47.0	2.447	3.363	7.9	22.5
4 1	13 48.20	-15 42.5	1.997	2.957	6.5	19.6	4 1	13 48.00	- 3 5.6	2.378	3.348	4.9	22.3
4 11	13 39.71	-15 0.5	1.968	2.963	2.8	19.3	4 11	13 39.67	- 2 23.2	2.337	3.332	2.4	22.1
4 21	13 30.84	-14 11.0	1.967	2.968	2.2	19.3	4 21	13 30.91	- 1 44.0	2.326	3.316	3.6	22.2
5 1	13 22.51	-13 19.0	1.996	2.973	5.8	19.5	5 1	13 22.48	- 1 12.0	2.344	3.299	6.7	22.3
5 11	13 15.53	-12 30.3	2.051	2.977	9.4	19.7	5 11	13 15.08	- 0 50.7	2.390	3.281	9.8	22.5
5 21	13 10.43	-11 49.5	2.130	2.981	12.5	20.0	5 21	13 9.24	- 0 41.9	2.460	3.262	12.5	22.7
226861	Elimaor		4 15.6 183°44	2°2/17.8 17			430203	2013 TL ₁₃₉		4 15.6 225°37	2°2/13.2 18		
3 12	13 59.46	-18 59.7	2.296	3.096	12.7	20.8	3 12	13 59.65	- 5 22.9	2.447	3.283	10.9	21.8
3 22	13 54.43	-18 44.5	2.207	3.096	9.9	20.6	3 22	13 54.45	- 4 32.5	2.353	3.269	8.1	21.6
4 1	13 47.57	-18 14.8	2.143	3.096	6.7	20.4	4 1	13 47.56	- 3 35.7	2.284	3.255	5.0	21.4
4 11	13 39.52	-17 32.0	2.105	3.096	3.4	20.2	4 11	13 39.54	- 2 36.8	2.244	3.240	2.4	21.2
4 21	13 31.06	-16 39.6	2.096	3.095	2.5	20.1	4 21	13 31.08	- 1 40.6	2.235	3.225	3.7	21.2
5 1	13 23.06	-15 42.4	2.116	3.093	5.5	20.3	5 1	13 22.96	- 0 52.3	2.254	3.208	6.9	21.4
5 11	13 16.29	-14 46.2	2.163	3.091	8.8	20.5	5 11	13 15.92	- 0 15.6	2.300	3.191	10.1	21.6
5 21	13 11.28	-13 55.9	2.234	3.089	11.8	20.7	5 21	13 10.46	+ 0 7.0	2.369	3.173	12.9	21.7
355794	2008 SU ₁₀₅		4 15.6 89°06	0°2/15.5 18			465368	2008 CG ₃₂		4 15.6 76°14	1°6/14.4 16		
3 12	14 2.72	-11 38.1											

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2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
234838	2002 <i>RL</i> ₁₄₅	4 15.6 227°04	1°6/14.0	17			10055	Silcher	4 15.6 196°04	0°2/15.4	18		
3 12	13 57.76	- 7 26.8	2.191	3.031	11.8	20.6	3 12	13 57.68	-11 22.4	2.304	3.133	11.7	18.6
3 22	13 53.16	- 6 48.8	2.108	3.027	8.7	20.4	3 22	13 53.04	-10 55.3	2.220	3.132	8.8	18.4
4 1	13 46.80	- 6 3.2	2.050	3.022	5.3	20.2	4 1	13 46.71	-10 18.7	2.161	3.130	5.4	18.2
4 11	13 39.29	- 5 14.4	2.019	3.018	2.0	20.0	4 11	13 39.27	- 9 35.7	2.130	3.129	1.7	17.9
4 21	13 31.39	- 4 26.9	2.017	3.013	3.2	20.0	4 21	13 31.47	- 8 50.3	2.127	3.127	2.1	18.0
5 1	13 23.91	- 3 45.7	2.044	3.008	6.7	20.2	5 1	13 24.10	- 8 7.3	2.153	3.126	5.8	18.2
5 11	13 17.63	- 3 15.2	2.096	3.003	10.2	20.4	5 11	13 17.87	- 7 31.0	2.206	3.124	9.2	18.4
5 21	13 13.05	- 2 57.6	2.171	2.998	13.1	20.6	5 21	13 13.29	- 7 4.6	2.282	3.122	12.2	18.6
414032	2007 <i>PJ</i> ₃₄	4 15.6 270°71	5°2/11.4	17			475455	2006 <i>RB</i> ₇₆	4 15.6 207°99	0°3/15.9	17		
3 12	14 2.25	- 0 26.9	1.617	2.474	14.5	21.2	3 12	13 58.12	-12 37.8	2.471	3.292	11.3	22.1
3 22	13 57.35	+ 0 38.9	1.522	2.448	11.0	20.9	3 22	13 53.29	-12 21.7	2.383	3.289	8.5	22.0
4 1	13 49.83	+ 1 50.8	1.451	2.421	7.4	20.7	4 1	13 46.84	-11 56.2	2.319	3.286	5.3	21.7
4 11	13 40.38	+ 3 1.1	1.405	2.393	5.2	20.5	4 11	13 39.32	-11 23.9	2.284	3.282	1.8	21.5
4 21	13 30.04	+ 4 1.2	1.386	2.365	7.2	20.5	4 21	13 31.43	-10 47.8	2.277	3.278	1.9	21.5
5 1	13 20.06	+ 4 43.2	1.393	2.336	11.2	20.7	5 1	13 23.92	-10 12.1	2.300	3.274	5.4	21.7
5 11	13 11.66	+ 5 2.0	1.423	2.307	15.5	20.8	5 11	13 17.48	- 9 40.8	2.350	3.270	8.6	21.9
5 21	13 5.67	+ 4 56.2	1.471	2.277	19.3	21.0	5 21	13 12.61	- 9 17.2	2.424	3.266	11.5	22.1
150943	2001 <i>TZ</i> ₁₀₄	4 15.6 214°81	0°1/15.5	18			234122	1999 <i>XP</i> ₁₁₁	4 15.6 125°38	1°2/16.9	17		
3 12	14 0.43	-11 37.8	1.953	2.785	13.4	20.4	3 12	13 58.24	-17 33.8	2.259	3.067	12.6	20.3
3 22	13 55.41	-11 15.2	1.868	2.781	10.1	20.1	3 22	13 53.41	-16 47.6	2.184	3.081	9.6	20.2
4 1	13 48.30	-10 41.5	1.807	2.776	6.2	19.9	4 1	13 46.88	-15 46.6	2.133	3.093	6.2	20.0
4 11	13 39.80	- 9 59.8	1.772	2.771	2.0	19.6	4 11	13 39.31	-14 34.1	2.110	3.106	2.6	19.8
4 21	13 30.80	- 9 14.6	1.765	2.766	2.4	19.6	4 21	13 31.49	-13 15.0	2.116	3.118	2.0	19.7
5 1	13 22.29	- 8 31.5	1.787	2.761	6.7	19.9	5 1	13 24.21	-11 55.5	2.152	3.129	5.4	20.0
5 11	13 15.17	- 7 55.8	1.834	2.755	10.6	20.1	5 11	13 18.19	-10 41.9	2.215	3.140	8.8	20.2
5 21	13 10.04	- 7 31.2	1.904	2.749	14.0	20.3	5 21	13 13.87	- 9 38.8	2.303	3.151	11.8	20.4
87019	2000 <i>JY</i> ₆₃	4 15.6 317°69	2°0/14.1	18			460351	2014 <i>RK</i> ₄₀	4 15.6 279°23	3°4/13.5	16		
3 12	13 59.78	- 6 54.8	1.576	2.430	14.9	19.4	3 12	14 3.19	- 3 46.0	1.403	2.263	16.1	21.0
3 22	13 55.32	- 6 27.0	1.498	2.424	11.1	19.2	3 22	13 58.26	- 3 17.9	1.322	2.250	12.1	20.7
4 1	13 48.43	- 5 50.3	1.443	2.418	6.8	18.9	4 1	13 50.45	- 2 43.6	1.263	2.238	7.6	20.4
4 11	13 39.87	- 5 9.9	1.414	2.412	2.5	18.6	4 11	13 40.59	- 2 8.9	1.228	2.225	3.7	20.1
4 21	13 30.72	- 4 31.7	1.410	2.407	4.0	18.7	4 21	13 29.90	- 1 40.8	1.219	2.212	5.4	20.2
5 1	13 22.17	- 4 1.9	1.433	2.402	8.5	19.0	5 1	13 19.81	- 1 25.6	1.235	2.199	10.2	20.4
5 11	13 15.27	- 3 45.5	1.479	2.397	12.9	19.2	5 11	13 11.61	- 1 27.9	1.274	2.187	14.9	20.7
5 21	13 10.72	- 3 45.0	1.546	2.392	16.6	19.4	5 21	13 6.14	- 1 49.0	1.332	2.174	19.0	20.9
204629	2005 <i>XF</i> ₃₈	4 15.6 338°79	4°1/12.6	17			383912	2008 <i>ST</i> ₁₁₄	4 15.6 147°42	1°6/14.2	17		
3 12	13 56.28	- 5 20.9	1.187	2.064	17.1	19.0	3 12	14 0.27	- 6 39.1	2.053	2.894	12.5	21.6
3 22	13 53.30	- 4 11.5	1.118	2.056	12.8	18.7	3 22	13 55.09	- 6 15.2	1.978	2.897	9.3	21.4
4 1	13 47.44	- 2 49.7	1.071	2.049	7.9	18.4	4 1	13 48.01	- 5 45.0	1.928	2.900	5.6	21.2
4 11	13 39.60	- 1 24.9	1.046	2.043	4.2	18.1	4 11	13 39.70	- 5 12.4	1.904	2.903	2.1	21.0
4 21	13 31.06	- 0 8.1	1.046	2.037	6.5	18.2	4 21	13 31.02	- 4 41.8	1.909	2.906	3.2	21.0
5 1	13 23.27	+ 0 50.3	1.068	2.032	11.4	18.5	5 1	13 22.86	- 4 17.6	1.943	2.908	7.0	21.3
5 11	13 17.48	+ 1 23.6	1.111	2.028	16.2	18.7	5 11	13 16.03	- 4 3.4	2.002	2.910	10.5	21.5
5 21	13 14.46	+ 1 29.6	1.172	2.025	20.4	19.0	5 21	13 11.07	- 4 1.2	2.083	2.913	13.5	21.7
214890	2007 <i>RG</i> ₂₉₁	4 15.6 355°95	1°1/16.3	18			119603	2001 <i>WW</i> ₁₆	4 15.6 47°58	0°3/15.4	18		
3 12	13 56.60	-14 16.6	1.180	2.040	18.5	19.8	3 12	14 0.24	-11 1.4	1.547	2.393	15.6	19.6
3 22	13 53.64	-14 4.4	1.110	2.036	14.1	19.5	3 22	13 55.57	-10 44.2	1.482	2.402	11.6	19.4
4 1	13 47.70	-13 32.8	1.060	2.033	9.0	19.2	4 1	13 48.49	-10 15.0	1.440	2.412	7.1	19.1
4 11	13 39.70	-12 45.4	1.032	2.030	3.4	18.8	4 11	13 39.88	- 9 37.9	1.422	2.422	2.2	18.8
4 21	13 30.94	-11 48.8	1.027	2.029	3.0	18.8	4 21	13 30.84	- 8 58.1	1.431	2.432	2.8	18.9
5 1	13 22.97	-10 52.1	1.046	2.029	8.7	19.1	5 1	13 22.54	- 8 22.0	1.466	2.442	7.6	19.2
5 11	13 17.09	-10 4.7	1.087	2.030	13.9	19.4	5 11	13 16.01	- 7 55.3	1.526	2.453	11.9	19.5
5 21	13 14.09	- 9 33.0	1.147	2.032	18.4	19.7	5 21	13 11.83	- 7 41.4	1.606	2.464	15.5	19.7
153794	2001 <i>VZ</i> ₇₈	4 15.6 92°23	0°1/15.7	18			329176	2012 <i>DA</i> ₁₇	4 15.6 330°79	2°2/14.1	17		
3 12	14 1.03	-11 59.7	1.773	2.608	14.4	20.0	3 12	13 57.67	- 7 11.2	1.315	2.182	16.5	20.1
3 22	13 55.89	-11 42.5	1.704	2.618	10.8	19.8	3 22	13 54.24	- 6 43.0	1.237	2.169	12.3	19.8
4 1	13 48.58	-11 13.6	1.659	2.628	6.7	19.6	4 1	13 48.02	- 6 3.9	1.179	2.156	7.6	19.5
4 11	13 39.88	-10 36.5	1.639	2.638	2.2	19.3	4 11	13 39.83	- 5 19.7	1.145	2.144	2.8	19.1
4 21	13 30.79	- 9 55.9	1.647	2.648	2.4	19.4	4 21	13 30.83	- 4 37.3	1.136	2.133	4.5	19.2
5 1	13 22.37	- 9 17.4	1.683	2.658	6.8	19.7	5 1	13 22.45	- 4 4.6	1.150	2.123	9.6	19.5
5 11	13 15.54	- 8 46.4	1.744	2.668	10.8	19.9	5 11	13 15.93	- 3 47.7	1.187	2.114	14.6	19.7
5 21	13 10.86	- 8 26.5	1.827	2.678	14.2	20.2	5 21	13 12.08	- 3 49.8	1.242	2.105	18.8	20.0
293407	2007 <i>ER</i> ₈₂	4 15.6 108°04	1°3/14.3	18			351728	2006 <i>CH</i> ₃₇	4 15.6 77°12	2°4/17.2	18		
3 12	14 0.48	- 9 11.9	1.937	2.775	13.2	21.7	3 12	14 3.52	-16 34.4	1.375	2.208	17.9	20.8
3 22	13 55.19	- 8 22.6	1.876	2.793	9.8	21.5	3 22	13 58.40	-16 39.6	1.309	2.218	13.8	20.6
4 1	13 48.00	- 7 24.0	1.839	2.811	5.8	21.3	4 1	13 50.41	-16 26.6	1.265	2.228	9.1	20.4
4 11	13 39.66	- 6 21.0	1.830	2.829	2.0	21.1	4 11	13 40.54	-15 57.1	1.243	2.238	4.2	20.1
4 21	13 31.08	- 5 19.7	1.849	2.846	3.1	21.2	4 21	13 30.09	-15 15.7	1.248	2.248	3.2	20.1
5 1	13 23.17	- 4 25.8	1.896	2.863	7.0	21.5	5 1	13 20.53	-14 29.4	1.278	2.259	7.8	20.4
5 11	13 16.73	- 3 44.2	1.970	2.879	10.6	21.7	5 11	13 13.07	-13 46.6	1.331	2.269	12.4	20.6
5 21	13 12.22	- 3 17.4	2.065	2.895	13.6	22.0	5 21	13 8.40	-13 13.6	1.406	2.279	16.5	20.9
150831	2001 <i>SP</i> ₂₈	4 15.6 96°94	1°8/13.9	18			387025	2012 <i>SY</i> ₇					

EPHEMERIDES

4 15.6

4 15.6

2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
285720	2000 <i>SJ</i> ₃₀₄		4 15.6 148°21'	2°5/18.7	18		463159	2012 <i>BU</i> ₃		4 15.6 70°32'	0°1/15.5	18	
3 12	13 56.50	-21 31.5	2.630	3.417	11.6	20.7	3 12	14 1.72	-12 17.8	1.436	2.281	16.6	21.7
3 22	13 52.02	-21 8.8	2.544	3.422	9.1	20.5	3 22	13 56.71	-11 46.9	1.381	2.300	12.4	21.4
4 1	13 46.02	-20 31.6	2.481	3.427	6.4	20.3	4 1	13 49.17	-11 1.5	1.347	2.319	7.6	21.2
4 11	13 39.06	-19 41.3	2.446	3.431	3.6	20.2	4 11	13 40.09	-10 6.5	1.338	2.337	2.4	20.9
4 21	13 31.81	-18 41.2	2.439	3.436	2.6	20.1	4 21	13 30.69	-9 8.7	1.355	2.356	2.9	21.0
5 1	13 24.97	-17 35.8	2.462	3.440	4.8	20.2	5 1	13 22.21	-8 15.7	1.399	2.375	7.8	21.4
5 11	13 19.19	-16 30.4	2.513	3.443	7.7	20.4	5 11	13 15.67	-7 34.2	1.466	2.394	12.2	21.7
5 21	13 14.91	-15 29.8	2.589	3.447	10.3	20.6	5 21	13 11.63	-7 8.1	1.555	2.413	15.9	21.9
15460	Manca		4 15.6 145°76'	1°4/14.2	18		119481	2001 <i>UK</i> ₃₄		4 15.6 230°73'	4°1/11.9	18	
3 12	13 58.38	-7 28.8	2.275	3.113	11.5	18.6	3 12	14 2.21	+0 38.1	2.132	2.976	12.0	20.4
3 22	13 53.51	-6 54.6	2.200	3.117	8.5	18.4	3 22	13 56.58	+1 19.5	2.046	2.964	9.0	20.2
4 1	13 46.97	-6 13.7	2.150	3.122	5.1	18.2	4 1	13 48.98	+2 2.3	1.985	2.952	6.0	20.0
4 11	13 39.37	-5 29.9	2.128	3.127	1.9	17.9	4 11	13 40.06	+2 41.3	1.952	2.939	4.1	19.9
4 21	13 31.45	-4 47.6	2.135	3.131	3.0	18.0	4 21	13 30.64	+3 11.4	1.947	2.925	5.5	19.9
5 1	13 24.02	-4 11.3	2.170	3.135	6.4	18.3	5 1	13 21.65	+3 28.2	1.970	2.911	8.6	20.1
5 11	13 17.75	-3 44.8	2.232	3.139	9.6	18.5	5 11	13 13.93	+3 29.1	2.019	2.896	11.9	20.3
5 21	13 13.15	-3 30.2	2.317	3.142	12.5	18.7	5 21	13 8.07	+3 13.6	2.089	2.881	14.8	20.4
401868	2000 <i>VS</i> ₄₁		4 15.6 194°09'	1°2/16.7	14	C	11844	Ostwald		4 15.6 283°88'	0°2/15.4	18	
3 12	14 3.61	-15 39.9	2.163	2.971	13.1	23.0	3 12	13 56.84	-11 14.6	2.350	3.180	11.5	18.1
3 22	13 57.65	-15 24.2	2.072	2.969	10.1	22.8	3 22	13 52.52	-10 52.7	2.252	3.164	8.6	17.9
4 1	13 49.64	-14 55.2	2.005	2.965	6.5	22.6	4 1	13 46.47	-10 21.4	2.179	3.148	5.3	17.6
4 11	13 40.26	-14 15.1	1.965	2.961	2.7	22.3	4 11	13 39.26	-9 43.6	2.132	3.132	1.7	17.3
4 21	13 30.38	-13 27.4	1.955	2.956	2.2	22.3	4 21	13 31.57	-9 2.9	2.115	3.115	2.1	17.3
5 1	13 20.97	-12 37.1	1.974	2.949	6.0	22.5	5 1	13 24.21	-8 23.6	2.126	3.099	5.8	17.6
5 11	13 12.91	-11 50.1	2.020	2.942	9.7	22.7	5 11	13 17.90	-7 50.4	2.163	3.083	9.3	17.7
5 21	13 6.80	-11 10.9	2.091	2.934	13.0	22.9	5 21	13 13.20	-7 26.5	2.225	3.066	12.4	17.9
174907	2004 <i>BS</i> ₁₃₃		4 15.6 130°48'	0°2/15.8	18		419622	2010 <i>SQ</i> ₁₁		4 15.6 283°56'	3°0/17.5	17	
3 12	14 2.99	-11 51.4	1.740	2.573	14.7	20.3	3 12	14 3.31	-17 28.9	1.594	2.415	16.4	21.7
3 22	13 57.45	-11 40.8	1.668	2.580	11.1	20.1	3 22	13 58.51	-17 46.3	1.487	2.387	13.0	21.4
4 1	13 49.60	-11 18.6	1.618	2.587	6.9	19.8	4 1	13 50.80	-17 47.7	1.401	2.360	8.9	21.1
4 11	13 40.25	-10 47.9	1.595	2.594	2.3	19.5	4 11	13 40.81	-17 32.6	1.340	2.332	4.6	20.8
4 21	13 30.43	-10 13.2	1.599	2.600	2.5	19.6	4 21	13 29.65	-17 2.9	1.304	2.303	3.6	20.6
5 1	13 21.29	-9 39.9	1.631	2.607	7.0	19.9	5 1	13 18.71	-16 23.4	1.295	2.275	7.9	20.8
5 11	13 13.80	-9 13.4	1.688	2.612	11.1	20.1	5 11	13 9.42	-15 41.8	1.311	2.246	12.8	21.0
5 21	13 8.57	-8 57.5	1.768	2.618	14.7	20.3	5 21	13 2.78	-15 5.6	1.347	2.217	17.2	21.2
497727	2006 <i>SB</i> ₁₇₀		4 15.6 99°03'	1°1/14.2	17		75031	1999 <i>UX</i> ₂₃		4 15.6 85°62'	4°2/18.3	18	
3 12	13 56.15	-10 2.3	2.512	3.344	10.8	22.0	3 12	14 3.48	-19 56.7	1.321	2.146	18.9	19.2
3 22	13 51.62	-8 57.7	2.449	3.363	7.9	21.8	3 22	13 58.73	-20 15.9	1.247	2.147	15.0	19.0
4 1	13 45.69	-7 44.6	2.411	3.382	4.7	21.7	4 1	13 50.84	-20 13.2	1.192	2.148	10.4	18.7
4 11	13 38.93	-6 27.7	2.402	3.401	1.6	21.5	4 11	13 40.76	-19 48.6	1.159	2.148	5.9	18.4
4 21	13 32.00	-5 12.2	2.423	3.420	2.6	21.6	4 21	13 29.85	-19 5.1	1.151	2.149	4.5	18.4
5 1	13 25.56	-4 3.1	2.474	3.438	5.8	21.8	5 1	13 19.74	-18 10.1	1.169	2.150	8.3	18.6
5 11	13 20.19	-3 4.9	2.552	3.456	8.7	22.0	5 11	13 11.80	-17 13.4	1.209	2.150	13.0	18.8
5 21	13 16.27	-2 20.0	2.654	3.473	11.2	22.2	5 21	13 6.88	-16 23.9	1.270	2.151	17.3	19.1
433078	2012 <i>TB</i> ₆₀		4 15.6 255°21'	0°8/14.9	17		272797	2006 <i>AT</i> ₁		4 15.6 72°38'	1°2/16.7	17	
3 12	13 58.51	-9 27.3	2.086	2.923	12.4	21.2	3 12	13 58.57	-15 56.5	1.798	2.625	14.6	20.8
3 22	13 53.85	-9 2.5	2.002	2.918	9.3	21.0	3 22	13 54.13	-15 31.4	1.724	2.631	11.1	20.6
4 1	13 47.31	-8 28.9	1.942	2.913	5.6	20.7	4 1	13 47.55	-14 50.5	1.674	2.638	7.1	20.3
4 11	13 39.51	-7 49.9	1.909	2.908	1.8	20.4	4 11	13 39.61	-13 57.2	1.648	2.645	2.9	20.1
4 21	13 31.27	-7 10.1	1.904	2.903	2.6	20.5	4 21	13 31.25	-12 56.3	1.650	2.652	2.3	20.1
5 1	13 23.48	-6 34.2	1.927	2.898	6.6	20.7	5 1	13 23.52	-11 54.7	1.680	2.659	6.5	20.3
5 11	13 16.95	-6 6.7	1.977	2.893	10.2	20.9	5 11	13 17.30	-10 59.0	1.735	2.666	10.5	20.6
5 21	13 12.23	-5 50.6	2.049	2.887	13.4	21.1	5 21	13 13.17	-10 14.4	1.812	2.673	13.9	20.8
405008	2000 <i>VT</i> ₄₁		4 15.6 110°66'	2°3/17.6	18		222576	2001 <i>VX</i> ₁₂₅		4 15.6 268°09'	0°9/14.9	17	
3 12	14 3.34	-18 41.4	1.728	2.540	15.7	21.3	3 12	14 0.25	-9 23.6	1.820	2.661	13.8	20.8
3 22	13 57.66	-18 22.6	1.663	2.559	12.2	21.1	3 22	13 55.53	-8 58.5	1.728	2.647	10.4	20.6
4 1	13 49.67	-17 45.6	1.620	2.577	8.0	20.9	4 1	13 48.54	-8 23.1	1.660	2.632	6.4	20.3
4 11	13 40.25	-16 52.8	1.602	2.595	3.9	20.7	4 11	13 39.98	-7 41.1	1.618	2.617	2.0	20.0
4 21	13 30.49	-15 49.4	1.612	2.612	2.8	20.6	4 21	13 30.76	-6 57.6	1.603	2.602	3.0	20.0
5 1	13 21.53	-14 42.4	1.650	2.629	6.6	20.9	5 1	13 21.98	-6 18.3	1.616	2.587	7.5	20.2
5 11	13 14.33	-13 39.5	1.714	2.645	10.5	21.2	5 11	13 14.63	-5 48.9	1.654	2.572	11.7	20.5
5 21	13 9.45	-12 46.5	1.800	2.660	14.0	21.4	5 21	13 9.40	-5 32.8	1.713	2.556	15.4	20.7
22588	1998 <i>HW</i> ₉₉		4 15.6 326°55'	5°5/12.1	18		328281	2008 <i>GP</i> ₈₂		4 15.6 286°28'	2°5/13.9	18	
3 12	14 2.63	+3 9.0	1.600	2.458	14.5	18.4	3 12	14 3.14	-4 12.5	1.656	2.506	14.5	20.7
3 22	13 57.43	+3 31.0	1.524	2.448	11.1	18.2	3 22	13 57.82	-4 1.0	1.573	2.496	10.9	20.5
4 1	13 49.73	+3 50.6	1.471	2.439	7.6	17.9	4 1	13 50.00	-3 44.9	1.513	2.486	6.7	20.2
4 11	13 40.33	+4 1.5	1.444	2.429	5.5	17.8	4 11	13 40.45	-3 28.7	1.479	2.476	2.9	19.9
4 21	13 30.32	+3 58.4	1.442	2.421	7.0	17.8	4 21	13 30.23	-3 16.9	1.471	2.466	4.3	20.0
5 1	13 20.93	+3 37.6	1.466	2.412	10.5	18.0	5 1	13 20.54	-3 14.1	1.491	2.456	8.7	20.2
5 11	13 13.23	+2 58.0	1.513	2.405	14.3	18.2	5 11	13 12.49	-3 23.9	1.535	2.446	12.9	20.4
5 21	13 7.92	+2 0.9	1.580	2.398	17.6	18.4	5 21	13 6.81	-3 47.6	1.600	2.437	16.6	20.6
431858	2008 <i>ST</i> ₉₇		4 15.6 237°09'	0°6/16.2	17		215898	2005 <i>GR</i> ₆₉		4 15.6 341°60'	8°2/9.6	18	
3 12	13 58.81	-14 3.3	2.										

EPHEMERIDES

2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
507303	2011 <i>LO</i> ₁₂		4 15.6 307°52	2°0/17.6	17		288465	2004 <i>EE</i> ₉₂		4 15.6 157°98	1°6/17.3	18	
3 12	13 55.22	-19 20.0	1.774	2.596	15.0	21.1	3 12	13 58.99	-16 57.3	2.626	3.428	11.2	21.4
3 22	13 51.91	-18 39.8	1.676	2.578	11.7	20.9	3 22	13 53.86	-16 48.0	2.542	3.433	8.6	21.2
4 1	13 46.37	-17 38.1	1.600	2.560	7.8	20.6	4 1	13 47.17	-16 27.6	2.482	3.439	5.7	21.0
4 11	13 39.29	-16 17.4	1.549	2.543	3.7	20.3	4 11	13 39.48	-15 57.6	2.450	3.443	2.7	20.8
4 21	13 31.58	-14 43.0	1.525	2.526	2.6	20.2	4 21	13 31.48	-15 20.8	2.448	3.448	2.0	20.8
5 1	13 24.31	-13 3.4	1.528	2.509	6.7	20.4	5 1	13 23.88	-14 40.9	2.475	3.452	4.8	21.0
5 11	13 18.46	-11 28.0	1.556	2.492	11.0	20.6	5 11	13 17.35	-14 2.3	2.530	3.455	7.8	21.2
5 21	13 14.72	-10 4.7	1.607	2.476	14.9	20.8	5 21	13 12.35	-13 28.7	2.610	3.459	10.5	21.3
501512	2014 <i>DE</i> ₁₁₆		4 15.6 112°69	1°7/17.3	17		170461	2003 <i>UO</i> ₂₀₆		4 15.6 202°42	2°4/13.7	18	
3 12	13 59.18	-16 15.7	2.419	3.227	11.9	21.5	3 12	14 3.15	-5 2.6	1.909	2.750	13.2	20.4
3 22	13 54.12	-16 17.9	2.338	3.233	9.1	21.3	3 22	13 57.46	-4 30.0	1.827	2.746	9.9	20.1
4 1	13 47.37	-16 9.1	2.281	3.239	6.0	21.1	4 1	13 49.61	-3 51.4	1.770	2.742	6.1	19.9
4 11	13 39.54	-15 50.8	2.251	3.245	2.8	20.9	4 11	13 40.31	-3 11.4	1.741	2.737	2.7	19.7
4 21	13 31.35	-15 25.4	2.251	3.251	2.1	20.9	4 21	13 30.51	-2 35.3	1.739	2.732	4.1	19.8
5 1	13 23.61	-14 56.6	2.279	3.256	5.2	21.1	5 1	13 21.24	-2 8.1	1.766	2.726	8.0	20.0
5 11	13 17.01	-14 28.7	2.334	3.262	8.3	21.3	5 11	13 13.42	-1 53.7	1.818	2.719	11.7	20.2
5 21	13 12.06	-14 5.3	2.414	3.267	11.1	21.5	5 21	13 7.69	-1 54.1	1.892	2.712	15.0	20.4
94016	2000 <i>XC</i> ₃₀		4 15.6 185°90	0°2/15.8	18		206216	2002 <i>VD</i> ₄₀		4 15.6 84°23	2°3/17.8	18	
3 12	14 2.05	-11 41.3	2.493	3.309	11.3	19.8	3 12	14 1.40	-18 7.4	2.245	3.046	12.9	20.1
3 22	13 56.20	-11 33.6	2.405	3.309	8.5	19.6	3 22	13 55.77	-18 11.9	2.179	3.069	10.0	20.0
4 1	13 48.63	-11 17.6	2.343	3.308	5.3	19.4	4 1	13 48.36	-18 3.3	2.138	3.091	6.7	19.8
4 11	13 39.95	-10 55.4	2.309	3.307	1.8	19.1	4 11	13 39.86	-17 43.1	2.123	3.114	3.4	19.6
4 21	13 30.87	-10 30.0	2.304	3.305	1.9	19.1	4 21	13 31.10	-17 14.0	2.137	3.136	2.6	19.6
5 1	13 22.20	-10 4.8	2.330	3.303	5.4	19.4	5 1	13 22.93	-16 40.3	2.180	3.157	5.4	19.8
5 11	13 14.66	-9 43.7	2.384	3.299	8.7	19.6	5 11	13 16.11	-16 6.7	2.250	3.179	8.5	20.1
5 21	13 8.77	-9 29.6	2.462	3.296	11.6	19.8	5 21	13 11.10	-15 37.4	2.345	3.200	11.3	20.3
187710	2008 <i>EM</i> ₄₇		4 15.6 272°69	2°9/13.2	17		458761	2011 <i>SV</i> ₁₀		4 15.6 141°80	1°3/16.7	18	
3 12	14 0.11	-4 41.5	1.783	2.634	13.6	20.9	3 12	14 4.48	-15 38.2	1.837	2.653	14.8	23.2
3 22	13 55.47	-3 58.0	1.692	2.616	10.2	20.7	3 22	13 58.46	-15 19.9	1.764	2.665	11.3	23.0
4 1	13 48.54	-3 7.1	1.624	2.597	6.3	20.4	4 1	13 50.18	-14 46.8	1.715	2.678	7.2	22.7
4 11	13 40.00	-2 14.1	1.582	2.578	3.1	20.2	4 11	13 40.48	-14 1.6	1.693	2.689	2.9	22.5
4 21	13 30.78	-1 25.4	1.568	2.559	4.7	20.2	4 21	13 30.37	-13 8.7	1.698	2.699	2.4	22.5
5 1	13 21.98	-0 47.3	1.581	2.540	8.8	20.4	5 1	13 20.97	-12 14.5	1.732	2.709	6.5	22.8
5 11	13 14.61	-0 24.7	1.617	2.520	12.9	20.6	5 11	13 13.22	-11 25.4	1.793	2.718	10.5	23.0
5 21	13 9.38	-0 20.0	1.675	2.501	16.4	20.8	5 21	13 7.70	-10 46.4	1.876	2.726	14.0	23.2
434078	2001 <i>YB</i> ₁₅		4 15.6 145°56	2°6/18.8	17		58738	1998 <i>EX</i> ₁₀		4 15.6 21°66	0°7/16.1	18	
3 12	13 57.45	-21 40.0	2.708	3.492	11.4	21.4	3 12	14 2.19	-11 50.9	1.259	2.113	18.0	19.4
3 22	13 52.70	-21 25.6	2.623	3.499	9.0	21.2	3 22	13 57.65	-12 1.7	1.194	2.117	13.6	19.1
4 1	13 46.44	-20 57.2	2.563	3.506	6.3	21.1	4 1	13 50.10	-11 59.2	1.149	2.121	8.5	18.8
4 11	13 39.24	-20 16.3	2.529	3.513	3.7	20.9	4 11	13 40.53	-11 45.9	1.128	2.127	3.0	18.5
4 21	13 31.74	-19 25.6	2.524	3.519	2.7	20.8	4 21	13 30.29	-11 26.2	1.131	2.132	2.9	18.5
5 1	13 24.66	-18 29.1	2.548	3.525	4.7	21.0	5 1	13 20.92	-11 6.4	1.158	2.139	8.4	18.9
5 11	13 18.62	-17 31.7	2.601	3.531	7.5	21.2	5 11	13 13.70	-10 53.0	1.209	2.146	13.4	19.1
5 21	13 14.07	-16 38.1	2.679	3.536	10.0	21.3	5 21	13 9.37	-10 50.5	1.279	2.154	17.6	19.4
380181	2000 <i>SJ</i> ₁₄₉		4 15.6 223°24	0°2/15.8	18		407282	2010 <i>GB</i> ₁₁₇		4 15.6 333°24	0°3/15.5	15	
3 12	14 0.79	-12 21.1	2.515	3.331	11.2	22.2	3 12	14 1.98	-9 31.7	1.172	2.035	18.4	20.7
3 22	13 55.34	-11 59.5	2.414	3.318	8.5	22.0	3 22	13 57.88	-9 41.6	1.097	2.026	13.9	20.4
4 1	13 48.17	-11 28.3	2.339	3.305	5.3	21.8	4 1	13 50.49	-9 40.3	1.042	2.017	8.7	20.1
4 11	13 39.83	-10 49.8	2.292	3.291	1.8	21.5	4 11	13 40.73	-9 30.9	1.010	2.009	2.8	19.7
4 21	13 31.02	-10 7.4	2.276	3.276	1.9	21.5	4 21	13 30.00	-9 18.1	1.001	2.002	3.4	19.7
5 1	13 22.54	-9 25.4	2.289	3.261	5.5	21.7	5 1	13 19.98	-9 8.1	1.016	1.996	9.4	20.1
5 11	13 15.12	-8 48.2	2.329	3.245	8.9	21.9	5 11	13 12.17	-9 7.1	1.052	1.990	14.9	20.3
5 21	13 9.30	-8 19.2	2.395	3.228	11.9	22.1	5 21	13 7.50	-9 19.1	1.108	1.985	19.6	20.6
29663	<i>Evanmackay</i>		4 15.6 100°76	2°6/13.9	18		247425	2002 <i>CH</i> ₂₈₉		4 15.6 323°09	19°8/21.9	17	
3 12	14 3.67	-5 58.5	1.406	2.261	16.3	19.2	3 12	14 1.28	+34 20.0	1.299	2.106	20.2	19.6
3 22	13 58.31	-5 24.4	1.344	2.270	12.1	19.0	3 22	13 57.26	+36 47.5	1.269	2.093	19.8	19.5
4 1	13 50.28	-4 42.1	1.305	2.279	7.4	18.7	4 1	13 49.94	+38 39.9	1.256	2.079	20.2	19.5
4 11	13 40.52	-3 57.6	1.290	2.288	3.0	18.5	4 11	13 40.47	+39 43.6	1.260	2.066	21.2	19.5
4 21	13 30.30	-3 18.0	1.301	2.296	4.6	18.6	4 21	13 30.41	+39 51.6	1.277	2.054	22.7	19.6
5 1	13 20.95	-2 49.6	1.338	2.304	9.3	18.9	5 1	13 21.44	+39 3.2	1.308	2.043	24.3	19.7
5 11	13 13.58	-2 37.1	1.398	2.312	13.7	19.1	5 11	13 14.89	+37 24.7	1.350	2.032	26.0	19.8
5 21	13 8.84	-2 42.2	1.478	2.320	17.4	19.4	5 21	13 11.44	+35 5.4	1.401	2.023	27.4	19.9
389274	2009 <i>HD</i> ₁₄		4 15.6 26°44	4°6/12.4	17		5396	1988 <i>SH</i> ₁		4 15.6 127°24	0°1/15.6	18	
3 12	14 2.10	+2 40.5	1.817	2.669	13.3	20.2	3 12	14 1.50	-13 10.7	1.809	2.639	14.4	17.9
3 22	13 56.56	+2 52.9	1.756	2.678	10.0	20.0	3 22	13 56.20	-12 27.4	1.741	2.652	10.8	17.7
4 1	13 48.95	+3 2.8	1.720	2.687	6.7	19.8	4 1	13 48.77	-11 30.2	1.696	2.665	6.6	17.5
4 11	13 40.06	+3 5.3	1.709	2.696	4.6	19.7	4 11	13 40.02	-10 23.7	1.678	2.677	2.1	17.2
4 21	13 30.85	+2 56.6	1.726	2.706	5.9	19.8	4 21	13 30.93	-9 13.8	1.688	2.689	2.5	17.3
5 1	13 22.34	+2 34.2	1.770	2.717	9.0	20.0	5 1	13 22.55	-8 7.6	1.726	2.700	6.9	17.6
5 11	13 15.38	+1 57.5	1.838	2.728	12.2	20.2	5 11	13 15.74	-7 11.5	1.790	2.711	10.8	17.8
5 21	13 10.50	+1 7.3	1.928	2.740	15.1	20.5	5 21	13 11.05	-6 29.7	1.877	2.721	14.2	18.0
143289	2003 <i>AL</i> ₃₃		4 15.6 133°73	1°0/14.7	18		370955	2005 <i>ST</i> ₇₆		4 15.6 242°81	0°5/15.2	17	
3 12	14 1.38	-9 19.1	1.978	2.813	13.1	20.8	3 12	13 59.88	-10 56.1	1.893	2.729	13.6	22.0
3 22	13 55.95	-8 46.3	1.909	2.824	9.7	20.6	3 22	13 55.14	-10 24.6	1.804	2.719	10.2	21.8
4 1	13 48.56	-8 4.5	1.863	2.834	5.9	20.4	4 1	13 48.26	-9 41.4	1.739	2.710	6.3	21.5
4 11	13 39.94	-7 17.7	1.845	2.844	1.9	20.1	4 11	13 39.91	-8 50.3	1.700	2.700	2.0	21.2
4 21	13 30.98	-6 31.0	1.855	2.854	2.8	20.2	4 21	13 31.01	-7 56.4	1.689	2.689	2.7	21.3
5 1	13 22.64	-5 49.7	1.894	2.863	6.8	20.5	5 1	13 22.56	-7 5.9	1.706	2.679	7.1	21.5
5 11	13 15.72	-5 18.3	1.958	2.871	10.5	20.7	5 11	13 15.51	-6 24.4	1.749	2.668	11.1	21.7
5 21	13 10.76	-4 59.6	2.046	2.879	13.6	20.9	5 21	13 1					

EPHEMERIDES

4 15.6

4 15.6

2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V	
517614	2014 <i>WP</i> ₅₁₉	4 15.6 71°69'		6°1/ 9.5 17				296255	2009 <i>DU</i> ₂₃	4 15.6 76°00'		2°0/13.7 17		
3 12	13 57.19	+ 2 17.4	1.724	2.587	13.4	21.3	3 12	13 57.67	- 5 56.1	2.151	2.995	11.8	21.5	
3 22	13 53.03	+ 3 55.8	1.669	2.596	10.1	21.1	3 22	13 53.10	- 5 20.1	2.080	3.001	8.7	21.3	
4 1	13 46.84	+ 5 35.0	1.639	2.604	7.2	21.0	4 1	13 46.79	- 4 38.3	2.033	3.006	5.3	21.1	
4 11	13 39.41	+ 7 5.7	1.635	2.612	6.2	20.9	4 11	13 39.40	- 3 55.0	2.014	3.012	2.2	20.9	
4 21	13 31.66	+ 8 19.9	1.658	2.621	7.9	21.0	4 21	13 31.69	- 3 14.9	2.023	3.017	3.5	21.0	
5 1	13 24.58	+ 9 11.3	1.706	2.629	10.9	21.2	5 1	13 24.49	- 2 42.4	2.060	3.023	6.9	21.2	
5 11	13 18.99	+ 9 37.4	1.777	2.638	14.0	21.5	5 11	13 18.50	- 2 21.3	2.123	3.028	10.2	21.4	
5 21	13 15.40	+ 9 38.8	1.866	2.646	16.7	21.7	5 21	13 14.22	- 2 13.2	2.209	3.034	13.0	21.6	
394130	2006 <i>HY</i> ₅₁	4 15.6 102°96'		3°6/10.7 15				344359	2001 <i>XH</i> ₃₂	4 15.6 178°30'		2°0/18.0 18		
3 12	14 7.55	+ 4 10.5	3.551	4.363	8.3	23.7	3 12	13 57.07	- 19 28.4	2.668	3.462	11.3	21.5	
3 22	13 59.41	+ 5 11.6	3.508	4.406	6.3	23.6	3 22	13 52.47	- 19 6.8	2.578	3.463	8.8	21.4	
4 1	13 50.18	+ 6 10.6	3.495	4.447	4.4	23.5	4 1	13 46.35	- 18 32.0	2.513	3.464	5.9	21.2	
4 11	13 40.39	+ 7 3.5	3.516	4.487	3.6	23.5	4 11	13 39.26	- 17 45.7	2.475	3.465	3.1	21.0	
4 21	13 30.59	+ 7 47.3	3.571	4.525	4.5	23.6	4 21	13 31.85	- 16 50.9	2.466	3.465	2.2	20.9	
5 1	13 21.33	+ 8 19.5	3.658	4.562	6.2	23.8	5 1	13 24.82	- 15 52.1	2.487	3.465	4.8	21.1	
5 11	13 13.10	+ 8 38.9	3.774	4.598	8.0	24.0	5 11	13 18.81	- 14 54.1	2.536	3.464	7.7	21.3	
5 21	13 6.19	+ 8 45.9	3.916	4.632	9.6	24.1	5 21	13 14.29	- 14 1.4	2.610	3.463	10.4	21.4	
23203	2000 <i>SU</i> ₁₆₁	4 15.6 52°41'		9°2/ 7.0 18				105694	2000 <i>SV</i> ₆₂	4 15.6 292°87'		2°5/19.6 18		
3 12	13 58.18	+ 10 29.3	1.603	2.466	14.2	17.4	3 12	13 54.66	- 22 54.0	4.328	5.088	7.8	19.4	
3 22	13 53.85	+ 12 12.5	1.562	2.477	11.5	17.2	3 22	13 50.24	- 23 12.1	4.223	5.080	6.3	19.2	
4 1	13 47.36	+ 13 47.0	1.544	2.488	9.6	17.2	4 1	13 44.83	- 23 21.9	4.144	5.072	4.6	19.1	
4 11	13 39.57	+ 15 2.6	1.551	2.500	9.4	17.2	4 11	13 38.75	- 23 23.7	4.093	5.064	3.1	19.0	
4 21	13 31.51	+ 15 52.0	1.582	2.512	11.0	17.3	4 21	13 32.42	- 23 18.3	4.071	5.056	2.5	18.9	
5 1	13 24.23	+ 16 11.0	1.636	2.524	13.4	17.5	5 1	13 26.25	- 23 7.0	4.079	5.048	3.5	19.0	
5 11	13 18.60	+ 16 0.2	1.710	2.536	16.0	17.7	5 11	13 20.66	- 22 52.1	4.117	5.040	5.1	19.1	
5 21	13 15.12	+ 15 22.9	1.802	2.549	18.3	17.9	5 21	13 15.98	- 22 35.9	4.180	5.032	6.8	19.2	
145331	2005 <i>LC</i> ₃₉	4 15.6 324°38'		4°5/11.8 17				213169	2000 <i>SS</i> ₅₃	4 15.6 180°65'		0°7/14.9 17		
3 12	13 56.80	- 3 34.2	1.425	2.294	15.3	19.5	3 12	13 59.17	- 8 43.1	2.529	3.358	10.8	20.7	
3 22	13 53.30	- 2 16.1	1.353	2.286	11.4	19.3	3 22	13 54.03	- 8 30.4	2.446	3.358	8.0	20.5	
4 1	13 47.31	- 0 48.8	1.304	2.279	7.2	19.0	4 1	13 47.31	- 8 11.5	2.389	3.358	4.9	20.3	
4 11	13 39.63	+ 0 38.7	1.279	2.272	4.5	18.8	4 11	13 39.57	- 7 49.1	2.359	3.358	1.5	20.1	
4 21	13 31.36	+ 1 56.7	1.280	2.265	6.6	18.9	4 21	13 31.49	- 7 26.2	2.359	3.358	2.2	20.1	
5 1	13 23.73	+ 2 56.2	1.305	2.259	10.8	19.1	5 1	13 23.81	- 7 6.1	2.388	3.358	5.6	20.4	
5 11	13 17.82	+ 3 31.6	1.353	2.253	15.0	19.4	5 11	13 17.18	- 6 52.2	2.445	3.357	8.7	20.6	
5 21	13 14.30	+ 3 41.4	1.419	2.248	18.7	19.6	5 21	13 12.09	- 6 46.5	2.526	3.356	11.4	20.7	
298916	2004 <i>TT</i> ₁₀₃	4 15.6 157°02'		1°5/14.3 17				281635	2008 <i>UT</i> ₃₁₂	4 15.6 299°47'		4°7/19.4 17		
3 12	14 1.01	- 9 53.1	1.634	2.478	15.0	21.3	3 12	13 59.09	- 23 17.1	1.841	2.637	15.5	20.8	
3 22	13 56.10	- 8 55.4	1.563	2.483	11.1	21.0	3 22	13 54.92	- 23 34.9	1.741	2.620	12.6	20.5	
4 1	13 48.85	- 7 44.6	1.514	2.487	6.7	20.8	4 1	13 48.34	- 23 33.6	1.662	2.602	9.3	20.3	
4 11	13 40.09	- 6 26.8	1.492	2.491	2.3	20.5	4 11	13 40.02	- 23 12.4	1.606	2.585	6.0	20.1	
4 21	13 30.88	- 5 9.5	1.497	2.495	3.6	20.6	4 21	13 30.90	- 22 32.9	1.577	2.568	4.8	19.9	
5 1	13 22.36	- 4 0.9	1.530	2.498	8.2	20.9	5 1	13 22.16	- 21 39.5	1.574	2.551	7.1	20.0	
5 11	13 15.52	- 3 7.4	1.587	2.500	12.4	21.1	5 11	13 14.88	- 20 39.7	1.597	2.534	10.7	20.2	
5 21	13 10.95	- 2 32.6	1.665	2.502	16.0	21.4	5 21	13 9.86	- 19 41.2	1.642	2.518	14.3	20.4	
215419	2002 <i>GM</i> ₁₂₆	4 15.6 301°48'		1°8/16.7 17				203168	2000 <i>XL</i> ₄₅	4 15.6 203°63'		15°8/24.6 18		
3 12	14 2.17	- 14 18.8	1.422	2.262	17.0	20.7	3 12	14 14.04	- 40 2.3	1.348	2.060	24.0	20.0	
3 22	13 57.66	- 14 32.1	1.336	2.250	13.2	20.5	3 22	14 8.20	- 42 14.8	1.269	2.058	21.7	19.8	
4 1	13 50.22	- 14 30.7	1.271	2.238	8.6	20.2	4 1	13 57.69	- 43 57.5	1.206	2.055	19.3	19.6	
4 11	13 40.65	- 14 15.9	1.230	2.226	3.6	19.8	4 11	13 43.32	- 44 58.1	1.161	2.051	17.1	19.5	
4 21	13 30.14	- 13 50.9	1.214	2.215	3.0	19.8	4 21	13 26.93	- 45 8.0	1.135	2.047	15.9	19.4	
5 1	13 20.18	- 13 21.6	1.223	2.204	8.1	20.0	5 1	13 11.12	- 44 26.6	1.129	2.043	16.1	19.4	
5 11	13 12.09	- 12 55.2	1.256	2.193	13.0	20.3	5 11	12 58.39	- 43 4.6	1.143	2.038	17.7	19.5	
5 21	13 6.78	- 12 37.7	1.309	2.182	17.4	20.5	5 21	12 50.21	- 41 18.6	1.176	2.032	20.1	19.6	
39735	1996 <i>YY</i> ₁	4 15.6 182°07'		2°0/13.6 18				59713	1999 <i>JA</i> ₁₂₇	4 15.6 259°34'		3°7/19.3 18		
3 12	13 59.90	- 5 45.3	2.421	3.256	11.0	20.3	3 12	13 58.19	- 23 38.2	1.960	2.752	14.8	19.6	
3 22	13 54.60	- 5 4.5	2.341	3.257	8.1	20.1	3 22	13 53.98	- 23 16.7	1.863	2.741	11.9	19.4	
4 1	13 47.66	- 4 18.1	2.286	3.258	4.9	19.9	4 1	13 47.61	- 22 33.7	1.787	2.730	8.6	19.1	
4 11	13 39.67	- 3 30.2	2.260	3.257	2.2	19.7	4 11	13 39.74	- 21 29.9	1.736	2.718	5.2	18.9	
4 21	13 31.36	- 2 45.0	2.264	3.256	3.4	19.8	4 21	13 31.29	- 20 9.2	1.712	2.707	3.8	18.8	
5 1	13 23.48	- 2 7.2	2.297	3.255	6.5	20.0	5 1	13 23.31	- 18 38.0	1.716	2.695	6.3	18.9	
5 11	13 16.72	- 1 40.0	2.356	3.253	9.6	20.2	5 11	13 16.74	- 17 5.2	1.746	2.683	10.0	19.1	
5 21	13 11.55	- 1 25.4	2.439	3.250	12.4	20.3	5 21	13 12.22	- 15 38.5	1.800	2.671	13.5	19.3	
425331	2010 <i>AO</i> ₆₃	4 15.6 115°34'		3°9/11.8 18				381927	2010 <i>CY</i> ₁₃₇	4 15.6 105°28'		2°4/17.8 17		
3 12	14 0.84	+ 0 27.4	2.209	3.054	11.6	21.9	3 12	13 59.69	- 18 29.0	1.980	2.790	14.1	21.1	
3 22	13 55.26	+ 1 15.1	2.153	3.071	8.6	21.7	3 22	13 54.89	- 18 24.2	1.900	2.795	10.9	20.9	
4 1	13 48.01	+ 2 3.3	2.121	3.088	5.7	21.5	4 1	13 48.04	- 18 3.9	1.844	2.799	7.4	20.7	
4 11	13 39.76	+ 2 46.8	2.118	3.104	3.9	21.5	4 11	13 39.85	- 17 29.8	1.813	2.804	3.7	20.5	
4 21	13 31.31	+ 3 21.1	2.143	3.120	5.2	21.6	4 21	13 31.21	- 16 45.2	1.810	2.809	2.8	20.4	
5 1	13 23.45	+ 3 42.2	2.196	3.135	8.0	21.8	5 1	13 23.13	- 15 55.4	1.834	2.814	6.0	20.6	
5 11	13 16.88	+ 3 48.3	2.275	3.150	10.8	22.0	5 11	13 16.46	- 15 6.7	1.885	2.818	9.6	20.9	
5 21	13 12.04	+ 3 39.3	2.375	3.165	13.3	22.2	5 21	13 11.79	- 14 24.3	1.959	2.822	12.9	21.1	
58556	1997 <i>HH</i> ₇	4 15.6 307°39'		0°5/16.2 18				374181	2004 <i>XV</</i>					

EPHEMERIDES

2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
192918	1999 YV ₉	4 15.6 122°23	2°8/13.1 17				383025	2005 ND ₅₅	4 15.6 334°74	6°3/ 9.3 17			
3 12	13 59.14	— 3 56.0	1.994	2.842	12.5	20.1	3 12	13 54.27	+ 3 9.7	1.713	2.582	13.1	20.4
3 22	13 54.31	— 3 14.5	1.923	2.846	9.2	19.9	3 22	13 51.07	+ 4 34.2	1.641	2.570	10.1	20.2
4 1	13 47.60	— 2 28.2	1.877	2.850	5.7	19.7	4 1	13 45.80	+ 6 0.2	1.592	2.558	7.3	20.0
4 11	13 39.69	— 1 42.1	1.858	2.853	2.9	19.5	4 11	13 39.16	+ 7 18.9	1.569	2.546	6.4	19.9
4 21	13 31.42	— 1 1.6	1.867	2.857	4.3	19.6	4 21	13 32.03	+ 8 22.0	1.572	2.535	8.2	20.0
5 1	13 23.70	— 0 31.4	1.904	2.860	7.8	19.8	5 1	13 25.39	+ 9 3.2	1.599	2.525	11.3	20.1
5 11	13 17.31	— 0 15.0	1.965	2.864	11.2	20.0	5 11	13 20.15	+ 9 19.3	1.648	2.516	14.6	20.3
5 21	13 12.78	— 0 13.8	2.048	2.867	14.1	20.2	5 21	13 16.89	+ 9 10.4	1.716	2.508	17.5	20.5
413123	2001 XS ₁	4 15.6 76°10	4°3/20.4 15 C				169899	2002 RX ₂₀₃	4 15.6 281°90	0°8/14.9 17			
3 12	14 7.77	—26 52.1	2.193	2.944	14.7	23.9	3 12	13 58.28	—10 19.2	2.064	2.900	12.6	21.2
3 22	14 0.29	—26 36.3	2.146	2.996	11.8	23.8	3 22	13 53.92	— 9 45.6	1.960	2.876	9.5	21.0
4 1	13 50.97	—26 0.2	2.122	3.046	8.6	23.6	4 1	13 47.55	— 9 1.0	1.880	2.851	5.8	20.7
4 11	13 40.68	—25 5.2	2.125	3.095	5.6	23.5	4 11	13 39.75	— 8 8.9	1.827	2.827	1.8	20.4
4 21	13 30.40	—23 55.6	2.157	3.143	4.3	23.5	4 21	13 31.32	— 7 14.0	1.803	2.802	2.7	20.4
5 1	13 21.09	—22 37.5	2.218	3.189	5.8	23.7	5 1	13 23.18	— 6 22.2	1.806	2.777	6.9	20.6
5 11	13 13.46	—21 18.2	2.309	3.235	8.5	23.9	5 11	13 16.24	— 5 39.0	1.835	2.751	10.8	20.8
5 21	13 7.92	—20 4.1	2.424	3.279	11.0	24.2	5 21	13 11.14	— 5 8.6	1.887	2.726	14.3	21.0
472925	2015 GM ₁₈	4 15.6 283°66	5°5/ 9.9 17				107105	2001 AB ₃₅	4 15.6 155°74	2°4/13.7 18			
3 12	13 56.96	+ 4 1.8	2.116	2.972	11.6	21.2	3 12	14 4.11	— 5 12.1	1.908	2.747	13.3	20.0
3 22	13 52.63	+ 5 9.4	2.047	2.968	8.9	21.0	3 22	13 58.07	— 4 38.9	1.837	2.755	9.9	19.8
4 1	13 46.55	+ 6 16.1	2.004	2.965	6.4	20.9	4 1	13 49.93	— 4 0.0	1.791	2.763	6.0	19.5
4 11	13 39.35	+ 7 15.6	1.987	2.962	5.5	20.8	4 11	13 40.46	— 3 20.0	1.772	2.769	2.7	19.3
4 21	13 31.81	+ 8 1.8	1.997	2.958	6.9	20.9	4 21	13 30.60	— 2 44.1	1.782	2.775	4.0	19.4
5 1	13 24.74	+ 8 30.3	2.034	2.955	9.5	21.0	5 1	13 21.38	— 2 17.1	1.820	2.780	7.8	19.7
5 11	13 18.88	+ 8 39.1	2.094	2.952	12.3	21.2	5 11	13 13.68	— 2 2.8	1.883	2.785	11.4	19.9
5 21	13 14.73	+ 8 28.3	2.175	2.949	14.8	21.4	5 21	13 8.06	— 2 2.7	1.969	2.788	14.6	20.1
522635	2016 FZ ₆₇	4 15.6 274°01	2°7/13.3 17				236829	2007 RM ₆₃	4 15.7 174°92	1°7/17.3 17			
3 12	13 58.77	— 5 58.2	1.759	2.611	13.7	22.0	3 12	13 59.99	—16 35.9	2.285	3.093	12.5	21.3
3 22	13 54.48	— 5 5.5	1.671	2.596	10.2	21.7	3 22	13 54.89	—16 32.8	2.199	3.095	9.6	21.1
4 1	13 47.95	— 4 3.3	1.607	2.581	6.3	21.5	4 1	13 47.96	—16 17.5	2.138	3.096	6.3	20.9
4 11	13 39.87	— 2 57.7	1.568	2.565	2.9	21.2	4 11	13 39.83	—15 51.5	2.103	3.096	3.0	20.7
4 21	13 31.17	— 1 55.4	1.558	2.550	4.6	21.3	4 21	13 31.29	—15 17.8	2.097	3.097	2.2	20.6
5 1	13 22.93	— 1 3.4	1.573	2.534	8.7	21.5	5 1	13 23.19	—14 40.4	2.120	3.097	5.5	20.8
5 11	13 16.12	— 0 27.3	1.614	2.519	12.8	21.7	5 11	13 16.30	—14 4.2	2.169	3.097	8.8	21.0
5 21	13 11.42	— 0 10.0	1.674	2.503	16.3	21.9	5 21	13 11.17	—13 33.6	2.243	3.097	11.8	21.2
368216	2001 SR ₁₅₀	4 15.6 206°41	0°1/15.6 17				467632	2008 QB ₂₈	4 15.7 256°42	6°0/ 8.6 18			
3 12	14 0.07	—12 41.4	2.523	3.339	11.2	23.5	3 12	13 58.74	+ 5 12.7	2.230	3.079	11.3	21.7
3 22	13 54.77	—12 1.4	2.428	3.332	8.4	23.3	3 22	13 54.04	+ 6 41.4	2.141	3.057	8.8	21.5
4 1	13 47.82	—11 10.7	2.358	3.324	5.2	23.1	4 1	13 47.51	+ 8 10.9	2.078	3.034	6.7	21.3
4 11	13 39.77	—10 12.2	2.317	3.316	1.7	22.8	4 11	13 39.72	+ 9 33.9	2.044	3.010	6.1	21.2
4 21	13 31.32	— 9 10.3	2.306	3.306	2.0	22.8	4 21	13 31.40	+10 43.4	2.037	2.986	7.7	21.3
5 1	13 23.24	— 8 9.8	2.325	3.296	5.6	23.1	5 1	13 23.42	+11 33.6	2.057	2.961	10.3	21.4
5 11	13 16.23	— 7 15.7	2.372	3.284	8.9	23.3	5 11	13 16.56	+12 1.4	2.100	2.936	13.1	21.5
5 21	13 10.80	— 6 31.7	2.443	3.272	11.8	23.4	5 21	13 11.39	+12 6.6	2.164	2.909	15.7	21.7
326012	2010 WE ₅₃	4 15.6 249°16	3°1/18.2 17				140841	2001 UO ₁₉₈	4 15.7 300°79	1°5/16.9 17			
3 12	14 0.70	—20 16.6	1.827	2.633	15.2	21.5	3 12	14 0.48	—14 35.3	2.091	2.911	13.1	19.9
3 22	13 56.02	—20 9.1	1.731	2.621	12.0	21.2	3 22	13 55.49	—14 47.5	2.001	2.903	10.1	19.7
4 1	13 48.96	—19 42.6	1.657	2.609	8.3	21.0	4 1	13 48.46	—14 49.0	1.933	2.895	6.5	19.4
4 11	13 40.21	—18 58.1	1.607	2.596	4.6	20.7	4 11	13 40.03	—14 41.0	1.893	2.888	2.9	19.2
4 21	13 30.77	—17 58.8	1.585	2.583	3.3	20.6	4 21	13 31.05	—14 25.8	1.880	2.881	2.3	19.1
5 1	13 21.77	—16 50.9	1.591	2.570	6.7	20.8	5 1	13 22.46	—14 7.2	1.896	2.873	6.0	19.3
5 11	13 14.29	—15 42.4	1.622	2.556	10.8	21.0	5 11	13 15.17	—13 49.6	1.938	2.866	9.6	19.6
5 21	13 9.05	—14 40.6	1.675	2.542	14.5	21.2	5 21	13 9.78	—13 37.0	2.003	2.860	12.9	19.7
55035	2001 QP ₅₁	4 15.6 150°08	5°0/ 9.8 18				13100	1993 FB ₁₀	4 15.7 199°28	1°8/13.9 18			
3 12	13 57.36	+ 4 20.4	2.416	3.265	10.5	19.0	3 12	14 1.22	— 7 12.8	2.072	2.910	12.5	19.0
3 22	13 52.67	+ 5 26.8	2.353	3.270	8.1	18.8	3 22	13 55.90	— 6 29.2	1.989	2.906	9.3	18.8
4 1	13 46.45	+ 6 31.9	2.316	3.275	5.8	18.7	4 1	13 48.63	— 5 37.5	1.931	2.902	5.6	18.6
4 11	13 39.30	+ 7 29.8	2.307	3.280	5.0	18.6	4 11	13 40.06	— 4 42.3	1.900	2.898	2.2	18.4
4 21	13 31.89	+ 8 15.6	2.326	3.284	6.3	18.7	4 21	13 31.05	— 3 48.8	1.898	2.892	3.5	18.4
5 1	13 24.94	+ 8 45.5	2.372	3.288	8.6	18.9	5 1	13 22.51	— 3 2.7	1.924	2.886	7.3	18.7
5 11	13 19.09	+ 8 57.8	2.443	3.292	11.1	19.0	5 11	13 15.29	— 2 28.5	1.977	2.880	10.9	18.9
5 21	13 14.76	+ 8 52.6	2.535	3.296	13.3	19.2	5 21	13 9.96	— 2 8.8	2.052	2.872	14.0	19.1
233745	2008 SF ₃₀₁	4 15.6 162°77	2°0/17.7 17				33715	1999 LP ₂₅	4 15.7 276°03	3°6/19.6 18			
3 12	14 0.42	—18 0.7	2.322	3.123	12.5	21.1	3 12	13 56.88	—23 53.7	2.334	3.116	13.1	18.7
3 22	13 55.16	—17 54.9	2.237	3.128	9.7	21.0	3 22	13 52.72	—23 44.4	2.232	3.103	10.5	18.5
4 1	13 48.10	—17 36.0	2.177	3.131	6.5	20.8	4 1	13 46.71	—23 17.6	2.152	3.090	7.7	18.3
4 11	13 39.86	—17 5.3	2.144	3.135	3.2	20.6	4 11	13 39.46	—22 33.6	2.099	3.077	4.9	18.1
4 21	13 31.23	—16 25.9	2.139	3.138	2.4	20.5	4 21	13 31.72	—21 35.2	2.073	3.064	3.7	18.0
5 1	13 23.06	—15 42.0	2.163	3.141	5.4	20.7	5 1	13 24.33	—20 26.8	2.075	3.052	5.6	18.1
5 11	13 16.12	—14 58.8	2.215	3.143	8.7	20.9	5 11	13 18.10	—19 15.0	2.104	3.039	8.7	18.2
5 21	13 10.94	—14 20.7	2.291	3.145	11.6	21.1	5 21	13 13.60	—18 6.0	2.158	3.026	11.7	18.4
293180	2007 AY ₁₀	4 15.6 168°12	7°7/ 8.0 17				11941	Archinal	4 15.7 269				

EPHEMERIDES

4 15.7

4 15.7

2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
428768	2008 <i>SP</i> ₁₆₇			4 15.7 242°88 0°8/14.9 18			409317	2004 <i>TN</i> ₂₀₂			4 15.7 280°01 0°8/15.2 17		
3 12	14 2.91	- 8 9.5	2.401	3.226	11.4	21.3	3 12	14 5.45	- 8 20.2	1.485	2.330	16.1	21.1
3 22	13 57.07	- 7 59.4	2.298	3.208	8.6	21.1	3 22	14 0.15	- 8 23.6	1.390	2.309	12.3	20.8
4 1	13 49.35	- 7 42.9	2.221	3.190	5.3	20.9	4 1	13 51.85	- 8 18.5	1.316	2.288	7.6	20.4
4 11	13 40.32	- 7 22.6	2.171	3.170	1.7	20.6	4 11	13 41.29	- 8 7.8	1.267	2.266	2.5	20.1
4 21	13 30.73	- 7 1.7	2.152	3.151	2.5	20.6	4 21	13 29.62	- 7 55.5	1.244	2.244	3.4	20.1
5 1	13 21.43	- 6 43.8	2.163	3.130	6.2	20.8	5 1	13 18.34	- 7 46.9	1.248	2.222	8.8	20.3
5 11	13 13.24	- 6 32.3	2.201	3.109	9.7	21.0	5 11	13 8.84	- 7 47.1	1.275	2.200	13.9	20.5
5 21	13 6.74	- 6 29.9	2.263	3.088	12.7	21.2	5 21	13 2.09	- 7 59.8	1.323	2.177	18.4	20.7
3349	Manas			4 15.7 356°40 1°4/14.5 18			146430	2001 <i>QR</i> ₂₅₉			4 15.7 158°75 4°1/19.4 18		
3 12	13 59.57	- 7 47.3	1.811	2.656	13.7	16.7	3 12	14 1.34	-23 28.2	1.971	2.758	15.0	20.4
3 22	13 54.90	- 7 22.8	1.735	2.656	10.2	16.5	3 22	13 56.26	-23 30.9	1.888	2.762	12.0	20.2
4 1	13 48.11	- 6 50.1	1.682	2.656	6.2	16.2	4 1	13 48.97	-23 14.4	1.826	2.765	8.7	20.0
4 11	13 39.91	- 6 13.4	1.656	2.655	2.1	16.0	4 11	13 40.22	-22 38.9	1.789	2.768	5.5	19.8
4 21	13 31.25	- 5 37.8	1.657	2.655	3.3	16.0	4 21	13 30.97	-21 47.4	1.779	2.771	4.2	19.7
5 1	13 23.15	- 5 8.4	1.686	2.655	7.4	16.3	5 1	13 22.28	-20 45.1	1.797	2.774	6.4	19.9
5 11	13 16.51	- 4 49.8	1.739	2.655	11.3	16.5	5 11	13 15.09	-19 39.4	1.842	2.776	9.8	20.1
5 21	13 11.93	- 4 44.5	1.814	2.655	14.7	16.7	5 21	13 10.03	-18 37.2	1.910	2.778	13.0	20.3
83877	2001 <i>UE</i> ₉₆			4 15.7 67°33 0°8/14.6 18			360397	2002 <i>EG</i> ₁₅₅			4 15.7 357°76 4°4/13.0 17		
3 12	13 54.84	- 8 40.4	2.902	3.733	9.5	20.1	3 12	13 56.47	- 3 34.4	1.034	1.921	18.3	19.9
3 22	13 50.57	- 8 10.6	2.838	3.752	7.0	20.0	3 22	13 53.80	- 2 54.6	0.974	1.916	13.7	19.6
4 1	13 45.08	- 7 35.2	2.800	3.771	4.2	19.8	4 1	13 47.96	- 2 7.1	0.933	1.913	8.6	19.3
4 11	13 38.87	- 6 57.2	2.791	3.790	1.4	19.6	4 11	13 39.98	- 1 20.6	0.914	1.911	4.6	19.1
4 21	13 32.49	- 6 19.9	2.811	3.809	2.1	19.7	4 21	13 31.26	- 0 44.5	0.917	1.910	6.6	19.2
5 1	13 26.50	- 5 46.5	2.860	3.827	4.9	19.9	5 1	13 23.42	- 0 26.9	0.942	1.911	11.7	19.5
5 11	13 21.41	- 5 20.0	2.937	3.846	7.5	20.1	5 11	13 17.84	- 0 32.5	0.986	1.914	16.7	19.8
5 21	13 17.58	- 5 2.2	3.038	3.865	9.8	20.3	5 21	13 15.25	- 1 1.7	1.047	1.918	21.0	20.0
94428	2001 <i>TH</i> ₄₀			4 15.7 203°86 2°2/17.4 18			244377	2002 <i>PM</i> ₇			4 15.7 305°37 10°8/24.8 18		
3 12	14 4.80	-17 26.7	1.926	2.732	14.5	20.2	3 12	14 3.32	-38 36.4	1.989	2.685	17.6	20.4
3 22	13 58.90	-17 23.7	1.834	2.728	11.3	20.0	3 22	13 58.49	-39 54.0	1.893	2.675	15.8	20.2
4 1	13 50.65	-17 5.4	1.765	2.722	7.5	19.8	4 1	13 50.80	-40 47.7	1.816	2.664	13.8	20.0
4 11	13 40.77	-16 32.9	1.722	2.715	3.6	19.5	4 11	13 40.94	-41 12.2	1.759	2.654	12.0	19.9
4 21	13 30.24	-15 49.5	1.708	2.708	2.7	19.4	4 21	13 30.04	-41 4.5	1.724	2.644	10.9	19.8
5 1	13 20.21	-15 0.5	1.722	2.699	6.5	19.6	5 1	13 19.51	-40 25.8	1.714	2.635	11.0	19.8
5 11	13 11.70	-14 12.4	1.763	2.690	10.5	19.8	5 11	13 10.71	-39 22.6	1.726	2.625	12.4	19.8
5 21	13 5.40	-13 31.1	1.827	2.680	14.1	20.1	5 21	13 4.58	-38 4.1	1.760	2.616	14.5	19.9
284226	2006 <i>DF</i> ₄₄			4 15.7 276°93 5°9/26.8 18			324467	2006 <i>UP</i> ₄₃			4 15.7 171°89 1°6/14.5 17		
3 12	13 56.71	-42 29.7	4.538	5.151	9.3	20.4	3 12	14 2.84	- 7 13.5	1.814	2.655	13.9	20.7
3 22	13 51.99	-43 6.5	4.433	5.146	8.4	20.3	3 22	13 57.34	- 6 52.5	1.738	2.657	10.3	20.5
4 1	13 46.03	-43 29.9	4.349	5.140	7.4	20.2	4 1	13 49.61	- 6 24.0	1.686	2.658	6.3	20.2
4 11	13 39.21	-43 38.5	4.287	5.135	6.5	20.1	4 11	13 40.43	- 5 52.0	1.660	2.659	2.2	20.0
4 21	13 32.04	-43 32.2	4.250	5.130	6.0	20.1	4 21	13 30.76	- 5 21.4	1.663	2.660	3.4	20.1
5 1	13 25.06	-43 11.8	4.240	5.124	5.9	20.1	5 1	13 21.70	- 4 57.3	1.693	2.661	7.6	20.3
5 11	13 18.79	-42 39.7	4.255	5.119	6.4	20.1	5 11	13 14.17	- 4 43.7	1.748	2.661	11.5	20.5
5 21	13 13.64	-41 59.1	4.294	5.113	7.3	20.1	5 21	13 8.79	- 4 43.1	1.825	2.661	14.9	20.8
201825	2003 <i>YN</i> ₂₉			4 15.7 232°72 10°7/30.5 18			275245	2009 <i>XW</i> ₆			4 15.7 71°95 0°6/14.9 17		
3 12	14 1.06	+27 52.0	2.599	3.387	11.7	20.2	3 12	13 55.05	- 9 2.3	3.009	3.838	9.3	21.3
3 22	13 55.56	+29 21.7	2.548	3.375	10.9	20.2	3 22	13 50.72	- 8 39.7	2.941	3.853	6.8	21.2
4 1	13 48.31	+30 35.6	2.521	3.361	10.7	20.1	4 1	13 45.18	- 8 11.7	2.899	3.869	4.1	21.0
4 11	13 39.95	+31 26.7	2.518	3.348	11.1	20.1	4 11	13 38.93	- 7 40.8	2.885	3.884	1.3	20.8
4 21	13 31.25	+31 50.7	2.537	3.333	12.1	20.2	4 21	13 32.50	- 7 10.0	2.901	3.900	1.9	20.9
5 1	13 23.03	+31 46.0	2.578	3.319	13.4	20.2	5 1	13 26.43	- 6 42.2	2.947	3.915	4.7	21.1
5 11	13 16.02	+31 13.8	2.637	3.304	14.8	20.3	5 11	13 21.23	- 6 20.2	3.020	3.931	7.3	21.3
5 21	13 10.72	+30 17.4	2.711	3.288	16.0	20.4	5 21	13 17.24	- 6 5.9	3.117	3.946	9.5	21.5
59061	1998 <i>UP</i> ₂₅			4 15.7 151°30 3°4/13.2 18			411793	2012 <i>CB</i> ₃₄			4 15.7 59°30 0°6/16.1 17		
3 12	14 3.17	- 4 28.9	1.488	2.343	15.6	19.9	3 12	14 1.10	-13 21.4	1.460	2.302	16.5	21.1
3 22	13 57.92	- 3 42.3	1.421	2.347	11.6	19.6	3 22	13 56.45	-13 4.4	1.395	2.311	12.5	20.9
4 1	13 50.09	- 2 48.5	1.377	2.351	7.2	19.4	4 1	13 49.22	-12 32.1	1.351	2.321	7.8	20.6
4 11	13 40.57	- 1 54.3	1.358	2.354	3.6	19.2	4 11	13 40.32	-11 48.3	1.331	2.330	2.7	20.3
4 21	13 30.55	- 1 6.9	1.366	2.357	5.3	19.3	4 21	13 30.94	-10 58.7	1.338	2.340	2.6	20.4
5 1	13 21.30	- 0 33.2	1.399	2.360	9.6	19.5	5 1	13 22.35	-10 10.7	1.371	2.350	7.6	20.7
5 11	13 13.90	- 0 17.5	1.456	2.362	13.8	19.8	5 11	13 15.64	- 9 31.1	1.427	2.359	12.2	21.0
5 21	13 9.01	- 0 21.1	1.533	2.364	17.5	20.0	5 21	13 11.44	- 9 4.7	1.505	2.370	16.0	21.2
338174	2002 <i>RY</i> ₁₁₅			4 15.7 190°93 2°0/17.7 18			423457	2005 <i>SO</i> ₁₁₃			4 15.7 187°35 0°3/15.9 17		
3 12	13 58.48	-18 27.8	2.298	3.102	12.6	20.9	3 12	14 0.98	-12 55.6	2.070	2.894	13.0	22.8
3 22	13 53.79	-18 13.2	2.209	3.101	9.8	20.7	3 22	13 55.78	-12 33.8	1.986	2.893	9.8	22.6
4 1	13 47.30	-17 44.4	2.145	3.100	6.5	20.5	4 1	13 48.59	-12 0.4	1.926	2.893	6.1	22.4
4 11	13 39.65	-17 3.2	2.107	3.099	3.3	20.3	4 11	13 40.10	-11 18.4	1.893	2.891	2.1	22.1
4 21	13 31.59	-16 12.9	2.098	3.097	2.4	20.2	4 21	13 31.16	-10 31.9	1.889	2.890	2.1	22.1
5 1	13 23.96	-15 18.3	2.117	3.096	5.4	20.4	5 1	13 22.71	- 9 46.1	1.913	2.888	6.2	22.4
5 11	13 17.53	-14 25.0	2.164	3.094	8.7	20.6	5 11	13 15.60	- 9 6.4	1.964	2.885	10.0	22.6
5 21	13 12.81	-13 37.7	2.235	3.092	11.8	20.8	5 21	13 10.39	- 8 36.7	2.038	2.882	13.2	22.8
499766	2011 <i>CU</i> ₈			4 15.7 31°23 5°1/19.7 17			83763	2001 <i>TW</i> ₁₅₃			4 15.7 300°49 4°9/20.2 18		
3 12	14 0.65	-23 50.5	1.668	2.466	16.8	20.9	3 12	13 58.64	-25 22.3	2.126			

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2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
234980	2003 <i>AO</i> ₁₆		4 15.7	88°51	7°6/ 7.0	18	385274	2001 <i>SV</i> ₁₂₇		4 15.7	146°57	8°6/19.8	18
	$\begin{matrix} \text{h} & \text{m} \\ \circ & / \\ \text{h} & \text{m} \end{matrix}$	$\begin{matrix} \circ & / \\ \text{h} & \text{m} \\ \text{h} & \text{m} \end{matrix}$						$\begin{matrix} \text{h} & \text{m} \\ \circ & / \\ \text{h} & \text{m} \end{matrix}$	$\begin{matrix} \circ & / \\ \text{h} & \text{m} \\ \text{h} & \text{m} \end{matrix}$				
3 12	13 59.62	+14 8.5	2.363	3.200	11.2	20.3	3 12	14 15.62	-25 37.4	1.382	2.162	20.5	20.8
3 22	13 54.25	+15 22.6	2.331	3.224	9.2	20.2	3 22	14 8.28	-27 15.2	1.307	2.170	17.0	20.6
4 1	13 47.36	+16 26.8	2.323	3.248	7.9	20.1	4 1	13 57.11	-28 32.1	1.252	2.176	13.2	20.3
4 11	13 39.63	+17 15.1	2.342	3.272	7.7	20.2	4 11	13 43.06	-29 21.4	1.220	2.182	9.8	20.2
4 21	13 31.78	+17 43.4	2.387	3.295	8.8	20.3	4 21	13 27.79	-29 39.4	1.213	2.188	8.6	20.1
5 1	13 24.57	+17 49.7	2.458	3.318	10.5	20.4	5 1	13 13.31	-29 28.6	1.232	2.193	10.5	20.2
5 11	13 18.59	+17 34.6	2.551	3.341	12.4	20.6	5 11	13 1.42	-28 58.1	1.274	2.197	14.0	20.4
5 21	13 14.24	+17 0.4	2.663	3.363	14.0	20.8	5 21	12 53.19	-28 19.2	1.337	2.201	17.7	20.7
343159	2009 <i>JD</i> ₁₇		4 15.7	238°47	3°4/ 8.8	18	139667	2001 <i>QZ</i> ₁₉₃		4 15.7	163°18	3°8/20.3	18
3 12	13 51.22	+ 8 46.6	4.641	5.478	6.1	20.4	3 12	13 58.36	-25 36.1	2.638	3.401	12.2	20.4
3 22	13 47.57	+ 9 19.7	4.569	5.474	4.8	20.3	3 22	13 53.56	-25 30.2	2.548	3.405	9.9	20.2
4 1	13 43.16	+ 9 50.0	4.525	5.470	3.7	20.2	4 1	13 47.12	-25 7.9	2.481	3.408	7.3	20.1
4 11	13 38.28	+10 15.0	4.509	5.466	3.5	20.2	4 11	13 39.63	-24 29.9	2.440	3.411	4.9	19.9
4 21	13 33.27	+10 32.7	4.522	5.461	4.1	20.2	4 21	13 31.80	-23 38.3	2.428	3.414	3.8	19.8
5 1	13 28.44	+10 41.6	4.564	5.457	5.4	20.3	5 1	13 24.38	-22 37.2	2.444	3.417	5.2	19.9
5 11	13 24.12	+10 40.9	4.631	5.452	6.7	20.4	5 11	13 18.07	-21 32.2	2.489	3.419	7.7	20.1
5 21	13 20.56	+10 30.4	4.721	5.448	8.0	20.5	5 21	13 13.34	-20 28.5	2.558	3.421	10.3	20.3
426041	2011 <i>UH</i>		4 15.7	222°87	5°6/ 9.5	17	438380	2006 <i>TV</i> ₉₉		4 15.7	214°87	1°4/17.2	17
3 12	13 59.36	+ 8 27.3	2.583	3.424	10.2	21.3	3 12	13 57.84	-16 21.6	2.467	3.276	11.6	21.9
3 22	13 54.15	+ 9 11.3	2.511	3.419	8.1	21.1	3 22	13 53.22	-16 8.3	2.376	3.273	8.9	21.8
4 1	13 47.40	+ 9 50.9	2.464	3.413	6.2	21.0	4 1	13 46.95	-15 43.2	2.310	3.269	5.8	21.6
4 11	13 39.70	+10 21.1	2.445	3.407	5.6	21.0	4 11	13 39.59	-15 8.2	2.271	3.266	2.6	21.3
4 21	13 31.68	+10 38.0	2.455	3.401	6.7	21.0	4 21	13 31.85	-14 26.4	2.261	3.262	2.0	21.3
5 1	13 24.08	+10 38.8	2.491	3.395	8.8	21.1	5 1	13 24.48	-13 41.9	2.280	3.258	5.1	21.5
5 11	13 17.53	+10 22.8	2.552	3.388	11.0	21.3	5 11	13 18.18	-12 59.5	2.326	3.253	8.3	21.7
5 21	13 12.48	+ 9 50.7	2.634	3.382	13.1	21.4	5 21	13 13.47	-12 23.1	2.397	3.249	11.2	21.9
61642	2000 <i>QE</i> ₁₀₇		4 15.7	94°24	1°2/17.0	18	67226	2000 <i>DB</i> ₁₀₂		4 15.7	291°32	1°6/17.3	18
3 12	13 57.62	-16 20.7	2.387	3.198	11.9	19.2	3 12	13 58.49	-15 54.5	2.570	3.378	11.3	18.2
3 22	13 52.96	-15 57.4	2.314	3.213	9.1	19.1	3 22	13 53.71	-16 3.5	2.472	3.367	8.7	18.0
4 1	13 46.70	-15 22.0	2.266	3.227	5.9	18.9	4 1	13 47.28	-16 2.8	2.399	3.357	5.8	17.8
4 11	13 39.47	-14 37.0	2.245	3.241	2.5	18.7	4 11	13 39.72	-15 53.3	2.353	3.346	2.7	17.6
4 21	13 31.96	-13 46.1	2.253	3.254	1.9	18.7	4 21	13 31.70	-15 37.0	2.336	3.336	2.1	17.5
5 1	13 24.96	-12 54.0	2.290	3.268	5.1	18.9	5 1	13 23.98	-15 16.8	2.348	3.325	5.0	17.7
5 11	13 19.10	-12 5.5	2.355	3.282	8.3	19.1	5 11	13 17.27	-14 56.6	2.387	3.315	8.1	17.9
5 21	13 14.85	-11 24.7	2.443	3.295	11.1	19.3	5 21	13 12.09	-14 39.8	2.451	3.305	11.0	18.0
419871	2011 <i>AV</i> ₂₇		4 15.7	114°18	2°0/17.8	18	170924	2004 <i>YC</i> ₂₁		4 15.7	194°83	3°7/12.5	18
3 12	14 2.98	-18 51.0	2.217	3.013	13.2	22.8	3 12	14 2.04	- 3 1.0	1.803	2.652	13.6	21.1
3 22	13 56.98	-18 32.4	2.150	3.037	10.2	22.6	3 22	13 56.76	- 2 4.0	1.728	2.650	10.1	20.9
4 1	13 49.16	-17 59.1	2.108	3.061	6.8	22.5	4 1	13 49.29	- 1 1.4	1.677	2.648	6.4	20.6
4 11	13 40.25	-17 13.2	2.092	3.083	3.3	22.3	4 11	13 40.38	+ 0 0.6	1.652	2.645	3.7	20.5
4 21	13 31.11	-16 18.6	2.106	3.105	2.4	22.2	4 21	13 30.99	+ 0 55.0	1.656	2.642	5.3	20.5
5 1	13 22.62	-15 20.7	2.149	3.127	5.4	22.5	5 1	13 22.18	+ 1 35.8	1.687	2.638	9.0	20.7
5 11	13 15.54	-14 25.1	2.220	3.147	8.7	22.7	5 11	13 14.88	+ 1 59.0	1.742	2.633	12.7	21.0
5 21	13 10.32	-13 36.7	2.316	3.167	11.6	22.9	5 21	13 9.70	+ 2 3.1	1.818	2.628	15.9	21.2
287727	2003 <i>RX</i> ₈		4 15.7	166°69	1°6/14.3	18	100155	1993 <i>TG</i> ₂₅		4 15.7	134°40	0°8/14.9	18
3 12	14 2.88	- 7 42.9	1.947	2.783	13.2	21.3	3 12	14 2.31	- 9 28.1	2.088	2.918	12.7	21.0
3 22	13 57.20	- 7 4.9	1.872	2.788	9.8	21.1	3 22	13 56.61	- 9 1.8	2.018	2.931	9.4	20.8
4 1	13 49.46	- 6 18.6	1.821	2.793	6.0	20.9	4 1	13 49.02	- 8 27.1	1.973	2.943	5.7	20.6
4 11	13 40.39	- 5 28.5	1.798	2.797	2.2	20.7	4 11	13 40.26	- 7 47.6	1.955	2.955	1.8	20.3
4 21	13 30.92	- 4 39.9	1.804	2.800	3.4	20.7	4 21	13 31.18	- 7 7.7	1.967	2.966	2.6	20.4
5 1	13 22.03	- 3 58.5	1.837	2.802	7.3	21.0	5 1	13 22.69	- 6 32.2	2.007	2.976	6.4	20.7
5 11	13 14.60	- 3 28.7	1.897	2.804	11.1	21.2	5 11	13 15.58	- 6 5.2	2.073	2.986	10.0	20.9
5 21	13 9.20	- 3 13.1	1.979	2.805	14.3	21.4	5 21	13 10.35	- 5 49.5	2.163	2.995	13.0	21.1
366929	2005 <i>UY</i> ₄₃₈		4 15.7	122°07	2°7/12.9	18	45697	2000 <i>EP</i> ₁₇₄		4 15.7	243°32	0°1/15.6	18
3 12	14 1.81	- 3 8.3	2.395	3.231	11.1	21.5	3 12	13 58.39	-11 52.2	2.229	3.057	12.1	19.9
3 22	13 55.88	- 2 22.8	2.337	3.253	8.2	21.4	3 22	13 53.80	-11 23.7	2.137	3.047	9.1	19.7
4 1	13 48.39	- 1 34.3	2.305	3.274	5.1	21.2	4 1	13 47.40	-10 44.6	2.069	3.037	5.6	19.4
4 11	13 39.99	- 0 47.1	2.301	3.295	2.8	21.1	4 11	13 39.78	- 9 58.1	2.028	3.027	1.8	19.2
4 21	13 31.41	- 0 5.9	2.328	3.314	4.0	21.2	4 21	13 31.69	- 9 8.2	2.017	3.017	2.2	19.2
5 1	13 23.41	+ 0 25.6	2.384	3.333	6.9	21.4	5 1	13 23.99	- 8 20.0	2.033	3.007	6.0	19.4
5 11	13 16.63	+ 0 44.7	2.466	3.351	9.7	21.6	5 11	13 17.44	- 7 38.6	2.077	2.996	9.6	19.6
5 21	13 11.48	+ 0 50.6	2.571	3.368	12.2	21.8	5 21	13 12.62	- 7 7.6	2.143	2.985	12.8	19.8
147337	2003 <i>BU</i> ₅₁		4 15.7	47°14	2°6/17.5	18	382811	2003 <i>UM</i> ₂₁₆		4 15.7	165°55	1°8/14.1	17
3 12	14 1.41	-17 17.5	1.447	2.278	17.3	19.7	3 12	14 0.39	- 5 56.7	2.090	2.931	12.3	20.6
3 22	13 56.70	-17 23.6	1.387	2.293	13.3	19.5	3 22	13 55.26	- 5 32.6	2.013	2.932	9.1	20.4
4 1	13 49.37	-17 11.6	1.348	2.310	8.8	19.3	4 1	13 48.26	- 5 2.7	1.961	2.933	5.5	20.1
4 11	13 40.39	-16 43.5	1.333	2.327	4.3	19.0	4 11	13 40.04	- 4 31.2	1.937	2.935	2.2	19.9
4 21	13 30.96	-16 3.7	1.344	2.344	3.1	19.0	4 21	13 31.43	- 4 2.2	1.940	2.935	3.4	20.0
5 1	13 22.41	-15 19.0	1.380	2.362	7.2	19.3	5 1	13 23.32	- 3 40.0	1.972	2.936	7.0	20.2
5 11	13 15.81	-14 36.9	1.441	2.380	11.5	19.6	5 11	13 16.50	- 3 28.2	2.03			

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2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
341166	2007 <i>QW</i> ₁₃		4 15.7 194°03	0°1/15.8	17		291297	2006 <i>BS</i> ₁₃₈		4 15.7 262°08	3°6/22.4	18	
3 12	13 58.43	-12 35.1	2.268	3.093	12.0	21.7	3 12	13 53.48	-30 47.3	4.679	5.389	7.9	20.4
3 22	13 53.75	-12 7.3	2.183	3.091	9.0	21.5	3 22	13 49.44	-31 3.1	4.572	5.382	6.7	20.3
4 1	13 47.32	-11 29.0	2.122	3.090	5.6	21.2	4 1	13 44.43	-31 8.5	4.488	5.374	5.4	20.2
4 11	13 39.75	-10 43.1	2.089	3.088	1.9	21.0	4 11	13 38.79	-31 3.6	4.431	5.367	4.2	20.1
4 21	13 31.79	-9 53.6	2.085	3.086	2.0	21.0	4 21	13 32.91	-30 48.8	4.402	5.359	3.6	20.0
5 1	13 24.27	-9 5.5	2.110	3.084	5.8	21.2	5 1	13 27.20	-30 25.6	4.402	5.351	4.0	20.0
5 11	13 17.91	-8 23.7	2.161	3.082	9.2	21.4	5 11	13 22.05	-29 56.3	4.430	5.344	5.1	20.1
5 21	13 13.23	-7 51.7	2.236	3.079	12.3	21.6	5 21	13 17.78	-29 23.4	4.484	5.336	6.4	20.2
56876	2000 <i>QN</i> ₁₁₁		4 15.7 354°47	8°5/20.7	18		437192	Frederickolsen		4 15.7 151°05	4°7/21.4	18	
3 12	14 5.15	-27 28.0	1.560	2.339	18.6	18.6	3 12	13 58.04	-28 31.7	2.546	3.296	12.9	20.9
3 22	14 0.09	-28 54.1	1.478	2.336	15.7	18.3	3 22	13 53.44	-28 25.6	2.457	3.300	10.7	20.7
4 1	13 51.90	-29 59.9	1.416	2.334	12.5	18.1	4 1	13 47.11	-28 1.0	2.389	3.304	8.2	20.6
4 11	13 41.40	-30 40.4	1.377	2.332	9.7	18.0	4 11	13 39.69	-27 18.0	2.347	3.308	5.8	20.4
4 21	13 29.84	-30 53.1	1.361	2.331	8.5	17.9	4 21	13 31.92	-26 18.7	2.332	3.312	4.7	20.3
5 1	13 18.80	-30 40.2	1.370	2.331	9.8	18.0	5 1	13 24.59	-25 7.6	2.346	3.315	5.7	20.4
5 11	13 9.75	-30 9.1	1.403	2.331	12.7	18.1	5 11	13 18.43	-23 50.7	2.387	3.318	8.0	20.6
5 21	13 3.65	-29 28.9	1.457	2.331	15.9	18.3	5 21	13 13.94	-22 34.1	2.454	3.321	10.5	20.7
170156	2003 <i>EC</i> ₁		4 15.7 175°08	11°0/21.3	18		167822	2005 <i>CV</i> ₁₁		4 15.7 56°39	1°5/16.7	18	
3 12	14 15.74	-31 19.3	1.454	2.204	21.0	20.0	3 12	14 4.15	-14 12.5	1.311	2.152	18.1	19.9
3 22	14 8.64	-33 8.5	1.374	2.206	18.1	19.7	3 22	13 58.92	-14 19.1	1.256	2.170	13.7	19.7
4 1	13 57.54	-34 34.1	1.313	2.208	14.9	19.5	4 1	13 50.82	-14 9.7	1.221	2.189	8.8	19.4
4 11	13 43.33	-35 27.4	1.273	2.210	12.2	19.4	4 11	13 40.93	-13 46.8	1.210	2.207	3.5	19.2
4 21	13 27.62	-35 43.0	1.257	2.210	11.0	19.3	4 21	13 30.59	-13 15.3	1.224	2.226	2.8	19.2
5 1	13 12.55	-35 22.3	1.266	2.210	12.0	19.4	5 1	13 21.27	-12 42.1	1.264	2.245	7.8	19.5
5 11	13 0.05	-34 34.9	1.298	2.210	14.7	19.5	5 11	13 14.12	-12 14.2	1.328	2.264	12.5	19.8
5 21	12 51.34	-33 33.5	1.350	2.208	17.9	19.7	5 21	13 9.77	-11 56.6	1.411	2.284	16.4	20.1
213787	2003 <i>FC</i> ₁₁		4 15.7 66°37	2°3/13.1	18		463411	2013 <i>HF</i> ₆₀		4 15.7 324°06	2°5/17.1	17	
3 12	13 55.65	-6 27.7	2.169	3.016	11.7	20.1	3 12	13 59.41	-15 1.4	1.188	2.042	18.8	20.7
3 22	13 51.61	-5 22.2	2.104	3.027	8.6	19.9	3 22	13 56.22	-15 24.2	1.103	2.023	14.7	20.4
4 1	13 45.94	-4 9.8	2.065	3.038	5.2	19.7	4 1	13 49.74	-15 30.2	1.036	2.005	9.8	20.0
4 11	13 39.28	-2 56.0	2.053	3.050	2.4	19.6	4 11	13 40.77	-15 19.9	0.991	1.988	4.5	19.7
4 21	13 32.38	-1 46.5	2.070	3.061	3.8	19.7	4 21	13 30.59	-14 56.2	0.970	1.971	3.5	19.5
5 1	13 25.98	-0 47.0	2.115	3.073	7.0	19.9	5 1	13 20.90	-14 25.6	0.971	1.956	8.9	19.8
5 11	13 20.76	-0 1.5	2.186	3.085	10.2	20.1	5 11	13 13.30	-13 56.8	0.994	1.941	14.5	20.0
5 21	13 17.15	+ 0 27.8	2.279	3.096	12.9	20.3	5 21	13 8.86	-13 37.2	1.036	1.928	19.5	20.3
103192	1999 <i>XF</i> ₂₄₃		4 15.7 165°70	4°2/19.2	18		182080	2000 <i>HA</i> ₂		4 15.7 265°35	1°4/14.6	17	
3 12	14 4.05	-22 40.4	1.940	2.726	15.2	20.1	3 12	14 0.71	-8 19.6	1.765	2.609	14.0	20.8
3 22	13 58.38	-22 54.2	1.856	2.731	12.2	19.9	3 22	13 55.99	-7 51.5	1.678	2.598	10.5	20.6
4 1	13 50.37	-22 49.9	1.794	2.734	8.8	19.6	4 1	13 48.98	-7 13.8	1.614	2.587	6.4	20.3
4 11	13 40.79	-22 27.2	1.757	2.737	5.5	19.5	4 11	13 40.37	-6 30.7	1.576	2.575	2.2	20.0
4 21	13 30.64	-21 48.3	1.748	2.740	4.2	19.4	4 21	13 31.13	-5 47.5	1.565	2.563	3.4	20.0
5 1	13 21.07	-20 58.0	1.767	2.742	6.6	19.5	5 1	13 22.37	-5 10.3	1.582	2.551	7.8	20.3
5 11	13 13.07	-20 3.5	1.812	2.744	10.0	19.7	5 11	13 15.08	-4 44.3	1.623	2.540	12.0	20.5
5 21	13 7.30	-19 11.5	1.880	2.745	13.3	19.9	5 21	13 9.96	-4 32.7	1.686	2.528	15.6	20.7
506435	2000 <i>UR</i> ₆₇		4 15.7 180°70	2°9/19.9	18		136866	1998 <i>FB</i> ₄₆		4 15.7 55°13	0°2/15.8	18	
3 12	13 57.12	-24 37.3	3.284	4.043	10.1	22.2	3 12	13 59.71	-11 30.3	2.007	2.839	13.1	19.8
3 22	13 52.34	-24 18.1	3.187	4.044	8.1	22.0	3 22	13 54.78	-11 22.3	1.941	2.853	9.8	19.7
4 1	13 46.27	-23 45.5	3.115	4.044	5.9	21.9	4 1	13 47.97	-11 4.8	1.898	2.867	6.0	19.5
4 11	13 39.39	-23 0.3	3.070	4.045	3.8	21.7	4 11	13 39.97	-10 40.6	1.882	2.881	2.0	19.2
4 21	13 32.24	-22 4.9	3.055	4.044	2.9	21.7	4 21	13 31.66	-10 13.5	1.894	2.895	2.1	19.2
5 1	13 25.42	-21 2.7	3.070	4.043	4.2	21.7	5 1	13 23.94	-9 47.8	1.934	2.909	6.1	19.5
5 11	13 19.47	-19 58.0	3.114	4.042	6.5	21.9	5 11	13 17.58	-9 27.7	2.000	2.924	9.7	19.8
5 21	13 14.77	-18 55.1	3.184	4.040	8.7	22.0	5 21	13 13.10	-9 16.4	2.088	2.939	12.7	20.0
268385	2005 <i>UV</i> ₆₀		4 15.7 26°25	2°1/14.3	17		312185	2007 <i>VP</i> ₆₃		4 15.7 65°03	2°6/13.9	18	
3 12	14 0.61	-6 17.2	1.431	2.290	15.9	20.3	3 12	14 2.26	-5 51.3	1.425	2.283	16.0	20.8
3 22	13 56.09	-6 0.8	1.370	2.297	11.8	20.1	3 22	13 57.28	-5 16.5	1.367	2.294	11.9	20.6
4 1	13 49.04	-5 37.0	1.330	2.305	7.2	19.9	4 1	13 49.73	-4 34.0	1.331	2.306	7.2	20.4
4 11	13 40.35	-5 10.8	1.315	2.314	2.7	19.6	4 11	13 40.58	-3 49.9	1.320	2.318	3.0	20.1
4 21	13 31.19	-4 47.9	1.325	2.323	4.0	19.7	4 21	13 31.01	-3 10.9	1.335	2.330	4.6	20.3
5 1	13 22.82	-4 33.7	1.361	2.333	8.6	20.0	5 1	13 22.31	-2 43.3	1.375	2.342	9.1	20.5
5 11	13 16.30	-4 32.2	1.421	2.343	12.9	20.3	5 11	13 15.52	-2 31.4	1.439	2.354	13.3	20.8
5 21	13 12.25	-4 45.3	1.500	2.354	16.6	20.5	5 21	13 11.23	-2 36.7	1.522	2.366	16.9	21.1
503962	2004 <i>QD</i> ₂₈		4 15.7 201°13	4°4/10.9	17		434830	2006 <i>SR</i> ₃₅		4 15.7 188°97	0°7/14.9	17	
3 12	14 1.12	+ 3 17.4	2.564	3.403	10.3	22.6	3 12	13 56.29	-10 53.1	2.493	3.323	10.9	21.9
3 22	13 55.50	+ 4 6.5	2.485	3.398	7.9	22.4	3 22	13 52.00	-10 4.5	2.410	3.322	8.1	21.7
4 1	13 48.29	+ 4 55.0	2.432	3.392	5.5	22.2	4 1	13 46.18	-9 6.5	2.351	3.321	4.9	21.5
4 11	13 40.06	+ 5 38.1	2.408	3.386	4.4	22.1	4 11	13 39.40	-8 2.7	2.321	3.320	1.5	21.2
4 21	13 31.49	+ 6 11.4	2.413	3.379	5.6	22.2	4 21	13 32.30	-6 57.8	2.320	3.319	2.3	21.3
5 1	13 23.32	+ 6 31.2	2.446	3.371	8.0	22.3	5 1	13 25.59	-5 56.9	2.349	3.317	5.7	21.5
5 11	13 16.21	+ 6 35.8	2.506	3.362	10.6	22.5	5 11	13 19.91	-5 4.4	2.404	3.316	8.8	21.7
5 21	13 10.64	+ 6 24.9	2.587	3.353	12.9	22.7	5 21	13 15.71	-4 23.7	2.484	3.314	11.6	21.9
376479	2012 <i>JP</i> ₅₃		4 15.7 227°81	3°2/18.9	17		431007	2005 <i>YR</i> ₇₃		4 15.7 153°66	4°9/21.3	15	

EPHEMERIDES

Table with columns for year, object name, right ascension, declination, distance, magnitude, and position angle. It contains multiple entries for different objects like 32356, 371002, 140700, etc., with their respective data points.

EPHEMERIDES

4 15.7

4 15.7

2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
504604	2008 UP_{143}		4 15.7 221 $^{\circ}$ 69	0 $^{\circ}$ 7/16.5 17			465091	2006 UV_{81}		4 15.7 203 $^{\circ}$ 37	1 $^{\circ}$ 2/14.7 17		
3 12	13 58.88	-15 4.4	2.498	3.309	11.4	23.2	3 12	14 1.87	-8 53.5	2.059	2.892	12.8	22.6
3 22	13 54.05	-14 30.1	2.400	3.299	8.7	23.0	3 22	13 56.53	-8 19.2	1.973	2.887	9.5	22.4
4 1	13 47.55	-13 43.7	2.326	3.288	5.6	22.8	4 1	13 49.19	-7 35.9	1.912	2.883	5.8	22.2
4 11	13 39.93	-12 47.6	2.280	3.277	2.1	22.5	4 11	13 40.51	-6 47.4	1.878	2.877	2.0	21.9
4 21	13 31.89	-11 45.7	2.264	3.265	1.8	22.5	4 21	13 31.35	-5 58.6	1.873	2.871	2.9	22.0
5 1	13 24.19	-10 43.0	2.277	3.252	5.3	22.7	5 1	13 22.65	-5 14.9	1.897	2.864	6.9	22.2
5 11	13 17.54	-9 44.7	2.318	3.239	8.7	22.9	5 11	13 15.28	-4 41.2	1.947	2.857	10.6	22.4
5 21	13 12.47	-8 55.2	2.384	3.225	11.6	23.0	5 21	13 9.81	-4 20.4	2.019	2.849	13.9	22.6
4915	Solzhenitsyn		4 15.7 97 $^{\circ}$ 30	1 $^{\circ}$ 6/13.9 18			52082	2002 RU_{87}		4 15.7 285 $^{\circ}$ 12	0 $^{\circ}$ 4/16.0 18		
3 12	13 59.16	-6 45.4	2.500	3.334	10.8	18.3	3 12	14 1.63	-12 33.1	1.630	2.467	15.3	19.7
3 22	13 53.95	-6 5.1	2.443	3.358	7.9	18.1	3 22	13 57.15	-12 21.2	1.528	2.443	11.8	19.4
4 1	13 47.29	-5 19.6	2.411	3.382	4.7	18.0	4 1	13 50.02	-11 55.6	1.449	2.418	7.5	19.1
4 11	13 39.79	-4 32.8	2.408	3.406	1.9	17.8	4 11	13 40.90	-11 18.5	1.394	2.392	2.6	18.7
4 21	13 32.13	-3 48.8	2.435	3.429	2.9	17.9	4 21	13 30.82	-10 34.3	1.365	2.367	2.6	18.6
5 1	13 25.00	-3 11.5	2.491	3.452	5.9	18.1	5 1	13 21.04	-9 49.6	1.364	2.341	7.8	18.9
5 11	13 18.98	-2 44.0	2.574	3.475	8.8	18.4	5 11	13 12.82	-9 11.3	1.387	2.316	12.7	19.1
5 21	13 14.48	-2 27.9	2.681	3.497	11.2	18.6	5 21	13 7.02	-8 45.1	1.430	2.290	17.0	19.3
13785	1998 UR_{20}		4 15.7 222 $^{\circ}$ 98	0 $^{\circ}$ 5/16.2 18			229173	2004 TU_{145}		4 15.7 84 $^{\circ}$ 16	1 $^{\circ}$ 1/14.7 18		
3 12	13 58.68	-13 35.5	2.048	2.874	13.0	18.6	3 12	13 59.74	-9 42.4	1.870	2.710	13.5	20.5
3 22	13 54.16	-13 14.9	1.965	2.874	9.9	18.4	3 22	13 54.89	-8 58.7	1.809	2.727	10.0	20.3
4 1	13 47.72	-12 42.3	1.907	2.873	6.2	18.2	4 1	13 48.10	-8 5.1	1.772	2.744	6.0	20.1
4 11	13 40.00	-12 0.5	1.875	2.873	2.2	17.9	4 11	13 40.12	-7 6.5	1.762	2.761	2.0	19.9
4 21	13 31.85	-11 13.7	1.870	2.872	2.1	17.9	4 21	13 31.87	-6 8.7	1.779	2.777	3.0	20.0
5 1	13 24.18	-10 27.2	1.894	2.871	6.1	18.2	5 1	13 24.28	-5 17.7	1.824	2.794	7.0	20.3
5 11	13 17.80	-9 46.4	1.944	2.871	9.8	18.4	5 11	13 18.14	-4 38.4	1.895	2.810	10.6	20.5
5 21	13 13.28	-9 15.2	2.018	2.870	13.0	18.6	5 21	13 13.96	-4 13.4	1.988	2.826	13.7	20.7
216244	2006 VW_{58}		4 15.7 337 $^{\circ}$ 38	2 $^{\circ}$ 7/18.6 17			511677	2015 BG_{430}		4 15.7 279 $^{\circ}$ 09	6 $^{\circ}$ 5/20.1 18		
3 12	13 54.45	-21 27.8	1.933	2.742	14.4	19.7	3 12	14 5.91	-26 32.6	1.993	2.756	15.6	20.7
3 22	13 51.23	-20 54.7	1.842	2.734	11.4	19.5	3 22	14 0.39	-27 21.6	1.872	2.725	13.1	20.4
4 1	13 46.02	-20 1.2	1.773	2.726	7.9	19.3	4 1	13 52.11	-27 53.7	1.773	2.693	10.3	20.2
4 11	13 39.47	-18 49.3	1.729	2.718	4.3	19.0	4 11	13 41.64	-28 5.3	1.699	2.660	7.6	19.9
4 21	13 32.44	-17 23.8	1.712	2.711	2.9	18.9	4 21	13 29.96	-27 54.8	1.650	2.627	6.5	19.8
5 1	13 25.87	-15 51.7	1.723	2.705	6.0	19.1	5 1	13 18.32	-27 24.1	1.629	2.594	8.1	19.8
5 11	13 20.63	-14 21.5	1.760	2.699	9.8	19.3	5 11	13 8.06	-26 39.0	1.634	2.559	11.4	19.9
5 21	13 17.29	-13 0.4	1.820	2.694	13.3	19.5	5 21	13 0.16	-25 47.4	1.662	2.524	14.9	20.0
210177	2006 UL_{64}		4 15.7 258 $^{\circ}$ 29	0 $^{\circ}$ 1/15.6 17			268959	2007 DG_{98}		4 15.7 292 $^{\circ}$ 99	5 $^{\circ}$ 7/10.5 17		
3 12	13 57.98	-11 26.4	2.280	3.109	11.8	21.0	3 12	13 57.95	+1 0.1	1.682	2.545	13.7	20.4
3 22	13 53.47	-11 5.7	2.194	3.105	8.9	20.8	3 22	13 53.96	+2 20.0	1.607	2.535	10.4	20.2
4 1	13 47.23	-10 35.5	2.132	3.100	5.5	20.5	4 1	13 47.76	+3 43.4	1.557	2.525	7.2	20.0
4 11	13 39.84	-9 58.9	2.097	3.096	1.8	20.3	4 11	13 40.08	+5 1.8	1.532	2.515	5.7	19.9
4 21	13 32.05	-9 19.6	2.091	3.092	2.1	20.3	4 21	13 31.86	+6 6.9	1.533	2.505	7.5	20.0
5 1	13 24.65	-8 41.9	2.113	3.087	5.8	20.5	5 1	13 24.17	+6 51.9	1.560	2.496	10.9	20.1
5 11	13 18.39	-8 10.4	2.162	3.083	9.2	20.7	5 11	13 17.96	+7 12.9	1.609	2.486	14.4	20.3
5 21	13 13.78	-7 48.2	2.234	3.078	12.2	20.9	5 21	13 13.86	+7 9.7	1.678	2.477	17.5	20.5
272987	2006 DC_{29}		4 15.7 228 $^{\circ}$ 15	2 $^{\circ}$ 4/13.4 17			354732	2005 SK_{219}		4 15.7 204 $^{\circ}$ 79	5 $^{\circ}$ 1/11.2 18		
3 12	13 58.41	-5 49.2	2.084	2.929	12.2	20.8	3 12	14 3.60	+0 17.9	1.794	2.644	13.6	21.9
3 22	13 53.90	-4 59.2	2.002	2.923	9.0	20.5	3 22	13 58.05	+1 32.8	1.718	2.639	10.3	21.6
4 1	13 47.53	-4 2.0	1.946	2.918	5.5	20.3	4 1	13 50.22	+2 51.5	1.666	2.633	6.9	21.4
4 11	13 39.94	-3 27.7	1.916	2.913	2.6	20.1	4 11	13 40.88	+4 6.1	1.641	2.626	5.1	21.3
4 21	13 31.94	-2 6.9	1.915	2.907	3.9	20.2	4 21	13 31.00	+5 9.0	1.644	2.618	6.8	21.4
5 1	13 24.38	-1 20.0	1.941	2.901	7.4	20.4	5 1	13 21.69	+5 53.6	1.674	2.609	10.3	21.6
5 11	13 18.05	-0 46.4	1.994	2.895	10.9	20.6	5 11	13 13.90	+6 16.2	1.727	2.599	13.8	21.8
5 21	13 13.49	-0 28.4	2.068	2.888	13.9	20.8	5 21	13 8.29	+6 16.4	1.801	2.589	16.9	21.9
96780	1999 RE_{83}		4 15.7 322 $^{\circ}$ 22	0 $^{\circ}$ 8/16.2 18			523628	2008 RT_{26}		4 15.7 150 $^{\circ}$ 90	0 $^{\circ}$ 3/16.1 18 C		
3 12	13 58.66	-12 47.8	1.247	2.104	17.8	19.1	3 12	14 5.80	-13 33.0	2.369	3.174	12.2	24.6
3 22	13 55.47	-12 46.8	1.162	2.086	13.7	18.8	3 22	13 59.07	-13 3.4	2.293	3.190	9.2	24.4
4 1	13 49.21	-12 29.6	1.096	2.068	8.8	18.5	4 1	13 50.55	-12 22.8	2.242	3.205	5.7	24.2
4 11	13 40.66	-11 58.9	1.052	2.051	3.2	18.1	4 11	13 40.92	-11 34.2	2.220	3.218	2.0	24.0
4 21	13 31.05	-11 19.7	1.033	2.035	3.0	18.0	4 21	13 31.01	-10 41.6	2.229	3.230	1.9	24.0
5 1	13 21.95	-10 39.6	1.037	2.019	8.9	18.3	5 1	13 21.67	-9 49.9	2.269	3.241	5.6	24.3
5 11	13 14.81	-10 7.0	1.063	2.005	14.4	18.6	5 11	13 13.64	-9 3.9	2.337	3.251	9.0	24.5
5 21	13 10.60	-9 48.2	1.107	1.991	19.1	18.8	5 21	13 7.43	-8 27.3	2.430	3.259	11.8	24.7
253786	2003 WT_{165}		4 15.7 244 $^{\circ}$ 60	1 $^{\circ}$ 3/14.6 17			402959	2007 TU_{406}		4 15.7 176 $^{\circ}$ 31	0 $^{\circ}$ 3/15.5 16		
3 12	14 2.02	-8 57.0	1.853	2.691	13.7	21.6	3 12	14 3.44	-11 27.3	1.974	2.800	13.5	22.4
3 22	13 56.97	-8 20.4	1.759	2.676	10.3	21.3	3 22	13 57.75	-11 0.2	1.893	2.802	10.1	22.2
4 1	13 49.64	-7 32.9	1.688	2.660	6.3	21.0	4 1	13 49.95	-10 21.9	1.836	2.805	6.3	21.9
4 11	13 40.69	-6 38.8	1.644	2.643	2.2	20.7	4 11	13 40.78	-9 36.0	1.807	2.806	2.0	21.7
4 21	13 31.07	-5 43.8	1.628	2.626	3.3	20.8	4 21	13 31.14	-8 47.2	1.806	2.806	2.4	21.7
5 1	13 21.86	-4 54.3	1.640	2.609	7.7	21.0	5 1	13 22.05	-8 1.0	1.834	2.806	6.7	22.0
5 11	13 14.07	-4 16.0	1.678	2.590	11.9	21.2	5 11	13 14.40	-7 22.8	1.888	2.806	10.5	22.2
5 21	13 8.40	-3 52.7	1.737	2.572	15.6	21.4	5 21	13 8.79	-6 56.3	1.966	2.804	13.9	22.4
212774	2007 TR_{118}												

2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
502706	2015 <i>DO</i> ₂₀		4 15.7 240° 97'	0° 4' / 15.4 17			286553	2002 <i>CQ</i> ₁₇₆		4 15.8 182° 19'	2° 5' / 18.7 18		
3 12	14 1.33	-10 1.0	1.960	2.794	13.3	21.6	3 12	13 58.61	-20 37.1	2.858	3.641	10.9	21.5
3 22	13 56.25	-9 51.0	1.877	2.790	10.0	21.3	3 22	13 53.69	-20 34.2	2.766	3.642	8.6	21.3
4 1	13 49.08	-9 32.2	1.817	2.787	6.1	21.1	4 1	13 47.28	-20 19.1	2.698	3.642	6.0	21.1
4 11	13 40.51	-9 7.5	1.784	2.783	2.0	20.8	4 11	13 39.90	-19 52.7	2.657	3.642	3.5	21.0
4 21	13 31.42	-8 40.6	1.779	2.779	2.4	20.8	4 21	13 32.18	-19 17.2	2.646	3.641	2.6	20.9
5 1	13 22.81	-8 16.2	1.801	2.775	6.6	21.1	5 1	13 24.80	-18 35.7	2.664	3.640	4.6	21.0
5 11	13 15.58	-7 58.6	1.850	2.771	10.5	21.3	5 11	13 18.38	-17 52.7	2.710	3.639	7.3	21.2
5 21	13 10.34	-7 51.0	1.922	2.767	13.9	21.5	5 21	13 13.38	-17 12.1	2.782	3.637	9.8	21.4
427923	2005 <i>UM</i> ₅₀₈		4 15.7 142° 77'	2° 4' / 13.3 16			425274	2009 <i>WC</i> ₁₄₁		4 15.8 109° 12'	4° 2' / 12.0 17		
3 12	14 1.83	-4 10.9	2.320	3.156	11.4	22.8	3 12	14 0.98	-0 8.8	1.941	2.791	12.7	21.8
3 22	13 56.11	-3 30.5	2.253	3.169	8.4	22.6	3 22	13 55.77	+0 41.7	1.881	2.802	9.5	21.6
4 1	13 48.73	-2 46.0	2.211	3.181	5.2	22.5	4 1	13 48.64	+1 33.7	1.845	2.813	6.2	21.5
4 11	13 40.33	-2 1.7	2.197	3.192	2.6	22.3	4 11	13 40.34	+2 21.2	1.836	2.824	4.2	21.4
4 21	13 31.67	-1 22.1	2.213	3.203	3.8	22.4	4 21	13 31.75	+2 58.8	1.855	2.835	5.6	21.5
5 1	13 23.53	-0 51.2	2.258	3.213	6.9	22.6	5 1	13 23.78	+3 21.9	1.902	2.846	8.7	21.7
5 11	13 16.62	-0 32.2	2.330	3.222	9.9	22.8	5 11	13 17.23	+3 28.2	1.973	2.856	11.8	21.9
5 21	13 11.39	-0 26.2	2.425	3.231	12.5	23.0	5 21	13 12.60	+3 17.5	2.065	2.866	14.6	22.1
370033	2000 <i>RB</i> ₁₀₅		4 15.7 187° 17'	3° 4' / 19.4 17			521195	2015 <i>FY</i> ₄₁₂		4 15.8 15° 68'	0° 1' / 15.9 17		
3 12	14 2.88	-23 15.3	2.711	3.476	11.9	22.3	3 12	13 57.33	-13 8.2	1.925	2.758	13.5	21.6
3 22	13 56.98	-23 23.6	2.615	3.476	9.5	22.1	3 22	13 53.26	-12 34.2	1.846	2.759	10.2	21.4
4 1	13 49.36	-23 17.9	2.542	3.475	6.9	21.9	4 1	13 47.23	-11 47.2	1.792	2.760	6.3	21.2
4 11	13 40.57	-22 58.2	2.497	3.473	4.4	21.8	4 11	13 39.92	-10 51.0	1.763	2.762	2.1	20.9
4 21	13 31.35	-22 26.0	2.481	3.470	3.5	21.7	4 21	13 32.18	-9 50.8	1.762	2.763	2.2	20.9
5 1	13 22.50	-21 44.8	2.494	3.466	5.2	21.8	5 1	13 24.96	-8 52.7	1.788	2.765	6.4	21.2
5 11	13 14.74	-20 59.2	2.537	3.462	7.8	22.0	5 11	13 19.09	-8 2.6	1.841	2.767	10.3	21.4
5 21	13 8.61	-20 14.0	2.604	3.457	10.4	22.1	5 21	13 15.11	-7 24.8	1.916	2.769	13.6	21.6
522569	2016 <i>EP</i> ₂₄₄		4 15.7 348° 07'	5° 6' / 19.4 17			386159	2007 <i>TB</i> ₃₇₂		4 15.8 176° 86'	1° 3' / 17.1 17		
3 12	14 1.78	-22 32.1	1.420	2.233	18.5	21.0	3 12	13 59.79	-15 50.1	2.485	3.292	11.6	22.1
3 22	13 57.56	-23 10.7	1.341	2.230	15.0	20.7	3 22	13 54.72	-15 40.2	2.398	3.294	8.9	21.9
4 1	13 50.36	-23 27.9	1.281	2.227	11.0	20.5	4 1	13 47.97	-15 19.3	2.336	3.295	5.8	21.7
4 11	13 41.03	-23 22.1	1.244	2.225	7.1	20.2	4 11	13 40.14	-14 49.0	2.301	3.295	2.5	21.5
4 21	13 30.82	-22 54.5	1.231	2.223	5.6	20.1	4 21	13 31.94	-14 12.4	2.295	3.296	1.9	21.4
5 1	13 21.25	-22 10.5	1.243	2.221	8.3	20.3	5 1	13 24.13	-13 33.3	2.319	3.296	5.1	21.6
5 11	13 13.66	-21 19.0	1.278	2.220	12.4	20.5	5 11	13 17.43	-12 56.2	2.370	3.296	8.3	21.8
5 21	13 8.92	-20 29.2	1.333	2.220	16.3	20.7	5 21	13 12.33	-12 24.9	2.446	3.295	11.1	22.0
494263	2016 <i>QT</i> ₅₃		4 15.7 226° 37'	0° 5' / 16.3 16			461930	2006 <i>SA</i> ₁₆₀		4 15.8 165° 36'	1° 4' / 14.4 16		
3 12	13 56.81	-14 5.0	2.738	3.552	10.5	22.4	3 12	14 0.67	-9 24.5	1.973	2.809	13.1	22.3
3 22	13 52.38	-13 36.6	2.642	3.544	7.9	22.2	3 22	13 55.64	-8 32.6	1.897	2.813	9.7	22.1
4 1	13 46.49	-12 58.1	2.572	3.536	5.0	22.0	4 1	13 48.63	-7 30.3	1.846	2.817	5.9	21.8
4 11	13 39.64	-12 11.9	2.529	3.527	1.8	21.8	4 11	13 40.37	-6 22.5	1.821	2.820	2.0	21.6
4 21	13 32.43	-11 21.3	2.517	3.518	1.6	21.7	4 21	13 31.71	-5 15.2	1.826	2.823	3.1	21.7
5 1	13 25.54	-10 30.6	2.533	3.509	4.9	22.0	5 1	13 23.61	-4 14.8	1.859	2.825	7.1	21.9
5 11	13 19.57	-9 43.9	2.578	3.499	7.9	22.1	5 11	13 16.88	-3 26.6	1.918	2.827	10.8	22.2
5 21	13 14.99	-9 4.8	2.647	3.489	10.6	22.3	5 21	13 12.09	-2 53.7	1.999	2.828	14.0	22.4
88496	2001 <i>QT</i> ₁₃₇		4 15.7 244° 04'	5° 1' / 19.5 18			63393	2001 <i>JS</i> ₇		4 15.8 242° 99'	2° 5' / 13.9 17		
3 12	14 4.91	-23 50.3	2.027	2.804	14.9	19.5	3 12	14 2.87	-7 2.1	1.531	2.382	15.5	19.7
3 22	13 59.27	-24 27.3	1.926	2.792	12.2	19.3	3 22	13 58.01	-6 13.7	1.446	2.370	11.6	19.4
4 1	13 51.17	-24 47.8	1.847	2.779	9.1	19.1	4 1	13 50.48	-5 14.1	1.384	2.358	7.1	19.1
4 11	13 41.28	-24 50.2	1.793	2.766	6.2	18.9	4 11	13 41.07	-4 9.1	1.347	2.345	3.0	18.8
4 21	13 30.55	-24 34.5	1.766	2.752	5.1	18.8	4 21	13 30.89	-3 6.3	1.336	2.331	4.6	18.9
5 1	13 20.16	-24 3.9	1.767	2.738	7.0	18.8	5 1	13 21.25	-2 13.8	1.352	2.317	9.4	19.1
5 11	13 11.20	-23 24.5	1.794	2.723	10.3	19.0	5 11	13 13.33	-1 38.0	1.392	2.303	14.0	19.3
5 21	13 4.47	-22 42.9	1.845	2.709	13.6	19.2	5 21	13 7.92	-1 22.3	1.451	2.288	18.0	19.5
245122	2004 <i>RG</i> ₆		4 15.7 229° 25'	4° 9' / 10.9 18			287549	2003 <i>EO</i> ₄₅		4 15.8 40° 10'	4° 0' / 19.5 17		
3 12	14 1.29	+3 15.3	2.265	3.109	11.3	21.2	3 12	14 0.75	-22 46.5	2.302	3.083	13.2	20.3
3 22	13 55.94	+4 7.8	2.182	3.097	8.7	21.0	3 22	13 55.70	-23 12.3	2.215	3.085	10.7	20.1
4 1	13 48.78	+5 0.1	2.124	3.085	6.1	20.9	4 1	13 48.71	-23 23.4	2.150	3.086	7.8	20.0
4 11	13 40.41	+5 46.7	2.094	3.072	4.9	20.8	4 11	13 40.42	-23 19.3	2.111	3.087	5.1	19.8
4 21	13 31.59	+6 22.2	2.092	3.059	6.2	20.8	4 21	13 31.63	-23 1.5	2.099	3.088	4.1	19.7
5 1	13 23.17	+6 42.5	2.118	3.045	8.9	20.9	5 1	13 23.25	-22 33.1	2.116	3.089	5.9	19.8
5 11	13 15.92	+6 45.3	2.169	3.031	11.8	21.1	5 11	13 16.11	-21 59.1	2.160	3.091	8.7	20.0
5 21	13 10.40	+6 30.5	2.242	3.016	14.4	21.3	5 21	13 10.80	-21 24.8	2.227	3.092	11.5	20.2
112987	2002 <i>RK</i> ₃₁		4 15.7 292° 99'	1° 7' / 17.0 17			302926	2003 <i>SF</i> ₂₂₂		4 15.8 136° 49'	0° 2' / 15.6 18		
3 12	13 59.23	-16 27.6	1.541	2.375	16.3	20.1	3 12	14 2.96	-11 57.8	1.905	2.733	13.9	21.6
3 22	13 55.48	-16 9.5	1.443	2.353	12.7	19.8	3 22	13 57.36	-11 24.5	1.835	2.745	10.4	21.4
4 1	13 49.04	-15 32.1	1.366	2.331	8.3	19.5	4 1	13 49.69	-10 39.4	1.789	2.757	6.4	21.2
4 11	13 40.62	-14 37.4	1.314	2.310	3.6	19.2	4 11	13 40.71	-9 46.5	1.769	2.768	2.0	20.9
4 21	13 31.28	-13 30.1	1.287	2.288	2.7	19.0	4 21	13 31.37	-8 51.0	1.779	2.779	2.4	20.9
5 1	13 22.33	-12 18.0	1.285	2.267	7.7	19.3	5 1	13 22.69	-7 58.9	1.816	2.789	6.7	21.2
5 11	13 15.03	-11 10.4	1.309	2.245	12.6	19.5	5 11	13 15.51	-7 15.7	1.880	2.799	10.5	21.5
5 21	13 10.23	-10 14.9	1.352	2.224	17.0	19.7	5 21	13 10.40	-6 45.1	1.967	2.808	13.8	21.7
357982	2006 <i>BK</i> ₂₄₉		4 15.7 103° 76'	1° 2' / 14.9 18			181598	2006 <i>WQ</i> ₂					

EPHEMERIDES

4 15.8

4 15.8

2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
99469	2002 <i>CB</i> ₁₀₇		4 15.8 107°21'	2°0/14.2	18		514108	2015 <i>BJ</i> ₅₄₁		4 15.8 126°01'	3°9/12.0	18	
3 12	14 4.26	- 7 37.4	1.639	2.482	15.0	20.3	3 12	14 0.35	+ 1 1.7	2.251	3.096	11.4	21.1
3 22	13 58.47	- 6 53.0	1.582	2.502	11.1	20.1	3 22	13 55.13	+ 1 37.8	2.183	3.102	8.5	20.9
4 1	13 50.40	- 5 59.7	1.548	2.521	6.7	19.9	4 1	13 48.22	+ 2 14.1	2.141	3.108	5.7	20.8
4 11	13 40.94	- 5 3.2	1.541	2.539	2.5	19.6	4 11	13 40.25	+ 2 45.7	2.127	3.113	3.9	20.7
4 21	13 31.19	- 4 10.0	1.561	2.557	3.8	19.8	4 21	13 31.99	+ 3 8.5	2.141	3.119	5.1	20.7
5 1	13 22.27	- 3 26.6	1.609	2.575	8.1	20.1	5 1	13 24.23	+ 3 19.0	2.182	3.124	7.9	20.9
5 11	13 15.12	- 2 57.4	1.681	2.592	12.0	20.3	5 11	13 17.67	+ 3 15.3	2.250	3.129	10.7	21.1
5 21	13 10.26	- 2 44.7	1.775	2.608	15.4	20.6	5 21	13 12.80	+ 2 57.3	2.339	3.134	13.3	21.3
62907	2000 <i>UC</i> ₁₀₈		4 15.8 44°11'	5°0/12.0	18		297714	2001 <i>VY</i> ₁₂₃		4 15.8 150°70'	2°8/17.8	18	
3 12	13 59.46	- 2 39.5	1.278	2.150	16.5	18.8	3 12	14 3.77	-18 16.0	1.537	2.357	17.0	20.7
3 22	13 55.47	- 1 24.5	1.225	2.159	12.3	18.5	3 22	13 58.68	-18 16.8	1.460	2.360	13.3	20.5
4 1	13 48.81	- 0 3.1	1.193	2.168	7.9	18.3	4 1	13 50.87	-17 58.8	1.405	2.363	8.9	20.2
4 11	13 40.47	+ 1 14.8	1.186	2.178	5.0	18.2	4 11	13 41.22	-17 23.3	1.374	2.366	4.5	20.0
4 21	13 31.70	+ 2 19.4	1.203	2.188	7.0	18.3	4 21	13 30.92	-16 34.3	1.369	2.369	3.2	19.9
5 1	13 23.83	+ 3 3.1	1.244	2.199	11.2	18.6	5 1	13 21.32	-15 38.6	1.390	2.371	7.3	20.1
5 11	13 17.93	+ 3 21.7	1.307	2.210	15.3	18.8	5 11	13 13.60	-14 44.6	1.436	2.373	11.8	20.4
5 21	13 14.60	+ 3 15.3	1.388	2.221	18.8	19.1	5 21	13 8.47	-13 59.2	1.504	2.375	15.7	20.6
503921	2002 <i>TB</i> ₃₃₅		4 15.8 225°47'	1°0/14.8	17		293761	2007 <i>RX</i> ₉₁		4 15.8 129°71'	1°5/16.9	16	
3 12	14 0.13	- 8 17.7	2.287	3.120	11.7	22.3	3 12	14 4.37	-15 1.5	1.613	2.439	16.0	20.9
3 22	13 55.09	- 7 58.8	2.200	3.114	8.7	22.1	3 22	13 58.92	-15 0.3	1.540	2.446	12.3	20.7
4 1	13 48.28	- 7 33.0	2.138	3.108	5.3	21.8	4 1	13 50.92	-14 44.2	1.488	2.452	7.9	20.5
4 11	13 40.28	- 7 3.3	2.103	3.102	1.8	21.6	4 11	13 41.21	-14 15.3	1.462	2.458	3.3	20.2
4 21	13 31.84	- 6 33.5	2.097	3.096	2.6	21.6	4 21	13 30.95	-13 37.6	1.463	2.464	2.6	20.2
5 1	13 23.80	- 6 7.7	2.120	3.089	6.2	21.9	5 1	13 21.40	-12 57.3	1.491	2.470	7.1	20.5
5 11	13 16.92	- 5 49.6	2.170	3.082	9.6	22.1	5 11	13 13.63	-12 21.0	1.544	2.475	11.4	20.7
5 21	13 11.71	- 5 41.6	2.242	3.075	12.6	22.2	5 21	13 8.33	-11 54.0	1.619	2.481	15.2	21.0
477591	2010 <i>JA</i> ₁₀₂		4 15.8 257°76'	4°8/21.4	18		376837	2001 <i>QA</i> ₁₁₄		4 15.8 109°95'	10°5/2.2	18	
3 12	13 57.42	-28 20.5	2.516	3.268	13.0	21.2	3 12	14 4.17	+25 29.5	2.439	3.235	12.2	21.8
3 22	13 53.15	-28 17.5	2.415	3.261	10.8	21.1	3 22	13 57.74	+27 16.2	2.427	3.265	11.0	21.8
4 1	13 47.12	-27 55.9	2.337	3.253	8.3	20.9	4 1	13 49.67	+28 44.5	2.440	3.293	10.5	21.8
4 11	13 39.91	-27 15.4	2.283	3.245	5.9	20.7	4 11	13 40.69	+29 48.0	2.478	3.321	10.8	21.9
4 21	13 32.25	-26 18.0	2.257	3.237	4.8	20.6	4 21	13 31.63	+30 23.0	2.539	3.348	11.7	22.0
5 1	13 24.96	-25 7.8	2.259	3.229	5.8	20.7	5 1	13 23.30	+30 29.0	2.622	3.375	12.9	22.1
5 11	13 18.80	-23 50.8	2.288	3.220	8.2	20.8	5 11	13 16.37	+30 8.3	2.724	3.400	14.2	22.2
5 21	13 14.31	-22 33.5	2.343	3.212	10.8	21.0	5 21	13 11.24	+29 24.9	2.842	3.424	15.3	22.4
464959	2005 <i>WC</i> ₇₃		4 15.8 73°76'	6°8/10.8	18		279768	1999 <i>RH</i> ₁₀₄		4 15.8 290°90'	0°8/16.3	17	
3 12	14 5.13	+ 7 21.0	1.733	2.582	14.0	20.6	3 12	14 2.63	-14 59.5	1.376	2.215	17.5	22.4
3 22	13 58.87	+ 8 5.9	1.691	2.605	10.9	20.4	3 22	13 58.73	-14 31.4	1.260	2.175	13.7	22.1
4 1	13 50.50	+ 8 44.1	1.673	2.628	8.0	20.3	4 1	13 51.55	-13 41.0	1.166	2.134	9.0	21.7
4 11	13 40.95	+ 9 9.0	1.681	2.651	6.8	20.3	4 11	13 41.68	-12 29.4	1.094	2.092	3.4	21.2
4 21	13 31.24	+ 9 15.7	1.715	2.674	8.1	20.4	4 21	13 30.22	-11 2.0	1.048	2.050	3.1	21.1
5 1	13 22.43	+ 9 1.9	1.776	2.697	10.7	20.6	5 1	13 18.75	- 9 28.3	1.027	2.006	9.5	21.3
5 11	13 15.34	+ 8 28.1	1.859	2.719	13.5	20.8	5 11	13 8.97	- 8 0.9	1.029	1.962	15.6	21.5
5 21	13 10.45	+ 7 36.8	1.963	2.741	16.0	21.0	5 21	13 2.12	- 6 50.2	1.050	1.918	21.2	21.7
160702	2000 <i>PU</i> ₂		4 15.8 239°79'	4°2/19.1	16		86236	1999 <i>TJ</i> ₁₁₅		4 15.8 233°78'	1°6/17.7	18	
3 12	14 3.00	-22 42.5	1.741	2.537	16.3	20.4	3 12	13 57.45	-17 45.3	2.807	3.605	10.7	19.9
3 22	13 58.09	-22 45.9	1.645	2.525	13.1	20.2	3 22	13 52.91	-17 30.8	2.706	3.595	8.3	19.7
4 1	13 50.55	-22 28.3	1.569	2.513	9.5	19.9	4 1	13 46.88	-17 4.8	2.630	3.585	5.5	19.5
4 11	13 41.13	-21 49.3	1.517	2.500	5.8	19.7	4 11	13 39.85	-16 28.8	2.582	3.574	2.7	19.3
4 21	13 30.88	-20 51.4	1.492	2.487	4.3	19.5	4 21	13 32.44	-15 45.6	2.563	3.563	1.9	19.2
5 1	13 21.10	-19 40.6	1.494	2.473	7.2	19.7	5 1	13 25.33	-14 58.7	2.573	3.551	4.6	19.4
5 11	13 12.95	-18 25.6	1.522	2.458	11.2	19.9	5 11	13 19.13	-14 12.4	2.612	3.539	7.5	19.6
5 21	13 7.24	-17 15.2	1.572	2.443	15.1	20.1	5 21	13 14.32	-13 30.8	2.676	3.527	10.2	19.7
374985	2007 <i>EO</i> ₇₁		4 15.8 119°52'	9°2/19.0	18		308203	2005 <i>EC</i> ₄₆		4 15.8 76°07'	1°0/16.6	18	
3 12	14 21.93	-23 16.9	1.167	1.961	22.8	20.9	3 12	14 2.82	-14 54.7	1.460	2.295	16.9	20.6
3 22	14 13.73	-25 27.7	1.100	1.973	18.8	20.6	3 22	13 57.77	-14 33.5	1.401	2.313	12.8	20.4
4 1	14 0.96	-27 19.5	1.053	1.985	14.4	20.4	4 1	13 50.16	-13 55.5	1.364	2.331	8.1	20.2
4 11	13 44.70	-28 42.3	1.028	1.996	10.5	20.2	4 11	13 40.94	-13 4.4	1.351	2.348	3.1	19.9
4 21	13 26.96	-29 29.4	1.029	2.006	9.3	20.2	4 21	13 31.34	-12 6.4	1.364	2.366	2.5	19.9
5 1	13 10.26	-29 42.0	1.054	2.016	11.8	20.4	5 1	13 22.63	-11 9.3	1.404	2.383	7.4	20.3
5 11	12 56.78	-29 30.1	1.102	2.025	15.7	20.6	5 11	13 15.85	-10 20.4	1.468	2.401	11.8	20.6
5 21	12 47.70	-29 6.7	1.170	2.034	19.6	20.9	5 21	13 11.59	- 9 44.8	1.553	2.418	15.6	20.8
45919	2000 <i>YZ</i> ₁₀₃		4 15.8 355°36'	8°3/ 9.0	18		165330	2000 <i>UM</i> ₁₀₅		4 15.8 257°08'	5°0/11.8	17	
3 12	13 59.02	+ 5 39.0	1.382	2.254	15.5	18.2	3 12	14 2.16	- 0 39.2	1.617	2.473	14.5	20.0
3 22	13 55.09	+ 7 11.2	1.325	2.252	12.1	18.0	3 22	13 57.34	+ 0 21.7	1.534	2.459	10.9	19.8
4 1	13 48.59	+ 8 41.1	1.290	2.251	9.2	17.8	4 1	13 50.03	+ 1 27.3	1.474	2.444	7.3	19.5
4 11	13 40.43	+ 9 57.4	1.278	2.250	8.4	17.8	4 11	13 40.98	+ 2 30.3	1.440	2.429	5.0	19.3
4 21	13 31.75	+10 50.6	1.291	2.249	10.2	17.9	4 21	13 31.21	+ 3 22.6	1.433	2.414	6.8	19.4
5 1	13 23.84	+11 14.6	1.327	2.249	13.5	18.1	5 1	13 21.96	+ 3 57.3	1.452	2.398	10.6	19.6
5 11	13 17.15	+11 7.6	1.383	2.249	16.9	18.3	5 11	13 14.31	+ 4 10.3	1.493	2.382	14.6	19.8
5 21	13 14.72	+10 32.5	1.457	2.250	20.0	18.5	5 21	13 9.00	+ 4 0.6	1.554	2.366	18.1	20.0
346223	200												

2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
225791	2001 <i>UV</i> ₁₃₈		4 15.8 147°24	0°7/15.2 17			187982	2001 <i>QR</i> ₃₃₃		4 15.8 157°16	6°5/ 8.9 17		
3 12	14 1.84	-10 1.6	2.036	2.867	13.0	21.9	3 12	14 1.45	+ 7 59.5	2.198	3.042	11.6	20.7
3 22	13 56.48	- 9 35.0	1.961	2.874	9.7	21.7	3 22	13 55.99	+ 9 12.2	2.140	3.049	9.2	20.6
4 1	13 49.17	- 8 59.1	1.911	2.881	5.9	21.5	4 1	13 48.78	+10 20.5	2.108	3.056	7.1	20.5
4 11	13 40.62	- 8 17.6	1.888	2.887	1.9	21.2	4 11	13 40.49	+11 17.6	2.102	3.062	6.5	20.4
4 21	13 31.69	- 7 35.0	1.894	2.893	2.5	21.3	4 21	13 31.92	+11 58.1	2.125	3.067	7.8	20.5
5 1	13 23.30	- 6 56.3	1.928	2.899	6.5	21.5	5 1	13 23.91	+12 18.4	2.173	3.072	10.1	20.7
5 11	13 16.29	- 6 26.2	1.988	2.904	10.2	21.8	5 11	13 17.18	+12 17.5	2.246	3.077	12.5	20.8
5 21	13 11.19	- 6 7.5	2.072	2.909	13.3	22.0	5 21	13 12.20	+11 56.7	2.338	3.080	14.7	21.0
262402	2006 <i>UX</i> ₁₃		4 15.8 265°17	1°0/14.9 17			139534	2001 <i>QS</i> ₁₈		4 15.8 201°68	1°5/14.3 17		
3 12	14 0.98	-10 10.6	1.771	2.611	14.2	21.8	3 12	14 0.78	- 8 10.4	2.148	2.983	12.2	20.7
3 22	13 56.39	- 9 34.3	1.674	2.592	10.7	21.6	3 22	13 55.69	- 7 27.2	2.063	2.979	9.1	20.5
4 1	13 49.44	- 8 45.5	1.601	2.572	6.6	21.3	4 1	13 48.72	- 6 35.3	2.003	2.974	5.5	20.2
4 11	13 40.80	- 7 48.2	1.553	2.553	2.2	20.9	4 11	13 40.51	- 5 39.1	1.971	2.969	2.0	20.0
4 21	13 31.41	- 6 48.2	1.533	2.532	3.1	21.0	4 21	13 31.87	- 4 43.7	1.968	2.964	3.1	20.0
5 1	13 22.41	- 5 52.4	1.540	2.512	7.8	21.2	5 1	13 23.66	- 3 54.6	1.993	2.958	6.9	20.3
5 11	13 14.84	- 5 7.4	1.573	2.491	12.2	21.4	5 11	13 16.70	- 3 16.3	2.045	2.951	10.4	20.5
5 21	13 9.46	- 4 37.6	1.626	2.470	16.0	21.6	5 21	13 11.53	- 2 51.7	2.119	2.944	13.5	20.7
192541	1998 <i>SY</i> ₁₂₄		4 15.8 189°54	1°7/14.3 18			264222	2010 <i>RJ</i> ₉₇		4 15.8 170°84	0°6/15.3 16		
3 12	14 2.70	- 9 8.1	1.728	2.568	14.5	20.8	3 12	14 1.93	-11 12.9	2.058	2.886	13.0	22.1
3 22	13 57.51	- 8 12.2	1.649	2.567	10.8	20.5	3 22	13 56.57	-10 33.2	1.979	2.890	9.7	21.9
4 1	13 49.99	- 7 4.2	1.594	2.566	6.6	20.3	4 1	13 49.26	- 9 42.4	1.924	2.893	5.9	21.7
4 11	13 40.93	- 5 49.7	1.565	2.564	2.4	20.0	4 11	13 40.69	- 8 44.5	1.897	2.896	1.9	21.4
4 21	13 31.35	- 4 35.8	1.565	2.561	3.7	20.1	4 21	13 31.71	- 7 44.6	1.898	2.898	2.5	21.5
5 1	13 22.36	- 3 30.2	1.592	2.558	8.1	20.3	5 1	13 23.26	- 6 48.7	1.928	2.899	6.5	21.7
5 11	13 14.96	- 2 39.2	1.644	2.554	12.3	20.6	5 11	13 16.16	- 6 2.0	1.985	2.900	10.2	22.0
5 21	13 9.79	- 2 6.3	1.718	2.549	15.8	20.8	5 21	13 10.96	- 5 28.1	2.065	2.900	13.4	22.2
162534	2000 <i>QR</i> ₁₅₇		4 15.8 186°27	0°1/15.7 18			34385	2000 <i>RE</i> ₆₂		4 15.8 236°05	5°2/10.7 18		
3 12	14 2.28	-13 26.8	2.021	2.842	13.4	20.9	3 12	14 1.86	+ 4 19.4	2.254	3.097	11.4	18.8
3 22	13 56.91	-12 40.1	1.936	2.842	10.1	20.7	3 22	13 56.44	+ 5 10.0	2.170	3.084	8.8	18.6
4 1	13 49.51	-11 39.6	1.875	2.842	6.3	20.4	4 1	13 49.18	+ 5 59.6	2.111	3.070	6.3	18.4
4 11	13 40.76	-10 29.0	1.842	2.840	2.1	20.1	4 11	13 40.67	+ 6 42.4	2.080	3.056	5.2	18.3
4 21	13 31.55	- 9 14.1	1.837	2.838	2.3	20.1	4 21	13 31.70	+ 7 13.2	2.077	3.041	6.5	18.4
5 1	13 22.87	- 8 1.5	1.862	2.835	6.5	20.4	5 1	13 23.12	+ 7 28.1	2.102	3.026	9.1	18.5
5 11	13 15.57	- 6 57.7	1.913	2.831	10.4	20.6	5 11	13 15.73	+ 7 25.0	2.151	3.010	12.0	18.7
5 21	13 10.23	- 6 7.4	1.988	2.826	13.8	20.8	5 21	13 10.06	+ 7 4.1	2.222	2.993	14.6	18.8
207127	2005 <i>AK</i> ₆₉		4 15.8 58°47	0°2/15.9 18			145448	2005 <i>RJ</i> ₂₆		4 15.8 316°19	1°3/14.4 17		
3 12	14 2.49	-12 22.4	1.353	2.200	17.3	20.2	3 12	13 56.00	- 9 1.0	2.080	2.923	12.3	19.6
3 22	13 57.73	-12 6.0	1.294	2.213	13.0	19.9	3 22	13 52.23	- 8 16.7	1.995	2.914	9.1	19.3
4 1	13 50.25	-11 34.8	1.255	2.227	8.1	19.7	4 1	13 46.64	- 7 22.6	1.933	2.906	5.5	19.1
4 11	13 41.02	-10 52.9	1.241	2.240	2.7	19.4	4 11	13 39.84	- 6 23.4	1.899	2.898	1.9	18.8
4 21	13 31.32	-10 6.6	1.253	2.254	2.8	19.4	4 21	13 32.61	- 5 24.1	1.892	2.889	3.0	18.9
5 1	13 22.53	- 9 23.3	1.289	2.268	8.0	19.8	5 1	13 25.78	- 4 30.6	1.913	2.882	6.8	19.1
5 11	13 15.76	- 8 49.7	1.350	2.283	12.7	20.1	5 11	13 20.14	- 3 48.0	1.960	2.874	10.4	19.3
5 21	13 11.64	- 8 30.2	1.431	2.297	16.6	20.4	5 21	13 16.21	- 3 19.4	2.029	2.867	13.5	19.5
360710	2004 <i>TH</i> ₇₉		4 15.8 257°72	1°7/16.9 16			386472	2008 <i>YT</i> ₉₄		4 15.8 173°97	1°4/14.3 17		
3 12	14 5.52	-15 8.4	1.699	2.519	15.6	21.3	3 12	13 58.78	- 7 42.3	2.307	3.142	11.5	21.7
3 22	14 0.10	-15 13.6	1.596	2.499	12.1	21.0	3 22	13 54.05	- 7 5.8	2.228	3.144	8.5	21.5
4 1	13 51.93	-15 4.7	1.515	2.478	8.0	20.7	4 1	13 47.64	- 6 22.2	2.174	3.145	5.1	21.3
4 11	13 41.69	-14 42.3	1.460	2.456	3.5	20.4	4 11	13 40.15	- 5 35.4	2.147	3.146	1.9	21.1
4 21	13 30.44	-14 9.5	1.432	2.433	2.7	20.3	4 21	13 32.32	- 4 49.8	2.150	3.146	2.9	21.2
5 1	13 19.50	-13 31.5	1.432	2.410	7.4	20.5	5 1	13 24.92	- 4 10.1	2.182	3.147	6.3	21.4
5 11	13 10.15	-12 55.1	1.456	2.386	12.1	20.7	5 11	13 18.66	- 3 40.1	2.239	3.147	9.6	21.6
5 21	13 3.29	-12 26.6	1.503	2.362	16.3	20.9	5 21	13 14.02	- 3 22.2	2.320	3.147	12.4	21.8
240692	2005 <i>EC</i> ₂₄₃		4 15.8 199°67	0°8/14.9 17			248393	2005 <i>SR</i> ₃₇		4 15.8 256°88	0°2/16.0 16		
3 12	13 59.32	- 9 20.3	2.252	3.084	11.8	21.2	3 12	13 58.72	-12 7.7	2.530	3.350	11.0	21.1
3 22	13 54.52	- 8 54.1	2.169	3.083	8.8	21.0	3 22	13 54.01	-11 54.8	2.432	3.337	8.4	20.9
4 1	13 47.96	- 8 19.7	2.111	3.081	5.4	20.8	4 1	13 47.65	-11 33.1	2.358	3.324	5.2	20.7
4 11	13 40.24	- 7 40.6	2.080	3.079	1.7	20.6	4 11	13 40.18	-11 4.8	2.312	3.311	1.8	20.4
4 21	13 32.13	- 7 0.8	2.078	3.077	2.5	20.6	4 21	13 32.26	-10 33.0	2.296	3.297	1.8	20.4
5 1	13 24.45	- 6 24.9	2.104	3.074	6.1	20.8	5 1	13 24.64	-10 1.4	2.308	3.283	5.3	20.6
5 11	13 17.93	- 5 57.0	2.157	3.071	9.6	21.0	5 11	13 18.01	- 9 33.9	2.348	3.269	8.6	20.8
5 21	13 13.10	- 5 39.7	2.233	3.069	12.5	21.2	5 21	13 12.91	- 9 13.7	2.413	3.255	11.5	21.0
136728	1995 <i>UW</i> ₅₂		4 15.8 108°50	1°8/17.5 18			303803	2005 <i>SP</i> ₄₄		4 15.8 222°09	0°8/16.8 17		
3 12	14 1.09	-16 29.1	2.393	3.197	12.1	20.1	3 12	13 57.26	-15 0.9	2.769	3.579	10.5	21.6
3 22	13 55.75	-16 37.9	2.314	3.206	9.3	20.0	3 22	13 52.77	-14 39.1	2.674	3.572	8.0	21.5
4 1	13 48.67	-16 35.7	2.259	3.215	6.2	19.8	4 1	13 46.81	-14 7.2	2.603	3.565	5.1	21.3
4 11	13 40.48	-16 23.7	2.231	3.223	3.0	19.6	4 11	13 39.88	-13 27.1	2.561	3.557	2.1	21.0
4 21	13 31.91	-16 4.2	2.232	3.232	2.2	19.5	4 21	13 32.60	-12 42.0	2.548	3.549	1.6	21.0
5 1	13 23.79	-15 40.6	2.262	3.240	5.2	19.8	5 1	13 25.64	-11 55.6	2.564	3.541	4.7	21.2
5 11	13 16.85	-15 17.0	2.320	3.248	8.3	20.0	5 11	13 19.59	-11 12.2	2.609	3.533	7.7	21.4
5 21	13 11.60	-14 57.2	2.402	3.256	11.1	20.2	5 21	13 14.93	-10 35.3	2.678	3.524	10.4	21.5
425205	2009 <i>VA</i> ₁₉		4 15.8 187°02	0°7/16.5 17			146857	2002 <i>AD</i> ₁					

2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
33668	1999 JO ₉₇		4 15.8 166 ^o 56	5 ^o 4/ 9.8 18			264283	1998 FG ₁₃₇		4 15.8 42 ^o 62	4 ^o 1/18.2 18		
3 12	14 0.33	+ 4 56.1	2.342	3.186	11.0	18.9	3 12	14 7.14	-17 55.4	1.469	2.287	17.7	19.7
3 22	13 55.10	+ 6 6.3	2.278	3.191	8.5	18.7	3 22	14 1.23	-18 52.9	1.409	2.305	13.9	19.5
4 1	13 48.22	+ 7 14.8	2.240	3.196	6.2	18.6	4 1	13 52.46	-19 34.6	1.369	2.323	9.6	19.2
4 11	13 40.33	+ 8 15.4	2.230	3.200	5.4	18.5	4 11	13 41.82	-19 59.1	1.354	2.341	5.5	19.1
4 21	13 32.16	+ 9 3.0	2.248	3.203	6.7	18.6	4 21	13 30.61	-20 7.6	1.365	2.360	4.3	19.0
5 1	13 24.46	+ 9 33.4	2.293	3.206	9.0	18.7	5 1	13 20.27	-20 3.8	1.402	2.380	7.6	19.3
5 11	13 17.94	+ 9 45.0	2.363	3.208	11.5	18.9	5 11	13 12.02	-19 54.3	1.463	2.400	11.6	19.5
5 21	13 13.04	+ 9 38.2	2.454	3.209	13.8	19.1	5 21	13 6.56	-19 45.0	1.546	2.420	15.2	19.8
100702	1998 AK ₁		4 15.8 201 ^o 98	1 ^o 7/14.3 17			381868	2010 AV ₈		4 15.8 132 ^o 91	2 ^o 6/13.3 17		
3 12	14 3.29	- 7 56.7	2.043	2.876	12.8	21.1	3 12	13 59.08	- 5 11.2	2.022	2.868	12.4	21.3
3 22	13 57.69	- 7 13.5	1.957	2.871	9.6	20.9	3 22	13 54.44	- 4 21.2	1.951	2.872	9.2	21.1
4 1	13 50.02	- 6 21.3	1.895	2.865	5.9	20.6	4 1	13 47.95	- 3 25.1	1.904	2.877	5.6	20.8
4 11	13 40.98	- 5 24.6	1.861	2.859	2.2	20.4	4 11	13 40.28	- 2 28.0	1.885	2.881	2.8	20.7
4 21	13 31.43	- 4 28.7	1.856	2.852	3.3	20.4	4 21	13 32.26	- 1 35.6	1.894	2.885	4.1	20.8
5 1	13 22.35	- 3 39.4	1.879	2.843	7.3	20.7	5 1	13 24.76	- 0 53.1	1.930	2.889	7.5	21.0
5 11	13 14.61	- 3 1.8	1.929	2.834	11.0	20.9	5 11	13 18.55	- 0 24.6	1.992	2.893	10.9	21.2
5 21	13 8.83	- 2 38.7	2.002	2.824	14.3	21.1	5 21	13 14.16	- 0 11.8	2.076	2.896	13.9	21.4
272675	2005 XV ₅		4 15.8 79 ^o 51	6 ^o 2/11.1 17			445534	2011 CZ ₈₆		4 15.8 103 ^o 22	1 ^o 8/13.1 18		
3 12	14 3.78	+ 5 18.7	1.752	2.603	13.8	20.3	3 12	13 53.77	- 4 44.7	3.342	4.179	8.2	21.5
3 22	13 58.00	+ 6 4.0	1.701	2.619	10.6	20.1	3 22	13 49.83	- 3 59.9	3.274	4.191	6.0	21.4
4 1	13 50.11	+ 6 45.1	1.675	2.635	7.6	20.0	4 1	13 44.83	- 3 11.9	3.232	4.203	3.7	21.2
4 11	13 40.95	+ 7 15.3	1.674	2.650	6.2	19.9	4 11	13 39.21	- 2 23.8	3.220	4.215	1.9	21.1
4 21	13 31.54	+ 7 29.4	1.700	2.666	7.5	20.0	4 21	13 33.42	- 1 38.8	3.238	4.227	2.7	21.2
5 1	13 22.93	+ 7 24.2	1.752	2.681	10.3	20.2	5 1	13 27.94	- 1 0.0	3.285	4.239	5.0	21.3
5 11	13 15.95	+ 6 59.4	1.828	2.697	13.3	20.4	5 11	13 23.20	- 0 29.8	3.359	4.250	7.2	21.5
5 21	13 11.12	+ 6 16.7	1.924	2.712	16.0	20.7	5 21	13 19.51	- 0 9.5	3.458	4.262	9.2	21.7
39036	2000 UQ ₇₈		4 15.8 292 ^o 28	2 ^o 9/18.1 17 R			413237	2003 SQ ₁₆₀		4 15.8 198 ^o 39	2 ^o 2/13.7 17		
3 12	13 59.12	-19 42.5	1.460	2.286	17.4	19.2	3 12	14 3.09	- 5 57.9	2.118	2.953	12.4	22.3
3 22	13 55.56	-19 26.2	1.367	2.270	13.8	18.9	3 22	13 57.45	- 5 13.6	2.034	2.950	9.2	22.1
4 1	13 49.20	-18 46.5	1.295	2.254	9.4	18.7	4 1	13 49.84	- 4 22.2	1.974	2.945	5.7	21.9
4 11	13 40.82	-17 44.6	1.246	2.238	4.8	18.3	4 11	13 40.93	- 3 28.4	1.943	2.940	2.5	21.7
4 21	13 31.54	-16 25.3	1.222	2.223	3.4	18.2	4 21	13 31.56	- 2 37.5	1.941	2.933	3.7	21.7
5 1	13 22.75	-14 57.1	1.224	2.207	7.7	18.4	5 1	13 22.65	- 1 54.8	1.967	2.926	7.4	21.9
5 11	13 15.75	-13 31.0	1.250	2.192	12.6	18.6	5 11	13 15.03	- 1 24.6	2.020	2.918	10.9	22.1
5 21	13 11.38	-12 16.4	1.297	2.177	17.1	18.9	5 21	13 9.29	- 1 9.1	2.095	2.910	14.0	22.3
272871	2006 BE ₈₁		4 15.8 200 ^o 44	0 ^o 6/15.3 17			174838	2003 YV ₁₁₅		4 15.8 103 ^o 48	3 ^o 7/18.8 18		
3 12	14 0.66	- 9 54.7	1.946	2.781	13.3	20.9	3 12	14 2.70	-21 10.9	1.671	2.476	16.4	20.5
3 22	13 55.79	- 9 36.2	1.866	2.781	9.9	20.7	3 22	13 57.72	-21 16.2	1.596	2.484	13.0	20.3
4 1	13 48.87	- 9 8.4	1.810	2.780	6.1	20.5	4 1	13 50.23	-21 1.8	1.543	2.492	9.1	20.0
4 11	13 40.60	- 8 34.8	1.780	2.780	2.0	20.2	4 11	13 41.09	-20 28.2	1.514	2.500	5.3	19.8
4 21	13 31.86	- 7 59.6	1.779	2.779	2.5	20.2	4 21	13 31.41	-19 39.0	1.511	2.507	3.9	19.8
5 1	13 23.62	- 7 27.7	1.805	2.778	6.7	20.5	5 1	13 22.40	-18 40.3	1.535	2.515	6.9	19.9
5 11	13 16.75	- 7 3.9	1.857	2.777	10.5	20.7	5 11	13 15.15	-17 40.3	1.585	2.522	10.8	20.2
5 21	13 11.85	- 6 51.3	1.932	2.776	13.8	20.9	5 21	13 10.30	-16 46.2	1.657	2.529	14.4	20.4
328339	2008 KU ₁		4 15.8 263 ^o 76	1 ^o 4/14.6 17			408658	2014 MV ₂₀		4 15.8 266 ^o 57	3 ^o 9/12.9 17		
3 12	13 58.57	-10 0.0	1.745	2.590	14.1	21.2	3 12	14 3.01	- 3 45.1	1.527	2.382	15.2	21.1
3 22	13 54.44	- 9 7.1	1.665	2.586	10.5	20.9	3 22	13 58.28	- 2 51.5	1.436	2.362	11.5	20.9
4 1	13 48.13	- 8 1.4	1.609	2.582	6.4	20.7	4 1	13 50.83	- 1 49.0	1.368	2.341	7.3	20.6
4 11	13 40.37	- 6 48.4	1.578	2.578	2.2	20.4	4 11	13 41.38	- 0 44.7	1.324	2.319	4.1	20.3
4 21	13 32.10	- 5 34.8	1.575	2.573	3.3	20.5	4 21	13 31.02	+ 0 13.4	1.308	2.297	5.9	20.4
5 1	13 24.36	- 4 28.3	1.599	2.569	7.7	20.7	5 1	13 21.09	+ 0 57.2	1.316	2.274	10.4	20.5
5 11	13 18.09	- 3 35.3	1.648	2.565	11.8	20.9	5 11	13 12.82	+ 1 20.9	1.349	2.251	15.0	20.7
5 21	13 13.90	- 2 59.5	1.718	2.561	15.4	21.2	5 21	13 7.08	+ 1 22.1	1.400	2.228	19.0	20.9
501184	2013 TT ₁₀₈		4 15.8 192 ^o 86	0 ^o 2/16.1 17			36687	2000 RR ₄		4 15.8 314 ^o 87	4 ^o 3/12.9 18		
3 12	14 0.64	-13 11.3	2.420	3.236	11.6	23.3	3 12	13 59.32	- 3 48.6	1.255	2.127	16.8	18.2
3 22	13 55.43	-12 42.6	2.331	3.234	8.8	23.1	3 22	13 55.87	- 2 58.7	1.177	2.111	12.6	17.9
4 1	13 48.51	-12 3.3	2.266	3.231	5.5	22.9	4 1	13 49.47	- 1 59.7	1.119	2.095	8.0	17.6
4 11	13 40.47	-11 16.1	2.230	3.228	1.9	22.6	4 11	13 40.94	- 0 59.5	1.085	2.080	4.4	17.4
4 21	13 32.02	-10 24.8	2.223	3.224	1.9	22.6	4 21	13 31.51	- 0 7.2	1.074	2.065	6.4	17.4
5 1	13 23.98	- 9 34.2	2.245	3.219	5.5	22.8	5 1	13 22.67	+ 0 28.4	1.087	2.051	11.3	17.6
5 11	13 17.06	- 8 49.0	2.296	3.214	8.9	23.0	5 11	13 15.76	+ 0 41.3	1.122	2.038	16.1	17.9
5 21	13 11.77	- 8 12.9	2.370	3.208	11.8	23.2	5 21	13 11.64	+ 0 29.7	1.174	2.026	20.4	18.1
425501	2010 GA ₁₂₅		4 15.8 241 ^o 83	5 ^o 9/ 9.8 18			55267	2001 RP ₁₃₂		4 15.8 172 ^o 64	0 ^o 9/17.3 18		
3 12	13 59.27	+ 6 37.7	2.230	3.078	11.3	20.9	3 12	13 53.48	-15 11.9	4.493	5.290	7.0	19.3
3 22	13 54.46	+ 7 33.2	2.160	3.074	8.8	20.7	3 22	13 49.45	-15 12.6	4.400	5.290	5.3	19.2
4 1	13 47.91	+ 8 25.5	2.115	3.069	6.7	20.6	4 1	13 44.57	-15 7.6	4.334	5.291	3.5	19.0
4 11	13 40.26	+ 9 8.5	2.097	3.065	5.9	20.5	4 11	13 39.14	-14 58.1	4.298	5.291	1.6	18.9
4 21	13 32.26	+ 9 37.4	2.107	3.061	7.1	20.6	4 21	13 33.52	-14 45.2	4.291	5.291	1.2	18.9
5 1	13 24.71	+ 9 48.4	2.143	3.056	9.5	20.7	5 1	13 28.09	-14 30.7	4.315	5.292	3.0	19.0
5 11	13 18.35	+ 9 40.3	2.203	3.052	12.1	20.9	5 11	13 23.20	-14 16.5	4.368	5.292	4.9	19.1
5 21	13 13.67	+ 9 13.9	2.283	3.047	14.5	21.0	5 21	13 19.12	-14 4.4	4.448	5.292	6.6	19.3
37936													

EPHEMERIDES

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2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
313106	2000 <i>WT</i> ₉₆	4 15.8 115°85'		3°9'/12.7 18			424010	2006 <i>WS</i> ₉₇	4 15.8 170°06'		0°7'/16.6 15		
3 12	14 5.28	- 1 35.9	1.800	2.645	13.8	21.0	3 12	14 2.19	-14 54.8	2.348	3.156	12.2	23.1
3 22	13 59.08	- 0 46.8	1.746	2.665	10.2	20.8	3 22	13 56.61	-14 26.2	2.264	3.162	9.3	22.9
4 1	13 50.77	+ 0 4.8	1.715	2.684	6.5	20.6	4 1	13 49.25	-13 45.5	2.204	3.166	5.9	22.7
4 11	13 41.20	+ 0 52.8	1.712	2.703	4.0	20.5	4 11	13 40.75	-12 55.3	2.173	3.170	2.2	22.4
4 21	13 31.39	+ 1 31.4	1.737	2.721	5.4	20.6	4 21	13 31.88	-11 59.8	2.171	3.173	1.8	22.4
5 1	13 22.37	+ 1 55.9	1.790	2.739	8.8	20.8	5 1	13 23.49	-11 3.7	2.199	3.175	5.5	22.7
5 11	13 14.98	+ 2 3.6	1.867	2.755	12.2	21.1	5 11	13 16.30	-10 12.5	2.255	3.176	8.9	22.9
5 21	13 9.74	+ 1 54.5	1.966	2.771	15.1	21.3	5 21	13 10.85	- 9 30.1	2.335	3.176	11.9	23.1
57576	2001 <i>TV</i> ₆₆	4 15.8 132°90'		1°3'/14.6 18			438437	2006 <i>WS</i> ₉₈	4 15.8 213°50'		3°3'/12.2 17		
3 12	14 1.25	- 8 36.6	1.918	2.756	13.3	19.7	3 12	13 58.89	- 0 1.2	2.560	3.402	10.3	22.0
3 22	13 56.16	- 8 1.6	1.847	2.764	9.9	19.5	3 22	13 54.00	+ 0 34.9	2.481	3.398	7.7	21.8
4 1	13 49.06	- 7 17.6	1.800	2.771	6.0	19.3	4 1	13 47.59	+ 1 12.1	2.427	3.394	5.0	21.6
4 11	13 40.68	- 6 29.3	1.779	2.778	2.1	19.0	4 11	13 40.20	+ 1 46.4	2.402	3.390	3.4	21.5
4 21	13 31.91	- 5 41.7	1.787	2.785	3.1	19.1	4 21	13 32.48	+ 2 13.7	2.405	3.385	4.5	21.5
5 1	13 23.73	- 5 0.4	1.823	2.791	7.1	19.4	5 1	13 25.13	+ 2 30.8	2.437	3.380	7.1	21.7
5 11	13 16.97	- 4 30.1	1.884	2.797	10.8	19.6	5 11	13 18.79	+ 2 35.3	2.495	3.375	9.8	21.9
5 21	13 12.19	- 4 13.3	1.968	2.803	14.0	19.8	5 21	13 13.91	+ 2 26.7	2.576	3.370	12.2	22.0
329308	2000 <i>SW</i> ₃₇	4 15.8 268°45'		1°8'/14.3 17			105610	2000 <i>RG</i> ₉₈	4 15.8 258°43'		5°1'/21.4 18		
3 12	14 1.80	- 6 56.3	2.026	2.864	12.7	21.1	3 12	13 58.59	-28 22.6	2.438	3.191	13.4	19.0
3 22	13 56.80	- 6 25.7	1.923	2.840	9.6	20.8	3 22	13 54.19	-28 29.3	2.337	3.182	11.1	18.8
4 1	13 49.65	- 5 47.0	1.843	2.815	5.9	20.5	4 1	13 47.91	-28 17.4	2.258	3.173	8.6	18.7
4 11	13 40.95	- 5 4.1	1.791	2.789	2.3	20.3	4 11	13 40.35	-27 46.4	2.204	3.164	6.3	18.5
4 21	13 31.54	- 4 21.9	1.767	2.763	3.5	20.3	4 21	13 32.29	-26 57.6	2.176	3.154	5.1	18.4
5 1	13 22.41	- 3 45.9	1.772	2.737	7.5	20.5	5 1	13 24.58	-25 54.9	2.177	3.145	6.1	18.5
5 11	13 14.51	- 3 20.8	1.802	2.710	11.5	20.6	5 11	13 18.05	-24 44.4	2.204	3.136	8.5	18.6
5 21	13 8.54	- 3 9.7	1.854	2.682	15.0	20.8	5 21	13 13.26	-23 32.5	2.256	3.126	11.2	18.7
154292	2002 <i>TJ</i> ₂₅₈	4 15.8 180°03'		2°3'/14.1 18			437450	2013 <i>YL</i> ₁₀	4 15.8 58°27'		3°1'/12.8 17		
3 12	14 6.27	- 6 9.0	1.719	2.558	14.6	21.2	3 12	13 57.70	- 3 34.5	2.011	2.862	12.3	21.1
3 22	14 0.20	- 5 35.3	1.643	2.560	10.9	21.0	3 22	13 53.39	- 2 41.7	1.948	2.872	9.1	20.9
4 1	13 51.70	- 4 53.9	1.590	2.561	6.7	20.8	4 1	13 47.30	- 1 44.4	1.909	2.881	5.7	20.8
4 11	13 41.59	- 4 9.8	1.564	2.562	2.7	20.5	4 11	13 40.11	- 0 48.1	1.897	2.891	3.2	20.6
4 21	13 30.94	- 3 28.9	1.566	2.561	4.1	20.6	4 21	13 32.62	+ 0 1.6	1.913	2.901	4.5	20.7
5 1	13 20.92	- 2 57.0	1.596	2.560	8.3	20.8	5 1	13 25.67	+ 0 39.7	1.957	2.911	7.8	20.9
5 11	13 12.59	- 2 38.6	1.651	2.558	12.4	21.1	5 11	13 20.01	+ 1 2.8	2.025	2.921	11.0	21.1
5 21	13 6.59	- 2 35.9	1.728	2.555	16.0	21.3	5 21	13 16.10	+ 1 9.7	2.115	2.931	13.8	21.4
503704	2016 <i>JE</i> ₁₄	4 15.8 324°57'		6°9'/ 8.6 17			469891	2005 <i>VG</i> ₁₁₈	4 15.8 219°85'		7°7'/26.5 18		
3 12	13 56.79	+ 3 41.2	1.697	2.562	13.4	20.7	3 12	14 2.13	-41 52.4	3.190	3.823	12.6	21.7
3 22	13 53.10	+ 5 30.4	1.633	2.559	10.4	20.5	3 22	13 56.71	-42 25.9	3.082	3.814	11.3	21.5
4 1	13 47.30	+ 7 20.8	1.594	2.555	7.7	20.3	4 1	13 49.42	-42 40.5	2.993	3.805	9.9	21.4
4 11	13 40.13	+ 9 2.2	1.581	2.552	7.0	20.2	4 11	13 40.86	-42 33.6	2.927	3.795	8.6	21.3
4 21	13 32.52	+10 25.4	1.594	2.549	8.9	20.3	4 21	13 31.75	-42 4.7	2.885	3.784	7.8	21.2
5 1	13 25.48	+11 23.6	1.631	2.546	11.9	20.5	5 1	13 22.96	-41 15.2	2.869	3.773	7.7	21.2
5 11	13 19.88	+11 53.7	1.691	2.543	15.0	20.7	5 11	13 15.28	-40 9.6	2.879	3.762	8.6	21.3
5 21	13 16.31	+11 56.2	1.769	2.541	17.8	20.9	5 21	13 9.30	-38 53.3	2.914	3.750	9.9	21.3
359047	2008 <i>XY</i> ₃₆	4 15.8 224°64'		0°2'/16.0 17			313713	2003 <i>UE</i> ₉₄	4 15.8 163°39'		0°7'/16.4 16		
3 12	13 59.88	-12 23.9	2.174	2.999	12.5	21.6	3 12	14 3.47	-14 18.8	2.076	2.891	13.3	22.1
3 22	13 55.09	-12 5.3	2.086	2.994	9.4	21.4	3 22	13 57.77	-13 54.3	1.996	2.897	10.1	21.9
4 1	13 48.42	-11 36.2	2.022	2.989	5.9	21.2	4 1	13 50.05	-13 17.0	1.940	2.903	6.4	21.6
4 11	13 40.50	-10 59.4	1.985	2.984	2.0	20.9	4 11	13 41.04	-12 29.9	1.911	2.909	2.4	21.4
4 21	13 32.11	-10 18.6	1.977	2.978	2.0	20.9	4 21	13 31.61	-11 37.3	1.912	2.913	2.0	21.4
5 1	13 24.13	- 9 38.6	1.997	2.972	5.9	21.1	5 1	13 22.73	-10 44.6	1.941	2.917	6.1	21.6
5 11	13 17.37	- 9 4.2	2.044	2.967	9.6	21.3	5 11	13 15.24	- 9 57.4	1.997	2.920	9.8	21.9
5 21	13 12.39	- 8 39.0	2.114	2.961	12.7	21.5	5 21	13 9.71	- 9 20.1	2.078	2.922	13.0	22.1
408768	1998 <i>SQ</i> ₄₉	4 15.8 307°22'		2°8'/14.5 17			421333	2013 <i>TA</i> ₇₉	4 15.8 107°96'		2°5'/17.9 17		
3 12	14 5.87	- 5 15.6	1.215	2.076	17.9	20.8	3 12	14 4.87	-17 54.2	2.146	2.944	13.5	21.0
3 22	14 1.76	- 5 7.7	1.102	2.030	13.9	20.4	3 22	13 58.75	-18 11.3	2.074	2.961	10.5	20.8
4 1	13 53.88	- 4 51.8	1.008	1.983	8.9	20.0	4 1	13 50.62	-18 15.6	2.026	2.977	7.1	20.6
4 11	13 42.71	- 4 32.5	0.937	1.935	3.6	19.5	4 11	13 41.22	-18 7.5	2.004	2.993	3.7	20.4
4 21	13 29.37	- 4 16.2	0.890	1.888	5.3	19.5	4 21	13 31.43	-17 49.5	2.011	3.009	2.8	20.4
5 1	13 15.67	- 4 10.6	0.866	1.840	11.9	19.6	5 1	13 22.23	-17 25.2	2.047	3.024	5.7	20.6
5 11	13 3.67	- 4 22.8	0.864	1.792	18.5	19.8	5 11	13 14.46	-16 59.6	2.111	3.039	9.0	20.8
5 21	12 54.95	- 4 56.8	0.879	1.744	24.5	20.0	5 21	13 8.66	-16 37.1	2.198	3.054	12.0	21.1
225032	2007 <i>FH</i> ₂₉	4 15.8 303°77'		0°4'/15.5 17			521176	2015 <i>FG</i> ₄₁₀	4 15.8 340°49'		0°9'/16.5 17		
3 12	14 0.52	-10 46.1	1.757	2.597	14.3	20.7	3 12	13 58.89	-13 13.2	1.836	2.669	14.0	21.0
3 22	13 55.94	-10 26.9	1.677	2.594	10.8	20.5	3 22	13 54.71	-13 14.6	1.751	2.662	10.7	20.7
4 1	13 49.10	- 9 56.7	1.620	2.591	6.6	20.2	4 1	13 48.37	-13 4.4	1.688	2.655	6.8	20.5
4 11	13 40.75	- 9 18.9	1.589	2.588	2.1	19.9	4 11	13 40.53	-12 44.9	1.651	2.649	2.6	20.2
4 21	13 31.85	- 8 38.5	1.584	2.585	2.6	19.9	4 21	13 32.12	-12 19.4	1.641	2.643	2.2	20.1
5 1	13 23.48	- 8 1.1	1.607	2.582	7.1	20.2	5 1	13 24.16	-11 52.6	1.659	2.638	6.5	20.4
5 11	13 16.61	- 7 32.2	1.655	2.579	11.3	20.4	5 11	13 17.59	-11 29.8	1.701	2.634	10.5	20.6
5 21	13 11.89	- 7 15.4	1.724	2.577	14.9	20.7	5 21	13 13.08	-11 15.0	1.766	2.630	14.1	20.8
196946	2003 <i>UX</i> ₃₁	4 15.8 250°77'		0°7'/15.2 18			72212	2001 <i>AT</i>	4 15.8 119°71'				

EPHEMERIDES

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2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
102045	1999 RQ ₁₁₅		4 15.8 267°17	6°6/22.3	18		478024	2011 SX ₂₀₈		4 15.8 220°54	1°6/14.1	17	
3 12	14 2.40	-31 56.7	2.601	3.321	13.4	20.0	3 12	13 58.48	-6 3.4	2.695	3.528	10.1	22.0
3 22	13 57.16	-32 40.6	2.490	3.303	11.5	19.8	3 22	13 53.68	-5 34.8	2.606	3.521	7.5	21.9
4 1	13 49.86	-33 7.5	2.400	3.286	9.4	19.6	4 1	13 47.42	-5 1.2	2.543	3.514	4.6	21.7
4 11	13 41.06	-33 14.9	2.334	3.268	7.6	19.5	4 11	13 40.18	-4 26.0	2.509	3.506	1.9	21.4
4 21	13 31.53	-33 2.2	2.295	3.250	6.6	19.4	4 21	13 32.59	-3 52.5	2.504	3.498	2.8	21.5
5 1	13 22.21	-32 31.1	2.284	3.231	7.2	19.4	5 1	13 25.33	-3 24.4	2.528	3.490	5.8	21.7
5 11	13 14.02	-31 46.3	2.298	3.212	9.1	19.4	5 11	13 19.00	-3 4.7	2.579	3.481	8.7	21.9
5 21	13 7.65	-30 53.7	2.337	3.194	11.3	19.6	5 21	13 14.08	-2 55.4	2.655	3.472	11.3	22.0
468197	2015 AA ₂₇₃		4 15.8 349°29	0°1/15.8	17		114404	2002 YJ ₁₉		4 15.8 214°20	4°6/10.9	18	
3 12	14 0.67	-11 40.3	1.695	2.534	14.8	21.4	3 12	13 59.08	+3 17.6	2.397	3.243	10.7	19.8
3 22	13 56.12	-11 21.2	1.618	2.533	11.1	21.2	3 22	13 54.25	+4 8.3	2.323	3.239	8.2	19.7
4 1	13 49.24	-10 49.9	1.563	2.533	6.9	20.9	4 1	13 47.80	+4 58.4	2.273	3.235	5.8	19.5
4 11	13 40.82	-10 9.9	1.533	2.532	2.3	20.6	4 11	13 40.32	+5 42.6	2.252	3.230	4.6	19.4
4 21	13 31.86	-9 26.1	1.531	2.532	2.5	20.6	4 21	13 32.49	+6 16.3	2.259	3.226	5.8	19.5
5 1	13 23.46	-8 44.8	1.555	2.532	7.2	20.9	5 1	13 25.07	+6 35.8	2.293	3.221	8.3	19.6
5 11	13 16.63	-8 11.7	1.604	2.532	11.4	21.1	5 11	13 18.74	+6 39.1	2.352	3.215	11.0	19.8
5 21	13 12.02	-7 50.8	1.675	2.531	15.1	21.4	5 21	13 13.96	+6 26.1	2.433	3.210	13.3	19.9
68106	2000 YK ₁₂₈		4 15.8 216°06	2°0/17.5	18		292378	2006 SD ₂₅₈		4 15.8 219°76	0°2/16.1	17	
3 12	14 4.34	-17 6.8	2.013	2.819	14.0	19.7	3 12	13 58.07	-12 54.9	2.410	3.231	11.5	22.0
3 22	13 58.71	-17 2.9	1.917	2.811	10.9	19.4	3 22	13 53.58	-12 30.7	2.321	3.228	8.7	21.8
4 1	13 50.82	-16 44.6	1.845	2.802	7.3	19.2	4 1	13 47.44	-11 56.4	2.258	3.224	5.4	21.6
4 11	13 41.36	-16 13.1	1.799	2.792	3.5	18.9	4 11	13 40.21	-11 14.7	2.222	3.220	1.9	21.3
4 21	13 31.25	-15 31.3	1.781	2.781	2.5	18.8	4 21	13 32.60	-10 29.2	2.215	3.216	1.8	21.3
5 1	13 21.55	-14 44.3	1.792	2.770	6.2	19.1	5 1	13 25.37	-9 44.4	2.236	3.212	5.4	21.5
5 11	13 13.25	-13 58.2	1.830	2.758	10.2	19.3	5 11	13 19.20	-9 4.7	2.285	3.207	8.7	21.7
5 21	13 7.04	-13 18.6	1.891	2.745	13.7	19.5	5 21	13 14.60	-8 33.8	2.358	3.203	11.6	21.9
74285	1998 SR ₁₃₁		4 15.8 246°82	3°0/18.5	18		497160	2004 RT ₂₀₈		4 15.8 218°44	3°4/19.7	18	
3 12	14 1.82	-19 46.7	2.274	3.067	13.0	19.7	3 12	14 1.26	-24 6.1	2.651	3.417	12.1	22.4
3 22	13 56.66	-19 58.8	2.173	3.055	10.3	19.5	3 22	13 55.98	-23 55.7	2.544	3.406	9.8	22.2
4 1	13 49.49	-19 57.2	2.095	3.042	7.2	19.3	4 1	13 48.96	-23 29.4	2.461	3.394	7.1	22.0
4 11	13 40.91	-19 42.2	2.044	3.030	4.1	19.0	4 11	13 40.74	-22 47.4	2.404	3.381	4.5	21.8
4 21	13 31.72	-19 15.6	2.020	3.016	3.1	18.9	4 21	13 32.04	-21 52.0	2.377	3.368	3.4	21.7
5 1	13 22.85	-18 40.9	2.026	3.003	5.7	19.1	5 1	13 23.66	-20 47.2	2.379	3.353	5.2	21.8
5 11	13 15.17	-18 3.2	2.058	2.989	9.1	19.3	5 11	13 16.36	-19 38.6	2.409	3.338	8.0	22.0
5 21	13 9.33	-17 27.8	2.115	2.975	12.2	19.4	5 21	13 10.67	-18 31.9	2.466	3.323	10.8	22.1
66901	1999 VK ₁₃₅		4 15.8 202°51	0°8/14.9	18		338288	2002 UG ₁₃		4 15.8 138°19	2°7/12.5	18 R	
3 12	13 58.69	-10 44.7	2.532	3.356	10.9	20.2	3 12	13 58.15	-3 3.4	2.688	3.527	9.9	21.2
3 22	13 53.93	-9 53.4	2.441	3.351	8.1	20.0	3 22	13 53.32	-2 6.8	2.622	3.539	7.3	21.1
4 1	13 47.59	-8 52.4	2.377	3.346	5.0	19.8	4 1	13 47.11	-1 7.0	2.582	3.551	4.6	20.9
4 11	13 40.23	-7 45.5	2.341	3.340	1.6	19.6	4 11	13 40.08	-0 8.4	2.571	3.562	2.7	20.8
4 21	13 32.51	-6 37.2	2.335	3.333	2.3	19.6	4 21	13 32.82	+0 44.8	2.589	3.573	3.9	20.9
5 1	13 25.15	-5 32.8	2.359	3.326	5.7	19.8	5 1	13 25.99	+1 28.4	2.637	3.584	6.4	21.1
5 11	13 18.82	-4 37.0	2.410	3.319	8.9	20.0	5 11	13 20.14	+1 59.7	2.712	3.594	9.0	21.3
5 21	13 13.99	-3 53.1	2.486	3.310	11.7	20.2	5 21	13 15.68	+2 17.5	2.810	3.603	11.3	21.4
362011	2008 WJ ₇₄		4 15.8 68°15	1°5/14.9	18		278847	2008 TX ₁		4 15.8 210°69	0°3/16.2	17	
3 12	14 3.96	-8 42.6	1.325	2.178	17.2	21.0	3 12	13 58.61	-14 0.0	1.979	2.807	13.4	20.7
3 22	13 58.85	-8 16.3	1.269	2.194	12.8	20.8	3 22	13 54.31	-13 23.8	1.896	2.805	10.2	20.5
4 1	13 50.98	-7 38.9	1.235	2.209	7.8	20.5	4 1	13 48.03	-12 33.9	1.837	2.804	6.4	20.2
4 11	13 41.38	-6 55.9	1.226	2.225	2.6	20.3	4 11	13 40.45	-11 33.8	1.804	2.803	2.2	20.0
4 21	13 31.36	-6 14.1	1.241	2.241	3.7	20.4	4 21	13 32.42	-10 28.7	1.800	2.801	2.1	20.0
5 1	13 22.29	-5 40.5	1.283	2.256	8.7	20.7	5 1	13 24.88	-9 24.7	1.823	2.800	6.3	20.2
5 11	13 15.31	-5 20.6	1.347	2.272	13.3	21.0	5 11	13 18.66	-8 28.2	1.872	2.798	10.1	20.4
5 21	13 11.01	-5 17.0	1.432	2.288	17.1	21.3	5 21	13 14.33	-7 43.7	1.945	2.796	13.5	20.7
497608	2006 PM ₂		4 15.8 257°88	2°4/17.7	17		56183	1999 FF ₃₄		4 15.8 93°26	1°9/14.1	18	
3 12	14 2.82	-17 54.9	1.810	2.622	15.1	22.3	3 12	14 1.88	-7 33.4	1.825	2.667	13.7	18.9
3 22	13 57.93	-17 50.2	1.708	2.604	11.9	22.1	3 22	13 56.60	-6 45.6	1.769	2.688	10.1	18.7
4 1	13 50.54	-17 28.7	1.628	2.585	8.0	21.8	4 1	13 49.31	-5 49.6	1.736	2.708	6.1	18.5
4 11	13 41.33	-16 51.1	1.573	2.565	4.0	21.5	4 11	13 40.82	-4 51.1	1.730	2.728	2.4	18.3
4 21	13 31.27	-16 0.8	1.545	2.545	2.9	21.4	4 21	13 32.08	-3 55.9	1.753	2.748	3.6	18.5
5 1	13 21.56	-15 3.4	1.545	2.524	6.8	21.6	5 1	13 24.07	-3 10.0	1.803	2.768	7.4	18.7
5 11	13 13.33	-14 6.5	1.570	2.503	11.2	21.8	5 11	13 17.58	-2 37.6	1.878	2.787	11.1	19.0
5 21	13 7.37	-13 16.9	1.618	2.481	15.2	22.0	5 21	13 13.11	-2 20.7	1.975	2.805	14.1	19.2
138880	2000 YK ₆		4 15.8 161°42	0°7/15.3	18		113522	2002 TL ₁₆		4 15.8 238°58	0°4/16.2	18	
3 12	14 6.93	-10 29.2	1.605	2.439	15.7	20.4	3 12	14 1.67	-13 50.6	1.998	2.820	13.5	20.1
3 22	14 0.85	-10 2.6	1.533	2.446	11.8	20.2	3 22	13 56.73	-13 19.8	1.900	2.806	10.3	19.9
4 1	13 52.18	-9 24.0	1.483	2.452	7.3	19.9	4 1	13 49.63	-12 35.1	1.825	2.791	6.5	19.6
4 11	13 41.80	-8 37.5	1.458	2.458	2.3	19.6	4 11	13 41.02	-11 39.3	1.777	2.775	2.3	19.3
4 21	13 30.88	-7 48.9	1.462	2.462	3.0	19.7	4 21	13 31.79	-10 37.2	1.757	2.759	2.2	19.3
5 1	13 20.69	-7 4.8	1.493	2.466	7.9	20.0	5 1	13 22.93	-9 34.8	1.766	2.742	6.6	19.5
5 11	13 12.34	-6 31.4	1.549	2.468	12.3	20.2	5 11	13 15.39	-8 38.8	1.802	2.724	10.6	19.7
5 21	13 6.49	-6 12.3	1.627	2.470	16.1	20.5	5 21	13 9.83	-7 54.2	1.860	2.706	14.2	19.9
214582	2006 QJ ₅₂		4 15.8 215°81	2°9/13.3	17		107661	2001 FC ₂		4 15.8 97°35	2°8/13.7	18	
3 12	14 1.81	-4 51.0	1.890	2.735	13.2	20.7	3 12	14 4					

EPHEMERIDES

4 15.8

4 15.9

2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
467862	2011 AL ₂₂	4 15.8 54°61'		0°9/15.2 18			300264	2007 HO ₃₅	4 15.9 321°94'		0°5/16.2 14 C		
3 12	14 1.60	- 9 41.7	1.546	2.393	15.5	21.3	3 12	13 55.39	-15 30.2	1.144	2.004	18.9	20.2
3 22	13 56.82	- 9 19.9	1.486	2.407	11.6	21.1	3 22	13 53.28	-14 43.9	1.062	1.988	14.6	19.8
4 1	13 49.65	- 8 47.5	1.448	2.421	7.0	20.8	4 1	13 48.10	-13 31.1	0.999	1.972	9.3	19.5
4 11	13 40.98	- 8 8.9	1.436	2.435	2.3	20.6	4 11	13 40.66	-11 56.3	0.958	1.957	3.3	19.1
4 21	13 31.93	- 7 29.8	1.450	2.450	3.0	20.7	4 21	13 32.24	-10 8.9	0.941	1.943	3.1	19.0
5 1	13 23.65	- 6 56.3	1.490	2.465	7.6	21.0	5 1	13 24.42	- 8 22.2	0.946	1.929	9.4	19.3
5 11	13 17.12	- 6 33.5	1.555	2.480	11.8	21.2	5 11	13 18.65	- 6 49.6	0.974	1.917	15.2	19.6
5 21	13 12.93	- 6 24.3	1.641	2.495	15.4	21.5	5 21	13 15.83	- 5 40.4	1.019	1.905	20.2	19.8
77237	2001 FS ₃₉	4 15.8 37°32'		0°4/16.1 17			165519	2001 CV ₁₇	4 15.9 350°73'		7°4/20.4 17		
3 12	14 1.80	-12 18.7	1.328	2.178	17.4	19.4	3 12	14 2.85	-25 23.1	1.548	2.341	18.1	19.1
3 22	13 57.41	-12 11.1	1.266	2.186	13.2	19.2	3 22	13 58.49	-26 38.3	1.465	2.335	15.1	18.9
4 1	13 50.24	-11 48.8	1.224	2.195	8.2	18.9	4 1	13 51.17	-27 34.3	1.401	2.330	11.7	18.7
4 11	13 41.23	-11 15.7	1.206	2.205	2.9	18.6	4 11	13 41.67	-28 7.3	1.360	2.325	8.7	18.5
4 21	13 31.66	-10 37.3	1.213	2.215	2.7	18.6	4 21	13 31.16	-28 15.6	1.343	2.322	7.4	18.4
5 1	13 22.94	-10 0.7	1.245	2.225	8.0	19.0	5 1	13 21.12	-28 1.8	1.351	2.319	9.0	18.5
5 11	13 16.23	- 9 32.8	1.300	2.236	12.8	19.3	5 11	13 12.94	-27 32.9	1.382	2.317	12.2	18.7
5 21	13 12.20	- 9 17.8	1.376	2.248	16.8	19.5	5 21	13 7.55	-26 57.4	1.434	2.317	15.6	18.9
243648	1999 TX ₁₇₆	4 15.8 221°63'		0°5/16.2 17			336657	2009 XX ₁₈	4 15.9 147°79'		3°9/12.1 17		
3 12	14 4.18	-12 56.2	2.058	2.876	13.3	21.3	3 12	13 59.83	- 0 59.7	2.026	2.876	12.3	20.8
3 22	13 58.53	-12 43.2	1.962	2.866	10.2	21.1	3 22	13 55.05	- 0 6.0	1.957	2.879	9.1	20.6
4 1	13 50.71	-12 18.8	1.890	2.855	6.4	20.9	4 1	13 48.41	+ 0 50.4	1.913	2.882	6.0	20.4
4 11	13 41.39	-11 45.2	1.845	2.843	2.3	20.6	4 11	13 40.59	+ 1 43.7	1.896	2.885	3.9	20.3
4 21	13 31.43	-11 6.1	1.829	2.830	2.1	20.5	4 21	13 32.41	+ 2 28.3	1.907	2.888	5.3	20.3
5 1	13 21.87	-10 26.5	1.842	2.817	6.4	20.8	5 1	13 24.76	+ 2 59.4	1.945	2.891	8.4	20.5
5 11	13 13.63	- 9 51.7	1.882	2.803	10.3	21.0	5 11	13 18.40	+ 3 14.0	2.008	2.893	11.6	20.7
5 21	13 7.40	- 9 25.8	1.945	2.788	13.8	21.2	5 21	13 13.86	+ 3 11.5	2.092	2.895	14.4	20.9
241555	2010 GT ₅	4 15.8 83°27'		1°1/14.9 18			294472	2007 VU ₃₂₉	4 15.9 331°50'		3°2/19.1 17		
3 12	14 0.35	- 8 2.0	2.071	2.908	12.5	20.5	3 12	13 57.98	-21 43.5	2.080	2.877	13.9	20.7
3 22	13 55.48	- 7 44.0	1.993	2.909	9.3	20.3	3 22	13 53.89	-21 35.7	1.992	2.874	11.1	20.5
4 1	13 48.70	- 7 18.9	1.939	2.910	5.7	20.1	4 1	13 47.82	-21 10.5	1.926	2.872	7.8	20.3
4 11	13 40.68	- 6 50.2	1.912	2.911	1.9	19.9	4 11	13 40.43	-20 28.8	1.885	2.869	4.6	20.1
4 21	13 32.24	- 6 21.8	1.913	2.912	2.7	19.9	4 21	13 32.55	-19 33.9	1.871	2.867	3.3	20.0
5 1	13 24.27	- 5 58.2	1.943	2.913	6.6	20.2	5 1	13 25.13	-18 30.8	1.885	2.865	5.8	20.1
5 11	13 17.59	- 5 43.0	1.998	2.914	10.1	20.4	5 11	13 19.00	-17 26.5	1.926	2.863	9.2	20.3
5 21	13 12.74	- 5 38.8	2.076	2.915	13.2	20.6	5 21	13 14.74	-16 27.0	1.990	2.861	12.4	20.5
134923	2000 YQ ₁₁₁	4 15.8 98°75'		5°3/11.0 18			259666	2003 WU ₁₄₃	4 15.9 106°10'		1°0/16.6 18		
3 12	14 1.51	+ 3 27.5	1.971	2.821	12.5	20.0	3 12	14 3.45	-13 56.6	1.608	2.439	15.8	20.8
3 22	13 56.21	+ 4 23.1	1.917	2.835	9.5	19.8	3 22	13 58.32	-13 49.1	1.536	2.445	12.1	20.6
4 1	13 49.05	+ 5 17.0	1.887	2.849	6.7	19.7	4 1	13 50.69	-13 27.4	1.486	2.452	7.7	20.4
4 11	13 40.75	+ 6 2.7	1.884	2.863	5.3	19.6	4 11	13 41.41	-12 54.2	1.461	2.459	2.9	20.1
4 21	13 32.21	+ 6 35.0	1.909	2.877	6.6	19.7	4 21	13 31.59	-12 14.1	1.463	2.465	2.4	20.1
5 1	13 24.31	+ 6 50.1	1.961	2.890	9.4	19.9	5 1	13 22.46	-11 33.1	1.492	2.471	7.1	20.4
5 11	13 17.82	+ 6 46.5	2.036	2.904	12.2	20.1	5 11	13 15.08	-10 57.9	1.546	2.478	11.5	20.6
5 21	13 13.21	+ 6 25.0	2.133	2.917	14.7	20.3	5 21	13 10.10	-10 33.1	1.622	2.484	15.2	20.9
165059	2000 ET ₁₀₂	4 15.8 319°69'		0°2/16.0 17			249266	2008 SD ₁₂₇	4 15.9 151°02'		0°2/16.3 18		
3 12	13 58.56	-12 50.0	2.025	2.855	13.1	20.8	3 12	13 53.87	-13 9.3	4.099	4.907	7.4	22.5
3 22	13 54.23	-12 25.1	1.943	2.854	9.9	20.6	3 22	13 49.83	-12 44.5	4.016	4.914	5.6	22.3
4 1	13 47.98	-11 48.4	1.885	2.852	6.2	20.3	4 1	13 44.88	-12 13.6	3.959	4.922	3.5	22.2
4 11	13 40.45	-11 3.1	1.853	2.851	2.1	20.1	4 11	13 39.39	-11 38.6	3.932	4.929	1.2	22.0
4 21	13 32.48	-10 13.7	1.848	2.850	2.1	20.1	4 21	13 33.73	-11 1.4	3.935	4.936	1.1	22.0
5 1	13 24.97	- 9 25.6	1.872	2.849	6.2	20.3	5 1	13 28.30	-10 24.6	3.969	4.943	3.3	22.2
5 11	13 18.75	- 8 44.2	1.922	2.848	9.9	20.5	5 11	13 23.48	- 9 50.5	4.032	4.949	5.4	22.3
5 21	13 14.36	- 8 13.3	1.995	2.847	13.2	20.7	5 21	13 19.55	- 9 21.3	4.121	4.955	7.3	22.5
332157	2005 YM ₁₃₅	4 15.8 196°06'		4°8/11.2 18			145419	2005 PW ₁₅	4 15.9 10°88'		1°3/17.0 18		
3 12	14 1.74	+ 2 52.1	2.199	3.043	11.6	21.4	3 12	13 59.81	-14 44.3	2.223	3.040	12.5	20.3
3 22	13 56.37	+ 3 43.7	2.125	3.041	8.8	21.3	3 22	13 55.05	-14 45.3	2.139	3.040	9.6	20.1
4 1	13 49.19	+ 4 35.0	2.076	3.039	6.2	21.1	4 1	13 48.45	-14 35.6	2.079	3.041	6.2	19.9
4 11	13 40.83	+ 5 20.3	2.055	3.035	4.8	21.0	4 11	13 40.64	-14 16.8	2.046	3.041	2.6	19.7
4 21	13 32.10	+ 5 54.3	2.063	3.032	6.1	21.1	4 21	13 32.39	-13 51.7	2.041	3.042	2.0	19.6
5 1	13 23.83	+ 6 13.2	2.097	3.027	8.8	21.2	5 1	13 24.56	-13 24.1	2.064	3.042	5.5	19.8
5 11	13 16.79	+ 6 14.8	2.157	3.023	11.7	21.4	5 11	13 17.93	-12 58.6	2.114	3.043	8.9	20.0
5 21	13 11.51	+ 5 59.1	2.238	3.018	14.3	21.6	5 21	13 13.04	-12 38.9	2.188	3.044	12.0	20.2
472135	2014 BW ₅₃	4 15.9 315°50'		0°4/15.4 17			225560	2000 SF ₃₆₅	4 15.9 178°23'		1°5/14.4 17		
3 12	13 58.19	-10 58.0	2.122	2.955	12.4	21.7	3 12	14 1.25	- 7 27.6	2.262	3.095	11.8	21.3
3 22	13 53.86	-10 29.0	2.041	2.954	9.3	21.5	3 22	13 55.99	- 6 52.9	2.182	3.096	8.7	21.1
4 1	13 47.70	- 9 50.1	1.983	2.953	5.7	21.3	4 1	13 48.96	- 6 11.2	2.127	3.098	5.3	20.9
4 11	13 40.36	- 9 4.7	1.953	2.952	1.8	21.0	4 11	13 40.79	- 5 26.4	2.100	3.098	2.0	20.7
4 21	13 32.61	- 8 17.3	1.951	2.951	2.3	21.1	4 21	13 32.25	- 4 42.9	2.102	3.099	3.0	20.8
5 1	13 25.30	- 7 32.9	1.977	2.950	6.2	21.3	5 1	13 24.15	- 4 5.3	2.133	3.098	6.5	21.0
5 11	13 19.20	- 6 56.4	2.029	2.949	9.7	21.5	5 11	13 17.24	- 3 37.6	2.191	3.097	9.8	21.2
5 21	13 14.84	- 6 31.1	2.104	2.948	12.9	21.7	5 21	13 12.05	- 3 22.1	2.272	3.096	12.7	21.4
109775	2001 RO ₈₀	4 15.9 112°81'		1°2/16.9 18			8267	1986 TX ₃	4 15.9 164°32'		1°7/14.5 18		
3 12	14 2.15	-16 5.2											

2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
145393	2005 <i>NB</i> ₄₃		4 15.9 208°56	0°3/15.5 18			455851	2005 <i>UF</i> ₆		4 15.9 182°13	11°4/11.5 17		
3 12	13 57.63	-11 12.8	2.673	3.496	10.5	21.0	3 12	14 19.91	+14 15.8	1.221	2.059	19.4	20.8
3 22	13 53.12	-10 40.6	2.583	3.491	7.8	20.8	3 22	14 11.33	+14 46.7	1.161	2.060	16.0	20.6
4 1	13 47.13	-9 59.9	2.519	3.487	4.8	20.6	4 1	13 59.02	+15 0.0	1.120	2.060	12.8	20.4
4 11	13 40.18	-9 13.6	2.483	3.482	1.5	20.4	4 11	13 44.24	+14 44.7	1.103	2.060	11.4	20.3
4 21	13 32.89	-8 25.4	2.476	3.476	1.9	20.4	4 21	13 28.80	+13 54.4	1.111	2.059	12.6	20.3
5 1	13 25.93	-7 39.3	2.499	3.471	5.2	20.6	5 1	13 14.63	+12 28.9	1.143	2.058	15.8	20.5
5 11	13 19.92	-6 59.4	2.549	3.465	8.2	20.8	5 11	13 3.30	+10 34.0	1.197	2.057	19.4	20.7
5 21	13 15.32	-6 28.6	2.624	3.459	10.9	21.0	5 21	12 55.58	+8 18.6	1.269	2.055	22.8	21.0
241619	1999 <i>UU</i> ₉		4 15.9 196°84	6°7/21.4 16			422899	2002 <i>RD</i> ₁₁₉		4 15.9 238°01	6°2/20.5 17		
3 12	14 10.60	-30 14.0	2.374	3.096	14.5	21.5	3 12	14 6.94	-26 54.6	2.051	2.809	15.4	21.8
3 22	14 3.47	-31 8.4	2.273	3.092	12.3	21.4	3 22	14 1.05	-27 38.7	1.946	2.795	12.9	21.6
4 1	13 53.89	-31 45.1	2.195	3.088	9.9	21.2	4 1	13 52.57	-28 4.9	1.863	2.780	10.0	21.4
4 11	13 42.53	-32 1.0	2.142	3.082	7.7	21.0	4 11	13 42.17	-28 10.4	1.804	2.765	7.3	21.2
4 21	13 30.35	-31 55.0	2.116	3.076	6.7	21.0	4 21	13 30.83	-27 54.5	1.772	2.749	6.2	21.1
5 1	13 18.49	-31 29.0	2.120	3.069	7.6	21.0	5 1	13 19.78	-27 20.0	1.768	2.732	7.6	21.2
5 11	13 8.06	-30 48.4	2.151	3.061	9.8	21.1	5 11	13 10.18	-26 33.0	1.790	2.715	10.5	21.3
5 21	12 59.81	-30 0.2	2.206	3.052	12.3	21.3	5 21	13 2.90	-25 41.1	1.835	2.697	13.7	21.5
265730	2005 <i>UQ</i> ₄₃₁		4 15.9 62°17	1°1/14.9 17			20505	1999 <i>RE</i> ₁₆		4 15.9 280°85	2°2/18.1 18		
3 12	13 59.91	-9 53.3	1.669	2.514	14.7	21.0	3 12	13 58.67	-18 25.4	2.353	3.156	12.3	17.7
3 22	13 55.47	-9 14.9	1.604	2.524	10.9	20.8	3 22	13 54.22	-18 24.6	2.259	3.148	9.7	17.5
4 1	13 48.82	-8 25.2	1.561	2.533	6.6	20.6	4 1	13 47.99	-18 10.9	2.188	3.141	6.6	17.3
4 11	13 40.77	-7 29.4	1.544	2.543	2.2	20.3	4 11	13 40.55	-17 45.3	2.143	3.133	3.4	17.1
4 21	13 32.31	-6 33.6	1.554	2.553	3.1	20.4	4 21	13 32.63	-17 10.4	2.127	3.126	2.5	17.0
5 1	13 24.53	-5 44.4	1.591	2.563	7.5	20.7	5 1	13 25.05	-16 30.1	2.139	3.119	5.3	17.2
5 11	13 18.33	-5 7.4	1.652	2.573	11.5	20.9	5 11	13 18.59	-15 49.3	2.179	3.111	8.5	17.3
5 21	13 14.28	-4 45.6	1.735	2.583	15.0	21.2	5 21	13 13.80	-15 12.7	2.242	3.104	11.5	17.5
182093	2000 <i>JJ</i> ₄₃		4 15.9 46°05	1°3/14.9 18			458805	2011 <i>SU</i> ₂₁₉		4 15.9 194°06	0°2/15.8 17		
3 12	14 1.21	-9 11.7	1.385	2.240	16.5	20.1	3 12	14 2.48	-13 16.5	1.718	2.549	15.0	22.2
3 22	13 56.74	-8 43.1	1.330	2.255	12.3	19.9	3 22	13 57.52	-12 31.4	1.636	2.548	11.3	22.0
4 1	13 49.71	-8 3.2	1.296	2.270	7.5	19.7	4 1	13 50.21	-11 30.6	1.577	2.546	7.1	21.7
4 11	13 41.07	-7 17.5	1.286	2.286	2.5	19.4	4 11	13 41.31	-10 18.3	1.544	2.543	2.3	21.4
4 21	13 32.03	-6 32.5	1.302	2.302	3.4	19.5	4 21	13 31.84	-9 1.2	1.539	2.540	2.6	21.4
5 1	13 23.86	-5 55.3	1.343	2.318	8.3	19.8	5 1	13 22.96	-7 47.0	1.561	2.536	7.3	21.7
5 11	13 17.59	-5 31.3	1.408	2.335	12.7	20.1	5 11	13 15.66	-6 43.3	1.609	2.532	11.7	22.0
5 21	13 13.82	-5 23.2	1.493	2.352	16.4	20.4	5 21	13 10.61	-5 55.2	1.679	2.527	15.4	22.2
162676	2000 <i>SO</i> ₃₆₈		4 15.9 211°48	0°3/16.1 16			228327	2000 <i>RN</i> ₁₈		4 15.9 196°78	2°0/18.1 18		
3 12	14 4.27	-12 44.9	1.862	2.686	14.3	21.7	3 12	14 1.66	-19 15.0	2.773	3.558	11.1	21.6
3 22	13 58.78	-12 26.3	1.773	2.680	10.9	21.5	3 22	13 56.15	-19 0.9	2.674	3.554	8.7	21.4
4 1	13 50.97	-11 55.0	1.707	2.673	6.8	21.2	4 1	13 49.04	-18 34.4	2.600	3.549	5.9	21.2
4 11	13 41.54	-11 13.9	1.667	2.666	2.4	20.9	4 11	13 40.87	-17 56.5	2.555	3.543	3.1	21.0
4 21	13 31.49	-10 27.4	1.656	2.657	2.3	20.9	4 21	13 32.30	-17 9.9	2.539	3.537	2.2	20.9
5 1	13 21.91	-9 41.4	1.673	2.649	6.9	21.1	5 1	13 24.07	-16 18.4	2.553	3.530	4.7	21.1
5 11	13 13.82	-9 1.8	1.716	2.639	11.1	21.4	5 11	13 16.85	-15 26.7	2.596	3.522	7.7	21.3
5 21	13 7.90	-8 33.1	1.781	2.629	14.7	21.6	5 21	13 11.13	-14 39.1	2.665	3.513	10.4	21.4
504178	2006 <i>SS</i> ₄₀₂		4 15.9 179°91	0°1/15.7 17			182901	2002 <i>EG</i> ₂₆		4 15.9 2°25	4°7/20.6 18		
3 12	13 58.11	-11 37.1	2.860	3.678	10.0	23.0	3 12	13 59.85	-25 40.2	2.379	3.146	13.3	19.6
3 22	13 53.36	-11 9.4	2.774	3.679	7.5	22.8	3 22	13 55.17	-26 2.8	2.289	3.146	10.9	19.5
4 1	13 47.23	-10 33.9	2.713	3.680	4.6	22.6	4 1	13 48.60	-26 9.1	2.222	3.146	8.2	19.3
4 11	13 40.22	-9 53.0	2.681	3.680	1.5	22.4	4 11	13 40.76	-25 58.6	2.179	3.146	5.8	19.1
4 21	13 32.91	-9 10.0	2.679	3.680	1.7	22.4	4 21	13 32.42	-25 32.5	2.164	3.146	4.7	19.1
5 1	13 25.94	-8 28.6	2.707	3.679	4.8	22.6	5 1	13 24.47	-24 54.1	2.176	3.146	6.0	19.1
5 11	13 19.88	-7 52.3	2.762	3.678	7.7	22.8	5 11	13 17.72	-24 8.7	2.215	3.146	8.5	19.3
5 21	13 15.15	-7 24.0	2.843	3.676	10.2	23.0	5 21	13 12.74	-23 21.9	2.279	3.147	11.2	19.5
262047	2006 <i>QN</i> ₁₈₂		4 15.9 283°70	1°6/14.7 17			427074	2014 <i>UV</i> ₂₂		4 15.9 214°90	3°0/13.3 16		
3 12	14 1.29	-8 42.2	1.578	2.427	15.2	21.8	3 12	14 3.11	-4 6.5	1.940	2.782	13.0	21.9
3 22	13 57.00	-8 10.2	1.485	2.407	11.5	21.5	3 22	13 57.75	-3 20.7	1.856	2.775	9.7	21.7
4 1	13 50.12	-7 26.4	1.413	2.387	7.1	21.2	4 1	13 50.25	-2 28.9	1.796	2.767	6.1	21.5
4 11	13 41.33	-6 35.2	1.367	2.366	2.5	20.8	4 11	13 41.32	-1 36.3	1.764	2.758	3.2	21.3
4 21	13 31.68	-5 42.9	1.347	2.346	3.6	20.8	4 21	13 31.85	-0 48.8	1.760	2.749	4.5	21.3
5 1	13 22.42	-4 56.9	1.354	2.326	8.6	21.1	5 1	13 22.84	-0 11.9	1.783	2.740	8.2	21.5
5 11	13 14.76	-4 23.6	1.384	2.305	13.3	21.3	5 11	13 15.22	+0 10.1	1.832	2.729	11.9	21.7
5 21	13 9.49	-4 7.3	1.435	2.285	17.5	21.5	5 21	13 9.61	+0 15.4	1.903	2.718	15.2	21.9
376130	2011 <i>AG</i> ₄₆		4 15.9 350°82	8°9/ 7.3 17			365127	2009 <i>DE</i> ₁₆		4 15.9 85°13	3°8/12.9 18		
3 12	13 57.35	+8 13.5	1.552	2.419	14.4	20.2	3 12	14 2.62	-4 33.3	1.450	2.307	15.8	21.1
3 22	13 53.74	+10 2.4	1.496	2.416	11.5	20.0	3 22	13 57.63	-3 25.9	1.398	2.325	11.6	20.9
4 1	13 47.85	+11 47.0	1.463	2.414	9.3	19.9	4 1	13 50.19	-2 11.3	1.368	2.342	7.2	20.7
4 11	13 40.49	+13 16.2	1.455	2.412	9.0	19.8	4 11	13 41.26	-0 57.8	1.364	2.359	3.9	20.5
4 21	13 32.66	+14 20.7	1.471	2.411	10.8	19.9	4 21	13 32.01	+0 6.3	1.387	2.376	5.6	20.6
5 1	13 25.49	+14 54.8	1.510	2.410	13.7	20.1	5 1	13 23.64	+0 53.9	1.435	2.393	9.7	20.9
5 11	13 19.90	+14 57.3	1.569	2.409	16.6	20.3	5 11	13 17.14	+1 20.7	1.506	2.409	13.6	21.2
5 21	13 16.51	+14 30.5	1.646	2.409	19.2	20.5	5 21	13 13.05	+1 26.0	1.598	2.426	17.0	21.4
191783	2004 <i>TX</i> ₁₁₅		4 15.9 251°89	2°7/12.9 18			430761	2004 <i>RL</i> ₉₃		4 15.9 152°41	1°8/13.6 15		
3													

EPHEMERIDES

4 15.9

4 15.9

2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
252987	2002 <i>QA</i> ₉₁		4 15.9 285°96	1.8/14.7	17		374407	2005 <i>WO</i> ₂₆		4 15.9 142°27	4.9/21.2	17	
3 12	14 3.26	- 6 53.0	1.563	2.412	15.3	20.4	3 12	14 1.29	-28 3.9	2.147	2.905	14.8	21.1
3 22	13 58.45	- 6 38.1	1.476	2.398	11.5	20.2	3 22	13 56.34	-27 53.1	2.063	2.913	12.2	20.9
4 1	13 51.00	- 6 15.1	1.412	2.384	7.1	19.9	4 1	13 49.34	-27 20.5	2.000	2.921	9.2	20.7
4 11	13 41.64	- 5 48.3	1.372	2.371	2.6	19.5	4 11	13 41.02	-26 26.4	1.962	2.928	6.4	20.6
4 21	13 31.48	- 5 22.7	1.359	2.357	3.7	19.6	4 21	13 32.29	-25 13.6	1.951	2.935	4.9	20.5
5 1	13 21.80	- 5 4.1	1.372	2.344	8.6	19.8	5 1	13 24.12	-23 48.0	1.969	2.942	6.2	20.6
5 11	13 13.78	- 4 57.5	1.410	2.330	13.2	20.1	5 11	13 17.39	-22 17.4	2.014	2.948	9.0	20.8
5 21	13 8.22	- 5 5.5	1.468	2.317	17.2	20.3	5 21	13 12.64	-20 49.5	2.083	2.954	12.0	21.0
14354	Kolesnikov		4 15.9 284°69	2.5/13.4	18		106223	2000 <i>UX</i> ₃₈		4 15.9 271°37	0.1/15.9	17	
3 12	13 58.39	- 5 50.9	2.065	2.910	12.2	18.5	3 12	13 57.20	-12 34.3	2.375	3.200	11.5	19.7
3 22	13 54.25	- 4 59.5	1.965	2.886	9.2	18.3	3 22	13 53.08	-12 0.9	2.278	3.187	8.7	19.5
4 1	13 48.14	- 3 59.8	1.889	2.862	5.7	18.0	4 1	13 47.28	-11 16.6	2.206	3.173	5.4	19.3
4 11	13 40.64	- 2 56.4	1.841	2.837	2.7	17.8	4 11	13 40.35	-10 24.5	2.161	3.159	1.8	19.0
4 21	13 32.54	- 1 55.4	1.820	2.812	4.1	17.8	4 21	13 32.96	- 9 28.6	2.145	3.146	1.9	19.0
5 1	13 24.72	- 1 2.8	1.827	2.787	7.8	18.0	5 1	13 25.89	- 8 34.0	2.157	3.132	5.6	19.2
5 11	13 18.06	- 0 23.8	1.860	2.762	11.5	18.2	5 11	13 19.86	- 7 45.5	2.196	3.118	9.1	19.4
5 21	13 13.19	- 0 1.4	1.914	2.736	14.8	18.3	5 21	13 15.39	- 7 7.0	2.260	3.104	12.1	19.6
202865	2008 <i>UQ</i> ₆		4 15.9 214°31	3.2/13.6	17		68758	2002 <i>EB</i> ₈₇		4 15.9 16°33	2.7/14.1	18	
3 12	14 6.84	- 3 18.3	1.719	2.561	14.4	21.1	3 12	13 58.04	- 7 26.4	1.096	1.972	18.4	18.3
3 22	14 0.82	- 2 48.9	1.636	2.555	10.8	20.9	3 22	13 55.03	- 6 43.5	1.040	1.976	13.7	18.0
4 1	13 52.29	- 2 14.7	1.577	2.547	6.8	20.6	4 1	13 48.99	- 5 48.1	1.003	1.981	8.3	17.8
4 11	13 42.04	- 1 40.8	1.544	2.539	3.5	20.4	4 11	13 40.98	- 4 48.1	0.989	1.988	3.3	17.5
4 21	13 31.11	- 1 13.0	1.539	2.531	4.8	20.5	4 21	13 32.36	- 3 52.6	0.998	1.996	4.9	17.6
5 1	13 20.73	- 0 56.4	1.562	2.521	8.9	20.7	5 1	13 24.66	- 3 10.9	1.030	2.004	10.2	17.9
5 11	13 11.99	- 0 54.8	1.610	2.511	13.0	20.9	5 11	13 19.13	- 2 49.2	1.083	2.014	15.2	18.2
5 21	13 5.60	- 1 9.4	1.678	2.500	16.6	21.1	5 21	13 16.44	- 2 49.6	1.154	2.025	19.4	18.5
473180	2015 <i>KM</i> ₆₄		4 15.9 353°79	3.0/12.8	17		431989	2008 <i>UE</i> ₂₅₁		4 15.9 233°96	0.4/16.3	17	
3 12	13 57.28	- 3 50.7	2.082	2.932	12.0	20.9	3 12	13 59.93	-13 27.5	2.169	2.991	12.6	21.9
3 22	13 53.19	- 2 55.9	2.008	2.931	8.9	20.6	3 22	13 55.25	-13 4.2	2.077	2.983	9.6	21.7
4 1	13 47.32	- 1 55.8	1.959	2.931	5.6	20.4	4 1	13 48.68	-12 29.1	2.010	2.975	6.0	21.5
4 11	13 40.32	- 0 55.7	1.936	2.930	3.1	20.3	4 11	13 40.82	-11 45.0	1.969	2.966	2.2	21.2
4 21	13 32.94	- 0 1.5	1.942	2.930	4.5	20.4	4 21	13 32.47	-10 55.8	1.956	2.958	2.0	21.1
5 1	13 26.03	+ 0 41.7	1.975	2.930	7.7	20.6	5 1	13 24.50	-10 6.8	1.972	2.949	5.9	21.4
5 11	13 20.31	+ 1 10.1	2.034	2.930	11.0	20.8	5 11	13 17.73	- 9 23.1	2.015	2.939	9.6	21.6
5 21	13 16.30	+ 1 22.0	2.114	2.930	13.8	21.0	5 21	13 12.74	- 8 48.9	2.081	2.930	12.8	21.8
209555	2004 <i>VM</i> ₁₁₂		4 15.9 219°65	1.1/16.8	16		65916	1998 <i>FJ</i> ₃₆		4 15.9 104°93	3.3/13.1	18	
3 12	14 4.64	-14 52.0	1.850	2.668	14.6	21.7	3 12	14 1.19	- 5 49.7	1.553	2.407	15.1	18.9
3 22	13 59.16	-14 40.0	1.757	2.659	11.2	21.4	3 22	13 56.56	- 4 40.0	1.491	2.417	11.2	18.7
4 1	13 51.28	-14 13.8	1.687	2.650	7.3	21.2	4 1	13 49.57	- 3 21.2	1.453	2.426	6.9	18.4
4 11	13 41.71	-13 35.5	1.644	2.640	2.9	20.9	4 11	13 41.11	- 2 0.9	1.440	2.436	3.4	18.3
4 21	13 31.44	-12 48.9	1.628	2.629	2.3	20.8	4 21	13 32.24	- 0 47.6	1.454	2.445	5.1	18.4
5 1	13 21.62	-11 59.7	1.640	2.618	6.7	21.1	5 1	13 24.11	+ 0 11.1	1.494	2.454	9.2	18.6
5 11	13 13.31	-11 14.7	1.678	2.605	11.0	21.3	5 11	13 17.68	+ 0 50.1	1.558	2.463	13.2	18.9
5 21	13 7.21	-10 39.0	1.740	2.593	14.7	21.5	5 21	13 13.54	+ 1 7.7	1.643	2.471	16.6	19.1
351224	2004 <i>PZ</i> ₁₄		4 15.9 321°58	4.0/19.0	16		334851	2003 <i>UM</i> ₅₀		4 15.9 209°62	1.6/17.4	18	
3 12	14 0.70	-20 59.9	2.051	2.847	14.1	19.7	3 12	14 2.30	-16 9.1	2.481	3.283	11.8	21.0
3 22	13 56.16	-21 34.3	1.952	2.833	11.4	19.5	3 22	13 56.84	-16 11.5	2.386	3.277	9.1	20.8
4 1	13 49.43	-21 54.7	1.876	2.819	8.2	19.3	4 1	13 49.59	-16 3.0	2.315	3.271	6.0	20.6
4 11	13 41.11	-22 0.2	1.825	2.805	5.2	19.1	4 11	13 41.12	-15 44.9	2.271	3.264	2.8	20.3
4 21	13 32.06	-21 51.5	1.800	2.792	4.1	19.0	4 21	13 32.18	-15 19.5	2.257	3.257	2.1	20.3
5 1	13 23.32	-21 31.8	1.803	2.779	6.4	19.1	5 1	13 23.57	-14 50.1	2.272	3.250	5.2	20.5
5 11	13 15.86	-21 6.0	1.832	2.767	9.7	19.3	5 11	13 16.06	-14 21.2	2.315	3.241	8.4	20.7
5 21	13 10.41	-20 39.7	1.884	2.755	13.0	19.4	5 21	13 10.20	-13 56.6	2.383	3.233	11.4	20.8
406877	2009 <i>CJ</i> ₂₉		4 15.9 55°52	0.7/15.4	18		314072	2005 <i>CQ</i> ₆		4 15.9 86°51	14.8/30.1	18	
3 12	14 2.91	-10 26.6	1.318	2.170	17.4	21.3	3 12	14 18.09	-47 7.4	1.744	2.371	21.8	20.1
3 22	13 58.24	-10 5.7	1.258	2.181	13.0	21.1	3 22	14 10.75	-49 10.7	1.686	2.396	20.0	20.0
4 1	13 50.78	- 9 31.8	1.220	2.193	8.0	20.8	4 1	13 59.21	-50 41.3	1.643	2.420	18.1	19.9
4 11	13 41.52	- 8 49.5	1.206	2.205	2.6	20.5	4 11	13 44.53	-51 30.6	1.618	2.444	16.4	19.9
4 21	13 31.76	- 8 5.6	1.217	2.217	3.2	20.6	4 21	13 28.58	-51 33.6	1.612	2.468	15.2	19.8
5 1	13 22.89	- 7 27.4	1.253	2.230	8.4	20.9	5 1	13 13.64	-50 52.3	1.628	2.491	14.8	19.9
5 11	13 16.07	- 7 1.0	1.312	2.243	13.1	21.2	5 11	13 1.67	-49 36.3	1.663	2.513	15.3	20.0
5 21	13 11.93	- 6 50.2	1.391	2.256	17.1	21.5	5 21	12 53.73	-47 58.9	1.719	2.535	16.5	20.1
437911	2002 <i>AL</i> ₄₃		4 15.9 52°82	13.0/29.9	17		7462	Grenoble		4 15.9 100°21	3.6/18.4	18	
3 12	14 0.32	+30 51.5	2.124	2.913	14.0	20.7	3 12	14 5.85	-19 37.1	1.488	2.302	17.7	17.5
3 22	13 55.42	+32 32.9	2.110	2.927	13.2	20.6	3 22	14 0.39	-19 50.6	1.420	2.314	13.9	17.3
4 1	13 48.61	+33 51.1	2.117	2.942	13.0	20.6	4 1	13 52.13	-19 44.3	1.373	2.326	9.6	17.1
4 11	13 40.71	+34 39.0	2.146	2.956	13.4	20.7	4 11	13 42.01	-19 18.9	1.349	2.338	5.3	16.8
4 21	13 32.64	+34 53.4	2.194	2.971	14.3	20.8	4 21	13 31.30	-18 37.8	1.352	2.350	3.8	16.8
5 1	13 25.32	+34 34.3	2.261	2.986	15.5	20.9	5 1	13 21.42	-17 47.7	1.381	2.361	7.4	17.0
5 11	13 19.50	+33 44.8	2.344	3.001	16.6	21.0	5 11	13 13.54	-16 57.0	1.434	2.372	11.6	17.3
5 21	13 15.63	+32 30.0	2.440	3.017	17.6	21.2	5 21	13 8.37	-16 12.9	1.509	2.383	15.5	17.5
54940	2001 <i>OQ</i> ₁₀₇		4 15.9 211°01	2.4/13.6	17		232574	2003 <i>SH</i> ₃₂₄		4 15.9 153°65</			

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4 15.9

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2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
37496	1287 <i>T</i> ₋₂		4 15.9 137°86	2°1/13.3	18		505289	2012 <i>VA</i> ₉₈		4 15.9 98°21	3°8/20.7	17	
3 12	13 56.65	- 6 29.7	2.415	3.255	10.9	20.0	3 12	13 57.97	-26 35.1	2.370	3.136	13.3	20.9
3 22	13 52.48	- 5 26.9	2.341	3.260	8.0	19.8	3 22	13 53.63	-26 4.5	2.288	3.146	10.8	20.8
4 1	13 46.79	- 4 17.5	2.292	3.264	4.9	19.6	4 1	13 47.56	-25 14.1	2.228	3.157	8.0	20.6
4 11	13 40.15	- 3 6.0	2.272	3.269	2.3	19.4	4 11	13 40.43	-24 5.4	2.194	3.167	5.2	20.4
4 21	13 33.23	- 1 58.0	2.281	3.273	3.5	19.5	4 21	13 33.00	-22 42.1	2.188	3.177	3.8	20.4
5 1	13 26.72	- 0 58.4	2.319	3.277	6.5	19.7	5 1	13 26.08	-21 9.9	2.210	3.187	5.3	20.5
5 11	13 21.26	- 0 11.4	2.383	3.280	9.5	19.9	5 11	13 20.38	-19 36.0	2.261	3.197	8.1	20.7
5 21	13 17.27	+ 0 21.0	2.471	3.284	12.1	20.1	5 21	13 16.38	-18 7.0	2.338	3.207	10.9	20.9
374543	2006 <i>BR</i> ₈₁		4 15.9 110°16	0°9/15.1	15		211862	2004 <i>GN</i> ₂₇		4 15.9 320°27	5°6/10.0	18	
3 12	14 1.84	- 9 15.1	2.046	2.878	12.8	21.5	3 12	13 57.87	+ 4 41.3	2.117	2.970	11.6	19.9
3 22	13 56.55	- 8 49.8	1.978	2.891	9.6	21.3	3 22	13 53.62	+ 5 45.4	2.048	2.967	9.0	19.7
4 1	13 49.38	- 8 16.2	1.934	2.904	5.8	21.1	4 1	13 47.61	+ 6 48.0	2.005	2.964	6.6	19.6
4 11	13 41.02	- 7 38.0	1.918	2.917	1.9	20.9	4 11	13 40.46	+ 7 42.7	1.988	2.961	5.6	19.5
4 21	13 32.35	- 6 59.8	1.930	2.929	2.6	20.9	4 21	13 32.95	+ 8 23.8	1.998	2.958	7.0	19.6
5 1	13 24.25	- 6 26.1	1.971	2.942	6.4	21.2	5 1	13 25.90	+ 8 47.0	2.034	2.955	9.6	19.7
5 11	13 17.51	- 6 1.2	2.038	2.953	10.0	21.4	5 11	13 20.05	+ 8 50.5	2.094	2.952	12.3	19.9
5 21	13 12.64	- 5 47.6	2.128	2.965	13.0	21.7	5 21	13 15.89	+ 8 34.6	2.174	2.949	14.8	20.1
269567	Bakhtinov		4 15.9 207°02	2°3/13.8	17		512964	2017 <i>SV</i> ₃₆		4 15.9 231°06	7°6/22.8	17	
3 12	14 3.23	- 4 5.3	2.293	3.126	11.6	21.2	3 12	14 4.45	-33 0.4	2.196	2.919	15.5	21.7
3 22	13 57.54	- 3 39.7	2.206	3.121	8.7	21.0	3 22	13 59.10	-33 41.5	2.095	2.909	13.4	21.5
4 1	13 50.01	- 3 10.0	2.145	3.115	5.4	20.8	4 1	13 51.33	-34 1.5	2.014	2.899	11.0	21.3
4 11	13 41.26	- 2 40.0	2.113	3.108	2.6	20.6	4 11	13 41.81	-33 57.3	1.956	2.889	8.8	21.2
4 21	13 32.06	- 2 13.8	2.109	3.101	3.6	20.6	4 21	13 31.48	-33 28.3	1.923	2.878	7.6	21.1
5 1	13 23.27	- 1 55.3	2.135	3.093	6.9	20.8	5 1	13 21.52	-32 37.1	1.917	2.867	8.2	21.1
5 11	13 15.65	- 1 47.4	2.187	3.085	10.2	21.0	5 11	13 13.00	-31 30.1	1.937	2.855	10.2	21.2
5 21	13 9.77	- 1 51.7	2.263	3.076	13.1	21.2	5 21	13 6.71	-30 15.5	1.980	2.843	12.8	21.3
50915	2000 <i>GG</i> ₅₆		4 15.9 111°34	1°2/14.7	18		215792	2004 <i>MS</i> ₃		4 15.9 305°94	2°3/18.3	17	R
3 12	13 58.94	- 8 45.0	2.158	2.994	12.1	18.6	3 12	13 56.06	-20 7.2	2.139	2.945	13.3	19.8
3 22	13 54.35	- 8 7.6	2.085	3.001	9.0	18.4	3 22	13 52.53	-19 39.3	2.037	2.927	10.5	19.5
4 1	13 48.02	- 7 22.0	2.036	3.007	5.5	18.2	4 1	13 47.09	-18 53.7	1.956	2.910	7.2	19.3
4 11	13 40.58	- 6 32.4	2.015	3.014	1.9	17.9	4 11	13 40.34	-17 52.1	1.902	2.892	3.8	19.1
4 21	13 32.80	- 5 43.4	2.022	3.020	2.8	18.0	4 21	13 33.05	-16 38.3	1.875	2.875	2.5	18.9
5 1	13 25.51	- 5 0.2	2.058	3.026	6.4	18.3	5 1	13 26.09	-15 18.4	1.877	2.858	5.7	19.1
5 11	13 19.43	- 4 26.8	2.119	3.032	9.8	18.5	5 11	13 20.31	-13 59.4	1.905	2.841	9.3	19.3
5 21	13 15.06	- 4 5.9	2.204	3.038	12.7	18.7	5 21	13 16.29	-12 47.9	1.957	2.825	12.7	19.5
95280	2002 <i>CD</i> ₇₉		4 15.9 121°38	1°4/17.0	18		55223	Akiraifukube		4 15.9 114°31	1°7/14.4	18	
3 12	14 6.41	-15 37.4	1.767	2.582	15.3	20.7	3 12	14 2.35	- 7 33.1	1.911	2.749	13.4	19.3
3 22	14 0.27	-15 26.7	1.701	2.601	11.7	20.5	3 22	13 57.04	- 6 57.1	1.846	2.763	9.9	19.1
4 1	13 51.79	-15 1.2	1.657	2.618	7.5	20.3	4 1	13 49.72	- 6 13.3	1.804	2.776	6.0	18.9
4 11	13 41.85	-14 23.4	1.639	2.635	3.2	20.1	4 11	13 41.17	- 5 26.5	1.790	2.789	2.2	18.6
4 21	13 31.52	-13 37.8	1.649	2.651	2.3	20.1	4 21	13 32.27	- 4 41.8	1.804	2.801	3.3	18.7
5 1	13 21.94	-12 50.2	1.688	2.666	6.5	20.4	5 1	13 24.01	- 4 4.6	1.846	2.813	7.2	19.0
5 11	13 14.09	-12 7.2	1.752	2.680	10.5	20.6	5 11	13 17.21	- 3 38.9	1.914	2.825	10.8	19.2
5 21	13 8.54	-11 33.5	1.840	2.694	14.0	20.9	5 21	13 12.38	- 3 27.1	2.004	2.836	13.9	19.5
471366	2011 <i>SX</i> ₄₄		4 15.9 108°66	1°3/14.2	17		423258	2004 <i>TX</i> ₂₈₂		4 15.9 272°16	5°5/20.1	17	
3 12	13 56.59	- 8 59.8	2.486	3.320	10.8	21.7	3 12	14 3.85	-25 5.5	1.989	2.763	15.3	20.9
3 22	13 52.37	- 8 1.0	2.415	3.331	8.0	21.5	3 22	13 58.79	-25 42.7	1.883	2.745	12.6	20.7
4 1	13 46.69	- 6 54.3	2.370	3.341	4.8	21.3	4 1	13 51.24	-26 2.5	1.798	2.726	9.6	20.5
4 11	13 40.12	- 5 44.1	2.353	3.351	1.8	21.1	4 11	13 41.81	-26 2.8	1.738	2.707	6.8	20.3
4 21	13 33.30	- 4 35.3	2.366	3.362	2.7	21.2	4 21	13 31.47	-25 43.5	1.704	2.687	5.6	20.2
5 1	13 26.91	- 3 32.9	2.407	3.372	5.9	21.4	5 1	13 21.39	-25 7.7	1.697	2.667	7.3	20.2
5 11	13 21.55	- 2 41.2	2.476	3.381	8.9	21.6	5 11	13 12.70	-24 21.4	1.716	2.648	10.5	20.4
5 21	13 17.63	- 2 2.6	2.568	3.391	11.5	21.8	5 21	13 6.26	-23 32.0	1.758	2.627	13.9	20.5
171301	2006 <i>HS</i> ₁₃		4 15.9 260°30	1°5/14.8	17		376194	2011 <i>CQ</i> ₇₁		4 15.9 28°64	7°0/20.2	17	
3 12	14 3.74	- 8 9.8	1.674	2.516	14.8	20.4	3 12	14 5.45	-24 9.7	1.434	2.234	19.0	19.8
3 22	13 58.74	- 7 44.1	1.580	2.499	11.2	20.2	3 22	14 0.44	-25 24.1	1.368	2.244	15.6	19.6
4 1	13 51.18	- 7 8.3	1.509	2.481	6.9	19.9	4 1	13 52.37	-26 17.5	1.321	2.256	11.8	19.4
4 11	13 41.76	- 6 26.6	1.464	2.462	2.4	19.6	4 11	13 42.18	-26 46.7	1.297	2.268	8.4	19.2
4 21	13 31.51	- 5 44.4	1.445	2.444	3.5	19.6	4 21	13 31.19	-26 51.1	1.298	2.280	7.0	19.2
5 1	13 21.66	- 5 8.1	1.454	2.425	8.3	19.8	5 1	13 20.98	-26 34.5	1.323	2.294	8.8	19.3
5 11	13 13.36	- 4 43.5	1.488	2.405	12.8	20.0	5 11	13 12.88	-26 4.9	1.371	2.308	12.2	19.5
5 21	13 7.41	- 4 34.1	1.542	2.385	16.8	20.2	5 21	13 7.71	-25 31.0	1.441	2.323	15.6	19.8
262214	2006 <i>SF</i> ₂₂₄		4 15.9 224°80	0°1/15.8	17		156579	2002 <i>ES</i> ₁₅₀		4 15.9 214°54	1°0/14.9	18	
3 12	14 0.27	-13 10.0	1.772	2.606	14.5	21.2	3 12	14 0.96	- 8 59.9	2.088	2.922	12.6	20.1
3 22	13 55.86	-12 27.2	1.689	2.601	11.0	21.0	3 22	13 56.04	- 8 33.0	2.004	2.918	9.4	19.9
4 1	13 49.20	-11 29.3	1.627	2.596	6.8	20.7	4 1	13 49.18	- 7 57.6	1.943	2.914	5.8	19.6
4 11	13 41.04	-10 20.5	1.592	2.591	2.3	20.4	4 11	13 41.02	- 7 17.2	1.910	2.909	1.9	19.4
4 21	13 32.32	- 9 7.0	1.585	2.586	2.5	20.4	4 21	13 32.40	- 6 36.3	1.905	2.904	2.7	19.4
5 1	13 24.12	- 7 56.0	1.605	2.580	7.1	20.7	5 1	13 24.21	- 5 59.8	1.929	2.899	6.6	19.6
5 11	13 17.40	- 6 54.9	1.650	2.575	11.3	20.9	5 11	13 17.28	- 5 32.3	1.978	2.893	10.3	19.8
5 21	13 12.80	- 6 8.6	1.718	2.569	15.0	21.2	5 21	13 12.18	- 5 16.5	2.051	2.888	13.4	20.0
136973	1998 <i>RM</i> ₅₀		4 15.9 234°69	0°6/16.4	18		457526	2008 <i>WX</i> ₄₆		4 15.9 240°49	1°7/17.3		

EPHEMERIDES

2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
306389	1994 <i>PO</i> ₃		4 15.9 249°99	3°4/11.4	16		469851	2005 <i>TS</i> ₁₂₆		4 15.9 221°43	0°1/15.8	17	
3 12	13 57.19	− 0 35.8	2.774	3.616	9.6	21.5	3 12	13 57.98	−11 39.1	2.830	3.648	10.1	22.4
3 22	13 52.83	+ 0 27.6	2.680	3.597	7.2	21.3	3 22	13 53.39	−11 15.4	2.735	3.640	7.6	22.2
4 1	13 47.04	+ 1 34.3	2.612	3.578	4.8	21.2	4 1	13 47.37	−10 43.6	2.666	3.632	4.7	22.0
4 11	13 40.29	+ 2 39.5	2.573	3.559	3.4	21.0	4 11	13 40.41	−10 6.2	2.625	3.624	1.6	21.8
4 21	13 33.16	+ 3 38.6	2.564	3.539	4.6	21.1	4 21	13 33.10	− 9 26.3	2.614	3.615	1.7	21.8
5 1	13 26.29	+ 4 27.1	2.583	3.518	7.1	21.2	5 1	13 26.08	− 8 47.5	2.633	3.606	4.9	22.0
5 11	13 20.28	+ 5 1.8	2.629	3.497	9.7	21.4	5 11	13 19.95	− 8 13.5	2.680	3.597	7.8	22.2
5 21	13 15.58	+ 5 21.3	2.697	3.476	12.1	21.5	5 21	13 15.16	− 7 47.2	2.751	3.587	10.4	22.3
245694	2006 <i>BQ</i> ₁₆₇		4 15.9 308°02	2°7/17.5	17		17736	1998 <i>BA</i> ₁₂		4 15.9 325°36	3°8/18.9	18	
3 12	14 1.47	−16 38.8	1.307	2.146	18.3	20.3	3 12	13 59.77	−20 47.3	1.626	2.439	16.5	17.6
3 22	13 57.76	−16 50.7	1.220	2.131	14.3	20.0	3 22	13 55.87	−20 55.0	1.539	2.432	13.1	17.3
4 1	13 50.94	−16 43.9	1.153	2.117	9.7	19.7	4 1	13 49.44	−20 43.0	1.473	2.425	9.3	17.1
4 11	13 41.78	−16 19.0	1.108	2.102	4.7	19.3	4 11	13 41.21	−20 11.5	1.431	2.418	5.4	16.8
4 21	13 31.54	−15 39.5	1.087	2.088	3.4	19.2	4 21	13 32.25	−19 23.5	1.414	2.411	3.9	16.7
5 1	13 21.79	−14 52.2	1.091	2.075	8.3	19.5	5 1	13 23.79	−18 25.2	1.424	2.405	7.0	16.9
5 11	13 14.01	−14 6.3	1.117	2.061	13.6	19.7	5 11	13 16.98	−17 24.7	1.458	2.400	11.2	17.1
5 21	13 9.17	−13 29.7	1.163	2.049	18.3	19.9	5 21	13 12.56	−16 29.8	1.513	2.394	15.0	17.3
305352	2008 <i>BZ</i> ₁₂		4 15.9 77°12	0°1/15.9	17		434928	2006 <i>TE</i> ₁₁₁		4 15.9 141°69	3°5/11.7	17	
3 12	13 58.72	−12 19.6	2.256	3.081	12.0	21.3	3 12	13 56.37	− 2 33.7	2.325	3.174	10.9	21.8
3 22	13 54.12	−11 55.6	2.186	3.095	9.0	21.2	3 22	13 52.35	− 1 17.6	2.254	3.176	8.1	21.6
4 1	13 47.85	−11 21.9	2.141	3.108	5.6	21.0	4 1	13 46.77	+ 0 3.1	2.208	3.178	5.2	21.5
4 11	13 40.55	−10 41.4	2.123	3.121	1.9	20.7	4 11	13 40.21	+ 1 22.4	2.191	3.180	3.5	21.4
4 21	13 32.95	− 9 58.3	2.133	3.134	1.9	20.8	4 21	13 33.35	+ 2 34.4	2.203	3.182	4.8	21.4
5 1	13 25.85	− 9 17.0	2.172	3.148	5.5	21.0	5 1	13 26.90	+ 3 33.9	2.242	3.184	7.7	21.6
5 11	13 19.93	− 8 41.9	2.238	3.161	8.8	21.2	5 11	13 21.52	+ 4 17.1	2.307	3.186	10.5	21.8
5 21	13 15.67	− 8 16.2	2.327	3.174	11.7	21.5	5 21	13 17.65	+ 4 42.8	2.394	3.188	13.0	22.0
248341	2005 <i>QA</i> ₈₇		4 15.9 226°45	2°3/12.5	17		18683	1998 <i>FB</i> ₁₁₁		4 15.9 317°89	4°2/19.6	18	
3 12	13 56.19	− 6 2.6	2.801	3.636	9.7	20.7	3 12	13 57.94	−22 55.2	1.976	2.771	14.6	17.4
3 22	13 52.03	− 4 36.8	2.710	3.627	7.1	20.5	3 22	13 54.21	−23 7.2	1.874	2.753	11.9	17.2
4 1	13 46.51	− 3 3.4	2.647	3.618	4.4	20.3	4 1	13 48.30	−23 1.3	1.794	2.736	8.7	16.9
4 11	13 40.10	− 1 27.6	2.614	3.608	2.4	20.1	4 11	13 40.82	−22 37.1	1.739	2.719	5.6	16.7
4 21	13 33.39	+ 0 5.0	2.612	3.598	3.6	20.2	4 21	13 32.64	−21 56.5	1.710	2.702	4.3	16.6
5 1	13 26.97	+ 1 29.1	2.640	3.587	6.4	20.4	5 1	13 24.79	−21 3.9	1.707	2.686	6.4	16.7
5 11	13 21.42	+ 2 40.2	2.695	3.576	9.1	20.5	5 11	13 18.25	−20 6.1	1.730	2.670	9.9	16.9
5 21	13 17.15	+ 3 35.7	2.774	3.565	11.5	20.7	5 21	13 13.72	−19 9.8	1.777	2.655	13.3	17.0
297755	2001 <i>XX</i> ₈₀		4 15.9 49°10	3°6/18.7	18		123267	2000 <i>UK</i> ₈₂		4 15.9 85°26	2°8/18.8	18	R
3 12	14 0.53	−21 15.5	1.272	2.100	19.4	20.0	3 12	14 1.03	−21 24.6	1.944	2.742	14.8	19.1
3 22	13 56.74	−21 0.3	1.209	2.111	15.3	19.8	3 22	13 56.10	−20 58.7	1.879	2.763	11.6	18.9
4 1	13 50.01	−20 18.8	1.165	2.122	10.5	19.5	4 1	13 49.17	−20 14.2	1.836	2.785	7.9	18.7
4 11	13 41.35	−19 13.3	1.144	2.134	5.7	19.3	4 11	13 41.01	−19 13.3	1.818	2.806	4.3	18.5
4 21	13 32.14	−17 50.2	1.146	2.146	3.9	19.2	4 21	13 32.57	−18 0.8	1.829	2.827	3.0	18.5
5 1	13 23.83	−16 19.8	1.174	2.158	7.8	19.5	5 1	13 24.82	−16 43.5	1.867	2.847	5.8	18.7
5 11	13 17.66	−14 53.7	1.225	2.171	12.5	19.8	5 11	13 18.56	−15 28.8	1.932	2.868	9.3	18.9
5 21	13 14.27	−13 40.9	1.297	2.184	16.6	20.0	5 21	13 14.31	−14 22.6	2.022	2.888	12.5	19.2
213360	2001 <i>TO</i> ₁₀₈		4 15.9 242°34	1°0/17.9	18		423455	2005 <i>SV</i> ₁₀₇		4 15.9 177°94	0°9/16.8	17	
3 12	13 51.01	−18 3.9	4.624	5.413	6.9	20.2	3 12	14 2.93	−14 30.0	2.276	3.087	12.5	23.1
3 22	13 47.74	−17 32.2	4.524	5.408	5.3	20.1	3 22	13 57.38	−14 17.2	2.191	3.089	9.5	22.9
4 1	13 43.68	−16 52.9	4.451	5.404	3.5	19.9	4 1	13 49.96	−13 53.0	2.129	3.090	6.1	22.7
4 11	13 39.13	−16 7.6	4.408	5.399	1.7	19.8	4 11	13 41.31	−13 19.7	2.095	3.091	2.4	22.4
4 21	13 34.42	−15 18.3	4.394	5.394	1.2	19.7	4 21	13 32.22	−12 40.5	2.090	3.091	1.9	22.4
5 1	13 29.89	−14 27.3	4.411	5.389	2.8	19.9	5 1	13 23.58	−11 59.9	2.114	3.091	5.6	22.6
5 11	13 25.86	−13 37.2	4.458	5.384	4.7	20.0	5 11	13 16.16	−11 22.8	2.166	3.090	9.1	22.8
5 21	13 22.60	−12 50.3	4.531	5.379	6.4	20.1	5 21	13 10.53	−10 53.0	2.242	3.088	12.1	23.0
470078	2006 <i>SH</i> ₃₄₃		4 15.9 116°67	1°9/17.8	17		470264	2007 <i>BL</i> ₄		4 15.9 162°24	7°5/27.6	18	
3 12	14 0.54	−17 18.9	2.483	3.283	11.8	21.8	3 12	14 3.98	−43 44.4	3.466	4.074	12.0	22.5
3 22	13 55.44	−17 20.7	2.403	3.292	9.2	21.6	3 22	13 58.03	−44 21.4	3.372	4.081	10.8	22.4
4 1	13 48.67	−17 11.2	2.347	3.301	6.1	21.4	4 1	13 50.32	−44 40.1	3.297	4.087	9.6	22.3
4 11	13 40.84	−16 51.5	2.319	3.310	3.0	21.2	4 11	13 41.43	−44 38.3	3.244	4.092	8.4	22.2
4 21	13 32.66	−16 24.1	2.319	3.319	2.2	21.2	4 21	13 32.09	−44 15.4	3.216	4.097	7.6	22.1
5 1	13 24.91	−15 52.7	2.349	3.327	5.0	21.4	5 1	13 23.12	−43 33.1	3.214	4.101	7.5	22.1
5 11	13 18.28	−15 21.5	2.406	3.335	8.0	21.6	5 11	13 15.26	−42 35.3	3.237	4.105	8.1	22.2
5 21	13 13.26	−14 54.4	2.488	3.343	10.8	21.8	5 21	13 9.05	−41 27.1	3.285	4.109	9.2	22.3
503694	2016 <i>JJ</i> ₄		4 15.9 272°12	1°5/17.3	17		394206	2006 <i>SK</i> ₁₆₇		4 15.9 104°35	3°5/19.0	17	
3 12	13 58.33	−18 4.3	1.893	2.710	14.3	21.1	3 12	14 2.30	−20 57.4	2.259	3.047	13.3	21.3
3 22	13 54.42	−17 21.7	1.796	2.696	11.2	20.8	3 22	13 57.06	−21 23.3	2.172	3.048	10.6	21.1
4 1	13 48.36	−16 19.8	1.721	2.682	7.4	20.6	4 1	13 49.85	−21 35.4	2.108	3.049	7.6	20.9
4 11	13 40.81	−15 1.4	1.672	2.667	3.2	20.3	4 11	13 41.30	−21 33.6	2.070	3.051	4.7	20.7
4 21	13 32.65	−13 31.9	1.651	2.652	2.2	20.2	4 21	13 32.23	−21 19.2	2.059	3.052	3.6	20.6
5 1	13 24.91	−11 58.9	1.657	2.638	6.4	20.4	5 1	13 23.56	−20 55.5	2.078	3.053	5.7	20.8
5 11	13 18.52	−10 31.1	1.690	2.623	10.6	20.6	5 11	13 16.14	−20 27.3	2.123	3.054	8.8	21.0
5 21	13 14.14	− 9 15.4	1.746	2.608	14.3	20.8	5 21	13 10.58	−19 59.4	2.192	3.056	11.7	21.1
37796	1997 <i>WK</i> ₁₃		4 15.9 143°23	1°5/14.8	18		433607	2013 <i>YW</i> ₇₈		4 15.9 217°48	2°0/13.9	17	
3 12	14 5.38	− 8 5.4	1.755	2.592	14.4	19.7	3 12	14 0.27	− 5 48.2	2.285	3.122	11.5	21.6
3 22	13 59.53	− 7 36.7	1.686	2.602	10.8	19.5	3 22	13 55.37	− 5 14.0	2.200	3.116	8.6	21.4
4 1	13 51.39	− 6 59.2	1.640	2.611	6.6	19.3	4 1	13 48.71	− 4 34.0	2.140	3.110	5.3	21.1
4 11	13 41.77	− 6 17.5	1.621	2.619	2.3	19.0	4 11	13 40.90	− 3 52.1	2.107	3.104	2.3	20.9
4 21	13 31.73	− 5 36.8	1.630	2.627	3.3	19.1	4 21	13 32.66	− 3 12.7	2.104	3.097	3.3	21.0
5 1	13 22.36	− 5 2.8	1.666	2.635	7.6	19.4	5 1	13 24.81	− 2 40.4	2.129	3.091	6.7	21.2
5 11	13 14.63	− 4 40.2	1.										

EPHEMERIDES

4 15.9

4 15.9

2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
140220	2001 <i>SH</i> ₂₃₈	4 15.9 114°38'		3°4/12.0 17		R	470662	2008 <i>SD</i> ₁₇₅	4 15.9 271°82'		1°6/17.4 17		
3 12	13 57.58	- 1 55.8	2.390	3.235	10.8	20.0	3 12	13 59.52	-17 11.5	1.967	2.783	13.9	21.9
3 22	13 53.16	- 0 52.0	2.325	3.246	8.0	19.9	3 22	13 55.30	-16 48.3	1.867	2.766	10.8	21.6
4 1	13 47.22	+ 0 15.0	2.287	3.256	5.1	19.7	4 1	13 48.93	-16 8.8	1.789	2.749	7.2	21.4
4 11	13 40.36	+ 1 19.6	2.277	3.266	3.4	19.6	4 11	13 41.05	-15 14.9	1.736	2.731	3.2	21.1
4 21	13 33.25	+ 2 16.9	2.295	3.276	4.6	19.7	4 21	13 32.50	-14 10.7	1.712	2.713	2.3	21.0
5 1	13 26.59	+ 3 2.3	2.342	3.285	7.3	19.9	5 1	13 24.31	-13 2.4	1.715	2.695	6.2	21.2
5 11	13 21.00	+ 3 32.9	2.414	3.295	10.1	20.1	5 11	13 17.42	-11 57.1	1.745	2.677	10.3	21.4
5 21	13 16.92	+ 3 47.6	2.509	3.304	12.5	20.2	5 21	13 12.51	-11 0.8	1.797	2.659	14.0	21.6
455990	2005 <i>WT</i> ₁₅₇	4 15.9 196°41'		4°5/12.3 17			498076	2007 <i>RY</i> ₁₈₁	4 15.9 71°00'		1°3/14.5 17		
3 12	14 5.05	- 0 55.8	1.776	2.622	13.9	21.9	3 12	13 58.01	-11 0.0	2.074	2.909	12.6	21.4
3 22	13 59.36	+ 0 1.4	1.700	2.620	10.4	21.7	3 22	13 53.61	- 9 42.8	2.018	2.934	9.3	21.2
4 1	13 51.36	+ 1 2.5	1.649	2.617	6.8	21.5	4 1	13 47.52	- 8 15.0	1.987	2.958	5.6	21.0
4 11	13 41.81	+ 2 0.5	1.624	2.613	4.5	21.3	4 11	13 40.46	- 6 42.5	1.984	2.983	1.9	20.8
4 21	13 31.73	+ 2 48.7	1.627	2.608	6.0	21.4	4 21	13 33.22	- 5 11.9	2.011	3.008	2.9	20.9
5 1	13 22.23	+ 3 21.1	1.657	2.602	9.6	21.6	5 1	13 26.59	- 3 50.1	2.066	3.032	6.5	21.2
5 11	13 14.28	+ 3 34.4	1.711	2.596	13.3	21.8	5 11	13 21.25	- 2 42.3	2.147	3.057	9.8	21.4
5 21	13 8.54	+ 3 27.9	1.786	2.589	16.5	22.0	5 21	13 17.60	- 1 51.3	2.252	3.081	12.7	21.7
50802	2000 <i>FH</i> ₂₇	4 15.9 255°01'		0°1/16.0 18			148096	1999 <i>JF</i> ₉₀	4 15.9 5°73'		6°1/10.3 18		
3 12	13 58.92	-12 40.1	2.231	3.056	12.2	19.3	3 12	13 52.38	- 3 19.0	1.219	2.103	16.3	18.9
3 22	13 54.49	-12 14.5	2.138	3.046	9.2	19.1	3 22	13 50.54	- 1 11.6	1.162	2.103	12.1	18.7
4 1	13 48.24	-11 38.0	2.069	3.036	5.8	18.9	4 1	13 46.16	+ 1 6.7	1.128	2.104	8.0	18.4
4 11	13 40.76	-10 53.3	2.027	3.025	2.0	18.6	4 11	13 40.12	+ 3 22.5	1.118	2.107	6.1	18.3
4 21	13 32.80	-10 4.4	2.014	3.015	2.0	18.6	4 21	13 33.57	+ 5 21.7	1.132	2.110	8.5	18.5
5 1	13 25.20	- 9 16.4	2.029	3.005	5.8	18.8	5 1	13 27.76	+ 6 52.7	1.169	2.115	12.6	18.7
5 11	13 18.73	- 8 34.3	2.071	2.994	9.4	19.0	5 11	13 23.72	+ 7 49.6	1.227	2.122	16.7	19.0
5 21	13 13.97	- 8 2.0	2.136	2.983	12.6	19.2	5 21	13 22.06	+ 8 12.2	1.302	2.129	20.2	19.2
73196	2002 <i>JZ</i> ₁₀	4 15.9 69°18'		5°9/11.3 18			451465	2011 <i>UK</i> ₁₆	4 15.9 79°07'		0°7/16.4 18		
3 12	14 1.18	+ 0 21.9	1.442	2.307	15.4	19.2	3 12	14 3.82	-14 22.1	1.449	2.285	17.0	21.6
3 22	13 56.74	+ 1 38.6	1.384	2.313	11.6	18.9	3 22	13 58.70	-13 56.0	1.392	2.304	12.9	21.4
4 1	13 49.81	+ 2 58.1	1.349	2.319	7.9	18.7	4 1	13 51.00	-13 13.3	1.356	2.324	8.1	21.2
4 11	13 41.29	+ 4 11.0	1.339	2.325	5.9	18.6	4 11	13 41.69	-12 18.3	1.345	2.343	3.0	20.9
4 21	13 32.32	+ 5 8.6	1.354	2.331	7.6	18.7	4 21	13 32.01	-11 17.5	1.360	2.362	2.5	20.9
5 1	13 24.12	+ 5 44.1	1.394	2.337	11.3	19.0	5 1	13 23.23	-10 18.8	1.402	2.381	7.4	21.3
5 11	13 17.72	+ 5 54.6	1.456	2.343	15.0	19.2	5 11	13 16.40	- 9 29.5	1.468	2.400	11.9	21.6
5 21	13 13.71	+ 5 40.7	1.536	2.349	18.3	19.4	5 21	13 12.09	- 8 54.5	1.555	2.419	15.7	21.8
410161	2007 <i>KS</i> ₄	4 15.9 277°66'		0°4/16.2 16			379726	2011 <i>GV</i> ₄₅	4 15.9 255°03'		2°3/13.8 17		
3 12	14 0.76	-14 22.2	1.438	2.279	16.8	22.1	3 12	13 59.02	- 6 51.1	1.895	2.742	13.1	21.1
3 22	13 56.94	-13 45.4	1.346	2.261	12.9	21.8	3 22	13 54.76	- 5 59.2	1.816	2.738	9.8	20.9
4 1	13 50.29	-12 48.7	1.274	2.243	8.2	21.5	4 1	13 48.49	- 4 58.6	1.761	2.733	6.0	20.7
4 11	13 41.57	-11 35.5	1.226	2.225	2.9	21.1	4 11	13 40.88	- 3 54.5	1.732	2.729	2.6	20.5
4 21	13 31.91	-10 12.7	1.204	2.206	2.8	21.0	4 21	13 32.79	- 2 53.3	1.731	2.725	3.9	20.5
5 1	13 22.71	- 8 49.7	1.208	2.187	8.4	21.3	5 1	13 25.19	- 2 1.2	1.757	2.721	7.7	20.7
5 11	13 15.25	- 7 36.7	1.236	2.169	13.6	21.5	5 11	13 18.92	- 1 23.2	1.808	2.716	11.5	21.0
5 21	13 10.43	- 6 41.1	1.283	2.150	18.1	21.7	5 21	13 14.57	- 1 2.0	1.881	2.712	14.7	21.2
380628	2004 <i>TO</i> ₃₄₉	4 15.9 188°45'		0°5/15.4 17			125621	2001 <i>XW</i> ₅₆	4 15.9 3°76'		2°6/14.3 18		
3 12	14 0.10	-11 16.6	2.465	3.286	11.3	22.0	3 12	13 59.28	- 6 51.3	1.088	1.963	18.5	18.7
3 22	13 55.12	-10 38.0	2.378	3.285	8.4	21.8	3 22	13 56.14	- 6 21.7	1.026	1.962	13.9	18.4
4 1	13 48.50	- 9 49.8	2.316	3.284	5.2	21.6	4 1	13 49.86	- 5 40.8	0.984	1.962	8.5	18.1
4 11	13 40.82	- 8 55.5	2.283	3.282	1.7	21.4	4 11	13 41.42	- 4 55.6	0.964	1.963	3.4	17.8
4 21	13 32.77	- 7 59.2	2.279	3.279	2.1	21.4	4 21	13 32.25	- 4 14.4	0.966	1.965	4.9	17.9
5 1	13 25.11	- 7 5.7	2.305	3.276	5.6	21.6	5 1	13 23.93	- 3 45.6	0.992	1.968	10.3	18.2
5 11	13 18.53	- 6 19.6	2.359	3.272	8.9	21.8	5 11	13 17.82	- 3 35.3	1.038	1.972	15.5	18.5
5 21	13 13.51	- 5 44.1	2.436	3.268	11.7	22.0	5 21	13 14.67	- 3 45.7	1.102	1.977	19.9	18.8
133981	2004 <i>TZ</i> ₂₆₃	4 15.9 182°41'		0°9/16.6 18			475747	2006 <i>WR</i> ₁₀₅	4 15.9 198°71'		1°4/14.3 17		
3 12	14 4.85	-14 27.4	1.840	2.659	14.6	21.3	3 12	13 58.38	- 6 57.8	2.807	3.636	9.8	22.7
3 22	13 59.25	-14 11.2	1.757	2.660	11.2	21.0	3 22	13 53.66	- 6 25.7	2.720	3.633	7.3	22.5
4 1	13 51.31	-13 41.0	1.697	2.661	7.2	20.8	4 1	13 47.54	- 5 48.1	2.660	3.630	4.4	22.3
4 11	13 41.81	-12 59.5	1.664	2.661	2.8	20.5	4 11	13 40.52	- 5 8.3	2.628	3.626	1.7	22.1
4 21	13 31.74	-12 10.9	1.658	2.660	2.2	20.5	4 21	13 33.18	- 4 29.7	2.626	3.622	2.6	22.2
5 1	13 22.23	-11 21.2	1.681	2.658	6.6	20.8	5 1	13 26.15	- 3 56.0	2.654	3.617	5.5	22.4
5 11	13 14.26	-10 36.7	1.729	2.656	10.8	21.0	5 11	13 20.04	- 3 30.3	2.709	3.612	8.3	22.5
5 21	13 8.51	-10 2.3	1.801	2.653	14.4	21.2	5 21	13 15.26	- 3 14.5	2.788	3.607	10.8	22.7
89307	2001 <i>VO</i> ₃₄	4 15.9 193°17'		0°1/15.9 18			456705	2007 <i>RZ</i> ₂₅₁	4 15.9 153°68'		0°4/16.2 18		
3 12	14 1.14	-12 58.9	2.293	3.111	12.1	19.6	3 12	14 2.26	-14 35.2	1.747	2.573	15.0	21.4
3 22	13 56.04	-12 25.3	2.204	3.109	9.2	19.4	3 22	13 57.32	-13 52.2	1.671	2.579	11.4	21.2
4 1	13 49.14	-11 40.3	2.141	3.106	5.7	19.2	4 1	13 50.11	-12 53.0	1.618	2.585	7.1	20.9
4 11	13 41.05	-10 47.2	2.105	3.103	1.9	18.9	4 11	13 41.42	-11 41.9	1.592	2.590	2.5	20.7
4 21	13 32.54	- 9 50.1	2.098	3.099	2.0	18.9	4 21	13 32.27	-10 25.1	1.593	2.594	2.3	20.6
5 1	13 24.44	- 8 54.3	2.121	3.095	5.8	19.1	5 1	13 23.74	- 9 10.3	1.622	2.598	6.9	20.9
5 11	13 17.52	- 8 5.0	2.171	3.090	9.3	19.4	5 11	13 16.81	- 8 4.9	1.676	2.602	11.1	21.2
5 21	13 12.31	- 7 26.0	2.245	3.084	12.3	19.5	5 21	13 12.06	- 7 13.9	1.753	2.605	14.7	21.4
299285	2005 <i>OL</i> ₃₁	4 15.9 206°10'		4°8/ 9.6 18			141785	2002 <i>ND</i> ₁₄	4 15.9 260°51'		1°5/14.7 18		

2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
471403	2011 <i>SP</i> ₁₈₁	4 15.9 235°29	1°2/17.4 17				297902	2002 <i>CR</i> ₂₆₇	4 15.9 148°50	2°4/18.6 18			
3 12	13 56.90	-17 37.1	2.587	3.392	11.3	21.7	3 12	14 0.23	-19 47.1	2.745	3.531	11.2	21.6
3 22	13 52.76	-16 55.5	2.490	3.383	8.7	21.5	3 22	13 55.14	-19 51.5	2.659	3.537	8.8	21.5
4 1	13 47.08	-16 0.2	2.417	3.375	5.7	21.3	4 1	13 48.50	-19 44.2	2.597	3.543	6.1	21.3
4 11	13 40.38	-14 53.6	2.372	3.366	2.5	21.1	4 11	13 40.86	-19 25.9	2.563	3.548	3.5	21.1
4 21	13 33.31	-13 39.7	2.356	3.357	1.7	21.0	4 21	13 32.87	-18 58.7	2.557	3.553	2.5	21.1
5 1	13 26.58	-12 23.8	2.370	3.348	4.9	21.2	5 1	13 25.25	-18 25.7	2.581	3.558	4.7	21.2
5 11	13 20.83	-11 11.3	2.412	3.339	8.1	21.4	5 11	13 18.63	-17 51.1	2.633	3.563	7.4	21.4
5 21	13 16.54	-10 7.1	2.479	3.329	11.0	21.6	5 21	13 13.50	-17 18.8	2.711	3.567	9.9	21.6
461424	2001 <i>UQ</i> ₁₉₉	4 15.9 131°93	1°1/16.7 16				420933	2013 <i>OQ</i> ₂	4 15.9 157°86	11°5/1.5 15			
3 12	14 7.06	-12 43.5	1.870	2.689	14.4	21.4	3 12	14 4.54	+26 49.4	2.283	3.077	12.9	21.4
3 22	14 0.85	-13 4.6	1.792	2.695	11.0	21.2	3 22	13 58.51	+28 26.1	2.251	3.085	11.9	21.3
4 1	13 52.30	-13 15.8	1.737	2.700	7.1	21.0	4 1	13 50.59	+29 44.2	2.242	3.091	11.5	21.3
4 11	13 42.17	-13 18.4	1.709	2.706	2.8	20.7	4 11	13 41.54	+30 36.6	2.256	3.098	11.8	21.3
4 21	13 31.48	-13 14.6	1.709	2.711	2.3	20.7	4 21	13 32.24	+30 58.8	2.294	3.103	12.8	21.4
5 1	13 21.37	-13 8.0	1.738	2.716	6.4	21.0	5 1	13 23.62	+30 49.8	2.352	3.108	14.1	21.5
5 11	13 12.83	-13 2.9	1.793	2.720	10.4	21.2	5 11	13 16.44	+30 11.9	2.428	3.113	15.5	21.6
5 21	13 6.52	-13 3.0	1.872	2.725	13.9	21.4	5 21	13 11.18	+29 9.5	2.520	3.116	16.8	21.8
391674	2008 <i>AP</i> ₁₁	4 15.9 58°57	4°1/20.2 17				333429	2003 <i>QJ</i> ₂₉	4 15.9 238°98	1°7/17.7 17			
3 12	13 58.98	-24 36.4	2.311	3.086	13.4	20.9	3 12	14 1.17	-17 26.9	2.420	3.220	12.1	21.4
3 22	13 54.57	-24 40.2	2.222	3.087	10.8	20.8	3 22	13 56.16	-17 15.7	2.315	3.205	9.4	21.2
4 1	13 48.31	-24 26.9	2.156	3.088	8.0	20.6	4 1	13 49.31	-16 51.7	2.234	3.189	6.3	21.0
4 11	13 40.82	-23 56.7	2.114	3.088	5.3	20.4	4 11	13 41.19	-16 16.1	2.181	3.173	3.0	20.7
4 21	13 32.87	-23 11.8	2.100	3.089	4.1	20.3	4 21	13 32.52	-15 31.6	2.156	3.157	2.1	20.6
5 1	13 25.34	-22 16.5	2.114	3.090	5.7	20.4	5 1	13 24.14	-14 42.7	2.161	3.139	5.3	20.8
5 11	13 19.02	-21 16.7	2.155	3.090	8.5	20.6	5 11	13 16.84	-13 54.5	2.194	3.122	8.7	21.0
5 21	13 14.45	-20 18.3	2.221	3.091	11.3	20.8	5 21	13 11.21	-13 11.6	2.251	3.103	11.8	21.1
206774	2004 <i>CZ</i> ₆₄	4 15.9 33°11	2°0/14.3 17				388989	2008 <i>UR</i> ₇₈	4 15.9 184°24	2°3/13.6 17			
3 12	14 0.11	-6 4.2	1.838	2.685	13.4	20.0	3 12	13 59.45	-5 49.0	2.182	3.022	11.8	21.6
3 22	13 55.53	-5 41.8	1.771	2.692	10.0	19.8	3 22	13 54.80	-5 0.9	2.104	3.023	8.8	21.4
4 1	13 48.92	-5 13.4	1.727	2.699	6.1	19.6	4 1	13 48.40	-4 6.4	2.051	3.022	5.4	21.2
4 11	13 41.01	-4 43.2	1.709	2.707	2.4	19.4	4 11	13 40.85	-3 10.0	2.026	3.022	2.5	21.0
4 21	13 32.71	-4 16.0	1.719	2.715	3.5	19.5	4 21	13 32.92	-2 17.1	2.029	3.021	3.7	21.1
5 1	13 24.99	-3 56.4	1.755	2.723	7.3	19.7	5 1	13 25.43	-1 32.7	2.061	3.020	7.0	21.3
5 11	13 18.69	-3 47.9	1.817	2.732	11.0	20.0	5 11	13 19.13	-1 0.8	2.118	3.019	10.4	21.5
5 21	13 14.37	-3 52.3	1.901	2.741	14.2	20.2	5 21	13 14.53	-0 43.5	2.198	3.018	13.2	21.7
133129	2003 <i>PV</i> ₄	4 15.9 230°86	0°1/16.0 16				341880	2008 <i>GT</i> ₈₇	4 15.9 281°99	0°8/17.1 18 R			
3 12	14 4.09	-12 41.0	2.044	2.863	13.3	21.5	3 12	13 57.62	-13 47.2	4.352	5.147	7.2	20.4
3 22	13 58.62	-12 15.1	1.944	2.849	10.2	21.3	3 22	13 52.71	-14 1.0	4.247	5.137	5.5	20.2
4 1	13 50.96	-11 36.8	1.868	2.833	6.4	21.0	4 1	13 46.83	-14 10.0	4.169	5.126	3.6	20.1
4 11	13 41.76	-10 48.9	1.819	2.817	2.2	20.7	4 11	13 40.29	-14 14.8	4.121	5.116	1.6	19.9
4 21	13 31.88	-9 55.8	1.798	2.800	2.2	20.7	4 21	13 33.50	-14 16.4	4.105	5.105	1.2	19.9
5 1	13 22.36	-9 3.0	1.807	2.781	6.6	20.9	5 1	13 26.85	-14 16.3	4.119	5.095	3.2	20.0
5 11	13 14.14	-8 16.5	1.843	2.762	10.6	21.1	5 11	13 20.75	-14 16.2	4.163	5.084	5.2	20.2
5 21	13 7.92	-7 41.0	1.901	2.742	14.2	21.3	5 21	13 15.53	-14 17.6	4.235	5.073	7.0	20.3
502110	2015 <i>BR</i>	4 15.9 157°98	3°2/18.8 17				468473	2004 <i>RV</i> ₁₅₃	4 15.9 278°71	2°2/17.8 16			
3 12	14 4.74	-20 39.7	2.188	2.974	13.7	21.7	3 12	14 2.05	-18 17.3	2.031	2.836	13.9	21.8
3 22	13 58.89	-20 49.3	2.104	2.981	10.8	21.5	3 22	13 57.36	-18 6.5	1.913	2.805	11.0	21.5
4 1	13 50.98	-20 43.9	2.043	2.987	7.6	21.3	4 1	13 50.36	-17 39.4	1.817	2.772	7.5	21.3
4 11	13 41.72	-20 23.8	2.009	2.993	4.4	21.1	4 11	13 41.64	-16 56.7	1.748	2.739	3.7	21.0
4 21	13 31.97	-19 51.3	2.003	2.998	3.3	21.0	4 21	13 32.03	-16 1.3	1.706	2.706	2.6	20.8
5 1	13 22.72	-19 10.5	2.026	3.003	5.8	21.2	5 1	13 22.59	-14 58.4	1.692	2.671	6.4	21.0
5 11	13 14.83	-18 27.2	2.077	3.007	9.0	21.4	5 11	13 14.37	-13 55.0	1.705	2.637	10.6	21.1
5 21	13 8.91	-17 46.7	2.152	3.010	12.1	21.6	5 21	13 8.17	-12 57.8	1.741	2.601	14.4	21.3
129785	1999 <i>JF</i> ₆₄	4 15.9 310°05	8°3/11.2 18				102914	1999 <i>XT</i> ₂₂	4 15.9 150°38	1°3/14.8 18			
3 12	14 5.20	+ 5 56.0	1.271	2.137	17.0	19.1	3 12	14 3.84	- 8 34.0	1.951	2.783	13.4	20.3
3 22	14 0.77	+ 6 38.5	1.180	2.105	13.5	18.8	3 22	13 58.23	- 8 0.1	1.878	2.792	10.0	20.1
4 1	13 52.99	+ 7 17.8	1.110	2.073	10.1	18.5	4 1	13 50.57	- 7 17.5	1.830	2.800	6.1	19.9
4 11	13 42.62	+ 7 43.6	1.062	2.041	8.3	18.3	4 11	13 41.59	- 6 30.5	1.809	2.808	2.1	19.7
4 21	13 30.90	+ 7 46.7	1.038	2.010	10.1	18.2	4 21	13 32.22	- 5 44.2	1.817	2.815	3.0	19.7
5 1	13 19.50	+ 7 20.2	1.037	1.979	14.3	18.4	5 1	13 23.43	- 5 4.0	1.853	2.821	7.0	20.0
5 11	13 10.04	+ 6 22.4	1.056	1.949	18.9	18.5	5 11	13 16.09	- 4 34.3	1.915	2.827	10.7	20.2
5 21	13 3.61	+ 4 56.2	1.092	1.920	23.2	18.7	5 21	13 10.76	- 4 18.0	2.000	2.832	13.9	20.5
314663	2006 <i>QH</i> ₁₅	4 15.9 207°84	3°1/18.6 17				431447	2007 <i>RE</i> ₁₄₀	4 15.9 270°97	0°6/16.5 17			
3 12	14 2.98	-20 27.6	1.885	2.685	15.1	21.0	3 12	14 0.83	-13 25.4	2.124	2.945	12.8	21.5
3 22	13 57.96	-20 22.1	1.795	2.681	11.9	20.7	3 22	13 56.15	-13 14.1	2.022	2.927	9.8	21.3
4 1	13 50.60	-19 58.5	1.726	2.676	8.3	20.5	4 1	13 49.43	-12 51.3	1.943	2.908	6.3	21.0
4 11	13 41.64	-19 17.6	1.684	2.671	4.6	20.3	4 11	13 41.28	-12 19.3	1.892	2.889	2.4	20.8
4 21	13 32.04	-18 22.5	1.668	2.666	3.3	20.2	4 21	13 32.48	-11 41.4	1.868	2.870	2.0	20.7
5 1	13 22.93	-17 19.3	1.680	2.660	6.4	20.3	5 1	13 23.98	-11 2.3	1.873	2.850	6.1	20.9
5 11	13 15.32	-16 15.3	1.719	2.654	10.3	20.6	5 11	13 16.67	-10 27.2	1.904	2.831	9.9	21.1
5 21	13 9.90	-15 17.3	1.781	2.647	13.9	20.8	5 21	13 11.20	-10 0.4	1.959	2.811	13.4	21.3
61754	2000 <i>QP</i> ₁₅₉	4 15.9 45°76	1°8/14.3 18				269611	2010 <i>CQ</i> ₁₉₁	4 15.9 93°54				

EPHEMERIDES

4 15.9

4 15.9

2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
457374	2008 <i>TE</i> ₂₄		4 15.9 181°62	0°7/16.5	16		297647	2001 <i>TK</i> ₁₉₉		4 15.9 208°42	2°7/12.5	18	
3 12	14 5.05	-14 27.3	1.749	2.570	15.1	22.7	3 12	13 58.08	-2 36.4	2.878	3.714	9.4	22.4
3 22	13 59.53	-14 3.7	1.667	2.572	11.6	22.5	3 22	13 53.43	-1 44.2	2.792	3.708	7.0	22.2
4 1	13 51.58	-13 25.1	1.608	2.572	7.4	22.2	4 1	13 47.43	-0 48.6	2.732	3.700	4.5	22.0
4 11	13 41.99	-12 34.3	1.575	2.572	2.8	21.9	4 11	13 40.54	+0 6.5	2.702	3.693	2.7	21.9
4 21	13 31.82	-11 36.5	1.570	2.571	2.3	21.9	4 21	13 33.34	+0 56.9	2.701	3.685	3.8	21.9
5 1	13 22.23	-10 38.3	1.593	2.570	6.9	22.2	5 1	13 26.44	+1 38.7	2.730	3.676	6.3	22.1
5 11	13 14.28	-9 46.8	1.641	2.568	11.2	22.4	5 11	13 20.41	+2 9.1	2.786	3.667	8.9	22.2
5 21	13 8.63	-9 7.1	1.712	2.565	15.0	22.6	5 21	13 15.66	+2 26.5	2.865	3.657	11.2	22.4
75449	1999 <i>XH</i> ₁₃₇		4 15.9 18°17	9°4/ 7.1	18		507340	2011 <i>UF</i> ₉₃		4 15.9 278°04	0°3/16.3	17	
3 12	14 1.87	+15 15.4	1.920	2.761	13.2	19.3	3 12	13 56.39	-15 1.7	2.279	3.099	12.1	21.5
3 22	13 56.78	+16 25.8	1.867	2.761	11.1	19.2	3 22	13 52.61	-14 8.4	2.182	3.088	9.2	21.3
4 1	13 49.67	+17 24.9	1.837	2.762	9.6	19.1	4 1	13 47.12	-13 0.8	2.110	3.076	5.8	21.0
4 11	13 41.29	+18 4.8	1.832	2.763	9.5	19.0	4 11	13 40.48	-11 42.3	2.066	3.064	2.1	20.7
4 21	13 32.57	+18 20.1	1.852	2.764	10.7	19.1	4 21	13 33.40	-10 18.0	2.050	3.052	1.9	20.7
5 1	13 24.49	+18 8.2	1.895	2.765	12.8	19.3	5 1	13 26.67	-8 54.4	2.063	3.040	5.7	20.9
5 11	13 17.87	+17 30.0	1.960	2.766	15.0	19.4	5 11	13 21.04	-7 37.8	2.104	3.028	9.3	21.1
5 21	13 13.24	+16 28.8	2.043	2.767	17.1	19.6	5 21	13 17.01	-6 33.1	2.168	3.016	12.4	21.3
125086	2001 <i>UJ</i> ₁₅		4 15.9 251°83	6°6/ 9.5	18		22937	Nataliavella		4 15.9 224°43	2°4/14.0	18	
3 12	14 4.76	+8 29.4	2.211	3.048	11.8	20.2	3 12	14 2.47	-6 16.5	1.703	2.550	14.3	19.3
3 22	13 58.93	+9 26.8	2.121	3.026	9.5	20.0	3 22	13 57.61	-5 36.1	1.624	2.545	10.7	19.1
4 1	13 51.08	+10 20.6	2.056	3.003	7.4	19.8	4 1	13 50.41	-4 47.3	1.568	2.540	6.6	18.8
4 11	13 41.82	+11 4.2	2.018	2.979	6.7	19.7	4 11	13 41.62	-3 55.5	1.538	2.535	2.8	18.6
4 21	13 31.97	+11 31.7	2.008	2.954	8.0	19.7	4 21	13 32.25	-3 6.8	1.535	2.530	4.1	18.6
5 1	13 22.45	+11 39.0	2.025	2.929	10.5	19.8	5 1	13 23.42	-2 27.7	1.559	2.524	8.4	18.9
5 11	13 14.15	+11 24.7	2.066	2.903	13.3	20.0	5 11	13 16.14	-2 3.0	1.608	2.519	12.5	19.1
5 21	13 7.69	+10 49.6	2.128	2.876	15.9	20.1	5 21	13 11.08	-1 55.3	1.678	2.513	16.0	19.3
155292	2005 <i>XT</i> ₆₄		4 15.9 196°03	1°0/14.9	18		470220	2006 <i>WD</i> ₄₉		4 15.9 219°56	1°6/17.9	17	
3 12	14 0.79	-9 44.9	2.313	3.140	11.7	20.9	3 12	13 57.56	-18 33.2	2.618	3.417	11.3	21.1
3 22	13 55.78	-9 1.7	2.226	3.137	8.8	20.7	3 22	13 53.28	-18 4.9	2.523	3.411	8.8	20.9
4 1	13 49.01	-8 9.3	2.165	3.134	5.4	20.5	4 1	13 47.43	-17 23.3	2.452	3.406	5.9	20.7
4 11	13 41.09	-7 11.4	2.131	3.130	1.8	20.2	4 11	13 40.57	-16 30.4	2.408	3.400	2.9	20.5
4 21	13 32.76	-6 12.9	2.127	3.126	2.6	20.3	4 21	13 33.34	-15 29.4	2.393	3.394	1.9	20.4
5 1	13 24.83	-5 18.9	2.152	3.120	6.2	20.5	5 1	13 26.44	-14 25.0	2.408	3.387	4.8	20.6
5 11	13 18.05	-4 34.1	2.205	3.115	9.6	20.7	5 11	13 20.53	-13 22.3	2.451	3.381	7.9	20.7
5 21	13 12.93	-4 1.7	2.280	3.108	12.6	20.9	5 21	13 16.09	-12 26.0	2.519	3.374	10.7	20.9
248345	2005 <i>QF</i> ₁₀₈		4 15.9 275°12	1°9/13.8	17		142291	Dompfaff		4 15.9 246°64	2°3/17.8	17	
3 12	13 56.51	-7 18.4	2.303	3.144	11.3	20.2	3 12	14 2.83	-17 52.9	1.836	2.647	14.9	21.3
3 22	13 52.60	-6 22.5	2.217	3.136	8.4	20.0	3 22	13 57.98	-17 48.3	1.740	2.635	11.7	21.0
4 1	13 47.06	-5 18.6	2.156	3.129	5.1	19.8	4 1	13 50.74	-17 27.3	1.666	2.623	7.9	20.8
4 11	13 40.43	-4 11.2	2.123	3.121	2.2	19.6	4 11	13 41.78	-16 51.0	1.617	2.610	3.9	20.5
4 21	13 33.42	-3 5.7	2.119	3.113	3.3	19.6	4 21	13 32.07	-16 2.7	1.596	2.596	2.7	20.4
5 1	13 26.76	-2 7.5	2.143	3.105	6.7	19.8	5 1	13 22.77	-15 8.0	1.602	2.583	6.6	20.6
5 11	13 21.17	-1 21.1	2.193	3.097	9.9	20.0	5 11	13 14.94	-14 14.2	1.635	2.569	10.8	20.8
5 21	13 17.12	-0 49.4	2.267	3.090	12.8	20.2	5 21	13 9.32	-13 27.6	1.690	2.554	14.6	21.0
399402	2001 <i>SM</i> ₃₄₅		4 15.9 301°01	6°1/20.0	17		173294	1999 <i>TB</i> ₂₂₃		4 15.9 191°66	3°2/18.7	18	
3 12	13 59.67	-24 33.8	1.300	2.115	19.7	20.6	3 12	14 3.74	-20 53.6	1.941	2.736	14.9	21.0
3 22	13 56.84	-24 50.2	1.198	2.087	16.4	20.3	3 22	13 58.47	-20 50.1	1.853	2.735	11.8	20.7
4 1	13 50.70	-24 39.1	1.113	2.058	12.3	19.9	4 1	13 50.91	-20 28.7	1.786	2.733	8.2	20.5
4 11	13 41.93	-23 57.0	1.049	2.030	8.1	19.6	4 11	13 41.80	-19 50.1	1.745	2.731	4.7	20.3
4 21	13 31.72	-22 44.7	1.008	2.001	6.1	19.4	4 21	13 32.09	-18 57.5	1.731	2.728	3.3	20.2
5 1	13 21.78	-21 8.9	0.991	1.973	9.1	19.5	5 1	13 22.87	-17 56.3	1.746	2.725	6.3	20.4
5 11	13 13.78	-19 22.6	0.995	1.946	14.1	19.6	5 11	13 15.15	-16 53.9	1.787	2.721	10.0	20.6
5 21	13 8.91	-17 39.5	1.020	1.918	19.2	19.8	5 21	13 9.57	-15 56.8	1.852	2.717	13.5	20.8
222342	2000 <i>WX</i> ₉		4 15.9 64°22	0°1/16.0	18		344263	2001 <i>SZ</i> ₃₂₃		4 15.9 178°21	2°9/19.5	18	
3 12	13 59.72	-14 5.2	1.705	2.538	14.9	20.1	3 12	13 58.98	-22 46.1	2.659	3.435	11.8	21.4
3 22	13 55.30	-13 14.9	1.647	2.559	11.2	19.9	3 22	13 54.32	-22 32.5	2.567	3.437	9.4	21.3
4 1	13 48.78	-12 9.5	1.612	2.580	6.9	19.7	4 1	13 48.08	-22 4.1	2.499	3.437	6.7	21.1
4 11	13 40.99	-10 54.4	1.603	2.602	2.3	19.5	4 11	13 40.79	-21 21.8	2.457	3.438	4.1	20.9
4 21	13 32.92	-9 36.3	1.622	2.623	2.3	19.5	4 21	13 33.15	-20 28.3	2.444	3.438	3.0	20.8
5 1	13 25.60	-8 22.8	1.668	2.645	6.7	19.8	5 1	13 25.88	-19 27.7	2.461	3.438	4.8	20.9
5 11	13 19.84	-7 20.6	1.739	2.666	10.7	20.1	5 11	13 19.65	-18 25.2	2.505	3.437	7.6	21.1
5 21	13 16.16	-6 33.9	1.833	2.687	14.0	20.4	5 21	13 14.94	-17 25.9	2.575	3.437	10.2	21.3
66861	1999 <i>VN</i> ₃₁		4 15.9 192°27	0°1/16.0	18		501031	2013 <i>RP</i> ₇₀		4 15.9 255°06	2°8/18.1	17	
3 12	14 0.30	-12 37.2	2.734	3.546	10.5	21.0	3 12	14 3.70	-18 15.1	1.912	2.718	14.6	21.8
3 22	13 55.17	-12 6.9	2.643	3.544	8.0	20.8	3 22	13 58.59	-18 28.5	1.814	2.705	11.6	21.6
4 1	13 48.54	-11 27.4	2.577	3.541	5.0	20.6	4 1	13 51.11	-18 27.3	1.739	2.693	7.9	21.3
4 11	13 40.92	-10 41.2	2.540	3.538	1.7	20.4	4 11	13 41.91	-18 11.8	1.690	2.679	4.2	21.1
4 21	13 32.95	-9 52.0	2.533	3.534	1.7	20.4	4 21	13 31.95	-17 44.0	1.667	2.666	3.1	21.0
5 1	13 25.32	-9 3.7	2.556	3.529	5.0	20.6	5 1	13 22.35	-17 8.2	1.673	2.652	6.5	21.1
5 11	13 18.66	-8 20.5	2.607	3.523	8.0	20.8	5 11	13 14.16	-16 30.7	1.705	2.638	10.4	21.3
5 21	13 13.43	-7 45.5	2.683	3.517	10.7	20.9	5 21	13 8.15	-15 57.1	1.759	2.624	14.1	21.5
246940	1999 <i>RK</i> ₅₁		4 15.9 239°37	0°4/16.3	17		499121	2009 <i>HJ</i> ₁₀₅		4 15.9 337°09	1°0/15.4	17	
3 12	14												

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2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V	
282790	2006 <i>ME</i> ₁₂	4 15.9 227°98' 1.8/17.3 17						205560	2001 <i>SC</i> ₂₈₂	4 15.9 88°74' 10.5/6.3 18				
3 12	14 6.42	-15 44.7	2.025	2.832	13.9	21.7	3 12	14 4.89	+11 49.4	1.519	2.371	15.4	19.6	
3 22	14 0.49	-15 54.4	1.926	2.820	10.8	21.5	3 22	13 59.14	+14 13.9	1.497	2.403	12.6	19.5	
4 1	13 52.22	-15 51.9	1.850	2.807	7.2	21.2	4 1	13 51.10	+16 25.2	1.500	2.433	10.8	19.5	
4 11	13 42.28	-15 37.8	1.801	2.794	3.3	20.9	4 11	13 41.80	+18 11.0	1.528	2.463	10.7	19.6	
4 21	13 31.59	-15 14.5	1.780	2.781	2.4	20.8	4 21	13 32.39	+19 23.4	1.581	2.492	12.3	19.7	
5 1	13 21.25	-14 46.1	1.788	2.766	6.3	21.1	5 1	13 24.01	+19 59.2	1.657	2.521	14.6	19.9	
5 11	13 12.28	-14 17.8	1.823	2.751	10.3	21.3	5 11	13 17.52	+20 0.6	1.752	2.548	16.9	20.1	
5 21	13 5.43	-13 54.6	1.882	2.735	13.8	21.4	5 21	13 13.38	+19 32.5	1.863	2.575	18.9	20.4	
99743	2002 <i>JP</i> ₆₉	4 15.9 292°02' 5°5/11.8 17						522842	2016 <i>NS</i> ₈₄	4 15.9 306°91' 4°3/11.9 17				
3 12	14 1.33	- 0 25.8	1.457	2.321	15.4	19.5	3 12	13 58.38	+ 0 7.2	2.029	2.882	12.1	21.0	
3 22	13 57.26	+ 0 36.1	1.372	2.301	11.7	19.2	3 22	13 54.24	+ 0 57.5	1.948	2.871	9.1	20.7	
4 1	13 50.49	+ 1 43.7	1.310	2.280	7.9	18.9	4 1	13 48.21	+ 1 50.2	1.892	2.860	6.1	20.5	
4 11	13 41.75	+ 2 48.4	1.271	2.260	5.5	18.7	4 11	13 40.92	+ 2 39.4	1.862	2.849	4.3	20.4	
4 21	13 32.14	+ 3 41.6	1.258	2.240	7.4	18.8	4 21	13 33.15	+ 3 19.5	1.859	2.838	5.7	20.5	
5 1	13 22.98	+ 4 15.2	1.270	2.219	11.5	19.0	5 1	13 25.78	+ 3 45.7	1.883	2.828	8.7	20.6	
5 11	13 15.50	+ 4 24.4	1.303	2.199	15.8	19.1	5 11	13 19.63	+ 3 54.7	1.932	2.817	12.0	20.8	
5 21	13 10.54	+ 4 8.5	1.355	2.179	19.7	19.3	5 21	13 15.25	+ 3 46.0	2.001	2.807	14.8	21.0	
47915	2000 <i>GG</i> ₉₁	4 15.9 125°54' 4°2/12.7 18						104108	2000 <i>EH</i> ₄₅	4 15.9 303°94' 0°5/16.4 18 R				
3 12	14 5.49	+ 0 29.4	1.916	2.759	13.1	18.4	3 12	13 58.99	-13 35.5	2.036	2.863	13.1	19.5	
3 22	13 59.41	+ 1 4.3	1.854	2.771	9.9	18.2	3 22	13 54.73	-13 12.8	1.952	2.860	10.0	19.3	
4 1	13 51.27	+ 1 39.5	1.817	2.783	6.5	18.0	4 1	13 48.53	-12 38.0	1.891	2.857	6.3	19.0	
4 11	13 41.87	+ 2 9.8	1.807	2.795	4.3	17.9	4 11	13 41.03	-11 53.7	1.856	2.854	2.3	18.8	
4 21	13 32.15	+ 2 30.2	1.825	2.806	5.5	18.0	4 21	13 33.06	-11 4.5	1.850	2.851	2.0	18.7	
5 1	13 23.09	+ 2 37.0	1.871	2.817	8.6	18.2	5 1	13 25.53	-10 15.6	1.871	2.849	6.0	19.0	
5 11	13 15.55	+ 2 28.3	1.942	2.828	11.9	18.4	5 11	13 19.27	- 9 32.5	1.918	2.846	9.8	19.2	
5 21	13 10.05	+ 2 4.2	2.034	2.837	14.7	18.6	5 21	13 14.84	- 8 59.4	1.988	2.844	13.1	19.4	
375118	2007 <i>TW</i> ₄₁₀	4 15.9 88°09' 6°0/9.9 18						502722	2015 <i>DY</i> ₃₀	4 15.9 130°59' 4°0/12.3 17				
3 12	14 0.56	+ 7 8.5	2.211	3.057	11.5	20.6	3 12	14 0.63	- 0 50.7	1.968	2.818	12.6	21.5	
3 22	13 55.45	+ 8 8.3	2.163	3.074	9.0	20.4	3 22	13 55.86	- 0 1.5	1.900	2.821	9.4	21.3	
4 1	13 48.70	+ 9 3.6	2.140	3.091	6.8	20.3	4 1	13 49.15	+ 0 50.2	1.855	2.824	6.1	21.1	
4 11	13 40.98	+ 9 48.2	2.144	3.108	6.0	20.3	4 11	13 41.22	+ 1 38.6	1.837	2.827	4.0	20.9	
4 21	13 33.06	+10 17.6	2.175	3.125	7.2	20.4	4 21	13 32.90	+ 2 18.2	1.847	2.829	5.4	21.0	
5 1	13 25.72	+10 28.8	2.233	3.142	9.4	20.6	5 1	13 25.11	+ 2 44.1	1.884	2.832	8.5	21.2	
5 11	13 19.63	+10 21.1	2.314	3.159	11.8	20.7	5 11	13 18.65	+ 2 53.6	1.946	2.834	11.7	21.4	
5 21	13 15.22	+ 9 55.7	2.417	3.175	13.9	20.9	5 21	13 14.06	+ 2 46.1	2.029	2.837	14.6	21.6	
95038	2002 <i>AV</i> ₂₇	4 15.9 47°83' 6°4/20.8 17						388004	2005 <i>QD</i> ₁₄₀	4 15.9 191°75' 1°6/17.7 17				
3 12	14 4.13	-26 0.6	1.695	2.476	17.2	19.4	3 12	14 0.19	-16 48.6	2.682	3.481	11.1	22.0	
3 22	13 59.16	-26 46.6	1.620	2.484	14.2	19.2	3 22	13 55.22	-16 49.4	2.591	3.480	8.6	21.9	
4 1	13 51.53	-27 11.5	1.565	2.492	10.9	19.0	4 1	13 48.66	-16 39.9	2.525	3.479	5.7	21.7	
4 11	13 42.06	-27 13.2	1.534	2.500	7.8	18.9	4 11	13 41.06	-16 21.2	2.486	3.478	2.8	21.5	
4 21	13 31.91	-26 52.5	1.527	2.508	6.4	18.8	4 21	13 33.07	-15 55.4	2.476	3.476	2.0	21.4	
5 1	13 22.39	-26 13.8	1.546	2.517	7.9	18.9	5 1	13 25.40	-15 26.0	2.496	3.474	4.7	21.6	
5 11	13 14.65	-25 24.5	1.590	2.526	10.9	19.1	5 11	13 18.73	-14 56.7	2.543	3.472	7.7	21.8	
5 21	13 9.44	-24 33.1	1.657	2.535	14.1	19.3	5 21	13 13.54	-14 31.1	2.616	3.469	10.4	22.0	
25140	Schmedemann	4 15.9 245°58' 1°6/14.6 18						476425	2008 <i>DO</i> ₆₂	4 15.9 338°42' 9°2/3.5 16				
3 12	14 3.51	- 7 29.4	1.956	2.791	13.2	19.6	3 12	13 54.10	+12 1.2	1.929	2.788	12.4	20.4	
3 22	13 58.28	- 7 0.9	1.860	2.775	10.0	19.3	3 22	13 51.14	+14 23.5	1.872	2.779	10.4	20.2	
4 1	13 50.83	- 6 24.1	1.788	2.759	6.1	19.0	4 1	13 46.33	+16 40.0	1.840	2.770	9.3	20.2	
4 11	13 41.83	- 5 42.8	1.744	2.742	2.3	18.8	4 11	13 40.30	+18 40.2	1.834	2.762	9.6	20.2	
4 21	13 32.15	- 5 2.0	1.727	2.724	3.3	18.8	4 21	13 33.84	+20 15.4	1.854	2.755	11.3	20.2	
5 1	13 22.83	- 4 27.1	1.739	2.706	7.4	19.0	5 1	13 27.81	+21 19.8	1.897	2.748	13.6	20.4	
5 11	13 14.84	- 4 2.8	1.777	2.688	11.4	19.2	5 11	13 23.01	+21 51.9	1.960	2.741	15.9	20.5	
5 21	13 8.86	- 3 52.3	1.837	2.669	15.0	19.4	5 21	13 19.97	+21 53.8	2.039	2.736	17.9	20.7	
36075	1999 <i>RU</i> ₅₉	4 15.9 190°73' 1°0/17.1 18						216105	2006 <i>RX</i> ₄₄	4 15.9 82°73' 1°2/14.6 18				
3 12	13 59.17	-15 12.0	2.984	3.786	10.0	19.5	3 12	13 57.86	- 8 56.7	2.240	3.077	11.7	20.5	
3 22	13 54.27	-15 1.7	2.891	3.784	7.7	19.3	3 22	13 53.58	- 8 12.5	2.170	3.086	8.7	20.3	
4 1	13 47.98	-14 42.4	2.824	3.782	5.0	19.2	4 1	13 47.66	- 7 20.1	2.124	3.095	5.3	20.1	
4 11	13 40.78	-14 15.7	2.785	3.780	2.1	19.0	4 11	13 40.71	- 6 23.8	2.105	3.104	1.9	19.9	
4 21	13 33.26	-13 44.1	2.776	3.777	1.5	18.9	4 21	13 33.46	- 5 28.4	2.116	3.113	2.7	20.0	
5 1	13 26.03	-13 10.5	2.797	3.774	4.3	19.1	5 1	13 26.67	- 4 39.0	2.154	3.122	6.2	20.2	
5 11	13 19.67	-12 38.7	2.847	3.771	7.1	19.3	5 11	13 21.04	- 3 59.8	2.219	3.132	9.4	20.4	
5 21	13 14.63	-12 11.6	2.922	3.767	9.6	19.4	5 21	13 17.01	- 3 33.3	2.307	3.141	12.3	20.6	
272887	2006 <i>BH</i> ₁₁₀	4 15.9 50°43' 1°0/15.2 17						456117	2006 <i>CY</i> ₅₆	4 15.9 255°14' 5°3/26.2 18				
3 12	14 0.87	- 9 20.6	1.838	2.678	13.8	20.5	3 12	13 56.73	-40 14.9	4.681	5.312	8.8	21.1	
3 22	13 56.24	- 8 55.8	1.762	2.679	10.3	20.2	3 22	13 52.30	-40 44.2	4.574	5.306	7.9	21.0	
4 1	13 49.49	- 8 21.5	1.709	2.680	6.3	20.0	4 1	13 46.74	-41 0.9	4.488	5.300	6.9	20.9	
4 11	13 41.34	- 7 41.6	1.683	2.682	2.1	19.7	4 11	13 40.40	-41 4.1	4.426	5.294	5.9	20.8	
4 21	13 32.71	- 7 1.1	1.683	2.683	2.8	19.8	4 21	13 33.74	-40 53.6	4.389	5.288	5.4	20.8	
5 1	13 24.62	- 6 25.5	1.712	2.685	7.0	20.0	5 1	13 27.26	-40 30.6	4.380	5.282	5.3	20.8	
5 11	13 17.95	- 5 59.5	1.765	2.686	10.9	20.3	5 11	13 21.41	-39 57.3	4.396	5.276	5.9	20.8	
5 21	13 13.31	- 5 46.1	1.841	2.687	14.3	20.5	5 21	13 16.59	-39 16.7	4.438	5.269	6.8	20.9	
310096	2010 <i>PL</i> ₆₄	4 15.9 265°92' 3°4/11.8 18						375017	2007 <i>GO</i> ₃₉	4 15.9 199°82' 0°1/16.1 17				
3 12	13 56.35	- 1 55.7	2.404	3.252	10.6	20.9	3 12	13 59.53	-13 31.7	1.955	2.783	13.5	21.6	
3 22	13 52.42	- 0 49.5	2.323	3.244	7.9	20.7								

EPHEMERIDES

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2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
390971	2005 QS ₁₃₂	4 15.9 73°57' 1.2°/17.1 17											
3 12	14 0.71	-14 27.8	2.317	3.131	12.2	21.0							
3 22	13 55.79	-14 30.9	2.234	3.134	9.3	20.8							
4 1	13 49.09	-14 24.0	2.175	3.136	6.0	20.6							
4 11	13 41.23	-14 8.5	2.143	3.139	2.6	20.4							
4 21	13 32.94	-13 47.2	2.140	3.141	1.9	20.4							
5 1	13 25.06	-13 23.6	2.165	3.144	5.3	20.6							
5 11	13 18.34	-13 1.8	2.218	3.147	8.6	20.8							
5 21	13 13.31	-12 45.3	2.294	3.149	11.6	21.0							
105819	2000 SN ₁₄₂	4 15.9 159°01' 4.5°/20.6 18											
3 12	14 2.06	-25 48.4	2.625	3.381	12.4	20.3							
3 22	13 56.78	-26 14.9	2.535	3.384	10.2	20.1							
4 1	13 49.71	-26 26.6	2.467	3.386	7.8	20.0							
4 11	13 41.45	-26 22.8	2.425	3.389	5.5	19.8							
4 21	13 32.71	-26 4.4	2.411	3.391	4.5	19.8							
5 1	13 24.34	-25 34.3	2.426	3.393	5.6	19.8							
5 11	13 17.07	-24 56.9	2.468	3.395	7.9	20.0							
5 21	13 11.46	-24 17.3	2.535	3.397	10.4	20.1							
467139	2016 EG ₇₉	4 15.9 349°76' 7.7°/8.6 17											
3 12	13 56.34	+ 3 5.5	1.423	2.298	15.0	20.5							
3 22	13 53.31	+ 5 4.0	1.363	2.294	11.6	20.3							
4 1	13 47.88	+ 7 4.9	1.326	2.290	8.6	20.1							
4 11	13 40.87	+ 8 55.9	1.314	2.287	7.8	20.0							
4 21	13 33.33	+10 25.9	1.326	2.285	9.9	20.1							
5 1	13 26.43	+11 26.6	1.362	2.284	13.2	20.3							
5 11	13 21.18	+11 54.5	1.418	2.283	16.7	20.5							
5 21	13 18.21	+11 51.0	1.491	2.282	19.7	20.8							
123722	2000 YX ₁₃₄	4 15.9 38°50' 8.2°/22.6 17											
3 12	14 3.03	-30 10.7	1.576	2.345	18.9	18.7							
3 22	13 58.56	-31 3.1	1.509	2.357	15.9	18.5							
4 1	13 51.26	-31 29.6	1.460	2.371	12.7	18.3							
4 11	13 42.04	-31 27.4	1.433	2.384	9.8	18.2							
4 21	13 32.15	-30 56.9	1.429	2.399	8.2	18.1							
5 1	13 23.01	-30 3.2	1.450	2.414	9.0	18.2							
5 11	13 15.84	-28 55.5	1.495	2.429	11.6	18.4							
5 21	13 11.38	-27 43.7	1.561	2.445	14.5	18.6							
434955	2006 US ₄₇	4 15.9 218°16' 2.9°/19.3 17											
3 12	13 59.55	-22 8.4	2.653	3.431	11.8	21.9							
3 22	13 54.85	-22 1.6	2.554	3.425	9.4	21.7							
4 1	13 48.50	-21 40.6	2.478	3.417	6.7	21.5							
4 11	13 41.04	-21 6.0	2.428	3.410	4.0	21.4							
4 21	13 33.15	-20 20.1	2.408	3.402	3.0	21.3							
5 1	13 25.58	-19 26.8	2.416	3.393	4.9	21.4							
5 11	13 19.02	-18 31.0	2.453	3.385	7.7	21.5							
5 21	13 14.00	-17 37.6	2.515	3.376	10.5	21.7							
37749	Umbertobonori	4 15.9 62°81' 2.3°/18.1 18											
3 12	14 0.02	-19 16.1	1.720	2.536	15.6	19.2							
3 22	13 55.74	-18 52.6	1.652	2.549	12.2	19.0							
4 1	13 49.23	-18 10.1	1.605	2.562	8.2	18.7							
4 11	13 41.30	-17 11.3	1.584	2.576	4.0	18.5							
4 21	13 32.97	-16 1.6	1.589	2.589	2.7	18.5							
5 1	13 25.31	-14 48.1	1.621	2.603	6.3	18.7							
5 11	13 19.25	-13 38.7	1.679	2.616	10.3	19.0							
5 21	13 15.34	-12 39.7	1.759	2.630	13.8	19.2							
303732	2005 QF ₅₄	4 15.9 87°50' 5.3°/21.3 18											
3 12	14 2.32	-27 25.7	2.405	3.157	13.5	20.8							
3 22	13 57.13	-27 58.9	2.322	3.165	11.2	20.6							
4 1	13 50.00	-28 15.3	2.260	3.173	8.7	20.5							
4 11	13 41.57	-28 13.9	2.223	3.181	6.4	20.3							
4 21	13 32.66	-27 55.4	2.214	3.189	5.3	20.3							
5 1	13 24.17	-27 22.9	2.232	3.196	6.3	20.4							
5 11	13 16.94	-26 41.5	2.277	3.204	8.5	20.5							
5 21	13 11.53	-25 57.0	2.347	3.212	11.0	20.7							
189571	2000 SX ₃₁₇	4 15.9 195°07' 10.7°/25.5 18											
3 12	14 9.61	-40 33.9	2.198	2.861	17.0	20.2							
3 22	14 3.48	-41 56.8	2.106	2.860	15.3	20.0							
4 1	13 54.45	-42 56.8	2.033	2.858	13.4	19.9							
4 11	13 43.21	-43 28.2	1.981	2.856	11.8	19.8							
4 21	13 30.92	-43 28.1	1.952	2.854	10.8	19.7							
5 1	13 19.00	-42 57.2	1.947	2.851	10.8	19.7							
5 11	13 8.79	-42 1.7	1.967	2.849	11.9	19.8							
5 21	13 1.24	-40 50.1	2.008	2.845	13.7	19.9							
499087	2009 FR ₁₈	4 15.9 6°50' 1.0°/15.3 17											
3 12	13 56.83	-11 0.5	1.098	1.970	18.7	20.6							
3 22	13 54.35	-10 25.1	1.037	1.970	14.1	20.4							
4 1	13 48.84	-9 32.1	0.994	1.971	8.7	20.1							
4 11	13 41.27	-8 28.1	0.973	1.973	2.8	19.7							
4 21	13 33.00	-7 22.1	0.976	1.977	3.6	19.8							
5 1	13 25.56	-6 24.1	1.001	1.982	9.4	20.1							
5 11	13 20.23	-5 42.8	1.047	1.988	14.7	20.4							
5 21	13 17.76	-5 22.7	1.112	1.995	19.1	20.7							
222605	2001 XY ₂₈	4 15.9 195°46' 6.6°/22.9 18											
3 12	14 5.95	-33 8.5	2.595	3.301	13.7	20.6							
3 22	13 59.92	-33 40.3	2.495	3.298	11.8	20.4							
4 1	13 51.80	-33 53.2	2.415	3.295	9.6	20.2							
4 11	13 42.22	-33 44.9	2.360	3.290	7.7	20.1							
4 21	13 32.01	-33 15.3	2.332	3.285	6.6	20.0							
5 1	13 22.17	-32 27.1	2.331	3.279	7.1	20.0							
5 11	13 13.59	-31 25.8	2.358	3.272	8.9	20.1							
5 21	13 6.93	-30 17.9	2.410	3.264	11.1	20.3							
396663	2002 PH ₂₅	4 15.9 182°70' 1.0°/15.2 18											
3 12	14 5.11	-10 44.5	1.649	2.484	15.3	21.9							
3 22	13 59.70	-10 1.4	1.571	2.485	11.5	21.7							
4 1	13 51.79	-9 5.0	1.516	2.486	7.1	21.4							
4 11	13 42.22	-8 0.0	1.486	2.485	2.3	21.1							
4 21	13 32.05	-6 53.1	1.485	2.484	3.1	21.1							
5 1	13 22.51	-5 51.9	1.511	2.483	7.9	21.4							
5 11	13 14.66	-5 3.1	1.562	2.480	12.3	21.7							
5 21	13 9.18	-4 30.9	1.634	2.477	16.0	21.9							
518949	2010 HC ₇	4 15.9 304°01' 1.6°/14.5 16											