

EPHEMERIDES

3 6.9

3 7.0

2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
459016	2011 YX ₂₄		3 6.9 83°35	2°5/ 4.9 18			239009	2006 DW ₂₂		3 6.9 207°94	1°2/ 5.7 17		
2 1	11 36.69	+ 8 10.3	1.576	2.412	15.3	22.0	2 1	11 32.50	+ 5 49.2	2.123	2.945	12.5	21.0
2 11	11 31.71	+ 9 8.2	1.520	2.431	11.3	21.8	2 11	11 28.24	+ 6 38.1	2.040	2.943	9.3	20.8
2 21	11 24.32	+10 16.3	1.488	2.450	6.9	21.6	2 21	11 22.10	+ 7 37.8	1.981	2.941	5.7	20.6
3 2	11 15.36	+11 26.7	1.482	2.469	2.9	21.4	3 2	11 14.64	+ 8 43.0	1.951	2.938	1.9	20.3
3 12	11 5.99	+12 30.5	1.504	2.487	4.3	21.5	3 12	11 6.70	+ 9 47.4	1.949	2.936	2.9	20.4
3 22	10 57.41	+13 20.6	1.553	2.506	8.5	21.8	3 22	10 59.14	+10 44.7	1.977	2.933	6.7	20.6
4 1	10 50.62	+13 52.4	1.627	2.524	12.5	22.1	4 1	10 52.78	+11 30.0	2.032	2.930	10.3	20.8
4 11	10 46.25	+14 4.7	1.723	2.541	15.9	22.4	4 11	10 48.25	+12 0.3	2.109	2.927	13.4	21.0
131135	2001 BW ₄₆		3 6.9 8°13	6°0/12.1 18			380137	1999 RK ₂₀₇		3 7.0 196°40	1°8/ 8.8 17		
2 1	11 28.68	-10 20.6	1.407	2.200	19.1	18.8	2 1	11 36.69	- 1 35.0	2.542	3.321	11.9	21.4
2 11	11 26.20	-10 40.3	1.333	2.202	15.7	18.6	2 11	11 31.09	- 1 38.6	2.446	3.318	9.3	21.2
2 21	11 21.20	-10 32.0	1.278	2.205	11.8	18.4	2 21	11 23.76	- 1 30.7	2.374	3.315	6.2	21.0
3 2	11 14.39	- 9 55.4	1.245	2.209	8.0	18.2	3 2	11 15.21	- 1 13.0	2.331	3.311	3.0	20.7
3 12	11 6.90	- 8 54.8	1.236	2.215	6.0	18.1	3 12	11 6.18	- 0 48.4	2.318	3.306	2.1	20.7
3 22	10 59.98	- 7 38.2	1.252	2.222	7.9	18.2	3 22	10 57.44	- 0 20.8	2.336	3.301	5.1	20.9
4 1	10 54.75	- 6 16.0	1.292	2.230	11.6	18.4	4 1	10 49.76	+ 0 6.0	2.382	3.296	8.3	21.1
4 11	10 52.01	- 4 58.7	1.353	2.239	15.5	18.7	4 11	10 43.71	+ 0 28.2	2.455	3.289	11.2	21.2
299352	2005 SQ ₂₂₅		3 6.9 101°96	3°9/12.4 17			208975	2002 YE		3 7.0 30°43	5°8/29.9 18		
2 1	11 29.53	-11 54.2	2.732	3.468	12.2	21.8	2 1	11 31.14	+17 39.4	1.760	2.614	13.2	19.5
2 11	11 25.60	-11 40.0	2.646	3.479	10.0	21.7	2 11	11 27.49	+19 6.9	1.710	2.626	9.9	19.3
2 21	11 20.25	-11 8.3	2.582	3.489	7.5	21.5	2 21	11 21.70	+20 35.2	1.683	2.638	7.0	19.2
3 2	11 13.96	-10 20.3	2.545	3.500	5.1	21.4	3 2	11 14.51	+21 55.1	1.684	2.652	5.8	19.1
3 12	11 7.35	- 9 18.9	2.537	3.510	3.9	21.3	3 12	11 6.93	+22 57.9	1.711	2.665	7.5	19.2
3 22	11 1.06	- 8 8.9	2.558	3.520	5.0	21.4	3 22	10 59.99	+23 38.3	1.765	2.680	10.4	19.4
4 1	10 55.68	- 6 55.6	2.608	3.530	7.3	21.6	4 1	10 54.57	+23 54.1	1.841	2.695	13.4	19.7
4 11	10 51.71	- 5 44.6	2.685	3.540	9.7	21.7	4 11	10 51.27	+23 46.5	1.937	2.710	16.0	19.9
50895	2000 GH ₄₂		3 6.9 90°23	1°3/ 5.9 18			415875	2001 SE ₂₉₇		3 7.0 118°11	0°0/ 7.1 18		
2 1	11 37.96	+ 6 59.0	1.733	2.559	14.6	18.2	2 1	11 36.10	+ 2 37.4	1.991	2.800	13.7	21.6
2 11	11 32.50	+ 7 25.4	1.669	2.574	10.9	17.9	2 11	11 30.91	+ 3 4.9	1.920	2.814	10.3	21.4
2 21	11 24.76	+ 8 1.4	1.629	2.589	6.6	17.7	2 21	11 23.72	+ 3 44.8	1.873	2.828	6.4	21.2
3 2	11 15.51	+ 8 41.4	1.616	2.604	2.3	17.5	3 2	11 15.19	+ 4 32.7	1.854	2.841	2.2	21.0
3 12	11 5.84	+ 9 18.9	1.631	2.618	3.1	17.6	3 12	11 6.25	+ 5 23.0	1.863	2.853	2.1	21.0
3 22	10 56.87	+ 9 48.3	1.675	2.633	7.5	17.9	3 22	10 57.86	+ 6 9.7	1.902	2.866	6.2	21.3
4 1	10 49.57	+10 5.5	1.744	2.647	11.4	18.1	4 1	10 50.87	+ 6 47.9	1.968	2.877	10.0	21.5
4 11	10 44.58	+10 8.5	1.835	2.661	14.8	18.4	4 11	10 45.88	+ 7 14.2	2.058	2.889	13.2	21.7
218641	2005 SF ₂₅		3 6.9 87°62	0°2/ 7.2 18			190331	1998 RL ₄₁		3 7.0 171°46	0°7/ 7.6 18		
2 1	11 34.44	- 0 1.5	2.005	2.808	13.8	20.7	2 1	11 39.12	+ 1 0.8	1.829	2.632	14.9	20.8
2 11	11 29.51	+ 1 2.8	1.948	2.838	10.4	20.6	2 11	11 33.46	+ 1 22.2	1.747	2.637	11.4	20.6
2 21	11 22.73	+ 2 22.2	1.915	2.868	6.5	20.4	2 21	11 25.47	+ 1 58.6	1.688	2.640	7.3	20.4
3 2	11 14.79	+ 3 50.9	1.910	2.897	2.2	20.2	3 2	11 15.83	+ 2 46.1	1.657	2.643	2.8	20.1
3 12	11 6.58	+ 5 21.4	1.935	2.925	2.0	20.2	3 12	11 5.59	+ 3 38.9	1.654	2.645	2.2	20.1
3 22	10 58.97	+ 6 46.1	1.990	2.953	6.1	20.5	3 22	10 55.86	+ 4 30.2	1.681	2.646	6.7	20.3
4 1	10 52.76	+ 7 59.1	2.073	2.980	9.7	20.8	4 1	10 47.68	+ 5 14.0	1.734	2.646	10.9	20.6
4 11	10 48.44	+ 8 56.3	2.180	3.007	12.7	21.0	4 11	10 41.78	+ 5 45.9	1.811	2.646	14.6	20.8
133257	2003 RE ₂₀		3 6.9 82°84	0°5/ 6.4 18			424668	2008 RN ₄₉		3 7.0 299°93	3°2/10.0 17		
2 1	11 33.08	+ 4 4.1	1.997	2.816	13.2	20.3	2 1	11 31.79	- 5 47.7	1.854	2.643	15.3	21.0
2 11	11 28.65	+ 4 42.7	1.927	2.827	9.9	20.1	2 11	11 28.07	- 5 39.4	1.760	2.634	12.2	20.8
2 21	11 22.31	+ 5 32.9	1.881	2.839	6.1	19.9	2 21	11 22.20	- 5 10.9	1.689	2.626	8.6	20.5
3 2	11 14.68	+ 6 29.8	1.862	2.850	2.0	19.7	3 2	11 14.75	- 4 23.6	1.642	2.617	4.9	20.3
3 12	11 6.65	+ 7 27.1	1.872	2.861	2.4	19.7	3 12	11 6.64	- 3 22.1	1.623	2.609	3.3	20.2
3 22	10 59.13	+ 8 18.9	1.910	2.872	6.4	20.0	3 22	10 58.87	- 2 13.0	1.631	2.601	6.3	20.3
4 1	10 52.93	+ 9 0.1	1.976	2.883	10.1	20.2	4 1	10 52.42	- 1 3.9	1.666	2.593	10.3	20.5
4 11	10 48.64	+ 9 27.8	2.065	2.893	13.2	20.5	4 11	10 48.03	- 0 2.1	1.724	2.585	13.9	20.7
2455	Somville		3 6.9 101°42	3°1/ 9.8 18			56371	2000 EC ₁₅		3 7.0 238°85	1°1/ 6.2 18		
2 1	11 35.38	- 4 52.4	1.986	2.768	14.7	16.3	2 1	11 41.18	+ 6 48.6	1.755	2.574	14.8	18.7
2 11	11 30.45	- 5 0.5	1.907	2.777	11.6	16.1	2 11	11 35.33	+ 7 3.2	1.660	2.560	11.2	18.4
2 21	11 23.48	- 4 51.7	1.850	2.785	8.1	15.9	2 21	11 26.83	+ 7 27.8	1.588	2.546	7.0	18.2
3 2	11 15.10	- 4 27.5	1.819	2.794	4.6	15.7	3 2	11 16.36	+ 7 57.7	1.544	2.531	2.4	17.8
3 12	11 6.23	- 3 51.5	1.817	2.802	3.2	15.7	3 12	11 5.02	+ 8 26.9	1.528	2.516	3.1	17.8
3 22	10 57.83	- 3 9.0	1.843	2.811	6.0	15.8	3 22	10 54.06	+ 8 49.4	1.541	2.500	7.9	18.1
4 1	10 50.80	- 2 25.9	1.897	2.819	9.5	16.1	4 1	10 44.70	+ 9 0.8	1.580	2.483	12.4	18.3
4 11	10 45.78	- 1 47.7	1.974	2.827	12.8	16.3	4 11	10 37.83	+ 8 58.3	1.641	2.465	16.3	18.5
108542	2001 LZ ₈		3 6.9 167°70	0°5/ 6.4 18			366210	2012 SX ₅₉		3 7.0 112°34	0°1/ 7.2 17		
2 1	11 34.58	+ 3 22.6	2.357	3.163	11.9	20.6	2 1	11 30.95	+ 1 23.0	2.390	3.195	11.8	21.0
2 11	11 29.56	+ 4 14.0	2.274	3.168	8.9	20.4	2 11	11 26.82	+ 2 9.6	2.313	3.205	8.9	20.9
2 21	11 22.80	+ 5 16.8	2.218	3.173	5.5	20.2	2 21	11 21.09	+ 3 8.5	2.261	3.215	5.5	20.7
3 2	11 14.85	+ 6 26.6	2.190	3.177	1.8	19.9	3 2	11 14.30	+ 4 15.4	2.237	3.224	1.9	20.4
3 12	11 6.48	+ 7 37.2	2.192	3.181	2.2	20.0	3 12	11 7.15	+ 5 24.8	2.244	3.234	1.8	20.4
3 22	10 58.49	+ 8 42.8	2.225	3.183	5.9	20.2	3 22	11 0.39	+ 6 31.2	2.280	3.243	5.4	20.7
4 1	10 51.64	+ 9 38.5	2.287	3.185	9.3	20.4	4 1	10 54.69	+ 7 29.3	2.344	3.252	8.7	20.9
4 11	10 46.48	+10 20.9	2.372	3.186	12.2	20.6	4 11	10 50.56	+ 8 15.7	2.433	3.261	11.5	21.1
349055	2006 WK ₇₈		3 6.9 243°12	4°6/12.8 17			498767	2008 UW ₅₉		3 7.0 201°31	1°6/ 5.2 17		
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EPHEMERIDES

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2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
449159	2013 <i>AW</i> ₁₂₃		3 7.0 113°46'	3°8/ 3.8 18			58327	1994 <i>SC</i> ₉		3 7.0 330°96'	1°1/ 5.9 18		
2 1	11 39.27	+11 18.7	1.584	2.422	15.2	21.7	2 1	11 32.65	+7 1.3	2.158	2.982	12.2	19.3
2 11	11 33.70	+12 30.3	1.529	2.440	11.3	21.5	2 11	11 28.35	+7 24.4	2.073	2.977	9.1	19.1
2 21	11 25.60	+13 49.3	1.497	2.457	7.0	21.2	2 21	11 22.18	+7 55.7	2.013	2.972	5.6	18.8
3 2	11 15.85	+15 6.5	1.492	2.474	3.9	21.1	3 2	11 14.73	+8 31.0	1.980	2.968	1.9	18.6
3 12	11 5.67	+16 12.4	1.515	2.490	5.6	21.2	3 12	11 6.78	+9 5.3	1.976	2.963	2.7	18.6
3 22	10 56.29	+17 0.0	1.565	2.506	9.5	21.5	3 22	10 59.22	+9 33.7	2.001	2.959	6.4	18.9
4 1	10 48.80	+17 25.8	1.640	2.521	13.3	21.8	4 1	10 52.84	+9 52.4	2.052	2.955	10.0	19.1
4 11	10 43.84	+17 29.8	1.736	2.535	16.6	22.0	4 11	10 48.26	+9 59.1	2.126	2.951	13.0	19.3
178895	2001 <i>ON</i> ₄₉		3 7.0 224°16'	0°3/ 7.3 17			371692	2007 <i>DZ</i> ₅₉		3 7.0 26°19'	4°4/ 7.9 17		
2 1	11 34.30	+1 18.7	2.114	2.919	13.1	20.5	2 1	11 58.34	+4 37.3	0.931	1.760	24.0	20.0
2 11	11 29.69	+1 55.7	2.019	2.910	10.0	20.3	2 11	11 50.11	+2 24.2	0.863	1.763	18.9	19.7
2 21	11 23.08	+2 47.0	1.947	2.900	6.3	20.0	2 21	11 36.93	+0 14.2	0.814	1.766	12.7	19.3
3 2	11 15.04	+3 48.9	1.903	2.890	2.3	19.8	3 2	11 19.97	-1 47.9	0.788	1.770	6.3	19.0
3 12	11 6.39	+4 55.4	1.889	2.879	2.0	19.7	3 12	11 1.58	-3 36.5	0.788	1.775	5.5	19.0
3 22	10 58.05	+6 0.1	1.904	2.868	6.2	20.0	3 22	10 44.52	-5 7.9	0.813	1.781	11.4	19.3
4 1	10 50.90	+6 57.0	1.947	2.856	10.1	20.2	4 1	10 31.13	-6 22.9	0.862	1.786	17.6	19.7
4 11	10 45.64	+7 41.4	2.013	2.844	13.5	20.4	4 11	10 22.64	-7 26.5	0.929	1.793	22.7	20.0
431902	2008 <i>TO</i> ₅		3 7.0 230°59'	1°3/ 5.6 17			119518	2001 <i>UJ</i> ₁₅₄		3 7.0 269°41'	3°7/ 3.5 18		
2 1	11 35.36	+7 35.8	2.430	3.245	11.3	21.8	2 1	11 36.46	+12 57.0	2.013	2.845	12.6	19.3
2 11	11 30.24	+8 7.8	2.333	3.232	8.5	21.6	2 11	11 31.59	+13 51.9	1.912	2.821	9.5	19.1
2 21	11 23.31	+8 47.5	2.262	3.220	5.2	21.3	2 21	11 24.44	+14 53.5	1.836	2.795	6.1	18.8
3 2	11 15.09	+9 30.7	2.219	3.206	1.9	21.1	3 2	11 15.58	+15 55.2	1.788	2.769	3.7	18.6
3 12	11 6.34	+10 12.4	2.207	3.192	2.8	21.1	3 12	11 5.90	+16 49.3	1.769	2.742	5.3	18.7
3 22	10 57.87	+10 47.8	2.224	3.178	6.3	21.3	3 22	10 56.48	+17 29.3	1.778	2.715	8.9	18.8
4 1	10 50.47	+11 13.2	2.270	3.163	9.6	21.5	4 1	10 48.34	+17 51.0	1.813	2.687	12.6	19.0
4 11	10 44.77	+11 26.3	2.340	3.147	12.6	21.7	4 11	10 42.31	+17 53.0	1.869	2.659	15.9	19.1
35546	1998 <i>FA</i> ₁₀₅		3 7.0 274°12'	2°7/ 9.3 18			202455	2005 <i>YF</i> ₁₉₂		3 7.0 169°24'	2°6/ 4.6 18		
2 1	11 35.69	-2 52.6	1.929	2.720	14.7	19.2	2 1	11 38.04	+9 5.2	1.849	2.677	13.8	21.3
2 11	11 30.91	-3 6.2	1.836	2.713	11.6	19.0	2 11	11 32.64	+10 6.2	1.775	2.681	10.3	21.0
2 21	11 23.92	-3 4.6	1.765	2.706	8.0	18.8	2 21	11 24.95	+11 16.7	1.725	2.685	6.3	20.8
3 2	11 15.34	-2 48.8	1.721	2.699	4.2	18.5	3 2	11 15.69	+12 29.4	1.704	2.689	2.9	20.6
3 12	11 6.08	-2 22.2	1.705	2.692	3.0	18.4	3 12	11 5.88	+13 36.2	1.711	2.691	4.3	20.7
3 22	10 57.18	-1 49.6	1.717	2.685	6.3	18.6	3 22	10 56.60	+14 30.2	1.747	2.693	8.3	20.9
4 1	10 49.63	-1 16.8	1.756	2.678	10.2	18.8	4 1	10 48.87	+15 6.7	1.809	2.694	12.0	21.2
4 11	10 44.17	-0 48.9	1.818	2.671	13.7	19.0	4 11	10 43.38	+15 24.1	1.892	2.694	15.3	21.4
212569	2006 <i>SL</i> ₉₂		3 7.0 156°26'	1°0/ 8.4 17			182415	2001 <i>RZ</i> ₇₅		3 7.0 154°25'	3°3/ 10.9 18		
2 1	11 31.12	-1 5.6	2.778	3.566	10.8	21.3	2 1	11 33.34	-8 57.5	2.289	3.046	13.7	20.5
2 11	11 26.77	-0 39.6	2.691	3.571	8.3	21.1	2 11	11 28.74	-8 32.6	2.202	3.054	11.0	20.3
2 21	11 20.99	-0 2.1	2.630	3.576	5.4	20.9	2 21	11 22.37	-7 48.2	2.138	3.061	7.9	20.1
3 2	11 14.27	+0 44.3	2.597	3.580	2.3	20.7	3 2	11 14.79	-6 46.1	2.100	3.068	4.8	20.0
3 12	11 7.21	+1 35.6	2.594	3.585	1.6	20.6	3 12	11 6.77	-5 30.6	2.091	3.074	3.4	19.9
3 22	11 0.45	+2 27.5	2.622	3.588	4.5	20.9	3 22	10 59.13	-4 8.0	2.113	3.079	5.4	20.0
4 1	10 54.59	+3 15.8	2.679	3.592	7.5	21.1	4 1	10 52.64	-2 45.2	2.163	3.084	8.6	20.2
4 11	10 50.11	+3 56.8	2.761	3.595	10.1	21.2	4 11	10 47.88	-1 28.5	2.238	3.089	11.6	20.4
142352	2002 <i>RW</i> ₂₁₄		3 7.0 200°74'	1°8/ 5.3 16			316071	2009 <i>HZ</i> ₉₈		3 7.0 126°67'	2°4/ 4.7 18		
2 1	11 37.55	+8 22.8	2.140	2.959	12.5	21.6	2 1	11 35.38	+7 54.6	1.797	2.628	14.0	21.4
2 11	11 32.04	+9 0.4	2.054	2.955	9.3	21.3	2 11	11 30.63	+9 1.3	1.730	2.638	10.4	21.2
2 21	11 24.49	+9 46.0	1.992	2.951	5.7	21.1	2 21	11 23.68	+10 18.5	1.687	2.649	6.3	20.9
3 2	11 15.51	+10 34.6	1.959	2.945	2.2	20.9	3 2	11 15.25	+11 38.9	1.672	2.658	2.7	20.7
3 12	11 5.96	+11 20.0	1.956	2.939	3.3	20.9	3 12	11 6.34	+12 53.9	1.686	2.667	4.1	20.8
3 22	10 56.82	+11 57.0	1.982	2.933	7.1	21.1	3 22	10 58.01	+13 56.2	1.727	2.676	8.1	21.1
4 1	10 48.98	+12 21.5	2.035	2.925	10.7	21.3	4 1	10 51.22	+14 40.9	1.795	2.685	11.9	21.3
4 11	10 43.10	+12 31.7	2.111	2.917	13.8	21.5	4 11	10 46.60	+15 5.9	1.884	2.693	15.1	21.6
226612	2004 <i>DN</i> ₂₈		3 7.0 347°38'	1°1/ 5.6 17			346102	2007 <i>VY</i> ₆₂		3 7.0 152°59'	2°4/ 10.2 17		
2 1	11 28.41	+6 56.0	2.746	3.568	10.0	20.2	2 1	11 31.90	-6 6.2	2.793	3.556	11.4	21.9
2 11	11 24.81	+7 32.8	2.661	3.565	7.4	20.0	2 11	11 27.35	-5 52.2	2.705	3.563	9.0	21.7
2 21	11 19.82	+8 16.8	2.602	3.562	4.5	19.8	2 21	11 21.37	-5 24.3	2.641	3.570	6.3	21.6
3 2	11 13.89	+9 4.0	2.571	3.559	1.6	19.6	3 2	11 14.43	-4 44.2	2.605	3.577	3.6	21.4
3 12	11 7.62	+9 50.2	2.571	3.557	2.3	19.7	3 12	11 7.14	-3 55.2	2.598	3.583	2.5	21.3
3 22	11 1.62	+10 31.1	2.599	3.554	5.4	19.9	3 22	11 0.15	-3 1.4	2.622	3.589	4.5	21.5
4 1	10 56.50	+11 3.4	2.655	3.552	8.2	20.0	4 1	10 54.08	-2 7.5	2.675	3.594	7.3	21.6
4 11	10 52.72	+11 24.8	2.736	3.551	10.7	20.2	4 11	10 49.40	-1 17.8	2.754	3.599	9.8	21.8
367289	2007 <i>US</i> ₅₆		3 7.0 299°21'	0°0/ 7.0 17			285628	2000 <i>RA</i> ₆₃		3 7.0 183°72'	0°4/ 7.5 16		
2 1	11 33.63	+2 13.7	1.449	2.280	16.7	20.9	2 1	11 37.28	+2 27.5	2.635	3.426	11.2	21.7
2 11	11 30.10	+2 40.5	1.358	2.263	12.8	20.6	2 11	11 31.45	+2 39.4	2.543	3.427	8.5	21.5
2 21	11 23.81	+3 26.0	1.287	2.246	8.2	20.3	2 21	11 23.96	+3 0.4	2.477	3.427	5.4	21.3
3 2	11 15.41	+4 25.8	1.242	2.229	2.9	19.9	3 2	11 15.32	+3 28.0	2.440	3.426	2.0	21.0
3 12	11 6.03	+5 32.1	1.222	2.212	2.8	19.9	3 12	11 6.25	+3 58.5	2.434	3.424	1.7	21.0
3 22	10 57.01	+6 35.7	1.228	2.196	8.3	20.1	3 22	10 57.51	+4 27.9	2.460	3.422	5.1	21.3
4 1	10 49.68	+7 28.1	1.259	2.180	13.5	20.4	4 1	10 49.81	+4 52.7	2.514	3.419	8.3	21.4
4 11	10 45.02	+8 3.4	1.310	2.164	17.9	20.6	4 11	10 43.71	+5 10.0	2.594	3.415	11.1	21.6
351627	2005 <i>XW</i> ₇		3 7.0 161°13'	2°9/ 4.3 18			489676	2007 <i>VT</i> ₄₆		3 7.0 102°10'	0°4/ 7.4 17		
2 1	11 38.72	+9 47.4	1.847	2.674	13.8								

EPHEMERIDES

3 7.0

3 7.0

2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
215389	2002 CG ₁₃₂		3 7.0 332°65	1°9/ 8.7 18			99896	2002 QO ₇		3 7.0 218°24	0°8/ 6.2 18		
2 1	11 33.69	- 1 30.0	1.811	2.616	15.0	20.3	2 1	11 34.84	+ 6 8.7	2.349	3.163	11.7	19.6
2 11	11 29.49	- 1 25.0	1.725	2.613	11.7	20.1	2 11	11 29.87	+ 6 31.3	2.259	3.157	8.8	19.4
2 21	11 23.07	- 1 3.7	1.662	2.610	7.8	19.8	2 21	11 23.10	+ 7 2.1	2.194	3.152	5.4	19.1
3 2	11 15.09	- 0 28.3	1.625	2.608	3.6	19.6	3 2	11 15.08	+ 7 37.4	2.158	3.146	1.8	18.9
3 12	11 6.48	+ 0 16.1	1.616	2.605	2.5	19.5	3 12	11 6.58	+ 8 12.5	2.152	3.140	2.3	18.9
3 22	10 58.30	+ 1 3.4	1.634	2.603	6.4	19.7	3 22	10 58.42	+ 8 42.8	2.175	3.133	6.0	19.1
4 1	10 51.52	+ 1 47.4	1.678	2.601	10.5	20.0	4 1	10 51.37	+ 9 4.7	2.226	3.127	9.4	19.3
4 11	10 46.89	+ 2 22.5	1.745	2.599	14.1	20.2	4 11	10 46.05	+ 9 15.6	2.301	3.120	12.4	19.5
462026	2007 BR ₂₄		3 7.0 40°97	1°4/ 8.2 18			379095	2008 XQ ₅₅		3 7.0 7°62	3°4/ 4.3 18		
2 1	11 35.48	+ 0 6.1	1.723	2.533	15.4	21.3	2 1	11 32.22	+ 11 37.9	1.568	2.419	14.7	20.1
2 11	11 30.87	+ 0 9.4	1.644	2.536	11.9	21.1	2 11	11 28.59	+ 12 17.4	1.503	2.420	10.9	19.9
2 21	11 23.94	+ 0 28.1	1.587	2.538	7.7	20.9	2 21	11 22.58	+ 13 3.5	1.460	2.423	6.8	19.7
3 2	11 15.37	+ 0 59.4	1.556	2.541	3.3	20.6	3 2	11 14.93	+ 13 49.1	1.442	2.427	3.5	19.5
3 12	11 6.21	+ 1 37.9	1.553	2.543	2.3	20.5	3 12	11 6.76	+ 14 26.4	1.451	2.431	5.0	19.6
3 22	10 57.56	+ 2 17.7	1.577	2.546	6.7	20.8	3 22	10 59.22	+ 14 49.4	1.486	2.437	9.0	19.8
4 1	10 50.46	+ 2 52.6	1.628	2.549	10.9	21.1	4 1	10 53.33	+ 14 54.5	1.545	2.443	12.9	20.0
4 11	10 45.62	+ 3 17.9	1.701	2.552	14.6	21.3	4 11	10 49.79	+ 14 41.0	1.625	2.451	16.3	20.3
89666	2001 YO ₁₀		3 7.0 191°85	6°2/27.6 18			143605	2003 FP ₉₁		3 7.0 3°18	1°2/ 8.5 18		
2 1	11 32.38	+ 24 9.3	2.465	3.303	10.4	19.8	2 1	11 28.20	- 3 24.5	2.205	3.000	13.0	19.3
2 11	11 28.03	+ 25 33.9	2.403	3.303	8.2	19.7	2 11	11 25.01	- 2 23.4	2.117	3.000	10.0	19.1
2 21	11 21.93	+ 26 55.2	2.368	3.303	6.6	19.6	2 21	11 20.12	- 1 3.8	2.053	3.000	6.6	18.8
3 2	11 14.64	+ 28 5.7	2.360	3.302	6.3	19.5	3 2	11 14.07	+ 0 30.1	2.017	3.001	2.9	18.6
3 12	11 6.95	+ 28 59.4	2.381	3.301	7.6	19.6	3 12	11 7.58	+ 2 11.7	2.011	3.001	1.8	18.5
3 22	10 59.67	+ 29 32.3	2.428	3.301	9.7	19.8	3 22	11 1.43	+ 3 53.3	2.034	3.002	5.5	18.8
4 1	10 53.54	+ 29 43.3	2.498	3.300	11.9	19.9	4 1	10 56.35	+ 5 27.7	2.085	3.003	9.1	19.0
4 11	10 49.14	+ 29 33.4	2.589	3.299	13.9	20.1	4 11	10 52.91	+ 6 48.9	2.161	3.004	12.2	19.2
386177	2007 UE ₁₃₇		3 7.0 151°93	4°3/ 1.9 17			421899	2014 QQ ₂₀₆		3 7.0 283°56	0°3/ 6.7 17		
2 1	11 34.26	+ 17 45.9	2.450	3.284	10.6	21.5	2 1	11 33.16	+ 1 58.2	1.459	2.290	16.7	21.6
2 11	11 29.32	+ 18 41.9	2.382	3.288	8.0	21.3	2 11	11 29.72	+ 2 47.8	1.370	2.276	12.7	21.3
2 21	11 22.67	+ 19 38.2	2.340	3.292	5.5	21.2	2 21	11 23.58	+ 3 58.6	1.302	2.261	8.0	21.0
3 2	11 14.88	+ 20 28.9	2.326	3.296	4.3	21.1	3 2	11 15.37	+ 5 24.8	1.258	2.246	2.7	20.6
3 12	11 6.74	+ 21 8.3	2.342	3.299	5.5	21.2	3 12	11 6.24	+ 6 57.0	1.242	2.232	3.0	20.6
3 22	10 59.02	+ 21 32.7	2.387	3.303	8.0	21.3	3 22	10 57.49	+ 8 24.4	1.252	2.217	8.5	20.9
4 1	10 52.47	+ 21 40.2	2.457	3.306	10.6	21.5	4 1	10 50.41	+ 9 37.4	1.286	2.203	13.6	21.1
4 11	10 47.63	+ 21 31.0	2.549	3.309	12.9	21.7	4 11	10 45.95	+ 10 29.6	1.341	2.188	18.0	21.4
347830	2002 PU ₃₈		3 7.0 253°28	0°6/ 6.5 18			189849	2003 FX ₃		3 7.0 304°87	3°6/ 11.1 17		
2 1	11 36.41	+ 3 13.5	1.463	2.292	16.7	21.5	2 1	11 29.30	- 12 10.2	1.712	2.480	17.2	19.7
2 11	11 32.19	+ 3 56.3	1.373	2.279	12.7	21.2	2 11	11 26.67	- 10 53.6	1.587	2.446	14.2	19.5
2 21	11 25.12	+ 4 57.9	1.306	2.265	8.0	20.9	2 21	11 21.66	- 8 58.3	1.483	2.411	10.4	19.1
3 2	11 15.89	+ 6 12.7	1.263	2.251	2.6	20.6	3 2	11 14.74	- 6 24.7	1.405	2.377	6.1	18.8
3 12	11 5.68	+ 7 31.6	1.248	2.237	3.2	20.5	3 12	11 6.81	- 3 19.5	1.355	2.342	3.7	18.6
3 22	10 55.87	+ 8 44.5	1.259	2.223	8.7	20.8	3 22	10 58.95	+ 0 3.8	1.336	2.308	7.1	18.7
4 1	10 47.81	+ 9 42.9	1.295	2.208	13.8	21.1	4 1	10 52.38	+ 3 27.8	1.345	2.274	12.1	18.9
4 11	10 42.49	+ 10 21.4	1.351	2.192	18.2	21.3	4 11	10 48.07	+ 6 36.1	1.380	2.240	16.9	19.0
218012	2001 XD ₂₂₇		3 7.0 132°81	0°2/ 7.2 18			463525	2013 RM ₁		3 7.0 324°04	0°6/ 7.5 17		
2 1	11 35.35	+ 2 28.9	1.978	2.789	13.7	21.0	2 1	11 33.76	+ 2 15.4	1.547	2.374	16.1	20.9
2 11	11 30.45	+ 2 53.4	1.901	2.796	10.4	20.8	2 11	11 29.97	+ 2 24.4	1.460	2.363	12.3	20.6
2 21	11 23.53	+ 3 30.4	1.848	2.802	6.5	20.6	2 21	11 23.61	+ 2 49.0	1.395	2.352	7.9	20.3
3 2	11 15.22	+ 4 16.2	1.822	2.809	2.3	20.3	3 2	11 15.36	+ 3 25.5	1.355	2.342	2.9	20.0
3 12	11 6.43	+ 5 4.9	1.824	2.815	2.1	20.3	3 12	11 6.30	+ 4 7.9	1.341	2.332	2.4	19.9
3 22	10 58.13	+ 5 50.7	1.856	2.820	6.3	20.6	3 22	10 57.66	+ 4 49.0	1.354	2.323	7.6	20.2
4 1	10 51.19	+ 6 28.5	1.915	2.826	10.1	20.8	4 1	10 50.65	+ 5 22.2	1.392	2.314	12.3	20.5
4 11	10 46.26	+ 6 54.6	1.997	2.831	13.4	21.0	4 11	10 46.12	+ 5 42.6	1.450	2.306	16.4	20.7
148835	2001 UQ ₁₉₂		3 7.0 165°02	2°8/ 9.6 16			45311	2000 AK ₅₆		3 7.0 118°41	3°1/ 3.6 18		
2 1	11 37.26	- 4 7.5	2.169	2.945	13.8	20.5	2 1	11 33.03	+ 11 32.9	2.136	2.970	11.9	19.3
2 11	11 31.78	- 4 15.5	2.082	2.949	10.9	20.3	2 11	11 28.61	+ 12 35.9	2.067	2.977	8.8	19.1
2 21	11 24.33	- 4 8.5	2.018	2.953	7.5	20.1	2 21	11 22.34	+ 13 44.7	2.023	2.983	5.5	18.9
3 2	11 15.50	- 3 47.8	1.981	2.957	4.1	19.9	3 2	11 14.83	+ 14 53.0	2.007	2.989	3.1	18.8
3 12	11 6.15	- 3 16.7	1.973	2.959	2.9	19.8	3 12	11 6.90	+ 15 53.9	2.020	2.995	4.5	18.9
3 22	10 57.20	- 2 39.8	1.995	2.962	5.7	20.0	3 22	10 59.43	+ 16 41.8	2.062	3.000	7.7	19.1
4 1	10 49.51	- 2 2.3	2.045	2.964	9.2	20.2	4 1	10 53.21	+ 17 13.1	2.129	3.006	10.9	19.3
4 11	10 43.74	- 1 29.2	2.120	2.965	12.3	20.4	4 11	10 48.83	+ 17 26.8	2.219	3.012	13.6	19.5
239992	2001 SS ₃₆		3 7.0 152°35	1°2/ 5.6 17			21195	1994 PK ₄		3 7.0 307°92	0°3/ 7.3 18		
2 1	11 33.40	+ 7 42.6	2.721	3.535	10.3	21.1	2 1	11 33.61	+ 2 46.0	1.768	2.589	14.6	18.5
2 11	11 28.48	+ 8 14.3	2.642	3.542	7.6	20.9	2 11	11 29.58	+ 3 0.5	1.676	2.576	11.2	18.3
2 21	11 22.08	+ 8 52.2	2.590	3.548	4.6	20.7	2 21	11 23.25	+ 3 28.7	1.606	2.562	7.1	18.0
3 2	11 14.69	+ 9 32.4	2.567	3.554	1.7	20.5	3 2	11 15.22	+ 4 7.2	1.562	2.549	2.5	17.7
3 12	11 6.97	+ 10 10.6	2.574	3.560	2.4	20.6	3 12	11 6.46	+ 4 50.2	1.546	2.536	2.3	17.6
3 22	10 59.61	+ 10 43.1	2.612	3.565	5.5	20.8	3 22	10 58.05	+ 5 31.3	1.557	2.524	7.0	17.9
4 1	10 53.23	+ 11 6.6	2.678	3.570	8.4	21.0	4 1	10 51.05	+ 6 4.6	1.594	2.512	11.4	18.1
4 11	10 48.31	+ 11 19.5	2.768	3.574	10.9	21.2	4 11	10 46.25	+ 6 25.9	1.653	2.500	15.2	18.3
154689	2004 HF ₂		3 7.0 233°20	0°8/ 7.8 17			207068	2004 XG ₁₁₀		3 7.0 77°89	3°1/ 9.3 18		
2 1	11 36.73	-											

EPHEMERIDES

3 7.0

3 7.1

2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
288309	2004 <i>BJ</i> ₃₃		3 7.0 58°67	1.4/ 5.7	18		20039	1992 <i>WJ</i>		3 7.0 38°96	1.4/ 6.1	18	
2 1	11 33.34	+ 6 44.4	1.934	2.762	13.3	21.0	2 1	11 36.05	+ 6 13.4	1.281	2.126	17.6	17.7
2 11	11 28.90	+ 7 25.2	1.873	2.779	9.8	20.8	2 11	11 31.82	+ 6 41.1	1.223	2.138	13.2	17.5
2 21	11 22.53	+ 8 15.3	1.835	2.795	6.0	20.6	2 21	11 24.73	+ 7 22.4	1.187	2.150	8.1	17.2
3 2	11 14.88	+ 9 9.1	1.824	2.812	2.1	20.4	3 2	11 15.71	+ 8 10.3	1.175	2.163	2.7	16.9
3 12	11 6.89	+10 0.3	1.843	2.829	3.0	20.5	3 12	11 6.14	+ 8 56.1	1.188	2.177	3.6	17.0
3 22	10 59.47	+10 43.1	1.889	2.846	6.9	20.8	3 22	10 57.45	+ 9 31.8	1.227	2.191	8.9	17.3
4 1	10 53.43	+11 13.4	1.962	2.863	10.4	21.0	4 1	10 50.84	+ 9 52.0	1.290	2.206	13.6	17.7
4 11	10 49.34	+11 29.1	2.057	2.880	13.5	21.2	4 11	10 47.05	+ 9 54.4	1.372	2.221	17.5	17.9
463264	2012 <i>GQ</i> ₇		3 7.0 282°13	5.7/12.5	17		423827	2006 <i>MZ</i> ₄		3 7.0 209°38	1.7/ 4.9	18	
2 1	11 31.87	-12 31.0	1.853	2.609	16.5	21.6	2 1	11 31.20	+ 6 58.4	2.535	3.354	10.8	21.1
2 11	11 28.31	-12 35.3	1.750	2.593	13.8	21.4	2 11	11 27.08	+ 8 7.1	2.447	3.349	8.0	20.9
2 21	11 22.50	-12 14.4	1.666	2.577	10.6	21.1	2 21	11 21.36	+ 9 25.2	2.385	3.344	4.8	20.7
3 2	11 14.99	-11 27.6	1.606	2.562	7.4	20.9	3 2	11 14.52	+10 47.5	2.352	3.339	2.0	20.5
3 12	11 6.69	-10 17.5	1.572	2.546	5.7	20.8	3 12	11 7.26	+12 7.7	2.350	3.332	3.1	20.6
3 22	10 58.63	- 8 50.2	1.566	2.530	7.2	20.8	3 22	11 0.27	+13 19.9	2.378	3.326	6.3	20.8
4 1	10 51.88	- 7 14.8	1.585	2.514	10.6	21.0	4 1	10 54.25	+14 19.6	2.434	3.319	9.4	21.0
4 11	10 47.26	- 5 41.0	1.629	2.498	14.2	21.2	4 11	10 49.75	+15 3.9	2.514	3.312	12.1	21.1
277753	2006 <i>DZ</i> ₁₃₀		3 7.0 125°21	2.6/ 4.4	17		496370	2013 <i>RP</i> ₇₆		3 7.0 209°21	0.9/ 6.2	16	
2 1	11 34.81	+10 44.0	2.087	2.917	12.3	21.1	2 1	11 37.63	+ 6 35.7	2.207	3.020	12.4	21.8
2 11	11 29.97	+11 31.1	2.016	2.924	9.1	20.9	2 11	11 32.08	+ 6 53.8	2.118	3.015	9.3	21.5
2 21	11 23.20	+12 24.4	1.970	2.930	5.6	20.7	2 21	11 24.56	+ 7 20.0	2.053	3.010	5.7	21.3
3 2	11 15.13	+13 17.8	1.952	2.936	2.8	20.5	3 2	11 15.64	+ 7 50.5	2.016	3.004	1.9	21.0
3 12	11 6.64	+14 5.0	1.963	2.942	4.1	20.6	3 12	11 6.17	+ 8 20.2	2.009	2.997	2.5	21.1
3 22	10 58.65	+14 40.9	2.003	2.948	7.5	20.8	3 22	10 57.08	+ 8 44.8	2.032	2.990	6.4	21.3
4 1	10 51.97	+15 2.1	2.069	2.954	10.8	21.0	4 1	10 49.23	+ 9 0.4	2.083	2.983	10.0	21.5
4 11	10 47.21	+15 7.3	2.158	2.959	13.7	21.2	4 11	10 43.29	+ 9 4.8	2.158	2.975	13.1	21.7
212030	2005 <i>CG</i> ₃₀		3 7.0 65°49	1.1/ 6.3	18		94229	2001 <i>BR</i> ₆₂		3 7.0 40°16	1.4/ 5.6	18	
2 1	11 38.30	+ 5 27.1	1.395	2.230	17.1	20.6	2 1	11 30.82	+ 4 31.4	1.716	2.549	14.5	18.7
2 11	11 33.19	+ 5 57.9	1.342	2.250	12.7	20.4	2 11	11 27.34	+ 5 39.6	1.649	2.557	10.7	18.5
2 21	11 25.42	+ 6 41.9	1.310	2.271	7.8	20.1	2 21	11 21.74	+ 7 2.3	1.604	2.566	6.5	18.3
3 2	11 15.89	+ 7 32.5	1.304	2.292	2.6	19.9	3 2	11 14.68	+ 8 32.5	1.586	2.574	2.2	18.0
3 12	11 5.96	+ 8 21.3	1.324	2.313	3.3	20.0	3 12	11 7.14	+10 1.1	1.597	2.584	3.3	18.1
3 22	10 56.93	+ 9 1.0	1.371	2.334	8.3	20.3	3 22	11 0.13	+11 19.8	1.635	2.593	7.6	18.4
4 1	10 49.92	+ 9 26.3	1.442	2.354	12.7	20.6	4 1	10 54.59	+12 21.9	1.698	2.603	11.6	18.6
4 11	10 45.60	+ 9 35.0	1.535	2.375	16.4	20.9	4 11	10 51.14	+13 4.2	1.784	2.613	15.0	18.9
210183	2006 <i>UZ</i> ₂₄₇		3 7.0 279°30	1.4/ 8.6	17		93416	2000 <i>SG</i> ₃₀₃		3 7.0 88°27	2.3/ 9.3	18	
2 1	11 31.19	- 1 26.6	2.337	3.132	12.3	21.1	2 1	11 33.92	- 3 57.4	1.921	2.712	14.8	20.3
2 11	11 27.20	- 1 8.4	2.242	3.124	9.6	20.9	2 11	11 29.42	- 3 38.1	1.849	2.727	11.5	20.1
2 21	11 21.50	- 0 36.4	2.170	3.116	6.3	20.6	2 21	11 22.91	- 3 0.8	1.800	2.741	7.8	19.9
3 2	11 14.57	+ 0 6.8	2.125	3.108	2.9	20.4	3 2	11 15.06	- 2 8.5	1.777	2.756	3.9	19.7
3 12	11 7.16	+ 0 57.0	2.110	3.100	1.9	20.3	3 12	11 6.78	- 1 6.5	1.782	2.771	2.6	19.6
3 22	11 0.02	+ 1 49.2	2.123	3.091	5.3	20.5	3 22	10 59.03	- 0 1.6	1.816	2.785	5.9	19.9
4 1	10 53.92	+ 2 38.2	2.165	3.083	8.7	20.7	4 1	10 52.67	+ 0 59.5	1.877	2.799	9.6	20.1
4 11	10 49.45	+ 3 19.4	2.231	3.075	11.8	20.9	4 11	10 48.29	+ 1 51.4	1.961	2.813	12.9	20.4
410360	2007 <i>VY</i> ₅₁		3 7.0 304°79	3.8/ 4.3	16		296446	2009 <i>HF</i> ₅₈		3 7.0 181°95	2.2/ 9.3	18	
2 1	11 38.32	+12 25.6	1.503	2.347	15.5	21.2	2 1	11 34.74	- 4 20.6	1.949	2.736	14.8	21.5
2 11	11 33.43	+13 2.2	1.428	2.342	11.7	20.9	2 11	11 30.16	- 3 54.6	1.862	2.737	11.6	21.2
2 21	11 25.76	+13 45.2	1.376	2.337	7.4	20.7	2 21	11 23.47	- 3 9.4	1.796	2.737	7.9	21.0
3 2	11 16.09	+14 27.0	1.348	2.332	4.0	20.5	3 2	11 15.29	- 2 7.7	1.758	2.737	4.0	20.8
3 12	11 5.68	+14 59.0	1.348	2.327	5.5	20.5	3 12	11 6.52	- 0 55.1	1.748	2.737	2.6	20.7
3 22	10 55.91	+15 15.1	1.374	2.322	9.8	20.8	3 22	10 58.17	+ 0 21.4	1.767	2.735	6.1	20.9
4 1	10 48.01	+15 11.8	1.424	2.318	14.1	21.0	4 1	10 51.15	+ 1 34.2	1.813	2.734	10.0	21.1
4 11	10 42.82	+14 48.9	1.494	2.313	17.8	21.2	4 11	10 46.15	+ 2 37.1	1.883	2.732	13.5	21.3
88293	2001 <i>NZ</i> ₉		3 7.0 189°54	3.5/ 3.7	18		380532	2004 <i>GT</i> ₇₅		3 7.1 323°91	6.8/12.6	17	
2 1	11 38.40	+11 16.6	1.867	2.697	13.6	20.0	2 1	11 33.90	-12 41.8	1.984	2.730	15.9	19.9
2 11	11 33.00	+12 25.8	1.789	2.697	10.1	19.8	2 11	11 29.74	-13 37.0	1.883	2.715	13.5	19.7
2 21	11 25.27	+13 43.1	1.736	2.695	6.4	19.5	2 21	11 23.37	-14 13.0	1.802	2.701	10.7	19.5
3 2	11 15.89	+15 0.6	1.711	2.693	3.6	19.4	3 2	11 15.31	-14 27.6	1.744	2.687	8.1	19.3
3 12	11 5.89	+16 9.7	1.715	2.690	5.1	19.4	3 12	11 6.46	-14 20.7	1.713	2.674	6.8	19.2
3 22	10 56.38	+17 3.6	1.747	2.686	8.9	19.7	3 22	10 57.81	-13 55.2	1.708	2.661	7.9	19.2
4 1	10 48.40	+17 37.7	1.806	2.681	12.6	19.9	4 1	10 50.41	-13 16.6	1.730	2.649	10.5	19.4
4 11	10 42.68	+17 51.0	1.885	2.675	15.8	20.1	4 11	10 45.05	-12 32.1	1.774	2.637	13.5	19.5
191589	2004 <i>FQ</i> ₅		3 7.0 199°23	2.8/ 3.9	18	R	345662	2006 <i>TF</i> ₁₁₇		3 7.1 106°90	1.0/ 5.7	17	
2 1	11 36.37	+ 6 52.4	1.950	2.773	13.4	20.2	2 1	11 30.44	+ 5 15.2	2.482	3.299	11.0	21.5
2 11	11 31.46	+ 8 40.6	1.864	2.769	10.0	20.0	2 11	11 26.44	+ 6 12.7	2.407	3.308	8.2	21.3
2 21	11 24.33	+10 43.8	1.804	2.764	6.1	19.8	2 21	11 20.91	+ 7 19.6	2.359	3.317	5.0	21.1
3 2	11 15.59	+12 53.3	1.773	2.758	2.9	19.5	3 2	11 14.36	+ 8 31.2	2.339	3.326	1.7	20.9
3 12	11 6.17	+14 58.3	1.773	2.751	4.6	19.6	3 12	11 7.47	+ 9 41.6	2.349	3.335	2.5	20.9
3 22	10 57.10	+16 49.0	1.803	2.742	8.6	19.9	3 22	11 0.94	+10 45.5	2.389	3.344	5.8	21.2
4 1	10 49.40	+18 18.2	1.861	2.733	12.4	20.1	4 1	10 55.43	+11 38.6	2.456	3.352	8.8	21.4
4 11	10 43.79	+19 22.7	1.940	2.723	15.6	20.3	4 11	10 51.42	+12 17.9	2.548	3.361	11.5	21.6
397826	2008 <i>SC</i> ₁₃₃		3 7.0 150°91	1.7/ 8.6	18		346027	2007 <i>TT</i> ₃₆₀		3 7.1 93°03	0.3/ 7.4	17	

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2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
244052	2001 TX ₂₉	3	7.1 210°28	2°1/ 9.7 18			435670	2008 TK ₂	3	7.1 211°68	0°0/ 6.8 18		
2 1	11 32.02	- 4 33.7	2.740	3.511	11.3	21.1	2 1	11 54.28	+ 8 6.5	1.117	1.946	20.8	20.8
2 11	11 27.58	- 4 21.4	2.641	3.506	8.9	20.9	2 11	11 46.52	+ 7 12.7	1.041	1.944	16.0	20.5
2 21	11 21.63	- 3 55.8	2.566	3.500	6.2	20.7	2 21	11 34.50	+ 6 24.0	0.984	1.942	10.2	20.2
3 2	11 14.63	- 3 18.5	2.518	3.494	3.4	20.6	3 2	11 19.26	+ 5 37.6	0.952	1.940	3.5	19.8
3 12	11 7.20	- 2 32.8	2.501	3.488	2.3	20.5	3 12	11 2.73	+ 4 50.3	0.947	1.938	3.5	19.8
3 22	11 0.01	- 1 42.6	2.514	3.481	4.7	20.6	3 22	10 47.22	+ 4 0.1	0.969	1.935	10.2	20.1
4 1	10 53.72	- 0 52.8	2.555	3.474	7.6	20.8	4 1	10 34.71	+ 3 5.8	1.014	1.932	16.2	20.4
4 11	10 48.85	- 0 7.5	2.623	3.466	10.3	21.0	4 11	10 26.37	+ 2 6.5	1.080	1.929	21.2	20.7
21393	Kalygeringer	3	7.1 265°92	0°8/ 7.7 18			19309	1996 UK ₁	3	7.1 169°40	1°6/ 5.6 18		
2 1	11 36.11	+ 1 1.3	1.755	2.567	15.1	18.6	2 1	11 37.84	+ 7 8.0	1.967	2.787	13.4	19.1
2 11	11 31.62	+ 1 20.3	1.654	2.548	11.7	18.3	2 11	11 32.41	+ 7 51.6	1.890	2.791	10.0	18.9
2 21	11 24.65	+ 1 55.8	1.575	2.528	7.6	18.0	2 21	11 24.83	+ 8 45.0	1.836	2.795	6.1	18.6
3 2	11 15.78	+ 2 44.3	1.521	2.508	2.9	17.7	3 2	11 15.76	+ 9 42.5	1.811	2.798	2.2	18.4
3 12	11 6.01	+ 3 40.1	1.496	2.487	2.3	17.6	3 12	11 6.18	+ 10 37.3	1.815	2.800	3.3	18.5
3 22	10 56.49	+ 4 36.1	1.499	2.466	7.2	17.9	3 22	10 57.09	+ 11 23.4	1.848	2.802	7.3	18.7
4 1	10 48.38	+ 5 25.1	1.528	2.444	11.8	18.1	4 1	10 49.43	+ 11 56.2	1.908	2.803	11.0	18.9
4 11	10 42.59	+ 6 1.5	1.579	2.423	15.9	18.3	4 11	10 43.87	+ 12 13.4	1.991	2.803	14.3	19.1
285889	2001 PZ ₃₃	3	7.1 139°25	2°4/ 4.9 18			325232	2008 GD ₄₉	3	7.1 156°96	0°8/ 6.3 18		
2 1	11 39.35	+ 11 1.4	2.102	2.924	12.6	20.8	2 1	11 39.93	+ 6 34.7	2.377	3.181	11.9	21.3
2 11	11 33.31	+ 11 32.3	2.032	2.935	9.3	20.6	2 11	11 33.55	+ 6 51.4	2.298	3.191	8.9	21.1
2 21	11 25.25	+ 12 8.0	1.987	2.945	5.8	20.4	2 21	11 25.34	+ 7 15.1	2.244	3.199	5.5	20.9
3 2	11 15.85	+ 12 43.3	1.970	2.955	2.7	20.2	3 2	11 15.90	+ 7 42.3	2.219	3.207	1.8	20.7
3 12	11 6.06	+ 13 12.5	1.984	2.964	3.8	20.3	3 12	11 6.06	+ 8 8.5	2.226	3.214	2.3	20.7
3 22	10 56.83	+ 13 31.3	2.026	2.973	7.3	20.5	3 22	10 56.69	+ 8 29.7	2.263	3.220	5.9	21.0
4 1	10 49.03	+ 13 37.2	2.096	2.981	10.6	20.8	4 1	10 48.56	+ 8 42.9	2.329	3.225	9.2	21.2
4 11	10 43.27	+ 13 29.2	2.189	2.989	13.5	21.0	4 11	10 42.27	+ 8 46.0	2.420	3.230	12.1	21.4
372392	2009 QC ₃₄	3	7.1 187°10	3°5/10.3 18			267505	2002 LL ₅₀	3	7.1 228°75	2°3/ 4.7 18		
2 1	11 38.81	- 6 5.4	2.356	3.115	13.3	21.3	2 1	11 34.41	+ 9 57.6	2.165	2.993	12.0	20.4
2 11	11 32.89	- 6 28.6	2.261	3.115	10.7	21.1	2 11	11 29.74	+ 10 40.5	2.081	2.987	9.0	20.2
2 21	11 25.04	- 6 37.7	2.189	3.114	7.7	20.9	2 21	11 23.14	+ 11 30.3	2.022	2.982	5.5	19.9
3 2	11 15.82	- 6 32.6	2.144	3.112	4.7	20.7	3 2	11 15.19	+ 12 21.6	1.991	2.976	2.5	19.7
3 12	11 6.03	- 6 15.7	2.130	3.110	3.6	20.6	3 12	11 6.73	+ 13 8.4	1.989	2.970	3.7	19.8
3 22	10 56.57	- 5 50.4	2.145	3.108	5.7	20.8	3 22	10 58.65	+ 13 45.3	2.016	2.964	7.2	20.0
4 1	10 48.27	- 5 21.4	2.189	3.104	8.8	21.0	4 1	10 51.79	+ 14 8.7	2.070	2.958	10.6	20.2
4 11	10 41.79	- 4 53.3	2.258	3.101	11.8	21.1	4 11	10 46.79	+ 14 16.7	2.146	2.951	13.6	20.4
489762	2008 AQ ₄₆	3	7.1 78°03	4°7/12.3 17			273025	2006 DL ₁₀₇	3	7.1 278°24	0°3/ 7.4 17		
2 1	11 32.33	- 11 24.5	2.320	3.065	13.9	21.2	2 1	11 31.83	+ 1 11.1	2.041	2.852	13.3	21.5
2 11	11 28.04	- 11 38.1	2.235	3.071	11.4	21.0	2 11	11 27.99	+ 1 48.0	1.943	2.838	10.2	21.3
2 21	11 22.01	- 11 33.0	2.171	3.078	8.7	20.8	2 21	11 22.17	+ 2 40.1	1.869	2.823	6.5	21.0
3 2	11 14.77	- 11 9.4	2.132	3.085	6.1	20.7	3 2	11 14.90	+ 3 43.5	1.822	2.809	2.3	20.7
3 12	11 7.09	- 10 29.8	2.121	3.092	4.7	20.6	3 12	11 6.99	+ 4 52.2	1.803	2.794	2.0	20.7
3 22	10 59.77	- 9 38.7	2.139	3.099	5.9	20.7	3 22	10 59.36	+ 5 59.5	1.814	2.779	6.3	20.9
4 1	10 53.55	- 8 41.6	2.184	3.106	8.5	20.8	4 1	10 52.90	+ 6 58.9	1.851	2.764	10.3	21.1
4 11	10 49.03	- 7 44.9	2.254	3.113	11.2	21.0	4 11	10 48.32	+ 7 45.6	1.912	2.750	13.8	21.3
279270	2009 VY ₁₁₂	3	7.1 164°82	3°1/10.1 17			186124	2001 TF ₁₄₈	3	7.1 112°63	4°6/ 2.9 18		
2 1	11 34.11	- 5 38.5	2.081	2.859	14.2	20.9	2 1	11 37.86	+ 16 3.6	1.872	2.710	13.2	20.5
2 11	11 29.56	- 5 37.4	1.994	2.861	11.3	20.7	2 11	11 32.46	+ 16 58.9	1.810	2.720	9.9	20.3
2 21	11 23.04	- 5 19.0	1.929	2.863	8.0	20.5	2 21	11 24.84	+ 17 56.0	1.773	2.729	6.6	20.1
3 2	11 15.15	- 4 44.6	1.890	2.864	4.6	20.3	3 2	11 15.75	+ 18 47.2	1.764	2.738	4.6	20.0
3 12	11 6.73	- 3 58.1	1.880	2.865	3.2	20.2	3 12	11 6.24	+ 19 25.4	1.782	2.748	6.1	20.1
3 22	10 58.68	- 3 5.0	1.898	2.866	5.8	20.3	3 22	10 57.38	+ 19 45.8	1.828	2.756	9.2	20.3
4 1	10 51.88	- 2 11.3	1.944	2.867	9.3	20.5	4 1	10 50.10	+ 19 46.6	1.899	2.765	12.5	20.5
4 11	10 46.98	- 1 22.8	2.014	2.868	12.5	20.8	4 11	10 45.06	+ 19 28.4	1.991	2.773	15.3	20.8
201470	2003 GP ₁₇	3	7.1 316°18	1°5/ 8.2 18			90944	Pujol	3	7.1 184°43	0°6/ 7.6 18		
2 1	11 33.04	- 0 49.2	1.310	2.139	18.3	20.3	2 1	11 38.52	+ 1 2.2	2.083	2.880	13.6	20.9
2 11	11 29.87	- 0 32.1	1.226	2.128	14.2	20.0	2 11	11 32.86	+ 1 26.6	1.995	2.881	10.4	20.7
2 21	11 23.81	+ 0 7.7	1.162	2.117	9.4	19.7	2 21	11 25.11	+ 2 4.6	1.931	2.881	6.6	20.4
3 2	11 15.54	+ 1 6.9	1.122	2.107	4.0	19.3	3 2	11 15.88	+ 2 52.7	1.894	2.880	2.5	20.2
3 12	11 6.29	+ 2 17.8	1.106	2.097	2.7	19.2	3 12	11 6.07	+ 3 45.5	1.888	2.878	2.0	20.1
3 22	10 57.51	+ 3 30.4	1.116	2.088	8.3	19.5	3 22	10 56.67	+ 4 37.2	1.911	2.875	6.2	20.4
4 1	10 50.60	+ 4 34.6	1.149	2.079	13.6	19.8	4 1	10 48.60	+ 5 22.1	1.962	2.872	10.0	20.6
4 11	10 46.52	+ 5 22.8	1.203	2.071	18.3	20.0	4 11	10 42.54	+ 5 56.2	2.038	2.867	13.4	20.8
267757	2003 LJ ₃	3	7.1 257°48	0°4/ 6.6 17			155188	2005 UM ₃₄₉	3	7.1 203°89	3°9/ 3.5 18		
2 1	11 34.07	+ 4 1.1	2.014	2.830	13.2	21.2	2 1	11 38.50	+ 11 53.6	1.766	2.600	14.1	20.5
2 11	11 29.67	+ 4 32.8	1.920	2.819	10.0	20.9	2 11	11 33.27	+ 13 6.7	1.687	2.596	10.5	20.3
2 21	11 23.21	+ 5 16.9	1.850	2.807	6.2	20.7	2 21	11 25.57	+ 14 28.2	1.631	2.591	6.7	20.0
3 2	11 15.23	+ 6 9.2	1.807	2.795	2.1	20.4	3 2	11 16.08	+ 15 49.7	1.604	2.585	4.0	19.9
3 12	11 6.63	+ 7 3.5	1.794	2.783	2.4	20.4	3 12	11 5.88	+ 17 1.8	1.605	2.578	5.7	19.9
3 22	10 58.34	+ 7 53.8	1.809	2.770	6.7	20.6	3 22	10 56.17	+ 17 56.9	1.634	2.570	9.5	20.1
4 1	10 51.31	+ 8 34.6	1.850	2.758	10.6	20.8	4 1	10 48.05	+ 18 30.5	1.687	2.562	13.4	20.4
4 11	10 46.23	+ 9 2.1	1.915	2.745	14.1	21.0	4 11	10 42.33	+ 18 41.5	1.762	2.553	16.7	20.6
330982	2009 TX ₂₆	3	7.1 154°27	5°1/ 1.2 18			306306	2011 SV ₆₅	3	7.1 213°02	4°2/12.5 17		
2 1	11 36.97	+ 19 47.1	2.351										

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2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
257634	1999 <i>TJ</i> ₂₁₇		3 7.1 74°02	0°2/ 6.9	18		38677	2000 <i>PD</i> ₂₅		3 7.1 118°94	1°8/ 5.5	18	
2 1	11 39.82	+ 3 45.9	1.529	2.351	16.5	20.6	2 1	11 38.37	+ 6 52.3	1.786	2.609	14.4	19.8
2 11	11 34.09	+ 4 7.5	1.477	2.378	12.3	20.4	2 11	11 32.86	+ 7 45.2	1.723	2.627	10.7	19.6
2 21	11 25.88	+ 4 42.5	1.447	2.404	7.6	20.2	2 21	11 25.10	+ 8 48.7	1.685	2.644	6.5	19.3
3 2	11 16.09	+ 5 25.5	1.443	2.430	2.5	19.9	3 2	11 15.87	+ 9 55.9	1.674	2.661	2.4	19.1
3 12	11 5.97	+ 6 9.4	1.466	2.456	2.6	20.0	3 12	11 6.23	+10 59.1	1.692	2.677	3.5	19.2
3 22	10 56.74	+ 6 47.4	1.517	2.482	7.4	20.3	3 22	10 57.25	+11 51.6	1.738	2.692	7.7	19.5
4 1	10 49.42	+ 7 14.5	1.594	2.507	11.7	20.6	4 1	10 49.90	+12 28.7	1.811	2.707	11.5	19.8
4 11	10 44.64	+ 7 27.7	1.693	2.532	15.2	20.9	4 11	10 44.80	+12 48.4	1.906	2.721	14.7	20.0
29415	1996 <i>XU</i> ₅		3 7.1 144°64	2°0/ 9.5	18		277613	2006 <i>AC</i> ₁₀₁		3 7.1 109°28	2°0/ 4.9	17	
2 1	11 32.93	- 3 46.8	2.794	3.566	11.1	19.8	2 1	11 32.80	+ 7 27.9	1.970	2.799	13.0	21.1
2 11	11 28.15	- 3 39.2	2.708	3.575	8.7	19.6	2 11	11 28.64	+ 8 28.5	1.896	2.804	9.6	20.9
2 21	11 21.93	- 3 19.5	2.647	3.583	6.0	19.5	2 21	11 22.50	+ 9 39.3	1.848	2.809	5.9	20.6
3 2	11 14.75	- 2 49.4	2.614	3.591	3.2	19.3	3 2	11 15.00	+10 54.0	1.827	2.814	2.4	20.4
3 12	11 7.22	- 2 12.0	2.611	3.598	2.1	19.2	3 12	11 7.04	+12 4.9	1.835	2.818	3.6	20.5
3 22	11 0.01	- 1 31.1	2.638	3.605	4.5	19.4	3 22	10 59.54	+13 5.5	1.871	2.823	7.4	20.8
4 1	10 53.72	- 0 50.8	2.695	3.612	7.3	19.6	4 1	10 53.36	+13 50.8	1.934	2.827	11.0	21.0
4 11	10 48.84	- 0 14.9	2.777	3.618	9.9	19.8	4 11	10 49.11	+14 18.5	2.019	2.831	14.1	21.2
6424	Ando		3 7.1 109°45	1°8/ 4.9	18		52764	1998 <i>MC</i> ₃₃		3 7.1 229°90	2°7/ 9.3	18	
2 1	11 31.50	+ 7 23.7	2.306	3.130	11.5	17.2	2 1	11 37.46	- 4 8.1	1.750	2.540	16.1	19.4
2 11	11 27.36	+ 8 28.7	2.235	3.140	8.5	17.0	2 11	11 32.62	- 3 56.5	1.652	2.529	12.7	19.2
2 21	11 21.56	+ 9 42.3	2.189	3.150	5.1	16.8	2 21	11 25.29	- 3 24.5	1.575	2.516	8.7	18.9
3 2	11 14.64	+10 59.0	2.173	3.159	2.1	16.6	3 2	11 16.05	- 2 33.8	1.524	2.504	4.5	18.6
3 12	11 7.36	+12 12.1	2.186	3.168	3.2	16.7	3 12	11 5.95	- 1 29.4	1.501	2.490	3.0	18.5
3 22	11 0.48	+13 16.0	2.229	3.178	6.5	16.9	3 22	10 56.15	- 0 18.7	1.507	2.476	6.9	18.7
4 1	10 54.72	+14 6.2	2.298	3.187	9.7	17.2	4 1	10 47.82	+ 0 50.0	1.539	2.460	11.4	18.9
4 11	10 50.60	+14 40.5	2.391	3.195	12.4	17.4	4 11	10 41.85	+ 1 49.4	1.593	2.445	15.4	19.1
183618	2003 <i>US</i> ₂₂₁		3 7.1 236°52	1°4/ 5.7	17		433910	2015 <i>BE</i> ₄₆₉		3 7.1 107°99	2°2/ 4.7	17	
2 1	11 36.48	+ 6 3.7	1.966	2.785	13.4	21.4	2 1	11 32.68	+ 8 32.2	2.108	2.938	12.3	21.3
2 11	11 31.60	+ 6 52.3	1.869	2.771	10.1	21.1	2 11	11 28.41	+ 9 30.0	2.037	2.944	9.1	21.1
2 21	11 24.50	+ 7 53.1	1.797	2.756	6.2	20.9	2 21	11 22.29	+10 36.1	1.990	2.950	5.5	20.9
3 2	11 15.74	+ 9 0.9	1.752	2.740	2.2	20.6	3 2	11 14.92	+11 44.7	1.971	2.957	2.4	20.7
3 12	11 6.24	+10 8.4	1.737	2.723	3.2	20.6	3 12	11 7.13	+12 48.9	1.981	2.963	3.6	20.8
3 22	10 57.03	+11 8.4	1.751	2.706	7.5	20.8	3 22	10 59.78	+13 42.7	2.020	2.969	7.1	21.0
4 1	10 49.14	+11 55.1	1.791	2.688	11.5	21.0	4 1	10 53.67	+14 21.9	2.085	2.975	10.5	21.2
4 11	10 43.34	+12 25.1	1.854	2.669	15.1	21.2	4 11	10 49.39	+14 44.6	2.173	2.980	13.4	21.4
191964	2005 <i>VF</i> ₇		3 7.1 88°40	8°9/13.4	18		151072	2001 <i>VE</i> ₅₀		3 7.1 47°37	3°2/ 4.9	18	
2 1	11 49.68	-15 30.5	1.625	2.342	19.9	20.4	2 1	11 40.83	+12 31.1	1.517	2.357	15.7	19.4
2 11	11 41.63	-16 59.2	1.565	2.375	16.8	20.2	2 11	11 35.00	+12 44.7	1.460	2.371	11.7	19.2
2 21	11 30.70	-18 1.7	1.526	2.407	13.5	20.1	2 21	11 26.54	+13 2.2	1.425	2.386	7.3	19.0
3 2	11 17.80	-18 33.6	1.511	2.438	10.5	20.0	3 2	11 16.37	+13 17.3	1.417	2.401	3.5	18.8
3 12	11 4.35	-18 34.9	1.522	2.468	9.0	20.0	3 12	11 5.79	+13 23.6	1.435	2.417	4.7	18.9
3 22	10 51.81	-18 10.0	1.560	2.498	9.8	20.1	3 22	10 56.10	+13 17.0	1.481	2.433	8.9	19.2
4 1	10 41.44	-17 27.3	1.625	2.527	12.2	20.3	4 1	10 48.41	+12 55.8	1.551	2.449	12.9	19.5
4 11	10 34.03	-16 36.8	1.712	2.555	14.9	20.5	4 11	10 43.39	+12 20.3	1.643	2.466	16.3	19.7
285106	1995 <i>FL</i> ₇		3 7.1 307°50	2°2/ 4.9	17		182398	2001 <i>QK</i> ₃₃₃		3 7.1 197°23	4°8/ 2.2	16	
2 1	11 31.94	+ 8 27.0	1.889	2.725	13.2	20.5	2 1	11 40.15	+19 3.9	2.301	3.127	11.5	21.3
2 11	11 28.30	+ 9 13.5	1.793	2.703	9.9	20.3	2 11	11 33.94	+19 53.4	2.223	3.124	8.8	21.1
2 21	11 22.49	+10 10.6	1.720	2.682	6.1	20.0	2 21	11 25.71	+20 42.3	2.172	3.120	6.1	20.9
3 2	11 15.06	+11 12.6	1.674	2.660	2.6	19.7	3 2	11 16.09	+21 23.9	2.149	3.116	4.8	20.8
3 12	11 6.90	+12 12.0	1.655	2.639	3.9	19.8	3 12	11 5.99	+21 52.4	2.156	3.110	6.1	20.9
3 22	10 59.02	+13 2.0	1.665	2.618	8.0	20.0	3 22	10 56.36	+22 3.9	2.191	3.105	8.7	21.1
4 1	10 52.41	+13 37.1	1.700	2.597	12.0	20.1	4 1	10 48.07	+21 56.9	2.253	3.098	11.6	21.2
4 11	10 47.86	+13 54.3	1.756	2.577	15.5	20.3	4 11	10 41.77	+21 32.3	2.336	3.091	14.1	21.4
211008	2001 <i>XY</i> ₂₀₅		3 7.1 32°37	3°6/ 3.2	18		72974	2002 <i>CE</i> ₂₂₁		3 7.1 285°18	2°5/ 5.1	18	
2 1	11 31.43	+12 46.7	1.988	2.830	12.4	19.8	2 1	11 36.33	+ 8 34.5	1.531	2.371	15.6	19.2
2 11	11 27.57	+13 49.8	1.924	2.838	9.2	19.6	2 11	11 32.11	+ 9 15.4	1.440	2.352	11.7	18.9
2 21	11 21.79	+14 57.9	1.886	2.846	5.8	19.4	2 21	11 25.13	+10 8.4	1.372	2.334	7.3	18.6
3 2	11 14.74	+16 4.1	1.874	2.855	3.6	19.3	3 2	11 16.03	+11 6.7	1.328	2.315	3.0	18.2
3 12	11 7.29	+17 1.1	1.891	2.864	5.1	19.4	3 12	11 5.97	+12 1.6	1.312	2.296	4.5	18.3
3 22	11 0.35	+17 43.4	1.936	2.873	8.2	19.6	3 22	10 56.27	+12 44.8	1.322	2.278	9.3	18.5
4 1	10 54.72	+18 7.8	2.005	2.883	11.4	19.8	4 1	10 48.26	+13 10.2	1.357	2.259	14.1	18.7
4 11	10 50.98	+18 13.6	2.096	2.892	14.2	20.0	4 11	10 42.89	+13 15.1	1.411	2.240	18.2	18.9
181240	2005 <i>UQ</i> ₄		3 7.1 189°64	2°6/10.3	18		32075	2000 <i>JU</i> ₆₆		3 7.1 102°07	0°6/ 7.8	18	
2 1	11 33.97	- 7 15.9	2.548	3.306	12.5	20.7	2 1	11 31.12	- 0 19.5	2.275	3.076	12.4	18.7
2 11	11 29.16	- 6 44.6	2.450	3.305	9.9	20.5	2 11	11 27.10	+ 0 26.2	2.197	3.086	9.5	18.5
2 21	11 22.69	- 5 55.9	2.375	3.303	7.0	20.3	2 21	11 21.42	+ 1 26.0	2.144	3.095	6.0	18.3
3 2	11 15.05	- 4 52.0	2.328	3.300	4.0	20.1	3 2	11 14.61	+ 2 35.8	2.119	3.105	2.3	18.1
3 12	11 6.96	- 3 36.9	2.311	3.296	2.7	20.0	3 12	11 7.43	+ 3 50.0	2.123	3.114	1.7	18.0
3 22	10 59.15	- 2 16.2	2.325	3.292	5.0	20.1	3 22	11 0.64	+ 5 2.3	2.157	3.123	5.4	18.3
4 1	10 52.33	- 0 56.2	2.369	3.287	8.1	20.3	4 1	10 54.95	+ 6 7.0	2.219	3.132	8.8	18.5
4 11	10 47.09	+ 0 17.5	2.438	3.280	11.0	20.5	4 11	10 50.90	+ 7 0.0	2.305	3.141	11.8	18.7
325062	2008 <i>CL</i> ₂₀₃		3 7.1 202°91	2°1/ 4.8	18		386957	2011 <i>SY</i> ₂₀₇		3 7.1 198°37	1°4/ 8.7	18	

EPHEMERIDES

3 7.1

3 7.1

2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
17138	1999 <i>JM</i> ₈₄		3 7.1 36°33	2°1/ 4.9 18			341389	2007 <i>TP</i> ₁₂₉		3 7.1 140°83	0°6/ 6.4 17		
2 1	11 30.20	+ 4 38.3	1.583	2.422	15.2	17.7	2 1	11 33.20	+ 5 3.7	2.708	3.515	10.5	21.9
2 11	11 27.10	+ 6 13.3	1.516	2.429	11.2	17.4	2 11	11 28.39	+ 5 36.7	2.631	3.526	7.8	21.7
2 21	11 21.73	+ 8 5.5	1.473	2.436	6.8	17.2	2 21	11 22.10	+ 6 17.5	2.580	3.536	4.8	21.5
3 2	11 14.78	+10 5.6	1.456	2.443	2.6	16.9	3 2	11 14.85	+ 7 2.6	2.557	3.545	1.6	21.3
3 12	11 7.30	+12 2.4	1.467	2.451	4.1	17.1	3 12	11 7.28	+ 7 47.6	2.566	3.554	2.0	21.3
3 22	11 0.37	+13 45.0	1.506	2.460	8.6	17.3	3 22	11 0.06	+ 8 28.4	2.604	3.562	5.1	21.6
4 1	10 54.98	+15 5.8	1.570	2.469	12.7	17.6	4 1	10 53.82	+ 9 1.5	2.671	3.571	8.1	21.8
4 11	10 51.83	+16 1.4	1.655	2.478	16.2	17.8	4 11	10 49.03	+ 9 24.5	2.763	3.578	10.6	21.9
437523	2013 <i>YB</i> ₁₀₅		3 7.1 228°08	2°7/ 9.9 17			518896	2010 <i>FO</i> ₄₂		3 7.1 299°72	0°4/ 7.7 17		
2 1	11 33.72	- 4 27.6	2.425	3.200	12.5	20.8	2 1	11 28.72	- 1 57.4	2.212	3.012	12.8	20.7
2 11	11 29.05	- 4 36.1	2.331	3.198	9.9	20.6	2 11	11 25.52	- 0 40.7	2.114	3.003	9.8	20.5
2 21	11 22.67	- 4 30.9	2.261	3.195	6.9	20.4	2 21	11 20.57	+ 0 55.2	2.042	2.993	6.3	20.2
3 2	11 15.07	- 4 13.3	2.218	3.192	3.9	20.2	3 2	11 14.39	+ 2 45.4	1.997	2.983	2.4	19.9
3 12	11 7.00	- 3 45.9	2.204	3.189	2.8	20.1	3 12	11 7.69	+ 4 42.6	1.983	2.974	1.8	19.9
3 22	10 59.22	- 3 12.7	2.219	3.186	5.2	20.3	3 22	11 1.26	+ 6 38.3	2.000	2.965	5.8	20.1
4 1	10 52.48	- 2 38.3	2.263	3.183	8.3	20.5	4 1	10 55.88	+ 8 24.5	2.044	2.955	9.6	20.3
4 11	10 47.37	- 2 7.1	2.331	3.180	11.2	20.6	4 11	10 52.14	+ 9 55.0	2.114	2.946	12.8	20.5
277529	2005 <i>XL</i> ₆₆		3 7.1 158°27	4°1/ 2.8 18			319611	2006 <i>SF</i> ₂₅₃		3 7.1 11°76	0°6/ 6.5 17		
2 1	11 39.86	+13 59.2	2.102	2.928	12.4	21.4	2 1	11 32.19	+ 4 48.5	2.256	3.073	12.0	20.9
2 11	11 33.79	+15 19.3	2.035	2.939	9.3	21.2	2 11	11 27.98	+ 5 18.9	2.174	3.073	9.0	20.7
2 21	11 25.64	+16 43.8	1.994	2.949	6.0	21.0	2 21	11 22.02	+ 5 59.2	2.116	3.074	5.5	20.5
3 2	11 16.08	+18 4.7	1.983	2.958	4.1	20.9	3 2	11 14.86	+ 6 45.3	2.086	3.074	1.8	20.3
3 12	11 6.06	+19 14.1	2.001	2.966	5.6	21.0	3 12	11 7.27	+ 7 32.0	2.086	3.074	2.2	20.3
3 22	10 56.59	+20 6.3	2.049	2.973	8.7	21.2	3 22	11 0.04	+ 8 14.3	2.114	3.075	5.9	20.5
4 1	10 48.56	+20 38.2	2.123	2.978	11.8	21.4	4 1	10 53.94	+ 8 47.8	2.170	3.075	9.4	20.7
4 11	10 42.60	+20 49.7	2.219	2.983	14.5	21.6	4 11	10 49.53	+ 9 9.6	2.249	3.076	12.4	20.9
123365	2000 <i>WU</i> ₃₁		3 7.1 35°15	10°8/25.3 18			322831	2001 <i>SE</i> ₃₄₁		3 7.1 147°59	2°2/ 4.5 18		
2 1	11 36.30	+30 36.1	1.587	2.434	14.7	18.9	2 1	11 33.57	+ 7 9.1	2.089	2.913	12.5	20.9
2 11	11 31.88	+32 26.5	1.551	2.443	12.4	18.7	2 11	11 29.12	+ 8 34.1	2.016	2.921	9.3	20.7
2 21	11 24.73	+34 4.0	1.537	2.453	11.0	18.7	2 21	11 22.77	+10 10.0	1.969	2.929	5.6	20.5
3 2	11 15.78	+35 16.7	1.547	2.464	11.1	18.7	3 2	11 15.13	+11 49.7	1.950	2.936	2.5	20.3
3 12	11 6.39	+35 56.3	1.581	2.475	12.6	18.8	3 12	11 7.03	+13 24.7	1.962	2.943	3.8	20.4
3 22	10 57.90	+35 59.8	1.638	2.486	14.9	19.0	3 22	10 59.37	+14 47.9	2.004	2.949	7.4	20.6
4 1	10 51.44	+35 29.5	1.713	2.498	17.2	19.2	4 1	10 52.97	+15 53.7	2.072	2.955	10.9	20.8
4 11	10 47.67	+34 30.8	1.805	2.510	19.3	19.4	4 11	10 48.43	+16 39.7	2.163	2.960	13.8	21.0
289715	2005 <i>JZ</i> ₂		3 7.1 296°40	1°6/ 5.8 17			210595	1999 <i>XA</i> ₁₄₇		3 7.1 255°40	1°7/ 5.6 18		
2 1	11 34.80	+ 6 27.2	1.549	2.386	15.6	21.2	2 1	11 36.30	+ 7 1.6	1.788	2.616	14.2	20.8
2 11	11 30.88	+ 7 2.5	1.459	2.369	11.8	20.9	2 11	11 31.68	+ 7 43.0	1.696	2.602	10.7	20.5
2 21	11 24.32	+ 7 51.5	1.391	2.353	7.3	20.6	2 21	11 24.66	+ 8 36.2	1.627	2.587	6.6	20.2
3 2	11 15.76	+ 8 48.3	1.349	2.337	2.6	20.3	3 2	11 15.86	+ 9 35.5	1.585	2.572	2.4	19.9
3 12	11 6.29	+ 9 44.7	1.334	2.321	3.7	20.3	3 12	11 6.27	+10 33.4	1.571	2.556	3.6	20.0
3 22	10 57.22	+10 32.5	1.345	2.305	8.6	20.5	3 22	10 57.03	+11 22.7	1.585	2.541	8.0	20.2
4 1	10 49.77	+11 5.4	1.380	2.290	13.4	20.8	4 1	10 49.23	+11 57.7	1.624	2.525	12.3	20.4
4 11	10 44.85	+11 19.7	1.436	2.274	17.5	21.0	4 11	10 43.71	+12 15.3	1.686	2.508	16.0	20.6
437251	2012 <i>XU</i> ₆₅		3 7.1 337°71	6°0/14.5 17			470009	2006 <i>QS</i> ₁₁₀		3 7.1 122°18	0°3/ 6.6 17		
2 1	11 29.88	-16 42.1	2.357	3.072	14.5	20.9	2 1	11 31.29	+ 3 3.9	2.677	3.482	10.7	22.0
2 11	11 26.32	-16 49.3	2.261	3.070	12.3	20.7	2 11	11 26.98	+ 3 54.3	2.603	3.496	8.0	21.9
2 21	11 21.03	-16 34.4	2.185	3.068	9.9	20.6	2 21	11 21.25	+ 4 54.6	2.554	3.509	4.9	21.7
3 2	11 14.53	-15 56.8	2.133	3.066	7.5	20.4	3 2	11 14.57	+ 6 0.7	2.535	3.522	1.6	21.5
3 12	11 7.53	-14 58.4	2.108	3.064	6.1	20.3	3 12	11 7.59	+ 7 7.4	2.546	3.535	1.8	21.5
3 22	11 0.82	-13 43.9	2.110	3.062	6.6	20.4	3 22	11 0.97	+ 8 9.9	2.587	3.547	5.1	21.7
4 1	10 55.17	-12 19.8	2.140	3.061	8.7	20.5	4 1	10 55.29	+ 9 4.0	2.657	3.559	8.0	21.9
4 11	10 51.16	-10 53.7	2.195	3.059	11.2	20.6	4 11	10 51.04	+ 9 46.6	2.753	3.570	10.6	22.1
301520	2009 <i>FR</i> ₁₉		3 7.1 271°63	1°0/ 8.3 17			135105	2001 <i>QN</i> ₉₁		3 7.1 167°48	4°3/13.5 18		
2 1	11 30.01	- 1 32.7	2.365	3.162	12.2	20.9	2 1	11 31.30	-14 54.8	3.144	3.849	11.4	20.5
2 11	11 26.34	- 0 54.7	2.270	3.154	9.4	20.7	2 11	11 26.90	-14 49.3	3.046	3.853	9.5	20.4
2 21	11 21.02	- 0 1.9	2.199	3.147	6.1	20.5	2 21	11 21.17	-14 27.2	2.972	3.858	7.4	20.2
3 2	11 14.52	+ 1 2.7	2.156	3.140	2.6	20.2	3 2	11 14.55	-13 48.9	2.923	3.861	5.5	20.1
3 12	11 7.55	+ 2 13.9	2.142	3.132	1.7	20.2	3 12	11 7.60	-12 56.5	2.904	3.864	4.3	20.0
3 22	11 0.86	+ 3 25.9	2.157	3.125	5.3	20.4	3 22	11 0.89	-11 53.7	2.914	3.867	5.0	20.1
4 1	10 55.16	+ 4 32.8	2.201	3.117	8.7	20.6	4 1	10 54.99	-10 44.9	2.954	3.869	6.8	20.2
4 11	10 51.05	+ 5 29.7	2.269	3.110	11.8	20.8	4 11	10 50.35	- 9 35.4	3.020	3.871	8.9	20.3
427031	2014 <i>SV</i> ₃₀₉		3 7.1 55°90	6°7/14.1 18			9761	Krautter		3 7.1 118°19	0°4/ 7.4 18		
2 1	11 31.37	-16 11.8	1.686	2.429	18.4	20.5	2 1	11 39.98	+ 1 56.3	1.613	2.425	16.2	18.3
2 11	11 27.97	-16 5.8	1.607	2.437	15.5	20.3	2 11	11 34.33	+ 2 16.1	1.546	2.440	12.3	18.1
2 21	11 22.28	-15 29.2	1.546	2.445	12.1	20.1	2 21	11 26.17	+ 2 51.2	1.501	2.455	7.8	17.9
3 2	11 14.99	-14 21.3	1.508	2.454	8.8	19.9	3 2	11 16.31	+ 3 37.0	1.482	2.469	2.8	17.6
3 12	11 7.11	-12 46.7	1.495	2.462	6.8	19.8	3 12	11 5.94	+ 4 26.6	1.491	2.482	2.4	17.6
3 22	10 59.75	-10 53.7	1.508	2.471	7.7	19.9	3 22	10 56.27	+ 5 13.0	1.529	2.495	7.2	17.9
4 1	10 53.91	- 8 53.4	1.548	2.480	10.6	20.1	4 1	10 48.40	+ 5 50.3	1.593	2.507	11.6	18.2
4 11	10 50.31	- 6 57.3	1.613	2.489	14.0	20.3	4 11	10 43.04	+ 6 14.3	1.678	2.519	15.3	18.5
324553	2006 <i>WL</i> ₈₀		3 7.1 202°91	0°9/ 6.2 16			336829	2011 <i>EH</i> ₆₉		3 7.1 262°71	3°0/ 4.2 18		

EPHEMERIDES

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2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
495001	2010 <i>JP</i> ₄₈		3 7.1 253°71	7°4/13.6	18		461287	2015 <i>XF</i> ₇₃		3 7.1 52°23	3°9/ 9.8	18	
2 1	11 34.04	-15 19.9	1.637	2.382	18.8	21.6	2 1	11 37.65	-4 21.9	1.304	2.114	19.5	21.1
2 11	11 30.27	-15 38.8	1.542	2.374	15.9	21.4	2 11	11 33.14	-4 42.8	1.240	2.126	15.4	20.9
2 21	11 23.94	-15 28.7	1.466	2.366	12.6	21.1	2 21	11 25.71	-4 40.6	1.195	2.138	10.7	20.6
3 2	11 15.66	-14 47.1	1.411	2.357	9.4	20.9	3 2	11 16.23	-4 16.6	1.173	2.150	5.9	20.4
3 12	11 6.48	-13 35.9	1.382	2.348	7.4	20.8	3 12	11 6.08	-3 36.1	1.176	2.163	4.1	20.3
3 22	10 57.64	-12 1.9	1.379	2.339	8.5	20.8	3 22	10 56.73	-2 47.0	1.205	2.176	7.9	20.6
4 1	10 50.35	-10 15.4	1.401	2.329	11.7	21.0	4 1	10 49.44	-1 58.2	1.258	2.190	12.5	20.8
4 11	10 45.53	-8 28.4	1.446	2.320	15.4	21.2	4 11	10 45.03	-1 17.4	1.332	2.203	16.6	21.1
31016	1996 <i>DY</i> ₁		3 7.1 345°08	2°1/ 5.6	18		342863	2008 <i>YO</i> ₃₀		3 7.1 304°98	1°3/ 5.9	17	
2 1	11 33.12	+6 14.8	1.202	2.056	18.0	18.2	2 1	11 35.80	+8 0.3	2.118	2.940	12.5	20.6
2 11	11 30.08	+7 2.2	1.131	2.050	13.5	17.9	2 11	11 30.83	+8 14.6	2.034	2.936	9.4	20.4
2 21	11 24.01	+8 6.9	1.080	2.045	8.3	17.6	2 21	11 23.88	+8 35.9	1.974	2.932	5.8	20.2
3 2	11 15.69	+9 20.9	1.053	2.041	3.0	17.3	3 2	11 15.56	+9 0.2	1.941	2.929	2.1	19.9
3 12	11 6.49	+10 32.9	1.051	2.038	4.4	17.3	3 12	11 6.72	+9 22.5	1.938	2.925	2.8	20.0
3 22	10 57.95	+11 32.1	1.072	2.035	10.0	17.6	3 22	10 58.29	+9 38.6	1.964	2.921	6.6	20.2
4 1	10 51.46	+12 10.9	1.116	2.033	15.2	17.9	4 1	10 51.14	+9 45.1	2.017	2.918	10.2	20.4
4 11	10 47.96	+12 25.8	1.179	2.032	19.6	18.2	4 11	10 45.90	+9 40.2	2.092	2.915	13.3	20.6
413118	2001 <i>WP</i> ₂₅		3 7.1 83°11	1°8/ 5.5	18		466654	2014 <i>WJ</i> ₇₅		3 7.1 106°48	2°7/ 9.8	18	
2 1	11 36.83	+7 31.4	1.797	2.624	14.1	22.0	2 1	11 34.29	-5 31.7	1.876	2.660	15.3	21.7
2 11	11 31.65	+8 16.1	1.740	2.645	10.5	21.8	2 11	11 29.84	-5 10.7	1.800	2.672	12.1	21.5
2 21	11 24.34	+9 10.0	1.707	2.667	6.3	21.6	2 21	11 23.31	-4 29.8	1.747	2.684	8.3	21.3
3 2	11 15.65	+10 6.7	1.701	2.688	2.4	21.4	3 2	11 15.36	-3 31.5	1.719	2.696	4.5	21.1
3 12	11 6.61	+10 59.1	1.724	2.709	3.5	21.5	3 12	11 6.93	-2 21.4	1.720	2.707	2.9	21.0
3 22	10 58.27	+11 41.1	1.775	2.729	7.4	21.8	3 22	10 59.00	-1 6.9	1.749	2.718	6.0	21.3
4 1	10 51.50	+12 8.8	1.852	2.750	11.2	22.0	4 1	10 52.49	+0 4.7	1.805	2.729	9.8	21.5
4 11	10 46.91	+12 20.5	1.951	2.770	14.3	22.3	4 11	10 48.03	+1 7.0	1.885	2.740	13.2	21.7
424926	2008 <i>YM</i> ₅		3 7.1 74°98	4°3/ 2.5	18		189175	2002 <i>XK</i> ₄₉		3 7.1 177°57	1°9/ 8.7	18	
2 1	11 33.79	+15 34.0	2.077	2.917	12.0	20.6	2 1	11 38.47	-2 26.5	1.796	2.589	15.6	21.2
2 11	11 29.27	+16 38.5	2.017	2.928	9.0	20.5	2 11	11 33.18	-2 6.4	1.711	2.591	12.1	21.0
2 21	11 22.83	+17 45.2	1.982	2.938	6.0	20.3	2 21	11 25.51	-1 27.8	1.648	2.593	8.1	20.7
3 2	11 15.14	+18 47.1	1.974	2.948	4.3	20.2	3 2	11 16.16	-0 33.6	1.612	2.594	3.7	20.5
3 12	11 7.08	+19 37.4	1.995	2.959	5.7	20.3	3 12	11 6.14	+0 30.2	1.605	2.594	2.4	20.4
3 22	10 59.54	+20 11.4	2.043	2.969	8.6	20.5	3 22	10 56.59	+1 36.5	1.626	2.594	6.6	20.6
4 1	10 53.34	+20 26.5	2.117	2.980	11.5	20.7	4 1	10 48.57	+2 37.7	1.674	2.593	10.9	20.9
4 11	10 49.05	+20 22.9	2.212	2.990	14.1	20.9	4 11	10 42.84	+3 28.0	1.746	2.590	14.6	21.1
71677	2000 <i>EJ</i> ₁₇₁		3 7.1 100°92	5°9/ 1.5	18		334648	2002 <i>XE</i> ₁₂		3 7.1 97°08	4°6/ 12.5	17	
2 1	11 39.69	+22 39.9	2.153	2.984	12.0	18.9	2 1	11 34.68	-11 50.3	2.465	3.199	13.5	21.0
2 11	11 33.62	+23 24.2	2.093	2.993	9.3	18.7	2 11	11 29.66	-12 5.9	2.389	3.218	11.1	20.8
2 21	11 25.49	+24 4.1	2.059	3.001	6.9	18.6	2 21	11 22.99	-12 3.6	2.335	3.238	8.4	20.7
3 2	11 16.04	+24 32.8	2.052	3.009	5.9	18.5	3 2	11 15.21	-11 43.8	2.307	3.257	5.9	20.5
3 12	11 6.25	+24 44.7	2.073	3.017	7.1	18.6	3 12	11 7.08	-11 8.9	2.307	3.276	4.6	20.5
3 22	10 57.11	+24 37.1	2.122	3.025	9.5	18.8	3 22	10 59.36	-10 23.0	2.336	3.294	5.7	20.6
4 1	10 49.48	+24 10.0	2.195	3.032	12.1	18.9	4 1	10 52.76	-9 31.4	2.394	3.312	8.0	20.8
4 11	10 43.96	+23 25.3	2.291	3.040	14.5	19.1	4 11	10 47.81	-8 39.7	2.477	3.330	10.5	20.9
405173	2002 <i>VM</i> ₁₀₆		3 7.1 100°73	4°1/ 3.3	18		520913	2014 <i>WJ</i> ₅₃₀		3 7.1 65°41	0°0/ 6.9	18	
2 1	11 40.25	+14 57.5	1.939	2.770	13.1	21.2	2 1	11 31.13	-0 9.0	1.718	2.535	15.1	21.1
2 11	11 34.04	+15 53.5	1.889	2.795	9.8	21.1	2 11	11 27.67	+1 6.6	1.643	2.542	11.5	20.9
2 21	11 25.73	+16 51.2	1.864	2.820	6.3	20.9	2 21	11 22.06	+2 42.4	1.592	2.548	7.2	20.7
3 2	11 16.10	+17 43.4	1.868	2.844	4.2	20.8	3 2	11 14.95	+4 31.8	1.567	2.555	2.4	20.4
3 12	11 6.21	+18 23.4	1.900	2.868	5.5	20.9	3 12	11 7.31	+6 25.3	1.571	2.561	2.4	20.4
3 22	10 57.07	+18 46.8	1.960	2.891	8.6	21.2	3 22	11 0.18	+8 12.5	1.604	2.568	7.1	20.7
4 1	10 49.56	+18 52.0	2.047	2.913	11.7	21.4	4 1	10 54.48	+9 45.0	1.663	2.575	11.3	21.0
4 11	10 44.24	+18 39.7	2.155	2.935	14.4	21.6	4 11	10 50.88	+10 57.2	1.744	2.582	14.9	21.2
2276	Warck		3 7.1 274°84	1°3/ 8.2	18		288714	2004 <i>RC</i> ₁₈		3 7.1 221°70	3°4/ 4.1	18	
2 1	11 34.83	-0 37.9	1.653	2.464	15.9	16.8	2 1	11 38.35	+10 58.9	1.770	2.603	14.1	21.0
2 11	11 30.83	-0 17.0	1.554	2.446	12.4	16.5	2 11	11 33.22	+11 58.2	1.686	2.594	10.6	21.2
2 21	11 24.28	+0 23.0	1.476	2.428	8.1	16.2	2 21	11 25.62	+13 6.2	1.626	2.585	6.6	20.7
3 2	11 15.79	+1 19.1	1.424	2.409	3.4	15.9	3 2	11 16.22	+14 15.6	1.593	2.576	3.5	20.5
3 12	11 6.36	+2 25.1	1.400	2.390	2.4	15.8	3 12	11 6.07	+15 17.6	1.588	2.566	5.1	20.6
3 22	10 57.22	+3 33.1	1.402	2.371	7.3	16.0	3 22	10 56.36	+16 4.9	1.612	2.555	9.1	20.8
4 1	10 49.55	+4 34.7	1.431	2.352	12.1	16.3	4 1	10 48.21	+16 32.9	1.660	2.543	13.1	21.0
4 11	10 44.27	+5 23.4	1.481	2.333	16.3	16.5	4 11	10 42.43	+16 40.1	1.730	2.531	16.6	21.2
341334	2007 <i>TW</i> ₃₅		3 7.1 162°02	2°2/ 4.2	18	R	120159	2003 <i>HC</i> ₂₃		3 7.1 231°69	1°7/ 5.3	18	
2 1	11 33.75	+11 34.0	2.880	3.700	9.6	21.7	2 1	11 35.38	+10 16.5	2.579	3.398	10.6	20.0
2 11	11 28.75	+12 18.2	2.804	3.706	7.1	21.5	2 11	11 30.18	+10 33.9	2.492	3.393	7.9	19.8
2 21	11 22.33	+13 6.2	2.754	3.712	4.4	21.3	2 21	11 23.33	+10 55.7	2.430	3.388	4.9	19.6
3 2	11 14.95	+13 53.6	2.735	3.717	2.3	21.2	3 2	11 15.34	+11 18.1	2.398	3.384	2.1	19.4
3 12	11 7.27	+14 36.1	2.746	3.722	3.3	21.3	3 12	11 6.94	+11 36.9	2.396	3.379	2.9	19.4
3 22	10 59.91	+15 9.9	2.787	3.726	5.9	21.4	3 22	10 58.88	+11 48.8	2.423	3.374	6.0	19.6
4 1	10 53.50	+15 32.5	2.856	3.730	8.5	21.6	4 1	10 51.87	+11 51.2	2.479	3.368	9.0	19.8
4 11	10 48.49	+15 42.6	2.949	3.733	10.8	21.8	4 11	10 46.45	+11 43.0	2.558	3.363	11.7	20.0
452737	2006 <i>BS</i> ₄₉		3 7.1 88°97	2°0/ 5.6	18		364724	2007 <i>VE</i> ₈₉		3 7.1 59°60	3°2/ 4.6	18	
2 1	11 38.07	+6 46.5	1.430	2									

EPHEMERIDES

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2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
301315	2009 <i>BS</i> ₁₄₉		3 7.1 82°40	0.4/ 7.5	18		122367	2000 <i>QW</i> ₅₇		3 7.1 147°88	1.6/ 5.5	18	
2 1	11 37.46	+ 1 9.1	1.507	2.326	16.8	21.0	2 1	11 34.71	+ 6 57.2	2.030	2.853	12.9	20.2
2 11	11 32.52	+ 1 41.0	1.447	2.346	12.7	20.8	2 11	11 30.05	+ 7 46.0	1.955	2.858	9.6	20.0
2 21	11 25.07	+ 2 30.3	1.410	2.365	8.0	20.6	2 21	11 23.41	+ 8 44.7	1.904	2.863	5.9	19.7
3 2	11 15.96	+ 3 31.5	1.397	2.384	2.9	20.3	3 2	11 15.42	+ 9 47.6	1.881	2.868	2.2	19.5
3 12	11 6.40	+ 4 36.5	1.413	2.403	2.4	20.3	3 12	11 6.96	+10 47.9	1.887	2.872	3.2	19.6
3 22	10 57.61	+ 5 37.1	1.455	2.422	7.3	20.7	3 22	10 58.96	+11 39.5	1.922	2.876	7.0	19.8
4 1	10 50.66	+ 6 26.5	1.523	2.441	11.8	21.0	4 1	10 52.27	+12 17.8	1.984	2.880	10.6	20.1
4 11	10 46.22	+ 7 0.3	1.613	2.459	15.5	21.2	4 11	10 47.52	+12 40.5	2.068	2.883	13.7	20.3
334535	2002 <i>RL</i> ₂₄₃		3 7.1 145°67	4.5/11.8	17		42297	2001 <i>UL</i> ₇₃		3 7.1 23°72	0.4/ 6.7	18	R
2 1	11 34.43	-10 16.4	2.344	3.090	13.7	21.1	2 1	11 31.35	+ 3 57.2	1.826	2.653	14.0	18.8
2 11	11 29.67	-10 34.4	2.255	3.094	11.3	20.9	2 11	11 27.68	+ 4 28.9	1.757	2.661	10.5	18.6
2 21	11 23.11	-10 34.9	2.188	3.099	8.5	20.7	2 21	11 21.99	+ 5 13.0	1.711	2.669	6.5	18.4
3 2	11 15.30	-10 18.0	2.146	3.102	5.8	20.6	3 2	11 14.93	+ 6 4.8	1.691	2.679	2.1	18.1
3 12	11 7.00	- 9 45.8	2.133	3.106	4.5	20.5	3 12	11 7.43	+ 6 57.6	1.699	2.688	2.4	18.2
3 22	10 59.03	- 9 2.5	2.149	3.110	5.9	20.6	3 22	11 0.44	+ 7 45.2	1.734	2.698	6.7	18.5
4 1	10 52.19	- 8 13.5	2.192	3.113	8.5	20.8	4 1	10 54.83	+ 8 22.3	1.796	2.709	10.5	18.7
4 11	10 47.06	- 7 24.5	2.261	3.116	11.3	20.9	4 11	10 51.20	+ 8 45.7	1.879	2.720	13.8	18.9
430384	2014 <i>UO</i> ₁₀₈		3 7.1 104°87	4.3/ 2.9	18		241481	2009 <i>BM</i> ₈₃		3 7.1 28°34	3.1/ 3.4	18	
2 1	11 38.20	+15 18.0	1.933	2.768	13.0	21.1	2 1	11 30.99	+11 10.6	2.161	2.998	11.7	19.9
2 11	11 32.62	+16 17.7	1.877	2.785	9.7	20.9	2 11	11 27.21	+12 23.0	2.088	2.999	8.7	19.7
2 21	11 24.94	+17 19.5	1.847	2.803	6.4	20.8	2 21	11 21.62	+13 42.2	2.040	3.001	5.4	19.5
3 2	11 15.89	+18 15.8	1.844	2.820	4.4	20.7	3 2	11 14.80	+15 1.7	2.020	3.002	3.2	19.3
3 12	11 6.50	+18 59.7	1.870	2.837	5.7	20.8	3 12	11 7.55	+16 14.0	2.030	3.004	4.6	19.4
3 22	10 57.78	+19 26.5	1.924	2.853	8.8	21.0	3 22	11 0.68	+17 13.3	2.067	3.005	7.7	19.6
4 1	10 50.62	+19 34.2	2.003	2.869	12.0	21.2	4 1	10 54.99	+17 55.4	2.131	3.007	10.9	19.8
4 11	10 45.61	+19 23.4	2.104	2.884	14.7	21.4	4 11	10 51.04	+18 18.7	2.217	3.009	13.6	20.0
442500	2011 <i>WG</i> ₂		3 7.1 128°94	6.6/26.2	18		366907	2005 <i>UN</i> ₆₅		3 7.1 167°42	1.0/ 5.9	17	
2 1	11 33.51	+29 40.1	2.892	3.717	9.4	21.2	2 1	11 34.64	+ 5 7.4	2.381	3.191	11.7	22.2
2 11	11 28.73	+30 51.4	2.840	3.722	7.8	21.1	2 11	11 29.74	+ 5 58.9	2.300	3.197	8.7	22.0
2 21	11 22.38	+31 55.7	2.815	3.727	6.7	21.0	2 21	11 23.11	+ 7 0.4	2.244	3.201	5.3	21.8
3 2	11 15.01	+32 46.9	2.817	3.732	6.7	21.0	3 2	11 15.31	+ 8 7.2	2.217	3.205	1.8	21.6
3 12	11 7.34	+33 20.6	2.847	3.737	7.7	21.1	3 12	11 7.08	+ 9 13.4	2.221	3.208	2.5	21.6
3 22	11 0.08	+33 34.4	2.902	3.742	9.3	21.2	3 22	10 59.23	+10 13.3	2.255	3.211	6.0	21.9
4 1	10 53.90	+33 28.1	2.981	3.747	11.0	21.3	4 1	10 52.49	+11 2.4	2.317	3.213	9.3	22.1
4 11	10 49.28	+33 3.3	3.080	3.752	12.6	21.5	4 11	10 47.42	+11 37.9	2.404	3.214	12.2	22.3
45878	2000 <i>WX</i> ₂₉		3 7.1 116°35	13.7/15.3	18		173977	2001 <i>XU</i> ₁₃₃		3 7.1 260°46	7.4/27.8	17	
2 1	11 46.82	-20 38.0	1.285	2.002	24.3	17.8	2 1	11 37.70	+24 18.3	2.045	2.882	12.3	19.8
2 11	11 40.73	-22 47.4	1.217	2.013	21.4	17.6	2 11	11 32.66	+25 45.7	1.964	2.863	9.8	19.6
2 21	11 30.92	-24 25.5	1.164	2.024	18.3	17.4	2 21	11 25.27	+27 11.0	1.907	2.842	7.9	19.4
3 2	11 18.20	-25 22.5	1.131	2.034	15.5	17.3	3 2	11 16.14	+28 24.6	1.878	2.822	7.5	19.4
3 12	11 4.19	-25 33.5	1.120	2.044	13.9	17.2	3 12	11 6.26	+29 17.9	1.876	2.800	9.1	19.4
3 22	10 50.85	-25 1.1	1.131	2.053	14.2	17.2	3 22	10 56.75	+29 45.6	1.900	2.779	11.7	19.5
4 1	10 40.00	-23 55.8	1.164	2.062	16.2	17.4	4 1	10 48.69	+29 45.9	1.947	2.757	14.5	19.7
4 11	10 32.82	-22 32.8	1.216	2.071	19.0	17.6	4 11	10 42.86	+29 20.6	2.013	2.734	17.1	19.8
370758	2004 <i>RZ</i> ₂₅₂		3 7.1 123°48	6.7/13.5	18		506097	2016 <i>AR</i> ₁₀₄		3 7.1 18°61	0.9/ 7.7	18	
2 1	11 40.69	-15 46.8	2.387	3.087	14.7	21.0	2 1	11 36.87	+ 2 23.5	1.369	2.199	17.6	21.1
2 11	11 34.34	-16 43.5	2.303	3.101	12.5	20.8	2 11	11 32.53	+ 2 19.7	1.298	2.202	13.5	20.9
2 21	11 26.02	-17 21.5	2.242	3.115	10.1	20.7	2 21	11 25.36	+ 2 31.7	1.248	2.205	8.6	20.6
3 2	11 16.32	-17 38.5	2.205	3.129	7.9	20.6	3 2	11 16.18	+ 2 55.8	1.222	2.209	3.3	20.3
3 12	11 6.07	-17 35.0	2.197	3.142	6.7	20.5	3 12	11 6.28	+ 3 25.8	1.223	2.213	2.6	20.2
3 22	10 56.22	-17 13.7	2.217	3.155	7.3	20.6	3 22	10 57.06	+ 3 54.7	1.249	2.219	7.9	20.6
4 1	10 47.62	-16 39.5	2.266	3.167	9.2	20.7	4 1	10 49.79	+ 4 16.2	1.299	2.224	12.7	20.9
4 11	10 40.91	-15 58.7	2.339	3.179	11.5	20.9	4 11	10 45.29	+ 4 25.9	1.370	2.230	16.9	21.1
408926	2001 <i>XW</i> ₂₁₈		3 7.1 58°75	3.2/ 4.6	18		473399	2015 <i>VD</i> ₆₃		3 7.1 136°03	2.6/ 4.8	18	
2 1	11 37.52	+11 3.2	1.578	2.418	15.1	20.9	2 1	11 36.39	+ 6 54.6	1.529	2.365	15.8	21.3
2 11	11 32.45	+11 46.2	1.525	2.438	11.2	20.7	2 11	11 31.89	+ 8 12.8	1.462	2.372	11.7	21.0
2 21	11 24.96	+12 35.5	1.496	2.457	6.9	20.5	2 21	11 24.82	+ 9 45.3	1.418	2.380	7.1	20.8
3 2	11 15.93	+13 23.8	1.493	2.477	3.4	20.4	3 2	11 15.97	+11 23.2	1.400	2.387	3.0	20.5
3 12	11 6.52	+14 3.3	1.517	2.497	4.8	20.5	3 12	11 6.50	+12 55.6	1.411	2.393	4.6	20.6
3 22	10 57.94	+14 28.5	1.568	2.518	8.7	20.8	3 22	10 57.68	+14 12.8	1.448	2.399	9.1	20.9
4 1	10 51.16	+14 36.2	1.644	2.538	12.6	21.0	4 1	10 50.63	+15 8.6	1.510	2.405	13.4	21.2
4 11	10 46.82	+14 26.2	1.741	2.558	15.8	21.3	4 11	10 46.10	+15 40.6	1.593	2.410	17.0	21.4
250236	2002 <i>XQ</i> ₇₄		3 7.1 129°67	2.5/ 4.7	18		111237	2001 <i>WN</i> ₉₁		3 7.1 107°19	1.8/ 8.8	18	
2 1	11 38.07	+10 15.0	2.086	2.909	12.6	20.6	2 1	11 36.87	- 1 45.8	1.997	2.788	14.3	20.1
2 11	11 32.41	+11 1.6	2.020	2.924	9.3	20.4	2 11	11 31.62	- 1 38.4	1.924	2.804	11.0	19.9
2 21	11 24.78	+11 54.2	1.980	2.939	5.7	20.2	2 21	11 24.36	- 1 16.1	1.875	2.819	7.3	19.7
3 2	11 15.86	+12 47.0	1.968	2.952	2.7	20.0	3 2	11 15.75	- 0 41.4	1.853	2.834	3.4	19.5
3 12	11 6.56	+13 33.6	1.986	2.966	3.9	20.1	3 12	11 6.72	+ 0 0.8	1.859	2.849	2.3	19.5
3 22	10 57.82	+14 9.0	2.032	2.978	7.3	20.3	3 22	10 58.22	+ 0 45.2	1.895	2.863	5.8	19.7
4 1	10 50.49	+14 30.0	2.106	2.990	10.7	20.6	4 1	10 51.12	+ 1 26.1	1.958	2.877	9.5	20.0
4 11	10 45.15	+14 35.5	2.203	3.001	13.5	20.8	4 11	10 46.01	+ 1 59.1	2.045	2.890	12.7	20.2
263813	2008 <i>RD</i> ₁₂₂		3 7.1 100°83	0.4/ 6.5	17		69222	4210 <i>T-3</i>		3 7.1 88°76	0.3		

EPHEMERIDES

3 7.1

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2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
419925	2011 <i>BO</i> ₃₁		3 7.1 107°60	2.4/ 9.0	17		270560	2002 <i>GL</i> ₁₈₇		3 7.1 159°56	1.8/ 9.2	18	
2 1	11 38.01	- 1 43.5	1.874	2.668	15.0	21.1	2 1	11 32.18	- 4 11.1	2.236	3.020	13.2	21.1
2 11	11 32.74	- 2 1.4	1.790	2.670	11.7	20.9	2 11	11 28.05	- 3 32.8	2.149	3.024	10.3	20.9
2 21	11 25.21	- 2 4.9	1.730	2.673	7.9	20.7	2 21	11 22.15	- 2 37.2	2.086	3.027	6.9	20.7
3 2	11 16.09	- 1 55.3	1.695	2.675	4.0	20.5	3 2	11 15.03	- 1 27.3	2.050	3.030	3.4	20.5
3 12	11 6.37	- 1 36.2	1.689	2.677	2.8	20.4	3 12	11 7.47	- 0 8.6	2.044	3.033	2.1	20.4
3 22	10 57.11	- 1 12.1	1.712	2.680	6.3	20.6	3 22	11 0.25	+ 1 12.3	2.067	3.036	5.3	20.6
4 1	10 49.31	- 0 48.4	1.761	2.682	10.2	20.8	4 1	10 54.16	+ 2 29.0	2.118	3.038	8.8	20.8
4 11	10 43.69	- 0 29.8	1.834	2.684	13.7	21.0	4 11	10 49.77	+ 3 35.9	2.195	3.040	12.0	21.0
310991	2003 <i>WH</i> ₈₄		3 7.1 78°67	4.4/11.1	18		65098	2002 <i>CG</i> ₅		3 7.1 139°35	0°0/ 6.9	18	
2 1	11 40.33	- 8 52.4	1.697	2.462	17.5	20.9	2 1	11 39.69	+ 3 2.2	1.960	2.765	14.0	19.8
2 11	11 34.32	- 8 53.3	1.643	2.499	13.9	20.8	2 11	11 33.77	+ 3 31.1	1.888	2.780	10.6	19.6
2 21	11 26.03	- 8 31.1	1.611	2.535	10.0	20.6	2 21	11 25.73	+ 4 12.4	1.840	2.794	6.6	19.4
3 2	11 16.30	- 7 47.5	1.604	2.570	6.2	20.5	3 2	11 16.26	+ 5 1.5	1.819	2.807	2.3	19.1
3 12	11 6.29	- 6 48.1	1.624	2.605	4.4	20.4	3 12	11 6.34	+ 5 52.3	1.829	2.819	2.2	19.1
3 22	10 57.11	- 5 40.2	1.673	2.639	6.6	20.6	3 22	10 56.99	+ 6 39.0	1.868	2.830	6.5	19.4
4 1	10 49.70	- 4 32.0	1.749	2.672	10.1	20.9	4 1	10 49.12	+ 7 16.5	1.934	2.840	10.3	19.7
4 11	10 44.66	- 3 30.7	1.848	2.705	13.4	21.2	4 11	10 43.38	+ 7 41.5	2.024	2.850	13.6	19.9
502286	2015 <i>BT</i> ₁₄₀		3 7.1 164°34	2.8/ 3.9	17		167477	2003 <i>YV</i> ₅₁		3 7.1 71°75	1.6/ 5.5	18	
2 1	11 35.10	+11 58.0	2.330	3.157	11.3	22.0	2 1	11 33.90	+ 7 25.1	2.035	2.861	12.8	19.9
2 11	11 30.13	+12 49.8	2.256	3.161	8.4	21.8	2 11	11 29.37	+ 8 6.6	1.970	2.875	9.5	19.7
2 21	11 23.38	+13 46.3	2.207	3.165	5.3	21.7	2 21	11 22.95	+ 8 56.6	1.929	2.889	5.8	19.5
3 2	11 15.42	+14 42.1	2.187	3.168	2.9	21.5	3 2	11 15.29	+ 9 49.6	1.916	2.904	2.1	19.3
3 12	11 7.06	+15 31.1	2.196	3.171	4.1	21.6	3 12	11 7.26	+10 39.6	1.933	2.918	3.1	19.4
3 22	10 59.11	+16 8.7	2.235	3.174	7.2	21.8	3 22	10 59.76	+11 21.0	1.977	2.932	6.8	19.6
4 1	10 52.33	+16 31.7	2.300	3.176	10.2	22.0	4 1	10 53.58	+11 49.9	2.048	2.947	10.2	19.9
4 11	10 47.31	+16 39.1	2.389	3.177	12.9	22.2	4 11	10 49.28	+12 4.5	2.142	2.961	13.2	20.1
1016	Anitra		3 7.1 87°40	1.9/ 5.9	18 R		172008	2001 <i>UO</i> ₅₃		3 7.1 268°41	5.1/ 1.4	18	
2 1	11 41.68	+ 7 50.9	1.362	2.198	17.3	15.2	2 1	11 34.86	+19 45.6	2.279	3.116	11.2	19.9
2 11	11 35.99	+ 8 16.1	1.304	2.213	13.0	15.0	2 11	11 30.09	+20 42.0	2.207	3.112	8.6	19.7
2 21	11 27.40	+ 8 52.2	1.267	2.228	7.9	14.7	2 21	11 23.43	+21 37.6	2.159	3.108	6.2	19.5
3 2	11 16.85	+ 9 32.0	1.255	2.243	2.9	14.4	3 2	11 15.47	+22 25.8	2.140	3.104	5.1	19.4
3 12	11 5.77	+10 7.5	1.270	2.257	3.9	14.5	3 12	11 7.08	+23 0.4	2.149	3.100	6.4	19.5
3 22	10 55.61	+10 31.8	1.312	2.271	8.9	14.9	3 22	10 59.11	+23 17.7	2.185	3.095	8.9	19.7
4 1	10 47.62	+10 40.8	1.378	2.286	13.5	15.2	4 1	10 52.38	+23 15.8	2.247	3.091	11.6	19.8
4 11	10 42.53	+10 33.0	1.464	2.299	17.4	15.4	4 11	10 47.50	+22 55.4	2.329	3.087	14.1	20.0
458742	2011 <i>QZ</i> ₃₂		3 7.1 87°87	1.8/ 5.5	18		427629	2003 <i>UF</i> ₁₄₁		3 7.1 141°81	12.4/ 1.3	17	
2 1	11 35.17	+ 5 8.2	1.452	2.288	16.4	21.1	2 1	11 58.08	+30 4.8	1.155	1.989	19.9	20.3
2 11	11 31.04	+ 6 16.9	1.388	2.299	12.2	20.9	2 11	11 49.25	+31 9.3	1.106	1.996	16.4	20.1
2 21	11 24.32	+ 7 41.6	1.347	2.309	7.4	20.6	2 21	11 36.01	+31 57.4	1.077	2.003	13.5	19.9
3 2	11 15.81	+ 9 14.0	1.331	2.319	2.6	20.3	3 2	11 19.84	+32 12.9	1.070	2.010	12.4	19.9
3 12	11 6.72	+10 43.3	1.343	2.329	3.9	20.4	3 12	11 3.11	+31 45.1	1.088	2.015	13.9	20.0
3 22	10 58.33	+11 59.8	1.381	2.339	8.8	20.7	3 22	10 48.22	+30 33.8	1.129	2.020	16.9	20.2
4 1	10 51.75	+12 56.6	1.444	2.349	13.2	21.0	4 1	10 36.91	+28 47.0	1.190	2.025	20.4	20.4
4 11	10 47.73	+13 30.6	1.527	2.358	17.0	21.3	4 11	10 29.96	+26 35.9	1.269	2.029	23.5	20.7
62375	2000 <i>SG</i> ₁₅₂		3 7.1 355°37	0.4/ 7.5	18		497297	2005 <i>SP</i> ₂₃₀		3 7.1 239°47	0.9/ 8.1	17	
2 1	11 33.45	+ 1 13.6	1.345	2.178	17.7	18.6	2 1	11 35.29	- 0 28.6	2.306	3.098	12.6	23.1
2 11	11 30.06	+ 1 42.8	1.270	2.176	13.5	18.3	2 11	11 30.50	+ 0 0.7	2.199	3.081	9.7	22.9
2 21	11 23.90	+ 2 32.1	1.216	2.175	8.6	18.0	2 21	11 23.79	+ 0 44.3	2.115	3.062	6.4	22.6
3 2	11 15.73	+ 3 36.7	1.186	2.174	3.1	17.7	3 2	11 15.66	+ 1 39.6	2.059	3.043	2.6	22.4
3 12	11 6.77	+ 4 47.7	1.182	2.173	2.6	17.6	3 12	11 6.87	+ 2 41.7	2.033	3.024	1.8	22.3
3 22	10 58.39	+ 5 55.4	1.203	2.173	8.2	18.0	3 22	10 58.28	+ 3 44.7	2.037	3.003	5.7	22.5
4 1	10 51.87	+ 6 51.1	1.249	2.173	13.2	18.2	4 1	10 50.74	+ 4 42.9	2.070	2.982	9.4	22.7
4 11	10 48.06	+ 7 29.0	1.314	2.174	17.5	18.5	4 11	10 44.95	+ 5 31.5	2.127	2.960	12.8	22.8
361181	2006 <i>QL</i> ₂₄		3 7.1 184°34	1.6/ 5.5	17		332955	2011 <i>ET</i> ₅		3 7.1 58°08	1.1/ 6.0	17	
2 1	11 37.14	+ 7 17.9	2.143	2.960	12.6	22.2	2 1	11 32.65	+ 4 33.4	1.795	2.622	14.2	21.1
2 11	11 31.83	+ 8 2.3	2.060	2.961	9.4	21.9	2 11	11 28.77	+ 5 28.6	1.721	2.627	10.6	20.8
2 21	11 24.54	+ 8 55.8	2.002	2.961	5.7	21.7	2 21	11 22.77	+ 6 37.6	1.671	2.631	6.5	20.6
3 2	11 15.86	+ 9 53.1	1.973	2.960	2.2	21.5	3 2	11 15.29	+ 7 54.1	1.647	2.635	2.2	20.3
3 12	11 6.66	+10 48.1	1.973	2.958	3.1	21.5	3 12	11 7.28	+ 9 10.2	1.652	2.639	3.0	20.4
3 22	10 57.87	+11 34.9	2.003	2.956	6.9	21.8	3 22	10 59.77	+10 18.3	1.684	2.644	7.3	20.7
4 1	10 50.36	+12 9.3	2.060	2.953	10.4	22.0	4 1	10 53.67	+11 12.1	1.743	2.648	11.3	20.9
4 11	10 44.77	+12 28.9	2.141	2.949	13.5	22.2	4 11	10 49.64	+11 48.3	1.823	2.653	14.7	21.1
342893	2008 <i>YG</i> ₁₀₀		3 7.1 175°61	3.4/11.2	17		500470	2012 <i>TX</i> ₂₂₇		3 7.1 124°81	0.6/ 6.4	17	
2 1	11 34.27	- 8 36.3	2.772	3.517	11.9	21.9	2 1	11 31.95	+ 4 18.3	2.369	3.182	11.6	22.1
2 11	11 29.31	- 8 43.7	2.677	3.519	9.6	21.7	2 11	11 27.75	+ 5 1.4	2.290	3.188	8.7	21.9
2 21	11 22.81	- 8 36.7	2.605	3.521	7.1	21.5	2 21	11 21.90	+ 5 54.8	2.237	3.194	5.3	21.7
3 2	11 15.24	- 8 15.8	2.561	3.522	4.6	21.4	3 2	11 14.95	+ 6 53.9	2.212	3.199	1.8	21.5
3 12	11 7.26	- 7 43.3	2.546	3.523	3.5	21.3	3 12	11 7.61	+ 7 53.5	2.216	3.205	2.2	21.5
3 22	10 59.54	- 7 2.8	2.561	3.524	4.9	21.4	3 22	11 0.64	+ 8 48.1	2.250	3.210	5.7	21.8
4 1	10 52.75	- 6 18.7	2.605	3.523	7.5	21.6	4 1	10 54.74	+ 9 33.3	2.312	3.215	9.0	22.0
4 11	10 47.42	- 5 35.5	2.676	3.523	10.0	21.7	4 11	10 50.43	+10 6.2	2.398	3.220	11.8	22.2
218660	2005 <i>SU</i> ₁₆₃		3 7.1 263°97	0.8/ 7.9	17		236689	2006 <i>ST</i> ₇₉		3 7.1 178°68	5.6/14.2		

EPHEMERIDES

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2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
247635	2002 VS ₂₉		3 7.1 122°38	1.7/ 8.8	18		96693	1999 JO ₇₄		3 7.1 8°04	2.1/ 9.1	18	
2 1	11 36.40	- 2 26.8	2.021	2.811	14.2	20.7	2 1	11 30.65	- 3 57.5	1.590	2.399	16.6	19.2
2 11	11 31.28	- 2 5.5	1.948	2.826	11.0	20.5	2 11	11 27.58	- 3 22.0	1.510	2.399	12.9	19.0
2 21	11 24.17	- 1 28.0	1.897	2.841	7.3	20.3	2 21	11 22.19	- 2 23.4	1.453	2.400	8.7	18.7
3 2	11 15.74	- 0 37.6	1.874	2.855	3.4	20.1	3 2	11 15.15	- 1 5.2	1.419	2.401	4.2	18.4
3 12	11 6.88	+ 0 20.5	1.879	2.869	2.2	20.0	3 12	11 7.48	+ 0 24.9	1.413	2.403	2.5	18.3
3 22	10 58.53	+ 1 20.1	1.914	2.882	5.8	20.3	3 22	11 0.29	+ 1 57.6	1.434	2.406	6.8	18.6
4 1	10 51.55	+ 2 15.0	1.977	2.895	9.5	20.5	4 1	10 54.62	+ 3 23.2	1.480	2.408	11.2	18.9
4 11	10 46.52	+ 3 0.4	2.064	2.907	12.7	20.7	4 11	10 51.20	+ 4 34.3	1.549	2.412	15.1	19.1
176728	2002 RJ ₄₂		3 7.1 155°73	1.7/ 5.5	18		32491	2000 UU ₁₀₇		3 7.1 303°89	8°8/ 26.9	18	
2 1	11 36.54	+ 7 2.8	2.044	2.864	13.0	21.7	2 1	11 35.34	+25 31.5	1.735	2.583	13.6	17.8
2 11	11 31.43	+ 7 53.5	1.970	2.872	9.6	21.5	2 11	11 31.22	+27 10.9	1.667	2.570	11.0	17.6
2 21	11 24.30	+ 8 53.8	1.919	2.878	5.9	21.3	2 21	11 24.52	+28 46.2	1.624	2.558	9.1	17.5
3 2	11 15.81	+ 9 58.1	1.897	2.884	2.2	21.0	3 2	11 15.97	+30 6.2	1.606	2.546	9.0	17.5
3 12	11 6.84	+10 59.5	1.905	2.890	3.2	21.1	3 12	11 6.70	+31 1.0	1.614	2.534	10.7	17.5
3 22	10 58.35	+11 52.0	1.942	2.895	7.0	21.4	3 22	10 57.96	+31 25.2	1.646	2.522	13.4	17.7
4 1	10 51.20	+12 30.9	2.005	2.899	10.6	21.6	4 1	10 50.91	+31 17.7	1.699	2.510	16.2	17.8
4 11	10 46.03	+12 53.9	2.092	2.903	13.7	21.8	4 11	10 46.36	+30 41.5	1.769	2.499	18.8	18.0
419598	2010 RO ₁₁₅		3 7.1 247°36	1.2/ 8.1	16		327217	2005 OD ₂₅		3 7.1 164°64	2.7/ 9.8	16	
2 1	11 37.46	+ 0 5.1	1.883	2.684	14.6	21.9	2 1	11 36.80	- 4 34.9	2.178	2.953	13.8	21.8
2 11	11 32.55	+ 0 17.4	1.782	2.669	11.4	21.7	2 11	11 31.57	- 4 35.1	2.091	2.958	10.9	21.6
2 21	11 25.28	+ 0 45.1	1.703	2.653	7.5	21.4	2 21	11 24.40	- 4 19.5	2.027	2.962	7.6	21.4
3 2	11 16.23	+ 1 25.5	1.651	2.636	3.1	21.1	3 2	11 15.86	- 3 49.7	1.990	2.965	4.2	21.2
3 12	11 6.36	+ 2 13.7	1.628	2.618	2.2	21.0	3 12	11 6.81	- 3 9.4	1.982	2.968	2.9	21.1
3 22	10 56.74	+ 3 3.4	1.633	2.600	6.7	21.2	3 22	10 58.15	- 2 23.4	2.004	2.971	5.6	21.3
4 1	10 48.48	+ 3 48.2	1.665	2.582	11.0	21.5	4 1	10 50.72	- 1 37.5	2.053	2.973	9.1	21.5
4 11	10 42.40	+ 4 22.7	1.721	2.563	14.9	21.7	4 11	10 45.16	- 0 56.6	2.128	2.975	12.2	21.7
232815	2004 RH ₃₁₂		3 7.1 103°51	2°3/ 4.9	18		134249	2006 AV ₂₁		3 7.1 31°22	5°9/ 3.2	18	
2 1	11 36.52	+ 9 50.8	2.035	2.862	12.8	20.8	2 1	11 37.80	+15 12.8	1.182	2.043	17.7	19.8
2 11	11 31.33	+10 33.7	1.971	2.877	9.4	20.6	2 11	11 33.57	+16 13.4	1.129	2.050	13.3	19.6
2 21	11 24.17	+11 23.0	1.932	2.892	5.8	20.4	2 21	11 26.14	+17 18.3	1.096	2.058	8.8	19.4
3 2	11 15.74	+12 13.0	1.921	2.906	2.6	20.2	3 2	11 16.52	+18 16.2	1.088	2.066	6.0	19.2
3 12	11 6.93	+12 57.2	1.939	2.921	3.7	20.3	3 12	11 6.26	+18 55.8	1.103	2.075	7.8	19.4
3 22	10 58.69	+13 30.8	1.986	2.935	7.2	20.6	3 22	10 57.00	+19 10.4	1.143	2.085	12.1	19.6
4 1	10 51.85	+13 50.5	2.059	2.948	10.6	20.8	4 1	10 50.09	+18 57.9	1.204	2.095	16.4	19.9
4 11	10 46.97	+13 55.0	2.155	2.962	13.5	21.0	4 11	10 46.29	+18 20.7	1.283	2.105	20.1	20.2
499029	2009 DW ₂₈		3 7.1 211°08	0°1/ 7.0	17		103070	1999 XC ₁₄₈		3 7.1 198°42	1°0/ 8.1	17	
2 1	11 31.19	+ 2 35.0	2.493	3.300	11.3	21.8	2 1	11 36.25	- 0 24.9	2.026	2.824	13.9	20.8
2 11	11 27.17	+ 3 15.0	2.404	3.298	8.5	21.6	2 11	11 31.35	+ 0 1.1	1.936	2.821	10.7	20.6
2 21	11 21.56	+ 4 6.2	2.340	3.295	5.3	21.4	2 21	11 24.37	+ 0 42.4	1.869	2.818	7.0	20.3
3 2	11 14.85	+ 5 4.8	2.305	3.292	1.8	21.1	3 2	11 15.89	+ 1 35.8	1.829	2.814	2.9	20.1
3 12	11 7.73	+ 6 5.7	2.299	3.289	1.8	21.1	3 12	11 6.80	+ 2 35.9	1.819	2.809	2.0	20.0
3 22	10 58.89	+ 7 3.8	2.323	3.286	5.3	21.4	3 22	10 58.09	+ 3 36.1	1.837	2.804	6.1	20.2
4 1	10 55.04	+ 7 54.4	2.375	3.283	8.6	21.5	4 1	10 50.66	+ 4 30.4	1.883	2.798	10.1	20.5
4 11	10 50.69	+ 8 33.9	2.452	3.279	11.5	21.7	4 11	10 45.21	+ 5 13.8	1.954	2.792	13.5	20.7
431454	2007 RB ₂₀₃		3 7.1 250°65	2°6/ 10.2	17		508599	2017 QQ ₂₀		3 7.2 214°94	0°7/ 7.9	17	
2 1	11 30.75	- 6 28.5	2.242	3.018	13.4	21.5	2 1	11 34.47	+ 0 30.5	2.156	2.957	13.1	22.3
2 11	11 27.06	- 5 58.5	2.147	3.013	10.7	21.3	2 11	11 29.91	+ 0 57.5	2.064	2.952	10.0	22.1
2 21	11 21.60	- 5 9.7	2.074	3.008	7.5	21.1	2 21	11 23.43	+ 1 38.4	1.995	2.946	6.4	21.8
3 2	11 14.90	- 4 4.3	2.028	3.003	4.1	20.9	3 2	11 15.57	+ 2 29.8	1.954	2.940	2.5	21.6
3 12	11 7.68	- 2 47.0	2.011	2.998	2.7	20.8	3 12	11 7.15	+ 3 26.6	1.943	2.933	1.9	21.5
3 22	10 57.77	- 1 24.1	2.023	2.993	5.3	20.9	3 22	10 59.05	+ 4 22.9	1.960	2.926	5.8	21.8
4 1	10 54.92	- 0 2.6	2.063	2.987	8.8	21.1	4 1	10 52.13	+ 5 13.1	2.006	2.919	9.6	22.0
4 11	10 50.75	+ 1 11.2	2.128	2.982	12.0	21.3	4 11	10 47.03	+ 5 52.8	2.075	2.912	12.9	22.2
29548	1998 BC ₄₂		3 7.1 69°36	3°9/ 2.4	18		36846	2000 SC ₁₂₁		3 7.2 70°77	0°6/ 6.6	18	
2 1	11 31.70	+14 13.8	2.227	3.066	11.3	19.0	2 1	11 33.62	+ 3 12.9	1.785	2.607	14.5	18.9
2 11	11 27.73	+15 28.9	2.157	3.068	8.4	18.8	2 11	11 29.43	+ 4 2.1	1.720	2.622	10.8	18.7
2 21	11 21.98	+16 48.2	2.112	3.070	5.5	18.6	2 21	11 23.14	+ 5 5.3	1.678	2.637	6.7	18.4
3 2	11 15.01	+18 4.8	2.096	3.071	3.9	18.5	3 2	11 15.46	+ 6 16.8	1.663	2.651	2.2	18.2
3 12	11 7.61	+19 11.6	2.108	3.073	5.3	18.6	3 12	11 7.34	+ 7 28.7	1.677	2.666	2.5	18.2
3 22	10 57.60	+20 3.3	2.149	3.075	8.2	18.8	3 22	10 59.80	+ 8 33.9	1.718	2.681	6.9	18.5
4 1	10 54.77	+20 36.4	2.215	3.077	11.1	19.0	4 1	10 53.72	+ 9 26.3	1.786	2.696	10.8	18.8
4 11	10 50.67	+20 50.3	2.303	3.078	13.7	19.1	4 11	10 49.71	+10 2.5	1.876	2.710	14.1	19.0
88280	2001 MG ₁₄		3 7.1 212°08	2°0/ 8.8	18		15237	1988 RL ₆		3 7.2 186°71	0°5/ 6.7	18	
2 1	11 38.59	- 2 21.3	1.841	2.632	15.3	20.3	2 1	11 35.37	+ 2 35.1	1.935	2.747	13.9	18.7
2 11	11 33.38	- 2 9.7	1.746	2.626	12.0	20.0	2 11	11 30.76	+ 3 29.3	1.850	2.747	10.5	18.5
2 21	11 25.78	- 1 40.4	1.674	2.618	8.1	19.8	2 21	11 24.04	+ 4 38.5	1.790	2.746	6.5	18.3
3 2	11 16.40	- 0 55.7	1.628	2.610	3.8	19.5	3 2	11 15.81	+ 5 57.6	1.757	2.745	2.2	18.0
3 12	11 6.25	+ 0 0.7	1.611	2.601	2.5	19.4	3 12	11 6.99	+ 7 19.0	1.754	2.743	2.5	18.0
3 22	10 56.46	+ 0 58.1	1.623	2.591	6.6	19.6	3 22	10 58.58	+ 8 34.9	1.780	2.741	6.8	18.3
4 1	10 48.10	+ 1 53.5	1.661	2.580	10.9	19.8	4 1	10 51.52	+ 9 39.0	1.833	2.738	10.8	18.5
4 11	10 42.00	+ 2 39.4	1.724	2.569	14.7	20.1	4 11	10 46.50	+10 26.8	1.909	2.735	14.3	18.7
35016	1981 EC ₇		3 7.1 10°36	2°1/ 9.6	18		521262	2015 HP ₁₉₂		3 7.2 251°83	4°8/ 1.1	17	
2 1	11 30.54	- 3 19.4	2.708	3.488	11.2								

EPHEMERIDES

3 7.2

3 7.2

2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
5402	Kejosmith		3 7.2 154°78	10°6/17.1	18		424880	2008 VS ₇₃		3 7.2 108°24	1°4/ 5.7	18	
2 1	11 38.30	-23 13.6	1.593	2.285	21.2	17.4	2 1	11 33.62	+ 6 55.1	2.143	2.966	12.3	21.5
2 11	11 33.65	-23 52.9	1.511	2.293	18.6	17.3	2 11	11 29.19	+ 7 37.7	2.069	2.972	9.2	21.3
2 21	11 26.18	-23 57.6	1.445	2.299	15.7	17.1	2 21	11 22.92	+ 8 29.3	2.019	2.978	5.6	21.0
3 2	11 16.62	-23 23.1	1.399	2.305	12.9	16.9	3 2	11 15.40	+ 9 24.7	1.997	2.985	2.0	20.8
3 12	11 6.21	-22 9.4	1.376	2.310	10.9	16.8	3 12	11 7.46	+10 18.0	2.005	2.991	2.9	20.9
3 22	10 56.32	-20 22.8	1.378	2.315	10.9	16.8	3 22	10 59.96	+11 3.6	2.041	2.996	6.6	21.1
4 1	10 48.28	-18 14.8	1.404	2.318	12.8	16.9	4 1	10 53.67	+11 37.5	2.104	3.002	10.0	21.3
4 11	10 42.97	-16 0.0	1.454	2.321	15.7	17.1	4 11	10 49.19	+11 57.2	2.190	3.008	13.0	21.6
43674	2002 GP ₁₉		3 7.2 147°91	1°3/ 8.4	18		59970	1999 RZ ₂₄₆		3 7.2 191°90	0°6/ 6.6	18	
2 1	11 36.10	- 1 20.3	1.769	2.572	15.4	19.4	2 1	11 37.74	+ 4 22.9	2.090	2.900	13.1	20.8
2 11	11 31.44	- 0 52.0	1.690	2.578	11.9	19.2	2 11	11 32.41	+ 4 56.7	2.003	2.898	9.9	20.6
2 21	11 24.50	- 0 5.7	1.634	2.583	7.8	19.0	2 21	11 25.02	+ 5 41.9	1.940	2.896	6.1	20.3
3 2	11 15.97	+ 0 54.8	1.604	2.588	3.3	18.7	3 2	11 16.17	+ 6 34.0	1.905	2.893	2.1	20.0
3 12	11 6.86	+ 2 3.1	1.602	2.593	2.2	18.6	3 12	11 6.75	+ 7 27.1	1.900	2.889	2.4	20.1
3 22	10 58.25	+ 3 11.5	1.629	2.597	6.5	18.9	3 22	10 57.71	+ 8 15.4	1.925	2.885	6.5	20.3
4 1	10 51.14	+ 4 12.9	1.682	2.601	10.8	19.2	4 1	10 49.97	+ 8 53.8	1.977	2.880	10.3	20.5
4 11	10 46.25	+ 5 1.6	1.759	2.605	14.4	19.4	4 11	10 44.20	+ 9 19.2	2.053	2.874	13.6	20.7
81669	2000 HD ₉₉		3 7.2 305°28	2°1/ 8.8	18		79966	1999 CM ₁₂₄		3 7.2 29°28	9°6/27.9	18	
2 1	11 34.50	- 1 23.9	1.612	2.423	16.3	19.5	2 1	11 41.22	+28 29.4	1.646	2.486	14.6	18.3
2 11	11 30.65	- 1 24.5	1.518	2.409	12.8	19.3	2 11	11 35.60	+29 45.4	1.593	2.488	12.0	18.1
2 21	11 24.27	- 1 7.1	1.446	2.395	8.6	19.0	2 21	11 27.19	+30 51.5	1.564	2.490	10.1	18.0
3 2	11 15.97	- 0 33.7	1.398	2.381	4.1	18.7	3 2	11 16.91	+31 36.8	1.559	2.492	9.7	18.0
3 12	11 6.80	+ 0 10.8	1.377	2.367	2.7	18.6	3 12	11 6.12	+31 53.2	1.579	2.495	11.2	18.1
3 22	10 57.96	+ 0 59.5	1.383	2.354	7.1	18.8	3 22	10 56.21	+31 37.8	1.623	2.498	13.6	18.2
4 1	10 50.63	+ 1 45.2	1.414	2.341	11.8	19.0	4 1	10 48.36	+30 52.2	1.689	2.501	16.3	18.4
4 11	10 45.72	+ 2 21.3	1.467	2.328	15.9	19.2	4 11	10 43.27	+29 41.5	1.772	2.504	18.7	18.6
145541	2006 HN ₂₄		3 7.2 210°26	1°0/ 6.1	17		16248	Fox		3 7.2 91°60	1°6/ 8.4	18	
2 1	11 33.22	+ 5 41.6	2.319	3.136	11.7	21.3	2 1	11 37.69	- 1 26.4	1.462	2.274	17.6	17.6
2 11	11 28.83	+ 6 22.4	2.233	3.132	8.8	21.1	2 11	11 32.93	- 1 3.8	1.397	2.289	13.6	17.4
2 21	11 22.69	+ 7 12.8	2.171	3.129	5.4	20.9	2 21	11 25.54	- 0 20.8	1.353	2.304	8.9	17.2
3 2	11 15.32	+ 8 8.4	2.137	3.125	1.8	20.6	3 2	11 16.36	+ 0 38.5	1.334	2.318	3.8	16.9
3 12	11 7.48	+ 9 3.7	2.134	3.121	2.5	20.7	3 12	11 6.62	+ 1 46.1	1.342	2.333	2.5	16.9
3 22	10 59.97	+ 9 53.3	2.159	3.116	6.1	20.9	3 22	10 57.61	+ 2 53.4	1.377	2.347	7.3	17.2
4 1	10 53.55	+10 32.8	2.212	3.112	9.5	21.1	4 1	10 50.46	+ 3 52.2	1.438	2.361	11.9	17.5
4 11	10 48.80	+10 59.4	2.289	3.107	12.5	21.3	4 11	10 45.91	+ 4 36.8	1.520	2.375	15.8	17.7
33485	1999 GE ₈		3 7.2 52°76	3°8/10.3	18		472867	2015 FB ₂₉₇		3 7.2 287°02	2°1/ 4.6	16	
2 1	11 34.27	- 6 33.1	1.390	2.192	18.9	18.6	2 1	11 30.72	+ 8 18.2	2.309	3.137	11.4	21.9
2 11	11 30.59	- 6 24.4	1.319	2.199	15.0	18.3	2 11	11 27.10	+ 9 21.6	2.212	3.119	8.5	21.7
2 21	11 24.21	- 5 49.2	1.267	2.207	10.6	18.1	2 21	11 21.70	+10 34.7	2.140	3.101	5.2	21.4
3 2	11 15.92	- 4 49.5	1.239	2.215	6.0	17.9	3 2	11 15.03	+11 52.1	2.097	3.082	2.3	21.2
3 12	11 6.93	- 3 32.2	1.236	2.223	3.9	17.8	3 12	11 7.80	+13 7.1	2.083	3.064	3.6	21.3
3 22	10 58.58	- 2 7.0	1.259	2.231	7.4	18.0	3 22	11 0.79	+14 13.3	2.099	3.046	7.0	21.4
4 1	10 52.07	- 0 44.3	1.306	2.240	12.0	18.3	4 1	10 54.81	+15 5.8	2.141	3.028	10.4	21.6
4 11	10 48.19	+ 0 26.6	1.376	2.248	16.1	18.5	4 11	10 50.46	+15 41.5	2.206	3.010	13.3	21.8
251479	2008 DG ₅₇		3 7.2 324°05	1°6/ 9.1	17		303439	2005 AH ₅₈		3 7.2 77°86	0°0/ 6.9	18	
2 1	11 28.44	- 4 30.3	2.216	3.006	13.1	20.0	2 1	11 38.79	+ 3 11.8	1.482	2.306	16.8	21.2
2 11	11 25.38	- 3 35.7	2.120	2.998	10.2	19.8	2 11	11 33.65	+ 3 35.7	1.422	2.324	12.7	20.9
2 21	11 20.61	- 2 21.7	2.048	2.991	6.9	19.5	2 21	11 25.92	+ 4 14.6	1.385	2.342	7.9	20.7
3 2	11 14.62	- 0 51.9	2.003	2.984	3.3	19.3	3 2	11 16.47	+ 5 3.0	1.373	2.361	2.7	20.4
3 12	11 8.14	+ 0 47.7	1.987	2.977	1.9	19.2	3 12	11 6.55	+ 5 53.3	1.388	2.379	2.6	20.5
3 22	11 1.94	+ 2 29.6	2.001	2.970	5.4	19.4	3 22	10 57.43	+ 6 38.1	1.431	2.397	7.6	20.8
4 1	10 56.78	+ 4 6.1	2.043	2.964	9.0	19.6	4 1	10 50.20	+ 7 11.5	1.499	2.415	12.0	21.1
4 11	10 53.25	+ 5 30.8	2.110	2.958	12.3	19.8	4 11	10 45.56	+ 7 30.0	1.588	2.432	15.8	21.4
139336	2001 KE ₅₃		3 7.2 250°17	1°2/ 8.3	18		33302	1998 KV ₄₈		3 7.2 294°68	5°5/29.4	18	
2 1	11 33.95	- 1 28.3	1.821	2.625	15.0	20.5	2 1	11 32.25	+19 40.0	2.249	3.091	11.1	17.8
2 11	11 29.92	- 0 56.1	1.727	2.615	11.6	20.3	2 11	11 28.31	+20 58.6	2.170	3.078	8.6	17.6
2 21	11 23.65	- 0 5.1	1.656	2.605	7.6	20.0	2 21	11 22.48	+22 18.1	2.118	3.066	6.3	17.4
3 2	11 15.73	+ 1 1.3	1.611	2.595	3.3	19.7	3 2	11 15.30	+23 30.9	2.093	3.053	5.5	17.4
3 12	11 7.09	+ 2 16.8	1.594	2.585	2.2	19.6	3 12	11 7.59	+24 29.8	2.096	3.041	7.0	17.4
3 22	10 58.78	+ 3 33.4	1.606	2.574	6.6	19.9	3 22	11 0.22	+25 9.7	2.126	3.029	9.5	17.6
4 1	10 51.82	+ 4 43.5	1.644	2.563	10.9	20.1	4 1	10 54.02	+25 28.0	2.180	3.016	12.3	17.7
4 11	10 47.00	+ 5 40.7	1.705	2.552	14.7	20.3	4 11	10 49.62	+25 24.8	2.255	3.004	14.7	17.9
241725	2000 VM		3 7.2 219°73	4°4/13.4	17		499047	2009 DD ₆₅		3 7.2 57°29	1°6/ 8.6	17	
2 1	11 31.59	-14 37.0	3.133	3.839	11.4	22.2	2 1	11 36.28	+ 0 1.0	2.103	2.900	13.5	21.1
2 11	11 27.29	-14 37.2	3.021	3.829	9.6	22.0	2 11	11 31.18	- 0 9.4	2.028	2.911	10.4	20.9
2 21	11 21.60	-14 21.1	2.933	3.819	7.5	21.9	2 21	11 24.16	- 0 7.8	1.976	2.922	6.8	20.7
3 2	11 14.94	-13 48.7	2.870	3.808	5.5	21.7	3 2	11 15.85	+ 0 3.8	1.951	2.933	3.1	20.5
3 12	11 7.85	-13 1.6	2.837	3.797	4.4	21.7	3 12	11 7.12	+ 0 21.7	1.955	2.944	2.1	20.4
3 22	11 0.94	-12 3.3	2.832	3.785	5.1	21.7	3 22	10 58.85	+ 0 41.9	1.988	2.956	5.6	20.7
4 1	10 54.80	-10 58.1	2.858	3.773	7.0	21.8	4 1	10 51.88	+ 1 0.1	2.048	2.967	9.1	20.9
4 11	10 49.91	- 9 51.1	2.909	3.761	9.2	21.9	4 11	10 46.80	+ 1 12.6	2.133	2.979	12.2	21.1
383803	2007 YD ₄₉		3 7.2 87°01	3°0/10.6	17		123771	2001 BL		3 7.2 68°23	2°8/ 4.5	18	
2 1	11 34.22	- 6 38.3	2.461	3.224	12.7	21.3	2 1	11 34.82	+10 36				

EPHEMERIDES

3 7.2

3 7.2

2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
256976	2008 <i>EM</i> ₁₁₄		3 7.2 136°63	0°2/ 6.9 18			97012	1999 <i>TC</i> ₂₆₀		3 7.2 169°56	0°0/ 6.9 17		
2 1	11 40.79	+ 4 59.9	2.107	2.912	13.2	20.5	2 1	11 34.95	+ 3 4.5	2.513	3.314	11.4	21.3
2 11	11 34.53	+ 5 6.6	2.032	2.924	9.9	20.3	2 11	11 29.97	+ 3 32.5	2.428	3.318	8.6	21.1
2 21	11 26.23	+ 5 22.2	1.981	2.935	6.2	20.1	2 21	11 23.34	+ 4 10.4	2.369	3.321	5.4	20.9
3 2	11 16.57	+ 5 43.1	1.959	2.946	2.1	19.9	3 2	11 15.59	+ 4 54.7	2.337	3.324	1.9	20.7
3 12	11 6.47	+ 6 4.8	1.966	2.956	2.1	19.9	3 12	11 7.43	+ 5 41.0	2.337	3.327	1.8	20.7
3 22	10 56.91	+ 6 23.0	2.004	2.966	6.1	20.1	3 22	10 59.61	+ 6 24.7	2.366	3.328	5.3	20.9
4 1	10 48.76	+ 6 34.2	2.069	2.975	9.8	20.4	4 1	10 52.84	+ 7 1.6	2.424	3.330	8.5	21.1
4 11	10 42.64	+ 6 36.2	2.159	2.983	12.9	20.6	4 11	10 47.65	+ 7 28.7	2.507	3.330	11.3	21.3
109718	2001 <i>RB</i> ₅₃		3 7.2 60°56	2°5/ 5.0 18			120996	1998 <i>XE</i> ₇₉		3 7.2 51°20	5°2/ 3.0 18		
2 1	11 35.98	+ 8 37.1	1.567	2.406	15.3	19.1	2 1	11 35.31	+ 11 54.2	1.218	2.078	17.4	19.1
2 11	11 31.45	+ 9 28.4	1.510	2.422	11.3	18.9	2 11	11 31.60	+ 13 27.0	1.168	2.090	12.9	18.9
2 21	11 24.52	+ 10 29.5	1.477	2.439	6.9	18.7	2 21	11 24.91	+ 15 9.4	1.139	2.102	8.2	18.7
3 2	11 16.00	+ 11 32.7	1.469	2.456	2.9	18.5	3 2	11 16.20	+ 16 48.9	1.135	2.116	5.2	18.5
3 12	11 7.05	+ 12 29.4	1.489	2.472	4.3	18.6	3 12	11 6.91	+ 18 12.0	1.156	2.129	7.3	18.7
3 22	10 58.83	+ 13 12.9	1.536	2.489	8.5	18.9	3 22	10 58.53	+ 19 9.6	1.201	2.143	11.7	19.0
4 1	10 52.36	+ 13 38.8	1.607	2.507	12.5	19.2	4 1	10 52.31	+ 19 37.5	1.268	2.157	15.9	19.2
4 11	10 48.27	+ 13 45.7	1.700	2.524	15.8	19.4	4 11	10 48.99	+ 19 36.6	1.354	2.171	19.5	19.5
211607	2003 <i>TE</i> ₁₆		3 7.2 67°61	6°7/ 2.6 18			114745	2003 <i>HD</i> ₂₁		3 7.2 249°48	1°1/ 6.4 18		
2 1	11 44.63	+ 19 38.3	1.436	2.280	16.2	19.6	2 1	11 38.79	+ 5 46.6	1.657	2.481	15.3	20.1
2 11	11 37.92	+ 20 35.8	1.401	2.310	12.3	19.4	2 11	11 33.85	+ 6 12.7	1.566	2.469	11.6	19.8
2 21	11 28.43	+ 21 29.7	1.388	2.339	8.6	19.2	2 21	11 26.28	+ 6 51.5	1.497	2.456	7.2	19.6
3 2	11 17.28	+ 22 9.9	1.401	2.369	6.7	19.2	3 2	11 16.74	+ 7 37.8	1.455	2.442	2.5	19.2
3 12	11 5.96	+ 22 28.7	1.440	2.399	8.1	19.4	3 12	11 6.31	+ 8 24.5	1.440	2.429	3.1	19.2
3 22	10 55.86	+ 22 23.1	1.506	2.428	11.3	19.6	3 22	10 56.27	+ 9 4.6	1.453	2.414	8.0	19.5
4 1	10 48.06	+ 21 54.0	1.594	2.457	14.6	19.9	4 1	10 47.82	+ 9 32.2	1.492	2.400	12.7	19.7
4 11	10 43.12	+ 21 5.1	1.702	2.485	17.5	20.2	4 11	10 41.87	+ 9 43.8	1.552	2.385	16.7	19.9
107179	2001 <i>BK</i> ₂₅		3 7.2 72°74	0°2/ 7.4 18			434790	2006 <i>QQ</i> ₇₃		3 7.2 152°23	0°3/ 6.9 17		
2 1	11 36.99	+ 1 21.4	1.476	2.297	17.0	20.1	2 1	11 36.57	+ 5 36.2	2.415	3.222	11.6	21.5
2 11	11 32.28	+ 2 0.0	1.419	2.319	12.8	19.8	2 11	11 31.22	+ 5 42.2	2.331	3.225	8.7	21.3
2 21	11 25.06	+ 2 56.2	1.384	2.340	8.0	19.6	2 21	11 24.14	+ 5 55.5	2.273	3.227	5.4	21.1
3 2	11 16.19	+ 4 3.9	1.375	2.362	2.8	19.4	3 2	11 15.87	+ 6 13.1	2.242	3.230	1.8	20.8
3 12	11 6.89	+ 5 14.6	1.393	2.383	2.4	19.4	3 12	11 7.18	+ 6 31.2	2.243	3.232	1.9	20.8
3 22	10 58.38	+ 6 19.6	1.438	2.405	7.4	19.7	3 22	10 58.88	+ 6 46.1	2.273	3.234	5.5	21.1
4 1	10 51.71	+ 7 11.9	1.508	2.426	11.9	20.0	4 1	10 51.70	+ 6 54.7	2.331	3.236	8.8	21.3
4 11	10 47.55	+ 7 47.4	1.600	2.447	15.6	20.3	4 11	10 46.21	+ 6 55.0	2.413	3.238	11.7	21.5
6975	Hiroaki		3 7.2 257°86	0°9/ 8.2 18			213627	2002 <i>QZ</i> ₆₁		3 7.2 265°69	2°1/ 9.0 17		
2 1	11 34.83	+ 0 18.0	2.520	3.310	11.7	17.6	2 1	11 34.80	- 2 49.4	1.731	2.532	15.8	21.6
2 11	11 30.07	+ 0 32.6	2.407	3.289	9.0	17.4	2 11	11 30.74	- 2 34.8	1.635	2.519	12.4	21.3
2 21	11 23.54	+ 0 58.8	2.319	3.266	5.9	17.2	2 21	11 24.29	- 2 0.8	1.561	2.507	8.4	21.0
3 2	11 15.70	+ 1 34.6	2.259	3.243	2.5	16.9	3 2	11 16.04	- 1 9.4	1.513	2.494	4.1	20.8
3 12	11 7.24	+ 2 16.0	2.229	3.220	1.7	16.8	3 12	11 6.97	- 0 6.1	1.491	2.481	2.6	20.6
3 22	10 58.95	+ 2 58.6	2.230	3.196	5.3	17.0	3 22	10 58.21	+ 1 1.7	1.498	2.468	6.8	20.8
4 1	10 51.59	+ 3 37.9	2.259	3.171	8.7	17.2	4 1	10 50.88	+ 2 6.0	1.530	2.455	11.2	21.1
4 11	10 45.80	+ 4 9.8	2.313	3.146	11.8	17.3	4 11	10 45.81	+ 2 59.9	1.585	2.441	15.2	21.3
144440	2004 <i>EC</i> ₃₅		3 7.2 135°41	1°0/ 5.9 18			275480	2011 <i>ES</i> ₂₄		3 7.2 277°76	0°7/ 6.4 17		
2 1	11 30.97	+ 4 47.8	2.342	3.160	11.6	20.2	2 1	11 32.15	+ 3 38.4	1.957	2.778	13.4	21.0
2 11	11 27.12	+ 5 45.5	2.262	3.162	8.6	20.0	2 11	11 28.42	+ 4 29.7	1.868	2.769	10.1	20.7
2 21	11 21.62	+ 6 54.0	2.206	3.165	5.3	19.8	2 21	11 22.65	+ 5 35.2	1.802	2.760	6.3	20.5
3 2	11 14.99	+ 8 8.3	2.179	3.167	1.8	19.5	3 2	11 15.42	+ 6 49.8	1.764	2.751	2.1	20.2
3 12	11 7.95	+ 9 22.3	2.182	3.169	2.5	19.6	3 12	11 7.58	+ 8 6.4	1.754	2.742	2.6	20.2
3 22	11 1.25	+ 10 29.9	2.214	3.171	6.0	19.8	3 22	11 0.07	+ 9 17.6	1.772	2.733	6.9	20.4
4 1	10 55.60	+ 11 26.3	2.274	3.173	9.3	20.0	4 1	10 53.80	+ 10 16.9	1.817	2.724	10.8	20.7
4 11	10 51.54	+ 12 8.3	2.358	3.175	12.2	20.2	4 11	10 49.46	+ 11 0.2	1.885	2.716	14.3	20.9
105065	2000 <i>KO</i> ₆₃		3 7.2 185°17	4°2/ 12.1 18			493490	2015 <i>AZ</i> ₁₈₆		3 7.2 91°91	0°4/ 6.8 18		
2 1	11 33.64	- 11 33.9	2.280	3.023	14.2	19.6	2 1	11 34.78	+ 3 9.0	1.996	2.809	13.5	22.1
2 11	11 29.25	- 11 14.3	2.184	3.023	11.6	19.4	2 11	11 30.10	+ 3 52.5	1.931	2.828	10.1	21.9
2 21	11 23.02	- 10 33.3	2.110	3.022	8.7	19.2	2 21	11 23.50	+ 4 48.3	1.890	2.846	6.2	21.7
3 2	11 15.50	- 9 31.7	2.062	3.022	5.7	19.0	3 2	11 15.65	+ 5 51.3	1.876	2.864	2.1	21.5
3 12	11 7.47	- 8 13.6	2.043	3.020	4.2	18.9	3 12	11 7.43	+ 6 55.0	1.892	2.881	2.2	21.5
3 22	10 59.75	- 6 44.8	2.053	3.018	5.7	19.0	3 22	10 59.74	+ 7 53.2	1.937	2.899	6.3	21.8
4 1	10 53.14	- 5 12.9	2.092	3.015	8.7	19.2	4 1	10 53.41	+ 8 40.6	2.008	2.916	9.9	22.1
4 11	10 48.28	- 3 45.2	2.156	3.012	11.7	19.4	4 11	10 48.99	+ 9 14.1	2.104	2.933	13.0	22.3
366441	2001 <i>XD</i> ₁₂₄		3 7.2 184°23	6°1/ 29.0 16			251710	1997 <i>CN</i> ₂		3 7.2 141°62	0°7/ 7.8 18		
2 1	11 37.88	+ 22 33.9	2.296	3.128	11.3	21.1	2 1	11 37.80	+ 1 1.7	1.823	2.629	14.9	21.4
2 11	11 32.42	+ 23 51.8	2.230	3.129	8.8	20.9	2 11	11 32.65	+ 1 21.0	1.746	2.637	11.4	21.2
2 21	11 24.97	+ 25 7.3	2.189	3.128	6.8	20.8	2 21	11 25.26	+ 1 54.9	1.692	2.644	7.3	21.0
3 2	11 16.16	+ 26 12.5	2.177	3.128	6.2	20.7	3 2	11 16.31	+ 2 39.8	1.665	2.651	2.8	20.7
3 12	11 6.88	+ 27 0.6	2.194	3.126	7.5	20.8	3 12	11 6.80	+ 3 29.7	1.667	2.657	2.1	20.7
3 22	10 58.07	+ 27 27.7	2.237	3.124	9.9	21.0	3 22	10 57.83	+ 4 18.2	1.697	2.663	6.5	21.0
4 1	10 50.58	+ 27 32.3	2.305	3.122	12.3	21.1	4 1	10 50.35	+ 4 59.5	1.753	2.669	10.6	21.2
4 11	10 45.03	+ 27 15.9	2.394	3.118	14.6	21.3	4 11	10 45.08	+ 5 29.3	1.833	2.674	14.1	21.5
74595	1999 <i>QP</i>		3 7.2 234°62	0°2/ 7.4 18			192655	1999 <i>RQ</i> ₁₀₇		3 7.2 135°20			

EPHEMERIDES

3 7.2

3 7.2

2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
257308	2009 <i>HM</i> ₇₇		3 7.2 315°69	0°6/ 7.6	17		122276	2000 <i>PJ</i> ₄		3 7.2 218°77	3°3/ 3.9	18	
2 1	11 34.47	+ 2 1.2	1.391	2.223	17.3	20.8	2 1	11 35.97	+ 9 20.3	1.754	2.588	14.1	20.3
2 11	11 31.03	+ 2 10.0	1.302	2.207	13.3	20.5	2 11	11 31.56	+10 42.2	1.671	2.581	10.5	20.0
2 21	11 24.74	+ 2 36.4	1.234	2.191	8.6	20.1	2 21	11 24.76	+12 16.1	1.613	2.574	6.6	19.8
3 2	11 16.26	+ 3 16.9	1.189	2.176	3.3	19.8	3 2	11 16.21	+13 53.7	1.583	2.566	3.4	19.6
3 12	11 6.77	+ 4 4.6	1.170	2.162	2.6	19.7	3 12	11 6.94	+15 24.9	1.581	2.558	5.1	19.7
3 22	10 57.66	+ 4 51.5	1.177	2.147	8.2	20.0	3 22	10 58.07	+16 40.9	1.607	2.549	9.2	19.9
4 1	10 50.29	+ 5 29.7	1.207	2.134	13.4	20.2	4 1	10 50.70	+17 35.7	1.658	2.540	13.1	20.1
4 11	10 45.67	+ 5 53.3	1.258	2.121	17.9	20.5	4 11	10 45.62	+18 7.0	1.730	2.530	16.6	20.3
375028	2007 <i>GK</i> ₇₆		3 7.2 187°09	2°7/ 4.6	17		230350	2002 <i>CE</i> ₂₈₈		3 7.2 152°30	0°3/ 6.7	18	
2 1	11 37.45	+11 47.1	2.206	3.031	12.0	21.2	2 1	11 33.16	+ 2 1.3	2.454	3.255	11.6	20.7
2 11	11 32.08	+12 21.3	2.126	3.030	8.9	21.0	2 11	11 28.67	+ 3 5.5	2.373	3.264	8.7	20.5
2 21	11 24.77	+13 0.3	2.072	3.030	5.6	20.8	2 21	11 22.56	+ 4 22.1	2.318	3.272	5.4	20.3
3 2	11 16.12	+13 38.5	2.045	3.029	2.8	20.7	3 2	11 15.36	+ 5 46.4	2.293	3.280	1.8	20.1
3 12	11 6.99	+14 10.6	2.049	3.028	4.0	20.7	3 12	11 7.76	+ 7 12.2	2.298	3.287	2.0	20.1
3 22	10 58.30	+14 32.1	2.081	3.026	7.2	20.9	3 22	11 0.52	+ 8 33.2	2.334	3.294	5.6	20.4
4 1	10 50.87	+14 40.1	2.141	3.024	10.5	21.1	4 1	10 54.32	+ 9 44.0	2.399	3.299	8.8	20.6
4 11	10 45.34	+14 33.6	2.223	3.022	13.4	21.3	4 11	10 49.70	+10 41.0	2.488	3.305	11.6	20.8
456204	2006 <i>JV</i> ₁₉		3 7.2 205°50	3°9/ 3.3	18		28818	Kellyryan		3 7.2 147°52	1°7/ 8.6	18	
2 1	11 36.67	+12 6.5	1.834	2.670	13.5	21.4	2 1	11 40.07	- 1 10.5	1.741	2.538	15.8	18.6
2 11	11 31.95	+13 22.2	1.756	2.666	10.1	21.2	2 11	11 34.48	- 1 3.7	1.664	2.547	12.3	18.4
2 21	11 24.91	+14 45.8	1.703	2.662	6.5	21.0	2 21	11 26.47	- 0 40.1	1.609	2.555	8.1	18.1
3 2	11 16.22	+16 9.2	1.677	2.657	4.0	20.8	3 2	11 16.77	- 0 2.8	1.580	2.563	3.7	17.9
3 12	11 6.88	+17 23.2	1.680	2.652	5.6	20.9	3 12	11 6.46	+ 0 43.0	1.580	2.570	2.4	17.8
3 22	10 57.99	+18 20.6	1.710	2.646	9.2	21.1	3 22	10 56.72	+ 1 30.6	1.608	2.576	6.6	18.1
4 1	10 50.58	+18 56.8	1.766	2.640	12.9	21.3	4 1	10 48.59	+ 2 13.8	1.663	2.582	10.9	18.3
4 11	10 45.40	+19 10.8	1.843	2.633	16.1	21.5	4 11	10 42.84	+ 2 47.2	1.741	2.587	14.5	18.6
150103	4262 <i>T</i> ₋₃		3 7.2 106°31	3°2/ 4.1	18		500331	2012 <i>SU</i> ₂₃		3 7.2 111°56	1°3/ 5.9	17	
2 1	11 38.36	+11 50.0	1.925	2.755	13.2	20.6	2 1	11 35.75	+ 8 0.5	2.323	3.140	11.7	21.6
2 11	11 32.83	+12 46.3	1.868	2.774	9.8	20.4	2 11	11 30.65	+ 8 22.1	2.247	3.148	8.7	21.4
2 21	11 25.21	+13 47.7	1.835	2.794	6.1	20.2	2 21	11 23.80	+ 8 50.1	2.197	3.155	5.3	21.2
3 2	11 16.24	+14 47.3	1.830	2.812	3.4	20.1	3 2	11 15.79	+ 9 20.6	2.175	3.162	2.0	21.0
3 12	11 6.92	+15 37.8	1.855	2.831	4.7	20.2	3 12	11 7.39	+ 9 48.9	2.183	3.169	2.6	21.1
3 22	10 58.26	+16 14.1	1.908	2.849	8.1	20.4	3 22	10 59.42	+10 10.8	2.221	3.176	6.1	21.3
4 1	10 51.12	+16 33.2	1.987	2.866	11.4	20.7	4 1	10 52.63	+10 23.4	2.285	3.183	9.3	21.5
4 11	10 46.10	+16 34.8	2.087	2.883	14.3	20.9	4 11	10 47.57	+10 24.9	2.374	3.190	12.1	21.7
272372	2005 <i>SG</i> ₂₁₅		3 7.2 186°81	2°6/ 9.6	16		23063	Lichtman		3 7.2 242°98	2°0/ 5.2	18	
2 1	11 37.01	- 3 58.2	2.134	2.912	13.9	21.4	2 1	11 34.21	+ 8 31.2	2.087	2.914	12.5	19.6
2 11	11 31.86	- 4 2.2	2.043	2.912	11.0	21.2	2 11	11 29.82	+ 9 15.6	2.003	2.909	9.3	19.3
2 21	11 24.71	- 3 50.8	1.975	2.911	7.6	20.9	2 21	11 23.46	+10 8.5	1.944	2.904	5.7	19.1
3 2	11 16.13	- 3 25.4	1.934	2.910	4.1	20.7	3 2	11 15.71	+11 4.5	1.912	2.898	2.4	18.9
3 12	11 6.97	- 2 49.5	1.922	2.909	2.8	20.6	3 12	11 7.43	+11 57.3	1.910	2.893	3.5	18.9
3 22	10 58.16	- 2 8.0	1.939	2.907	5.7	20.8	3 22	10 59.51	+12 41.0	1.935	2.887	7.1	19.2
4 1	10 50.60	- 1 26.4	1.984	2.905	9.3	21.0	4 1	10 52.83	+13 11.3	1.988	2.881	10.7	19.4
4 11	10 44.94	- 0 49.8	2.054	2.902	12.6	21.2	4 11	10 48.03	+13 26.1	2.063	2.876	13.8	19.6
258089	2001 <i>QE</i> ₈₂		3 7.2 84°59	2°5/ 9.4	18		503340	2016 <i>BY</i> ₃₆		3 7.2 322°49	2°6/ 5.2	17	
2 1	11 40.57	- 2 51.8	1.886	2.670	15.3	20.4	2 1	11 33.15	+ 7 57.3	1.344	2.195	16.6	20.8
2 11	11 34.46	- 3 2.2	1.824	2.698	11.9	20.2	2 11	11 30.10	+ 8 44.0	1.261	2.179	12.5	20.5
2 21	11 26.21	- 2 56.7	1.785	2.724	8.0	20.0	2 21	11 24.18	+ 9 45.2	1.200	2.164	7.8	20.2
3 2	11 16.59	- 2 37.6	1.773	2.751	4.1	19.8	3 2	11 16.09	+10 53.4	1.163	2.150	3.2	19.9
3 12	11 6.62	- 2 8.8	1.789	2.777	2.8	19.8	3 12	11 7.04	+11 58.4	1.151	2.136	4.7	20.0
3 22	10 57.34	- 1 35.7	1.835	2.803	6.0	20.0	3 22	10 58.44	+12 50.4	1.164	2.123	9.9	20.2
4 1	10 49.64	- 1 3.7	1.908	2.828	9.6	20.3	4 1	10 51.66	+13 22.5	1.200	2.111	14.8	20.4
4 11	10 44.12	- 0 37.4	2.005	2.853	12.8	20.5	4 11	10 47.66	+13 31.4	1.255	2.100	19.1	20.7
307514	2003 <i>AO</i> ₃₁		3 7.2 69°92	5°5/ 1.2	18		58896	Schlosser		3 7.2 289°09	6°9/ 13.9	18	
2 1	11 34.94	+19 46.8	2.121	2.961	11.8	20.0	2 1	11 32.29	-15 37.5	1.960	2.692	16.5	19.1
2 11	11 30.21	+20 54.6	2.067	2.974	9.0	19.8	2 11	11 28.75	-15 57.0	1.854	2.676	14.1	18.9
2 21	11 23.57	+22 0.9	2.039	2.988	6.5	19.7	2 21	11 23.02	-15 52.0	1.766	2.659	11.3	18.7
3 2	11 15.68	+22 58.4	2.038	3.001	5.5	19.7	3 2	11 15.64	-15 20.2	1.702	2.642	8.5	18.5
3 12	11 7.46	+23 40.5	2.066	3.014	6.8	19.8	3 12	11 7.45	-14 23.0	1.664	2.625	6.9	18.3
3 22	10 59.80	+24 3.5	2.120	3.028	9.3	20.0	3 22	10 59.47	-13 5.2	1.652	2.608	7.7	18.3
4 1	10 53.51	+24 5.9	2.199	3.041	11.9	20.1	4 1	10 52.71	-11 34.7	1.666	2.592	10.4	18.4
4 11	10 49.14	+23 48.9	2.299	3.055	14.3	20.3	4 11	10 47.99	-10 1.0	1.705	2.575	13.6	18.6
3112	Velimir		3 7.2 221°05	2°2/ 5.1	18		423235	2004 <i>SL</i> ₃₆		3 7.2 82°27	2°3/ 9.5	18	
2 1	11 37.72	+ 8 31.5	1.969	2.792	13.3	17.8	2 1	11 34.60	- 4 9.7	1.930	2.718	14.8	21.6
2 11	11 32.63	+ 9 20.4	1.879	2.783	9.9	17.5	2 11	11 30.06	- 3 48.9	1.861	2.737	11.6	21.4
2 21	11 25.31	+10 19.0	1.814	2.773	6.1	17.3	2 21	11 23.55	- 3 10.1	1.815	2.756	7.8	21.3
3 2	11 16.37	+11 21.3	1.777	2.763	2.6	17.0	3 2	11 15.72	- 2 16.3	1.796	2.775	4.0	21.1
3 12	11 6.75	+12 20.1	1.769	2.752	3.8	17.1	3 12	11 7.49	- 1 13.0	1.804	2.793	2.5	21.0
3 22	10 57.49	+13 8.8	1.790	2.740	7.8	17.3	3 22	10 59.80	- 0 7.0	1.842	2.811	5.8	21.2
4 1	10 49.59	+13 42.6	1.837	2.728	11.6	17.5	4 1	10 53.49	+ 0 55.1	1.906	2.829	9.4	21.5
4 11	10 43.80	+13 59.1	1.907	2.715	15.0	17.7	4 11	10 49.15	+ 1 47.7	1.995	2.847	12.7	21.7
458878	2011 <i>UG</i> ₁₅₂		3 7.2 174°30	0°4/ 6.8	18		87713	2000 <i>SO</i> ₃₄		3 7.2 156°08	0°4/ 6.8	18	
2 1	11 37.79	+ 3 16.3	1.928										

EPHEMERIDES

3 7.2

3 7.2

2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
188122	2002 <i>CH</i>		3 7.2 90°35	4.7/ 2.4	18		477207	2009 <i>HN₉₈</i>		3 7.2 315°64	7°3/27.5	16	
2 1	11 39.33	+16 51.4	2.054	2.885	12.5	20.2	2 1	11 32.40	+23 35.8	2.004	2.851	12.1	21.3
2 11	11 33.36	+18 1.7	2.011	2.916	9.3	20.1	2 11	11 28.80	+25 7.1	1.925	2.830	9.6	21.1
2 21	11 25.44	+19 11.8	1.994	2.947	6.3	19.9	2 21	11 23.02	+26 37.0	1.870	2.809	7.8	21.0
3 2	11 16.33	+20 14.2	2.006	2.977	4.7	19.9	3 2	11 15.63	+27 56.2	1.843	2.789	7.5	20.9
3 12	11 6.99	+21 2.4	2.047	3.006	6.0	20.0	3 12	11 7.57	+28 56.2	1.842	2.769	9.1	20.9
3 22	10 58.37	+21 32.2	2.116	3.034	8.7	20.2	3 22	10 59.85	+29 31.2	1.866	2.749	11.7	21.1
4 1	10 51.28	+21 42.4	2.210	3.062	11.5	20.5	4 1	10 53.47	+29 39.0	1.912	2.730	14.4	21.2
4 11	10 46.24	+21 34.0	2.327	3.090	13.9	20.7	4 11	10 49.17	+29 20.7	1.977	2.711	17.0	21.3
100432	1996 <i>HX₂₃</i>		3 7.2 283°26	4.4/ 3.3	18		522221	2016 <i>AO₂₆₄</i>		3 7.2 70°84	1°8/ 5.6	18	
2 1	11 36.30	+13 55.8	1.725	2.567	13.9	20.0	2 1	11 33.99	+ 5 3.3	1.540	2.375	15.7	21.4
2 11	11 31.94	+14 53.9	1.639	2.551	10.5	19.8	2 11	11 30.14	+ 6 13.2	1.475	2.384	11.7	21.1
2 21	11 25.07	+15 58.4	1.576	2.535	6.9	19.5	2 21	11 23.86	+ 7 38.5	1.432	2.394	7.1	20.9
3 2	11 16.36	+17 1.2	1.540	2.519	4.5	19.3	3 2	11 15.90	+ 9 11.5	1.415	2.403	2.6	20.6
3 12	11 6.84	+17 53.5	1.532	2.503	6.1	19.4	3 12	11 7.39	+10 41.7	1.426	2.413	3.7	20.7
3 22	10 57.72	+18 28.4	1.550	2.487	9.9	19.6	3 22	10 59.50	+11 59.8	1.465	2.422	8.4	21.0
4 1	10 50.14	+18 41.8	1.592	2.471	13.8	19.8	4 1	10 53.29	+12 59.1	1.527	2.432	12.6	21.3
4 11	10 44.94	+18 33.0	1.654	2.455	17.2	20.0	4 11	10 49.44	+13 36.4	1.611	2.442	16.3	21.6
351540	2005 <i>SD₂₅₉</i>		3 7.2 340°66	2°8/ 9.0	18		331930	2004 <i>SN₄₁</i>		3 7.2 198°47	2°2/ 4.9	17	
2 1	11 35.31	- 2 1.0	1.205	2.032	19.7	20.8	2 1	11 36.22	+10 2.1	2.376	3.197	11.4	21.3
2 11	11 31.94	- 2 10.0	1.128	2.027	15.5	20.5	2 11	11 31.09	+10 43.3	2.291	3.194	8.5	21.1
2 21	11 25.43	- 1 56.0	1.071	2.022	10.5	20.2	2 21	11 24.16	+11 30.7	2.232	3.190	5.2	20.9
3 2	11 16.55	- 1 21.0	1.035	2.018	5.1	19.9	3 2	11 15.97	+12 19.3	2.201	3.186	2.4	20.7
3 12	11 6.66	- 0 31.1	1.024	2.014	3.4	19.8	3 12	11 7.31	+13 3.6	2.200	3.181	3.5	20.8
3 22	10 57.35	+ 0 24.7	1.037	2.011	8.4	20.1	3 22	10 59.00	+13 38.8	2.229	3.176	6.7	21.0
4 1	10 50.09	+ 1 16.5	1.073	2.008	13.8	20.4	4 1	10 51.81	+14 1.5	2.286	3.170	9.9	21.1
4 11	10 45.91	+ 1 56.1	1.129	2.006	18.5	20.6	4 11	10 46.35	+14 10.2	2.366	3.164	12.7	21.3
352654	2008 <i>QJ₂₄</i>		3 7.2 183°90	0°6/ 7.8	18		218720	2005 <i>UC₁₂₃</i>		3 7.2 153°03	0°3/ 6.9	18	
2 1	11 37.76	- 0 8.5	1.841	2.643	14.9	21.8	2 1	11 35.87	+ 3 33.2	2.080	2.890	13.1	21.1
2 11	11 32.72	+ 0 34.0	1.755	2.644	11.5	21.5	2 11	11 30.99	+ 4 4.2	2.001	2.896	9.9	20.9
2 21	11 25.40	+ 1 34.2	1.693	2.644	7.3	21.3	2 21	11 24.16	+ 4 46.8	1.946	2.901	6.2	20.6
3 2	11 16.43	+ 2 47.5	1.657	2.643	2.8	21.0	3 2	11 15.98	+ 5 36.7	1.918	2.905	2.1	20.4
3 12	11 6.81	+ 4 7.0	1.651	2.642	2.1	20.9	3 12	11 7.32	+ 6 28.2	1.920	2.910	2.1	20.4
3 22	10 57.63	+ 5 24.6	1.674	2.639	6.7	21.2	3 22	10 59.09	+ 7 15.7	1.951	2.913	6.2	20.7
4 1	10 49.89	+ 6 32.8	1.724	2.636	11.0	21.5	4 1	10 52.15	+ 7 54.2	2.009	2.917	9.9	20.9
4 11	10 44.35	+ 7 26.4	1.797	2.632	14.6	21.7	4 11	10 47.10	+ 8 20.4	2.091	2.920	13.1	21.1
6249	Jennifer		3 7.2 150°92	15°1/24.3	18 A		876	Scott		3 7.2 158°57	1°2/ 5.7	18	
2 1	11 38.71	-35 42.6	1.533	2.136	24.9	16.7	2 1	11 31.86	+ 5 44.0	2.506	3.321	11.0	16.2
2 11	11 34.44	-36 25.3	1.452	2.144	23.0	16.6	2 11	11 27.71	+ 6 42.9	2.425	3.325	8.2	16.0
2 21	11 26.95	-36 24.2	1.382	2.152	20.7	16.4	2 21	11 22.00	+ 7 51.2	2.371	3.329	5.0	15.8
3 2	11 17.06	-35 30.4	1.327	2.160	18.3	16.2	3 2	11 15.21	+ 9 4.0	2.345	3.332	1.8	15.6
3 12	11 6.22	-33 40.6	1.291	2.166	16.2	16.1	3 12	11 8.03	+10 15.6	2.350	3.336	2.6	15.6
3 22	10 56.05	-30 59.4	1.276	2.171	15.1	16.0	3 22	11 1.18	+11 20.5	2.385	3.339	5.9	15.9
4 1	10 48.07	-27 40.2	1.285	2.176	15.5	16.1	4 1	10 55.33	+12 14.2	2.447	3.341	9.0	16.1
4 11	10 43.25	-24 2.7	1.317	2.180	17.3	16.2	4 11	10 50.99	+12 53.9	2.534	3.343	11.7	16.2
232558	2003 <i>SX₂₅₂</i>		3 7.2 178°37	1°0/ 8.3	18		304779	2007 <i>JY₄₃</i>		3 7.2 265°04	5°6/ 2.4	17	
2 1	11 33.72	- 0 32.6	2.313	3.107	12.5	21.0	2 1	11 37.94	+14 46.5	1.543	2.390	15.1	21.4
2 11	11 29.24	- 0 5.9	2.225	3.108	9.6	20.8	2 11	11 33.54	+16 6.3	1.458	2.372	11.5	21.1
2 21	11 23.01	+ 0 34.3	2.162	3.109	6.2	20.6	2 21	11 26.29	+17 34.3	1.396	2.354	7.7	20.8
3 2	11 15.56	+ 1 24.9	2.126	3.110	2.6	20.4	3 2	11 16.86	+19 0.2	1.360	2.335	5.6	20.7
3 12	11 7.65	+ 2 21.2	2.119	3.110	1.7	20.3	3 12	11 6.44	+20 12.6	1.350	2.316	7.5	20.7
3 22	11 0.07	+ 3 17.7	2.142	3.109	5.3	20.6	3 22	10 56.41	+21 2.5	1.367	2.297	11.6	20.9
4 1	10 53.58	+ 4 9.2	2.194	3.109	8.8	20.8	4 1	10 48.12	+21 25.0	1.406	2.277	15.7	21.1
4 11	10 48.78	+ 4 51.3	2.270	3.108	11.9	21.0	4 11	10 42.55	+21 19.9	1.465	2.258	19.4	21.3
15907	Robot		3 7.2 242°11	2°2/ 9.1	18		342951	2009 <i>AE₄₄</i>		3 7.2 66°11	1°2/ 5.9	17	
2 1	11 35.56	- 3 29.5	1.698	2.496	16.1	19.7	2 1	11 31.60	+ 5 21.6	2.162	2.984	12.3	21.2
2 11	11 31.38	- 3 6.6	1.604	2.486	12.7	19.5	2 11	11 27.74	+ 6 14.9	2.086	2.989	9.2	21.0
2 21	11 24.75	- 2 22.3	1.531	2.475	8.6	19.2	2 21	11 22.10	+ 7 19.0	2.035	2.994	5.6	20.8
3 2	11 16.27	- 1 19.2	1.483	2.464	4.2	18.9	3 2	11 15.26	+ 8 28.5	2.011	2.999	1.9	20.5
3 12	11 6.95	- 0 3.4	1.462	2.452	2.6	18.8	3 12	11 7.99	+ 9 37.1	2.018	3.004	2.7	20.6
3 22	10 57.97	+ 1 17.0	1.470	2.440	6.9	19.0	3 22	11 1.12	+10 38.6	2.052	3.010	6.4	20.8
4 1	10 50.45	+ 2 33.1	1.504	2.428	11.4	19.2	4 1	10 55.40	+11 28.0	2.114	3.015	9.8	21.1
4 11	10 45.25	+ 3 37.5	1.560	2.415	15.5	19.4	4 11	10 51.40	+12 2.5	2.199	3.021	12.8	21.3
461074	2015 <i>AU₃</i>		3 7.2 192°43	4°5/ 2.1	18		83553	2001 <i>SW₁₇₇</i>		3 7.2 249°60	0°2/ 7.5	18	
2 1	11 34.20	+14 56.2	2.099	2.937	12.0	20.8	2 1	11 31.07	+ 0 49.7	2.448	3.249	11.7	19.5
2 11	11 29.83	+16 19.6	2.026	2.936	9.0	20.6	2 11	11 27.25	+ 1 35.9	2.350	3.239	8.9	19.3
2 21	11 23.48	+17 47.5	1.979	2.935	6.0	20.4	2 21	11 21.79	+ 2 35.5	2.277	3.229	5.6	19.1
3 2	11 15.74	+19 12.1	1.960	2.934	4.5	20.3	3 2	11 15.17	+ 3 44.8	2.232	3.219	2.1	18.8
3 12	11 7.50	+20 25.3	1.970	2.932	6.0	20.4	3 12	11 8.06	+ 4 58.4	2.217	3.208	1.7	18.8
3 22	10 59.66	+21 21.0	2.008	2.930	9.0	20.6	3 22	11 1.18	+ 6 10.5	2.233	3.197	5.4	19.0
4 1	10 53.09	+21 55.9	2.071	2.927	12.0	20.7	4 1	10 55.27	+ 7 15.5	2.276	3.186	8.8	19.2
4 11	10 48.43	+22 9.4	2.155	2.925	14.7	20.9	4 11	10 50.89	+ 8 9.2	2.344	3.175	11.8	19.4
334846	2003 <i>UM₃₀</i>		3 7.2 223°68	0°8/ 7.9	18		50323	2000 <i>CM₅₂</i>					

EPHEMERIDES

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2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
247701	2003 CS ₄		3 7.2 342°18	10°6/21.4	16		370687	2004 GZ ₂₆		3 7.2 287°74	4°1/2.9	17	
2 1	11 28.89	+28 48.0	1.695	2.552	13.4	19.2	2 1	11 32.25	+10 40.0	1.708	2.553	13.9	20.0
2 11	11 26.62	+31 36.7	1.641	2.540	11.5	19.0	2 11	11 28.92	+12 16.4	1.623	2.538	10.4	19.7
2 21	11 21.88	+34 19.1	1.613	2.529	10.6	18.9	2 21	11 23.23	+14 5.5	1.561	2.523	6.6	19.5
3 2	11 15.29	+36 41.1	1.610	2.518	11.3	18.9	3 2	11 15.79	+15 58.0	1.527	2.508	4.1	19.3
3 12	11 7.93	+38 30.7	1.633	2.509	13.3	19.0	3 12	11 7.56	+17 42.7	1.520	2.492	6.0	19.4
3 22	11 1.00	+39 41.5	1.677	2.500	15.8	19.2	3 22	10 59.67	+19 9.8	1.541	2.477	10.0	19.6
4 1	10 55.68	+40 12.5	1.739	2.492	18.1	19.3	4 1	10 53.20	+20 12.8	1.586	2.462	13.9	19.8
4 11	10 52.79	+40 7.2	1.816	2.486	20.2	19.5	4 11	10 48.98	+20 49.0	1.651	2.447	17.4	19.9
384260	2009 EY ₂₈		3 7.2 293°47	6°6/14.5	17		431547	2007 TD ₄₃₅		3 7.2 80°59	5°9/29.5	18	
2 1	11 31.77	-16 58.6	2.333	3.044	14.7	20.4	2 1	11 36.67	+22 22.6	2.292	3.126	11.2	21.3
2 11	11 28.02	-17 24.2	2.226	3.030	12.6	20.2	2 11	11 31.33	+23 35.3	2.252	3.152	8.7	21.1
2 21	11 22.41	-17 28.7	2.139	3.017	10.3	20.0	2 21	11 24.21	+24 43.8	2.238	3.178	6.6	21.1
3 2	11 15.43	-17 10.2	2.076	3.003	8.0	19.8	3 2	11 15.97	+25 41.1	2.251	3.203	5.9	21.1
3 12	11 7.81	-16 29.8	2.039	2.990	6.7	19.7	3 12	11 7.51	+26 21.4	2.294	3.229	7.1	21.2
3 22	11 0.38	-15 31.0	2.029	2.976	7.2	19.7	3 22	10 59.66	+26 41.8	2.363	3.254	9.2	21.3
4 1	10 53.98	-14 19.6	2.046	2.963	9.2	19.8	4 1	10 53.16	+26 41.6	2.456	3.278	11.5	21.5
4 11	10 49.29	-13 3.1	2.087	2.950	11.8	20.0	4 11	10 48.52	+26 22.7	2.571	3.302	13.5	21.7
110214	2001 SZ ₂₁₆		3 7.2 247°57	2°5/4.6	18		210968	2001 UP ₂₁₀		3 7.2 51°61	4°2/3.1	18	
2 1	11 35.88	+11 56.8	2.349	3.175	11.3	19.8	2 1	11 35.61	+16 2.8	2.072	2.909	12.1	20.0
2 11	11 30.88	+12 26.9	2.263	3.167	8.5	19.6	2 11	11 30.79	+16 48.2	2.009	2.918	9.1	19.9
2 21	11 24.06	+13 1.3	2.201	3.159	5.3	19.3	2 21	11 24.02	+17 34.9	1.971	2.927	6.0	19.7
3 2	11 15.96	+13 35.2	2.168	3.152	2.7	19.2	3 2	11 15.96	+18 16.5	1.960	2.936	4.2	19.6
3 12	11 7.37	+14 3.5	2.165	3.144	3.8	19.2	3 12	11 7.52	+18 47.1	1.978	2.945	5.4	19.7
3 22	10 59.12	+14 22.0	2.191	3.136	6.9	19.4	3 22	10 59.63	+19 2.5	2.024	2.954	8.3	19.9
4 1	10 52.02	+14 28.1	2.244	3.128	10.1	19.6	4 1	10 53.10	+19 0.9	2.095	2.964	11.3	20.1
4 11	10 46.67	+14 20.6	2.320	3.119	12.9	19.8	4 11	10 48.51	+18 42.6	2.187	2.974	14.0	20.3
282204	2001 VC ₅₃		3 7.2 150°79	3°7/11.9	17		166666	2002 TN ₅₇		3 7.2 126°90	1°6/5.3	18	
2 1	11 33.14	-10 14.7	2.807	3.544	11.9	21.1	2 1	11 33.82	+ 8 2.7	2.454	3.273	11.1	20.3
2 11	11 28.54	-10 18.0	2.716	3.551	9.7	21.0	2 11	11 29.17	+ 8 47.4	2.382	3.283	8.2	20.1
2 21	11 22.46	-10 5.8	2.649	3.558	7.3	20.8	2 21	11 22.90	+ 9 39.1	2.335	3.294	5.0	20.0
3 2	11 15.37	- 9 39.0	2.608	3.564	4.9	20.7	3 2	11 15.56	+10 33.1	2.317	3.303	2.0	19.8
3 12	11 7.91	- 8 59.8	2.596	3.570	3.7	20.6	3 12	11 7.87	+11 24.1	2.329	3.313	2.9	19.8
3 22	11 0.73	- 8 11.9	2.614	3.576	4.9	20.7	3 22	11 0.57	+12 7.3	2.371	3.322	6.1	20.1
4 1	10 54.46	- 7 20.0	2.661	3.581	7.3	20.8	4 1	10 54.35	+12 39.3	2.440	3.331	9.1	20.3
4 11	10 49.60	- 6 29.0	2.734	3.586	9.7	21.0	4 11	10 49.73	+12 58.2	2.533	3.340	11.7	20.5
140219	2001 SS ₂₃₇		3 7.2 264°48	0°9/8.3	17		284992	2010 JA ₁₄₈		3 7.2 278°77	4°5/1.8	17	
2 1	11 31.12	- 1 3.6	2.330	3.127	12.3	20.8	2 1	11 32.22	+16 1.4	2.230	3.070	11.3	20.6
2 11	11 27.38	- 0 24.9	2.231	3.116	9.5	20.6	2 11	11 28.29	+17 19.5	2.156	3.066	8.5	20.4
2 21	11 21.93	+ 0 28.8	2.157	3.105	6.2	20.4	2 21	11 22.52	+18 40.9	2.107	3.062	5.8	20.2
3 2	11 15.24	+ 1 34.3	2.110	3.094	2.6	20.2	3 2	11 15.47	+19 58.3	2.087	3.058	4.5	20.1
3 12	11 8.02	+ 2 46.4	2.092	3.083	1.7	20.1	3 12	11 7.95	+21 4.6	2.095	3.054	5.9	20.2
3 22	11 1.06	+ 3 59.0	2.104	3.071	5.4	20.3	3 22	11 0.78	+21 54.3	2.132	3.050	8.7	20.4
4 1	10 55.10	+ 5 6.2	2.144	3.060	8.9	20.5	4 1	10 54.78	+22 24.2	2.193	3.046	11.5	20.5
4 11	10 50.74	+ 6 2.9	2.208	3.048	12.1	20.7	4 11	10 50.54	+22 33.8	2.276	3.042	14.1	20.7
500728	2012 XZ ₅₇		3 7.2 144°22	1°5/5.5	17		294291	2007 UD ₁₃₀		3 7.2 160°81	3°7/3.7	18	
2 1	11 32.23	+ 7 36.1	2.488	3.308	10.9	21.9	2 1	11 37.41	+11 42.4	1.818	2.652	13.7	21.3
2 11	11 28.01	+ 8 19.1	2.408	3.310	8.1	21.7	2 11	11 32.47	+12 51.5	1.748	2.657	10.2	21.1
2 21	11 22.19	+ 9 9.5	2.354	3.313	5.0	21.5	2 21	11 25.25	+14 7.9	1.702	2.661	6.5	20.9
3 2	11 15.30	+10 2.9	2.329	3.315	1.9	21.3	3 2	11 16.45	+15 23.7	1.684	2.665	3.7	20.7
3 12	11 8.02	+10 54.1	2.333	3.318	2.7	21.3	3 12	11 7.09	+16 30.2	1.694	2.668	5.3	20.8
3 22	11 1.08	+11 38.3	2.367	3.320	5.9	21.5	3 22	10 58.27	+17 20.8	1.732	2.671	8.9	21.0
4 1	10 55.16	+12 12.0	2.428	3.322	9.0	21.7	4 1	10 50.98	+17 51.3	1.795	2.673	12.5	21.2
4 11	10 50.77	+12 32.8	2.514	3.324	11.7	21.9	4 11	10 45.92	+18 1.0	1.880	2.675	15.6	21.5
194223	2001 TE ₁₄₅		3 7.2 41°71	4°4/3.9	18		139879	2001 RK ₈₅		3 7.2 211°62	0°5/6.7	18	
2 1	11 36.53	+11 15.2	1.241	2.097	17.4	19.9	2 1	11 35.99	+ 5 41.3	2.622	3.427	10.9	20.2
2 11	11 32.58	+12 21.3	1.185	2.105	13.0	19.6	2 11	11 30.79	+ 5 54.6	2.529	3.422	8.2	20.1
2 21	11 25.61	+13 37.2	1.149	2.113	8.2	19.4	2 21	11 23.94	+ 6 15.2	2.462	3.416	5.1	19.8
3 2	11 16.57	+14 52.4	1.138	2.121	4.5	19.2	3 2	11 15.96	+ 6 39.8	2.423	3.411	1.7	19.6
3 12	11 6.88	+15 55.3	1.152	2.130	6.4	19.3	3 12	11 7.52	+ 7 4.9	2.415	3.404	1.9	19.6
3 22	10 58.05	+16 37.3	1.190	2.139	10.9	19.6	3 22	10 59.38	+ 7 26.6	2.438	3.398	5.3	19.8
4 1	10 51.36	+16 54.0	1.251	2.149	15.4	19.9	4 1	10 52.23	+ 7 41.7	2.489	3.391	8.5	20.0
4 11	10 47.61	+16 45.6	1.331	2.159	19.2	20.2	4 11	10 46.63	+ 7 48.2	2.565	3.384	11.2	20.2
166769	2002 VQ ₄		3 7.2 101°87	5°3/1.5	18		431887	2008 SU ₂₆₁		3 7.2 92°59	0°5/6.8	17	
2 1	11 37.07	+20 53.0	2.274	3.108	11.3	20.6	2 1	11 34.83	+ 4 23.2	2.019	2.835	13.2	21.5
2 11	11 31.72	+21 48.1	2.216	3.119	8.7	20.5	2 11	11 30.28	+ 4 51.3	1.943	2.841	10.0	21.3
2 21	11 24.51	+22 40.7	2.184	3.129	6.3	20.4	2 21	11 23.77	+ 5 30.4	1.891	2.847	6.2	21.0
3 2	11 16.09	+23 24.2	2.179	3.140	5.4	20.3	3 2	11 15.91	+ 6 16.1	1.866	2.854	2.1	20.8
3 12	11 7.34	+23 53.0	2.204	3.150	6.6	20.4	3 12	11 7.59	+ 7 2.6	1.870	2.860	2.3	20.8
3 22	10 59.13	+24 3.7	2.255	3.161	8.9	20.6	3 22	10 59.73	+ 7 44.5	1.903	2.866	6.3	21.1
4 1	10 52.26	+23 55.5	2.332	3.171	11.5	20.7	4 1	10 53.16	+ 8 17.0	1.963	2.872	10.0	21.3
4 11	10 47.27	+23 29.5	2.430	3.181	13.7	20.9	4 11	10 48.52	+ 8 37.1	2.046	2.878	13.2	21.5
70336	1999 RO ₁₆₉		3 7.2 343°66	2°3/8.9	18		471453	2011 UK ₁₆₈		3 7.2 247°50	1°8/9.5	17	
2 1	11 37.76	- 1 0.8	1.496	2.308	17.3	18.7							

EPHEMERIDES

3 7.2

3 7.2

2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
200857	2001 YD ₆₃	3	7.2 139°62	2°6/ 9.3 18			109090	2001 QX ₂₉	3	7.2 148°47	4°4/ 2.9 18		
2 1	11 39.15	- 3 15.8	1.709	2.500	16.3	20.3	2 1	11 40.46	+17 23.8	2.211	3.038	11.9	20.1
2 11	11 33.89	- 3 13.6	1.631	2.509	12.8	20.1	2 11	11 34.32	+18 10.6	2.145	3.047	9.0	19.9
2 21	11 26.20	- 2 52.8	1.575	2.517	8.7	19.9	2 21	11 26.20	+18 57.5	2.104	3.056	6.1	19.7
3 2	11 16.81	- 2 15.6	1.545	2.525	4.4	19.6	3 2	11 16.76	+19 38.1	2.092	3.064	4.4	19.6
3 12	11 6.79	- 1 27.0	1.543	2.532	2.9	19.6	3 12	11 6.92	+20 6.5	2.110	3.071	5.6	19.7
3 22	11 57.32	- 0 34.0	1.569	2.539	6.6	19.8	3 22	10 57.65	+20 19.0	2.156	3.078	8.4	19.9
4 1	10 49.47	+ 0 16.6	1.622	2.545	10.8	20.1	4 1	10 49.78	+20 14.1	2.228	3.085	11.3	20.1
4 11	10 43.99	+ 0 58.5	1.698	2.551	14.5	20.3	4 11	10 43.91	+19 52.6	2.323	3.091	13.8	20.3
276138	2002 GG ₁₈₀	3	7.2 317°85	1°0/ 6.3 17			49502	1999 CK ₁₄	3	7.2 240°47	2°6/ 9.8 18		
2 1	11 34.15	+ 5 19.4	1.926	2.749	13.5	21.0	2 1	11 35.21	- 3 58.7	2.349	3.125	12.9	18.7
2 11	11 29.93	+ 5 56.3	1.845	2.748	10.2	20.8	2 11	11 30.45	- 4 8.5	2.252	3.120	10.2	18.5
2 21	11 23.64	+ 6 44.6	1.788	2.747	6.3	20.5	2 21	11 23.87	- 4 4.8	2.179	3.114	7.1	18.3
3 2	11 15.90	+ 7 39.3	1.759	2.746	2.1	20.3	3 2	11 15.99	- 3 48.4	2.133	3.107	4.0	18.1
3 12	11 7.61	+ 8 34.0	1.757	2.745	2.7	20.3	3 12	11 7.56	- 3 22.3	2.115	3.101	2.7	18.0
3 22	10 59.74	+ 9 22.4	1.784	2.745	6.9	20.6	3 22	10 59.41	- 2 50.4	2.127	3.095	5.3	18.1
4 1	10 53.20	+ 9 59.3	1.837	2.744	10.7	20.8	4 1	10 52.32	- 2 17.4	2.167	3.088	8.6	18.3
4 11	10 48.65	+10 21.6	1.913	2.743	14.1	21.0	4 11	10 46.93	- 1 47.8	2.232	3.082	11.6	18.5
237632	2001 SM ₁₅	3	7.2 254°70	1°9/ 5.2 17			499274	2009 VD ₆₂	3	7.2 142°52	2°4/ 4.9 17		
2 1	11 37.19	+10 31.2	2.586	3.401	10.7	21.4	2 1	11 36.24	+ 9 56.0	2.053	2.880	12.6	21.9
2 11	11 31.82	+10 54.8	2.482	3.382	8.0	21.2	2 11	11 31.33	+10 38.9	1.979	2.884	9.4	21.7
2 21	11 24.68	+11 23.2	2.405	3.362	5.0	21.0	2 21	11 24.43	+11 28.5	1.930	2.889	5.8	21.5
3 2	11 16.25	+11 52.4	2.357	3.342	2.2	20.7	3 2	11 16.17	+12 19.3	1.908	2.893	2.7	21.3
3 12	11 7.27	+12 18.0	2.339	3.321	3.1	20.8	3 12	11 7.44	+13 4.8	1.916	2.898	3.8	21.4
3 22	10 58.50	+12 35.9	2.351	3.300	6.3	20.9	3 22	10 59.18	+13 39.8	1.953	2.902	7.3	21.6
4 1	10 50.73	+12 43.4	2.392	3.278	9.5	21.1	4 1	10 52.26	+14 0.8	2.016	2.905	10.8	21.8
4 11	10 44.59	+12 39.0	2.456	3.256	12.3	21.2	4 11	10 47.28	+14 6.1	2.101	2.909	13.8	22.0
378726	2008 QL ₂₈	3	7.2 232°76	2°9/ 3.8 17			126250	2002 AS ₆₉	3	7.2 97°41	4°7/ 10.8 18		
2 1	11 34.10	+10 52.0	2.252	3.080	11.6	20.8	2 1	11 39.25	- 7 11.8	1.531	2.314	18.3	19.5
2 11	11 29.72	+11 59.4	2.163	3.070	8.7	20.6	2 11	11 34.21	- 7 33.0	1.459	2.326	14.7	19.3
2 21	11 23.45	+13 14.4	2.100	3.059	5.4	20.4	2 21	11 26.52	- 7 31.4	1.407	2.338	10.6	19.1
3 2	11 15.84	+14 30.8	2.065	3.047	3.0	20.2	3 2	11 16.96	- 7 7.4	1.379	2.349	6.5	18.8
3 12	11 7.66	+15 41.5	2.060	3.036	4.4	20.3	3 12	11 6.72	- 6 25.1	1.378	2.360	4.7	18.8
3 22	10 59.77	+16 40.4	2.085	3.023	7.6	20.4	3 22	10 57.13	- 5 31.3	1.403	2.371	7.4	18.9
4 1	10 53.00	+17 23.1	2.135	3.011	10.9	20.6	4 1	10 49.34	- 4 34.5	1.454	2.382	11.4	19.2
4 11	10 48.00	+17 47.6	2.209	2.998	13.8	20.8	4 11	10 44.16	- 3 42.7	1.527	2.393	15.2	19.5
54832	2001 NL ₁₂	3	7.2 193°81	1°8/ 8.9 18			270920	2002 UT	3	7.2 264°22	3°6/ 10.3 17		
2 1	11 36.23	- 1 53.1	1.903	2.698	14.7	19.5	2 1	11 35.62	- 5 49.5	1.741	2.527	16.3	20.9
2 11	11 31.56	- 1 43.4	1.816	2.698	11.5	19.3	2 11	11 31.41	- 5 55.1	1.647	2.518	13.1	20.7
2 21	11 24.70	- 1 17.5	1.751	2.696	7.7	19.0	2 21	11 24.80	- 5 40.4	1.574	2.509	9.3	20.4
3 2	11 16.29	- 0 37.6	1.713	2.695	3.6	18.8	3 2	11 16.39	- 5 6.1	1.526	2.500	5.4	20.1
3 12	11 7.25	+ 0 11.2	1.704	2.693	2.3	18.7	3 12	11 7.18	- 4 16.2	1.505	2.491	3.7	20.0
3 22	10 58.61	+ 1 2.8	1.722	2.692	6.2	18.9	3 22	10 58.29	- 3 17.0	1.511	2.481	6.8	20.2
4 1	10 51.34	+ 1 51.0	1.768	2.689	10.2	19.1	4 1	10 50.84	- 2 16.2	1.544	2.472	10.9	20.4
4 11	10 46.14	+ 2 30.4	1.837	2.687	13.7	19.4	4 11	10 45.66	- 1 21.3	1.599	2.462	14.7	20.6
474097	2016 LA ₇	3	7.2 206°92	2°1/ 4.6 17			403859	2011 UY ₃₅₇	3	7.2 320°77	4°7/ 10.9 14 C		
2 1	11 32.21	+ 8 17.0	2.334	3.158	11.4	21.3	2 1	11 33.98	- 7 42.2	1.439	2.234	18.7	21.0
2 11	11 28.17	+ 9 24.8	2.250	3.156	8.5	21.1	2 11	11 30.58	- 7 48.8	1.355	2.229	15.2	20.7
2 21	11 22.41	+10 41.6	2.193	3.153	5.2	20.9	2 21	11 24.47	- 7 29.4	1.289	2.223	11.0	20.5
3 2	11 15.45	+12 1.6	2.164	3.149	2.4	20.7	3 2	11 16.31	- 6 44.2	1.246	2.218	6.7	20.2
3 12	11 8.02	+13 18.1	2.165	3.146	3.5	20.8	3 12	11 7.26	- 5 37.9	1.229	2.213	4.7	20.1
3 22	11 0.91	+14 24.9	2.196	3.142	6.8	21.0	3 22	10 58.65	- 4 18.9	1.237	2.208	7.6	20.2
4 1	10 54.86	+15 17.4	2.253	3.138	10.0	21.2	4 1	10 51.75	- 2 57.4	1.269	2.204	12.1	20.5
4 11	10 50.45	+15 53.3	2.334	3.134	12.8	21.4	4 11	10 47.47	- 1 43.7	1.323	2.200	16.4	20.7
123565	2000 XP ₃₅	3	7.2 100°76	1°5/ 5.8 18			15963	Koeberl	3	7.2 113°34	1°7/ 5.3 18		
2 1	11 40.11	+ 8 38.2	2.251	3.063	12.2	19.7	2 1	11 34.08	+ 5 42.9	2.060	2.881	12.8	17.7
2 11	11 33.83	+ 9 3.7	2.192	3.090	9.0	19.6	2 11	11 29.65	+ 6 59.1	1.994	2.896	9.5	17.5
2 21	11 25.76	+ 9 35.0	2.159	3.116	5.5	19.4	2 21	11 23.35	+ 8 26.6	1.952	2.911	5.8	17.3
3 2	11 16.56	+10 7.6	2.154	3.141	2.1	19.2	3 2	11 15.79	+ 9 58.7	1.939	2.926	2.2	17.1
3 12	11 7.10	+10 36.5	2.181	3.166	2.8	19.3	3 12	11 7.83	+11 27.5	1.956	2.940	3.3	17.2
3 22	10 58.24	+10 57.8	2.237	3.190	6.2	19.5	3 22	11 0.35	+12 45.9	2.002	2.954	6.9	17.5
4 1	10 50.75	+11 8.9	2.321	3.213	9.4	19.8	4 1	10 54.15	+13 48.6	2.075	2.967	10.4	17.7
4 11	10 45.13	+11 8.4	2.429	3.236	12.2	20.0	4 11	10 49.80	+14 32.9	2.171	2.980	13.4	17.9
343380	2010 CE ₁₃₃	3	7.2 153°59	2°3/ 4.5 17			465990	2011 DA ₂₉	3	7.2 70°16	0°4/ 6.8 18		
2 1	11 33.21	+10 36.3	2.453	3.279	10.9	20.7	2 1	11 33.86	+ 2 41.9	1.759	2.580	14.7	22.0
2 11	11 28.78	+11 24.3	2.377	3.282	8.1	20.5	2 11	11 29.78	+ 3 29.9	1.692	2.592	11.1	21.8
2 21	11 22.72	+12 17.8	2.326	3.285	5.0	20.3	2 21	11 23.56	+ 4 32.8	1.647	2.605	6.9	21.6
3 2	11 15.54	+13 11.8	2.304	3.287	2.5	20.2	3 2	11 15.88	+ 5 44.8	1.629	2.617	2.3	21.3
3 12	11 7.97	+14 0.9	2.311	3.290	3.6	20.2	3 12	11 7.74	+ 6 58.2	1.640	2.630	2.4	21.3
3 22	11 0.76	+14 40.4	2.348	3.292	6.6	20.4	3 22	11 0.16	+ 8 5.3	1.678	2.642	6.9	21.6
4 1	10 54.61	+15 7.0	2.412	3.294	9.5	20.6	4 1	10 54.04	+ 9 0.0	1.743	2.655	10.9	21.9
4 11	10 50.05	+15 19.4	2.499	3.296	12.1	20.8	4 11	10 50.02	+ 9 38.5	1.830	2.668	14.3	22.2
199027	2005 WZ ₁₁₆	3	7.2 342°62	8°7/ 14.6 18			356289	2010 EU ₃₇	3	7.2 270°35	0°2/ 7.4 17		
2 1	11 29.02	-15 55.1	1.454	2.215	20.1	18							

EPHEMERIDES

3 7.3

3 7.4

2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
258203	2001 <i>SU</i> ₃₁₅		3 7.3 63°13	0°0/ 7.1 18			341447	2007 <i>TN</i> ₂₆₁		3 7.4 90°06	0°7/ 8.1 17		
2 1	11 43.23	+ 4 37.9	1.617	2.432	16.1	20.0	2 1	11 33.62	+ 0 47.6	2.245	3.046	12.6	21.6
2 11	11 36.84	+ 4 34.6	1.565	2.461	12.1	19.9	2 11	11 29.35	+ 1 9.8	2.165	3.052	9.6	21.4
2 21	11 28.02	+ 4 42.3	1.536	2.491	7.5	19.7	2 21	11 23.32	+ 1 44.4	2.108	3.058	6.2	21.2
3 2	11 17.69	+ 4 56.9	1.534	2.521	2.7	19.4	3 2	11 16.10	+ 2 28.1	2.079	3.064	2.5	21.0
3 12	11 7.07	+ 5 13.1	1.560	2.551	2.3	19.5	3 12	11 8.44	+ 3 16.2	2.080	3.070	1.7	20.9
3 22	10 57.33	+ 5 25.9	1.614	2.580	6.9	19.8	3 22	11 1.16	+ 4 3.5	2.109	3.077	5.4	21.2
4 1	10 49.49	+ 5 31.6	1.695	2.609	11.0	20.1	4 1	10 55.00	+ 4 45.1	2.166	3.083	8.8	21.4
4 11	10 44.14	+ 5 27.6	1.798	2.639	14.4	20.4	4 11	10 50.53	+ 5 17.4	2.248	3.089	11.9	21.6
17602	Dr. G.		3 7.3 105°83	8°1/17.5 18			415823	2001 <i>QE</i> ₁₇₂		3 7.4 122°91	5°3/12.4 18		
2 1	11 36.41	-23 58.6	2.667	3.307	14.5	18.9	2 1	11 39.26	-11 21.9	2.115	2.853	15.3	21.1
2 11	11 31.37	-24 50.6	2.582	3.321	12.8	18.8	2 11	11 33.72	-11 49.7	2.035	2.868	12.6	21.0
2 21	11 24.57	-25 21.5	2.517	3.335	11.0	18.7	2 21	11 26.12	-11 57.9	1.977	2.882	9.6	20.8
3 2	11 16.53	-25 28.9	2.475	3.348	9.3	18.6	3 2	11 17.11	-11 46.1	1.944	2.895	6.7	20.7
3 12	11 7.99	-25 12.7	2.457	3.361	8.2	18.6	3 12	11 7.57	-11 16.4	1.939	2.908	5.3	20.6
3 22	10 59.76	-24 35.4	2.466	3.374	8.2	18.6	3 22	10 58.48	-10 33.2	1.963	2.921	6.5	20.7
4 1	10 52.59	-23 41.7	2.502	3.387	9.2	18.7	4 1	10 50.72	-9 42.8	2.014	2.933	9.2	20.9
4 11	10 47.08	-22 38.2	2.562	3.399	10.7	18.8	4 11	10 44.94	-8 51.6	2.090	2.945	12.1	21.1
51358	2000 <i>SO</i> ₅		3 7.3 167°17	1°3/ 8.9 18			498096	2007 <i>RY</i> ₂₇₂		3 7.4 110°33	1°4/ 9.0 18		
2 1	11 33.52	- 3 30.5	2.185	2.970	13.4	19.0	2 1	11 33.70	- 2 10.3	2.427	3.212	12.2	22.3
2 11	11 29.36	- 2 37.0	2.097	2.974	10.4	18.8	2 11	11 29.24	- 1 46.4	2.349	3.225	9.5	22.1
2 21	11 23.38	- 1 25.3	2.034	2.977	6.9	18.6	2 21	11 23.17	- 1 9.0	2.296	3.239	6.3	21.9
3 2	11 16.12	+ 0 0.7	1.998	2.980	3.1	18.4	3 2	11 16.03	- 0 20.9	2.271	3.252	2.9	21.7
3 12	11 8.37	+ 1 34.8	1.991	2.982	1.8	18.3	3 12	11 8.52	+ 0 33.4	2.275	3.265	1.8	21.7
3 22	11 0.97	+ 3 9.4	2.015	2.984	5.5	18.5	3 22	11 1.39	+ 1 28.8	2.309	3.278	4.9	21.9
4 1	10 54.70	+ 4 37.4	2.068	2.985	9.1	18.8	4 1	10 55.31	+ 2 20.5	2.371	3.290	8.1	22.1
4 11	10 50.18	+ 5 53.0	2.145	2.986	12.4	19.0	4 11	10 50.81	+ 3 4.3	2.459	3.302	10.9	22.3
59812	1999 <i>RA</i> ₁₈		3 7.3 317°38	0°5/ 7.8 18 R			520104	2013 <i>YU</i> ₁₅₄		3 7.4 327°11	1°6/ 5.6 17		
2 1	11 36.88	+ 3 26.2	2.361	3.163	12.0	18.9	2 1	11 32.02	+ 6 53.5	2.122	2.948	12.3	21.2
2 11	11 31.75	+ 3 19.8	2.271	3.160	9.2	18.7	2 11	11 28.32	+ 7 43.3	2.039	2.944	9.2	21.0
2 21	11 24.82	+ 3 22.0	2.206	3.157	5.9	18.5	2 21	11 22.78	+ 8 43.2	1.980	2.940	5.7	20.8
3 2	11 16.62	+ 3 30.3	2.169	3.155	2.2	18.2	3 2	11 15.93	+ 9 47.7	1.949	2.936	2.2	20.5
3 12	11 7.94	+ 3 41.5	2.162	3.152	1.7	18.2	3 12	11 8.58	+10 50.5	1.947	2.932	3.1	20.6
3 22	10 59.58	+ 3 52.0	2.184	3.150	5.3	18.4	3 22	11 1.57	+11 45.4	1.973	2.928	6.7	20.8
4 1	10 52.34	+ 3 58.6	2.234	3.148	8.8	18.6	4 1	10 55.70	+12 27.7	2.026	2.925	10.3	21.0
4 11	10 46.80	+ 3 58.7	2.310	3.145	11.8	18.8	4 11	10 51.59	+12 54.5	2.101	2.922	13.3	21.2
406601	2008 <i>CF</i> ₂₆		3 7.4 104°77	2°8/ 9.6 18			416915	2005 <i>SH</i> ₁		3 7.4 134°65	4°7/ 2.9 18		
2 1	11 38.44	- 3 30.2	1.697	2.490	16.4	21.1	2 1	11 43.16	+19 3.6	2.248	3.070	11.9	21.5
2 11	11 33.51	- 3 36.6	1.621	2.498	12.9	20.9	2 11	11 36.40	+19 44.1	2.186	3.084	9.0	21.4
2 21	11 26.17	- 3 24.7	1.566	2.506	8.8	20.7	2 21	11 27.65	+20 23.0	2.150	3.097	6.3	21.2
3 2	11 17.15	- 2 56.2	1.536	2.514	4.7	20.4	3 2	11 17.60	+20 53.9	2.142	3.110	4.7	21.1
3 12	11 7.50	- 2 15.8	1.534	2.522	3.1	20.3	3 12	11 7.21	+21 11.4	2.164	3.122	5.8	21.2
3 22	10 58.38	- 1 29.8	1.560	2.530	6.6	20.6	3 22	10 57.45	+21 12.5	2.216	3.134	8.4	21.4
4 1	10 50.86	- 0 44.9	1.612	2.537	10.7	20.8	4 1	10 49.16	+20 56.4	2.294	3.145	11.2	21.6
4 11	10 45.66	- 0 7.3	1.686	2.545	14.3	21.1	4 11	10 42.91	+20 24.5	2.394	3.155	13.6	21.8
269455	2009 <i>SA</i> ₂₇₆		3 7.4 122°81	0°3/ 7.0 18			177915	2005 <i>SQ</i> ₁₅₉		3 7.4 225°81	3°9/12.1 18		
2 1	11 35.15	+ 2 47.2	2.057	2.867	13.3	21.2	2 1	11 32.66	-10 22.5	2.677	3.418	12.3	20.4
2 11	11 30.60	+ 3 31.9	1.984	2.878	10.0	21.0	2 11	11 28.49	-10 29.6	2.577	3.414	10.1	20.3
2 21	11 24.14	+ 4 29.4	1.934	2.889	6.2	20.8	2 21	11 22.75	-10 20.6	2.500	3.409	7.6	20.1
3 2	11 16.38	+ 5 34.8	1.912	2.899	2.1	20.6	3 2	11 15.92	- 9 55.9	2.449	3.405	5.2	19.9
3 12	11 8.18	+ 6 41.8	1.919	2.909	2.1	20.6	3 12	11 8.61	- 9 17.8	2.427	3.400	3.9	19.8
3 22	11 0.42	+ 7 44.0	1.955	2.918	6.2	20.9	3 22	11 1.53	- 8 29.9	2.433	3.396	5.2	19.9
4 1	10 53.94	+ 8 35.8	2.019	2.928	9.8	21.1	4 1	10 55.34	- 7 37.0	2.468	3.391	7.6	20.1
4 11	10 49.32	+ 9 13.8	2.107	2.936	13.0	21.3	4 11	10 50.60	- 6 44.4	2.529	3.386	10.2	20.2
304904	2007 <i>RT</i> ₂₅₈		3 7.4 287°54	1°5/ 8.5 16			127608	2003 <i>BH</i> ₃₁		3 7.4 133°19	4°1/ 2.7 18		
2 1	11 35.25	- 1 7.1	1.494	2.309	17.1	21.0	2 1	11 34.96	+12 18.0	1.965	2.801	12.8	19.9
2 11	11 31.69	- 0 49.2	1.399	2.293	13.4	20.7	2 11	11 30.62	+13 55.3	1.900	2.810	9.5	19.7
2 21	11 25.40	- 0 10.2	1.325	2.276	8.9	20.4	2 21	11 24.24	+15 39.6	1.860	2.819	6.1	19.5
3 2	11 16.99	+ 0 47.1	1.275	2.260	3.9	20.1	3 2	11 16.45	+17 22.2	1.849	2.827	4.1	19.4
3 12	11 7.56	+ 1 56.0	1.252	2.243	2.5	19.9	3 12	11 8.17	+18 53.9	1.868	2.835	5.7	19.5
3 22	10 58.42	+ 3 7.7	1.255	2.226	7.6	20.2	3 22	11 0.37	+20 7.5	1.914	2.842	8.9	19.7
4 1	10 50.88	+ 4 12.9	1.283	2.210	12.7	20.4	4 1	10 53.92	+20 59.0	1.986	2.849	12.1	19.9
4 11	10 45.93	+ 5 4.2	1.332	2.194	17.2	20.6	4 11	10 49.46	+21 27.3	2.079	2.856	14.9	20.1
97284	1999 <i>XC</i> ₁₅₉		3 7.4 41°33	5°1/ 2.0 18			346855	2009 <i>EJ</i>		3 7.4 21°62	1°3/ 6.1 17		
2 1	11 33.99	+15 57.0	1.860	2.705	13.0	18.7	2 1	11 32.60	+ 6 2.0	1.810	2.641	13.9	20.4
2 11	11 30.02	+17 17.2	1.797	2.709	9.8	18.5	2 11	11 28.95	+ 6 39.7	1.741	2.648	10.4	20.2
2 21	11 23.90	+18 40.7	1.758	2.714	6.6	18.3	2 21	11 23.23	+ 7 28.3	1.694	2.654	6.4	20.0
3 2	11 16.32	+19 58.9	1.747	2.719	5.1	18.2	3 2	11 16.10	+ 8 22.5	1.674	2.662	2.3	19.7
3 12	11 8.24	+21 3.2	1.763	2.724	6.6	18.3	3 12	11 8.48	+ 9 15.3	1.682	2.670	2.9	19.8
3 22	11 0.68	+21 47.8	1.806	2.730	9.7	18.5	3 22	11 1.36	+10 0.5	1.717	2.679	7.0	20.0
4 1	10 54.55	+22 9.7	1.874	2.735	12.8	18.7	4 1	10 55.62	+10 33.1	1.778	2.688	10.9	20.3
4 11	10 50.50	+22 9.1	1.961	2.741	15.6	18.9	4 11	10 51.89	+10 50.4	1.862	2.697	14.2	20.5
83792	2001 <i>TS</i> ₂₁₀		3 7.4 68°21	3°6/11.2 18			59761	1999 <i>MZ</i>		3 7.4 205°04	3°9/ 3.5 18		
2 1	1												

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2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
423515	2005 <i>UU</i> ₅₈		3 7.4 151°67	0°5/ 7.9 16			190396	1999 <i>TZ</i> ₁₂₄		3 7.4 217°09	1°6/ 9.1 18		
2 1	11 36.42	+ 0 53.0	2.369	3.163	12.3	22.7	2 1	11 34.71	- 2 33.7	2.350	3.133	12.6	20.8
2 11	11 31.34	+ 1 22.0	2.288	3.172	9.4	22.5	2 11	11 30.22	- 2 14.3	2.252	3.126	9.9	20.6
2 21	11 24.53	+ 2 3.0	2.232	3.181	6.0	22.3	2 21	11 23.94	- 1 40.3	2.178	3.119	6.7	20.4
3 2	11 16.53	+ 2 52.6	2.204	3.189	2.3	22.1	3 2	11 16.38	- 0 54.0	2.131	3.111	3.2	20.1
3 12	11 8.12	+ 3 45.9	2.206	3.196	1.6	22.1	3 12	11 8.27	+ 0 0.3	2.114	3.103	2.0	20.0
3 22	11 0.08	+ 4 37.9	2.238	3.203	5.3	22.3	3 22	11 0.42	+ 0 57.6	2.126	3.095	5.2	20.2
4 1	10 53.16	+ 5 23.7	2.298	3.209	8.7	22.5	4 1	10 53.60	+ 1 52.2	2.167	3.086	8.7	20.4
4 11	10 47.93	+ 5 59.7	2.384	3.215	11.6	22.7	4 11	10 48.46	+ 2 39.3	2.233	3.077	11.8	20.6
177057	2003 <i>EB</i> ₄₆		3 7.4 314°84	0°2/ 7.6 18			120947	1998 <i>TN</i> ₂₉		3 7.4 204°82	0°2/ 7.6 18		
2 1	11 35.51	+ 3 57.6	2.066	2.879	13.1	19.5	2 1	11 39.39	+ 1 49.0	1.797	2.604	15.0	21.3
2 11	11 31.12	+ 3 56.0	1.965	2.860	10.1	19.3	2 11	11 34.27	+ 2 17.8	1.708	2.600	11.5	21.0
2 21	11 24.66	+ 4 4.1	1.887	2.841	6.4	19.0	2 21	11 26.73	+ 3 2.1	1.642	2.594	7.4	20.8
3 2	11 16.66	+ 4 19.2	1.837	2.823	2.4	18.7	3 2	11 17.43	+ 3 57.6	1.602	2.589	2.7	20.5
3 12	11 7.95	+ 4 37.2	1.814	2.805	1.9	18.7	3 12	11 7.37	+ 4 58.0	1.591	2.582	2.2	20.4
3 22	10 59.49	+ 4 53.9	1.821	2.787	6.1	18.9	3 22	10 57.69	+ 5 55.9	1.609	2.575	6.9	20.7
4 1	10 52.20	+ 5 5.0	1.854	2.770	10.1	19.1	4 1	10 49.49	+ 6 44.7	1.654	2.566	11.3	20.9
4 11	10 46.83	+ 5 7.4	1.911	2.753	13.6	19.3	4 11	10 43.57	+ 7 19.8	1.721	2.558	15.1	21.2
169007	2001 <i>DC</i> ₃₈		3 7.4 335°55	1°6/ 8.5 18			123873	2001 <i>DC</i> ₂₇		3 7.4 359°25	0°3/ 7.1 18		
2 1	11 29.77	- 1 15.1	1.212	2.050	18.9	19.1	2 1	11 35.38	+ 4 4.4	1.892	2.710	13.9	20.0
2 11	11 27.96	- 0 55.2	1.128	2.034	14.8	18.8	2 11	11 31.04	+ 4 24.8	1.811	2.709	10.6	19.8
2 21	11 23.25	- 0 9.9	1.063	2.019	9.8	18.5	2 21	11 24.59	+ 4 56.9	1.753	2.709	6.6	19.6
3 2	11 16.28	+ 0 57.7	1.020	2.005	4.3	18.1	3 2	11 16.63	+ 5 36.6	1.722	2.709	2.3	19.3
3 12	11 8.26	+ 2 19.1	1.001	1.993	2.6	18.0	3 12	11 8.10	+ 6 18.3	1.719	2.709	2.2	19.3
3 22	11 0.65	+ 3 43.1	1.007	1.982	8.4	18.3	3 22	11 0.00	+ 6 56.1	1.744	2.709	6.5	19.6
4 1	10 54.87	+ 4 58.0	1.034	1.971	14.0	18.5	4 1	10 53.25	+ 7 25.0	1.796	2.709	10.5	19.8
4 11	10 51.95	+ 5 54.7	1.082	1.963	18.8	18.8	4 11	10 48.53	+ 7 41.8	1.870	2.710	14.0	20.0
292654	2006 <i>UO</i> ₅₂		3 7.4 83°52	0°6/ 8.0 17			462948	2011 <i>CY</i> ₁₉		3 7.4 117°05	0°4/ 7.8 17		
2 1	11 33.73	+ 1 20.5	2.337	3.138	12.2	21.4	2 1	11 33.91	+ 0 42.8	1.877	2.687	14.3	21.7
2 11	11 29.36	+ 1 38.4	2.257	3.145	9.3	21.2	2 11	11 29.96	+ 1 21.1	1.795	2.688	11.0	21.5
2 21	11 23.31	+ 2 7.5	2.201	3.152	5.9	21.0	2 21	11 23.92	+ 2 15.5	1.737	2.690	7.0	21.3
3 2	11 16.11	+ 2 44.9	2.173	3.159	2.3	20.7	3 2	11 16.40	+ 3 21.4	1.705	2.691	2.6	21.0
3 12	11 8.50	+ 3 26.1	2.175	3.166	1.6	20.7	3 12	11 8.31	+ 4 32.4	1.701	2.692	2.0	20.9
3 22	11 1.25	+ 4 6.4	2.206	3.173	5.2	21.0	3 22	11 0.63	+ 5 41.0	1.726	2.693	6.4	21.2
4 1	10 55.09	+ 4 41.5	2.264	3.180	8.6	21.2	4 1	10 54.28	+ 6 40.6	1.777	2.694	10.4	21.5
4 11	10 50.57	+ 5 8.0	2.347	3.187	11.5	21.4	4 11	10 49.93	+ 7 26.5	1.852	2.695	13.9	21.7
508626	2017 <i>SH</i> ₄₁		3 7.4 229°02	2°1/ 4.7 17			252975	2002 <i>QV</i> ₂₁		3 7.4 194°90	0°8/ 6.6 17		
2 1	11 33.30	+ 9 47.2	2.557	3.379	10.6	22.1	2 1	11 37.20	+ 4 27.2	2.135	2.944	12.9	22.2
2 11	11 29.01	+ 10 36.7	2.469	3.372	7.9	21.9	2 11	11 32.23	+ 5 9.7	2.047	2.942	9.7	22.0
2 21	11 23.10	+ 11 32.7	2.406	3.364	4.9	21.7	2 21	11 25.26	+ 6 3.8	1.984	2.939	6.0	21.8
3 2	11 16.04	+ 12 30.4	2.372	3.356	2.3	21.5	3 2	11 16.87	+ 7 4.9	1.948	2.936	2.1	21.5
3 12	11 8.53	+ 13 24.4	2.368	3.348	3.3	21.5	3 12	11 7.91	+ 8 6.8	1.943	2.931	2.4	21.5
3 22	11 1.29	+ 14 9.9	2.393	3.339	6.3	21.7	3 22	10 59.29	+ 9 3.3	1.967	2.926	6.4	21.8
4 1	10 55.01	+ 14 43.2	2.446	3.330	9.4	21.9	4 1	10 51.89	+ 9 49.2	2.018	2.921	10.1	22.0
4 11	10 50.25	+ 15 2.4	2.522	3.321	12.0	22.0	4 11	10 46.38	+ 10 21.2	2.094	2.914	13.4	22.2
237164	Keelung		3 7.4 310°47	2°9/ 5.1 18			170281	2003 <i>QY</i> ₁₀₅		3 7.4 182°49	0°1/ 7.5 18		
2 1	11 35.60	+ 7 53.6	1.322	2.170	17.0	20.1	2 1	11 37.83	+ 1 41.2	2.160	2.959	13.1	21.7
2 11	11 32.14	+ 8 50.8	1.245	2.162	12.8	19.8	2 11	11 32.65	+ 2 18.9	2.072	2.960	10.0	21.5
2 21	11 25.73	+ 10 3.3	1.190	2.154	8.0	19.5	2 21	11 25.50	+ 3 9.9	2.009	2.960	6.3	21.3
3 2	11 17.12	+ 11 22.4	1.159	2.146	3.4	19.2	3 2	11 16.95	+ 4 10.3	1.974	2.960	2.3	21.0
3 12	11 7.58	+ 12 37.1	1.154	2.139	5.0	19.3	3 12	11 7.85	+ 5 14.3	1.968	2.959	1.9	21.0
3 22	10 58.58	+ 13 37.2	1.174	2.132	10.0	19.5	3 22	10 59.10	+ 6 15.5	1.993	2.957	6.0	21.2
4 1	10 51.47	+ 14 15.3	1.217	2.125	14.9	19.8	4 1	10 51.58	+ 7 8.5	2.046	2.954	9.7	21.4
4 11	10 47.21	+ 14 28.9	1.279	2.118	19.2	20.0	4 11	10 45.93	+ 7 49.1	2.123	2.950	13.0	21.6
340663	2006 <i>RO</i> ₂₉		3 7.4 110°48	1°0/ 8.7 18			75052	1999 <i>UM</i> ₅₀		3 7.4 2°03	5°4/ 3.3 18		
2 1	11 31.38	- 2 43.4	2.428	3.215	12.2	21.1	2 1	11 31.61	+ 12 31.8	1.133	2.003	17.7	17.8
2 11	11 27.56	- 1 51.0	2.346	3.225	9.4	20.9	2 11	11 29.38	+ 13 45.8	1.073	2.000	13.2	17.5
2 21	11 22.16	- 0 43.2	2.289	3.234	6.2	20.7	2 21	11 24.07	+ 15 10.1	1.034	1.999	8.6	17.3
3 2	11 15.70	+ 0 36.3	2.260	3.243	2.7	20.5	3 2	11 16.54	+ 16 32.7	1.018	2.000	5.5	17.1
3 12	11 8.87	+ 2 1.8	2.261	3.252	1.6	20.4	3 12	11 8.22	+ 17 40.5	1.026	2.002	7.5	17.2
3 22	11 2.36	+ 3 26.9	2.293	3.261	4.9	20.7	3 22	11 0.65	+ 18 23.9	1.056	2.005	12.1	17.5
4 1	10 56.86	+ 4 45.8	2.353	3.270	8.2	20.9	4 1	10 55.19	+ 18 37.8	1.108	2.009	16.6	17.7
4 11	10 52.88	+ 5 53.6	2.438	3.278	11.1	21.1	4 11	10 52.69	+ 18 22.7	1.176	2.015	20.5	18.0
376577	2013 <i>PH</i> ₁₆		3 7.4 267°50	2°5/ 9.4 17			491814	2012 <i>XK</i> ₁₁₈		3 7.4 86°46	0°5/ 7.7 15		
2 1	11 38.76	- 2 23.9	1.987	2.773	14.5	20.9	2 1	11 43.50	+ 1 56.1	1.421	2.236	17.9	22.4
2 11	11 33.76	- 2 37.1	1.878	2.753	11.5	20.7	2 11	11 37.44	+ 2 11.4	1.367	2.262	13.6	22.2
2 21	11 26.45	- 2 35.9	1.792	2.732	8.0	20.4	2 21	11 28.63	+ 2 43.0	1.335	2.288	8.6	22.0
3 2	11 17.35	- 2 21.0	1.732	2.710	4.2	20.1	3 2	11 18.04	+ 3 25.7	1.328	2.314	3.2	21.8
3 12	11 7.36	- 1 55.6	1.700	2.688	2.8	20.0	3 12	11 7.02	+ 4 12.1	1.348	2.339	2.4	21.8
3 22	10 57.53	- 1 24.1	1.698	2.666	6.3	20.2	3 22	10 56.94	+ 4 54.8	1.396	2.364	7.5	22.1
4 1	10 48.42	- 0 52.2	1.722	2.644	10.4	20.4	4 1	10 48.95	+ 5 27.7	1.469	2.388	12.1	22.5
4 11	10 42.90	- 0 25.2	1.771	2.621	14.1	20.5	4 11	10 43.73	+ 5 46.9	1.564	2.411	15.9	22.7
153918	2001 <i>YO</i> ₁₂		3 7.4 84°50	3°6/ 4.4 18			27265	1999 <i>XV</i> ₂₃₃		3 7.4 222°14	0°6/ 8		

EPHEMERIDES

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2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
400305	2007 <i>TW</i> ₁₅₂		3 7.4 112°07'	0°9/ 8.2 18			322643	1998 <i>TS</i> ₂₀		3 7.4 93°93'	2°6/ 5.2 18		
2 1	11 39.15	- 0 15.5	1.830	2.629	15.1	21.9	2 1	11 40.19	+10 0.7	1.770	2.597	14.3	21.8
2 11	11 33.77	+ 0 13.9	1.763	2.649	11.6	21.8	2 11	11 34.59	+10 42.2	1.712	2.617	10.6	21.6
2 21	11 26.21	+ 0 59.1	1.720	2.668	7.4	21.5	2 21	11 26.73	+11 30.5	1.678	2.637	6.6	21.4
3 2	11 17.19	+ 1 56.0	1.703	2.687	3.0	21.3	3 2	11 17.38	+12 19.1	1.671	2.656	3.0	21.2
3 12	11 7.73	+ 2 58.1	1.715	2.706	2.0	21.3	3 12	11 7.65	+13 0.9	1.693	2.675	4.1	21.3
3 22	10 58.88	+ 3 58.4	1.756	2.723	6.3	21.6	3 22	10 58.62	+13 30.4	1.742	2.693	7.9	21.6
4 1	10 51.57	+ 4 50.7	1.824	2.740	10.2	21.9	4 1	10 51.25	+13 44.4	1.818	2.711	11.6	21.9
4 11	10 46.43	+ 5 30.7	1.916	2.757	13.6	22.1	4 11	10 46.15	+13 42.2	1.916	2.729	14.7	22.1
104746	2000 <i>HZ</i> ₁₁		3 7.4 189°46'	5°3/ 1.1 16			383251	2006 <i>BX</i> ₂₇₈		3 7.4 96°62'	0°1/ 7.3 17		
2 1	11 40.86	+22 16.6	2.614	3.434	10.4	20.9	2 1	11 33.59	+ 2 11.5	1.982	2.795	13.6	21.3
2 11	11 34.66	+23 15.2	2.540	3.433	8.2	20.8	2 11	11 29.61	+ 2 53.4	1.902	2.798	10.3	21.1
2 21	11 26.62	+24 11.3	2.493	3.431	6.1	20.6	2 21	11 23.66	+ 3 49.3	1.846	2.801	6.5	20.9
3 2	11 17.33	+24 58.3	2.475	3.428	5.3	20.6	3 2	11 16.34	+ 4 54.7	1.816	2.803	2.3	20.6
3 12	11 7.59	+25 30.9	2.487	3.425	6.5	20.6	3 12	11 8.50	+ 6 3.0	1.816	2.806	2.1	20.6
3 22	10 58.27	+25 45.7	2.527	3.420	8.6	20.8	3 22	11 1.05	+ 7 7.4	1.844	2.809	6.3	20.9
4 1	10 50.14	+25 41.6	2.594	3.415	11.0	20.9	4 1	10 54.87	+ 8 1.9	1.899	2.812	10.1	21.1
4 11	10 43.79	+25 19.7	2.683	3.409	13.1	21.1	4 11	10 50.57	+ 8 42.6	1.977	2.814	13.4	21.3
95243	2002 <i>CL</i> ₅₁		3 7.4 234°93'	0°3/ 7.7 18			301540	2009 <i>FK</i> ₅₄		3 7.4 182°93'	7°6/ 27.2 18		
2 1	11 33.23	+ 0 35.3	2.055	2.861	13.4	19.7	2 1	11 42.80	+32 57.7	2.715	3.521	10.5	20.3
2 11	11 29.34	+ 1 20.9	1.964	2.856	10.3	19.5	2 11	11 36.07	+33 46.6	2.656	3.521	8.9	20.2
2 21	11 23.51	+ 2 22.2	1.898	2.850	6.6	19.3	2 21	11 27.45	+34 25.4	2.622	3.521	7.8	20.1
3 2	11 16.27	+ 3 35.0	1.859	2.845	2.4	19.0	3 2	11 17.61	+34 47.7	2.616	3.521	7.6	20.1
3 12	11 8.47	+ 4 52.9	1.848	2.839	1.9	18.9	3 12	11 7.45	+34 49.3	2.637	3.520	8.6	20.1
3 22	11 0.97	+ 6 8.7	1.867	2.833	6.1	19.2	3 22	10 57.87	+34 28.4	2.685	3.520	10.2	20.2
4 1	10 54.65	+ 7 15.8	1.913	2.827	10.0	19.4	4 1	10 49.66	+33 46.2	2.757	3.519	11.9	20.4
4 11	10 50.18	+ 8 9.4	1.983	2.821	13.3	19.6	4 11	10 43.39	+32 45.4	2.849	3.518	13.5	20.5
362433	2010 <i>RP</i> ₄₈		3 7.4 233°67'	0°4/ 7.7 16			518143	2016 <i>EK</i> ₂₂₄		3 7.4 280°53'	0°8/ 8.3 17		
2 1	11 37.19	+ 1 6.2	2.018	2.819	13.8	22.0	2 1	11 32.40	- 1 5.6	1.949	2.753	14.1	21.7
2 11	11 32.46	+ 1 38.9	1.917	2.806	10.6	21.7	2 11	11 28.88	- 0 22.9	1.853	2.742	10.9	21.5
2 21	11 25.57	+ 2 26.8	1.841	2.792	6.8	21.5	2 21	11 23.32	+ 0 38.1	1.780	2.730	7.1	21.3
3 2	11 17.05	+ 3 26.2	1.791	2.777	2.6	21.2	3 2	11 16.26	+ 1 53.4	1.734	2.719	2.9	21.0
3 12	11 7.78	+ 4 31.3	1.771	2.762	2.0	21.1	3 12	11 8.54	+ 3 16.7	1.717	2.708	1.9	20.9
3 22	10 58.77	+ 5 35.2	1.780	2.746	6.4	21.3	3 22	11 1.09	+ 4 40.2	1.728	2.696	6.2	21.1
4 1	10 50.98	+ 6 31.6	1.816	2.729	10.5	21.5	4 1	10 54.85	+ 5 56.3	1.766	2.685	10.3	21.3
4 11	10 45.19	+ 7 15.4	1.877	2.711	14.1	21.7	4 11	10 50.53	+ 6 59.0	1.827	2.674	13.9	21.5
49863	1999 <i>XK</i> ₁₀₄		3 7.4 177°63'	1°1/ 8.3 18			111177	2001 <i>VY</i> ₁₂₂		3 7.4 105°63'	3°1/ 10.1 18		
2 1	11 40.23	- 0 18.3	1.738	2.538	15.7	20.1	2 1	11 40.70	- 4 20.3	2.048	2.821	14.6	19.4
2 11	11 34.92	+ 0 3.3	1.655	2.541	12.2	19.8	2 11	11 34.79	- 4 40.0	1.974	2.838	11.6	19.3
2 21	11 27.15	+ 0 42.1	1.594	2.542	7.9	19.6	2 21	11 26.81	- 4 44.4	1.923	2.855	8.1	19.1
3 2	11 17.60	+ 1 34.4	1.559	2.543	3.3	19.3	3 2	11 17.44	- 4 34.6	1.899	2.872	4.6	18.9
3 12	11 7.34	+ 2 34.1	1.553	2.544	2.1	19.2	3 12	11 7.60	- 4 13.6	1.903	2.888	3.2	18.8
3 22	10 57.56	+ 3 33.7	1.575	2.543	6.8	19.5	3 22	10 58.28	- 3 45.9	1.937	2.904	5.8	19.0
4 1	10 49.34	+ 4 26.2	1.624	2.542	11.2	19.8	4 1	10 50.37	- 3 16.6	1.999	2.920	9.2	19.2
4 11	10 43.47	+ 5 6.4	1.696	2.540	15.0	20.0	4 11	10 44.49	- 2 50.6	2.086	2.935	12.3	19.5
425287	2009 <i>WR</i> ₂₀₅		3 7.4 152°78'	2°9/ 4.6 17			432561	2010 <i>JO</i> ₈₀		3 7.4 223°59'	19°1/ 21.4 17		
2 1	11 37.39	+11 28.8	2.068	2.895	12.5	21.6	2 1	11 57.24	+43 45.2	1.166	1.978	21.2	20.6
2 11	11 32.36	+12 11.6	1.994	2.899	9.4	21.4	2 11	11 50.04	+45 57.5	1.130	1.974	19.7	20.5
2 21	11 25.32	+12 59.9	1.944	2.903	5.9	21.2	2 21	11 37.59	+47 39.5	1.112	1.970	19.1	20.5
3 2	11 16.89	+13 47.7	1.923	2.906	3.0	21.0	3 2	11 21.43	+48 31.5	1.113	1.966	19.6	20.5
3 12	11 7.98	+14 29.0	1.931	2.909	4.2	21.1	3 12	11 4.33	+48 21.4	1.131	1.961	21.1	20.6
3 22	10 59.54	+14 58.5	1.967	2.912	7.6	21.3	3 22	10 49.23	+47 9.7	1.166	1.956	23.2	20.7
4 1	10 52.42	+15 13.1	2.029	2.915	10.9	21.5	4 1	10 38.26	+45 6.5	1.216	1.951	25.4	20.8
4 11	10 47.27	+15 11.9	2.114	2.917	13.9	21.7	4 11	10 32.25	+42 26.1	1.278	1.946	27.4	21.0
435911	2009 <i>BE</i> ₅₇		3 7.4 328°44'	3°9/ 11.2 17			336796	2011 <i>CB</i> ₇₄		3 7.4 297°66'	4°0/ 10.2 17		
2 1	11 34.16	- 7 32.7	2.110	2.878	14.4	21.1	2 1	11 38.54	- 4 37.8	1.819	2.602	15.8	20.5
2 11	11 30.03	- 7 47.9	2.018	2.875	11.7	20.9	2 11	11 33.92	- 5 15.0	1.708	2.576	12.8	20.3
2 21	11 23.94	- 7 45.7	1.947	2.871	8.5	20.7	2 21	11 26.76	- 5 37.0	1.618	2.551	9.2	20.0
3 2	11 16.44	- 7 26.3	1.902	2.868	5.4	20.5	3 2	11 17.59	- 5 43.0	1.554	2.526	5.6	19.7
3 12	11 8.35	- 6 52.6	1.884	2.865	3.9	20.4	3 12	11 7.35	- 5 34.5	1.516	2.500	4.1	19.6
3 22	11 0.56	- 6 9.0	1.894	2.862	5.9	20.5	3 22	10 57.19	- 5 15.3	1.507	2.475	7.0	19.7
4 1	10 53.93	- 5 21.5	1.932	2.859	9.1	20.7	4 1	10 48.33	- 4 50.7	1.524	2.449	11.2	19.9
4 11	10 49.13	- 4 36.0	1.994	2.856	12.3	20.9	4 11	10 41.73	- 4 27.0	1.563	2.424	15.1	20.0
210385	2007 <i>VE</i> ₁₁₀		3 7.4 120°56'	0°4/ 6.9 17			229143	2004 <i>RO</i> ₃₁₅		3 7.4 167°13'	4°8/ 1.5 18		
2 1	11 34.03	+ 4 24.1	2.375	3.185	11.7	21.6	2 1	11 37.10	+18 50.1	2.453	3.283	10.8	21.1
2 11	11 29.59	+ 4 54.2	2.296	3.191	8.8	21.4	2 11	11 31.92	+20 2.6	2.386	3.287	8.2	20.9
2 21	11 23.48	+ 5 33.8	2.242	3.197	5.5	21.2	2 21	11 24.96	+21 15.2	2.345	3.292	5.9	20.8
3 2	11 16.23	+ 6 19.1	2.216	3.203	1.9	21.0	3 2	11 16.78	+22 21.1	2.333	3.296	4.8	20.7
3 12	11 8.58	+ 7 5.1	2.219	3.209	2.0	21.0	3 12	11 8.18	+23 14.1	2.350	3.299	6.1	20.8
3 22	11 1.29	+ 7 47.0	2.252	3.214	5.5	21.2	3 22	10 59.99	+23 50.0	2.396	3.301	8.5	21.0
4 1	10 55.08	+ 8 20.9	2.313	3.220	8.8	21.5	4 1	10 52.97	+24 6.8	2.467	3.303	11.0	21.1
4 11	10 50.48	+ 8 43.8	2.398	3.225	11.7	21.7	4 11	10 47.68	+24 4.9	2.560	3.305	13.2	21.3
160779	2000 <i>SV</i> ₂₅₇		3 7.4 162°96'	1°8/ 5.8 18			433068	2012 <i>TY</i> ₂₈		3 7.4			

EPHEMERIDES

3 7.4

3 7.4

2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
228269	1999 <i>TO</i> ₂₃₃		3 7.4 117°46	3°8/11.6 18			435327	2007 <i>VF</i> ₁₈		3 7.4 85°16	1°4/ 9.0 17		
2 1	11 35.65	- 8 59.5	2.259	3.012	14.0	20.8	2 1	11 33.09	- 2 16.7	2.246	3.036	12.9	21.8
2 11	11 30.91	- 9 0.1	2.178	3.025	11.3	20.6	2 11	11 28.98	- 1 51.0	2.169	3.048	10.0	21.6
2 21	11 24.36	- 8 42.5	2.120	3.038	8.3	20.4	2 21	11 23.16	- 1 10.5	2.115	3.059	6.6	21.5
3 2	11 16.58	- 8 7.8	2.088	3.051	5.3	20.3	3 2	11 16.17	- 0 18.3	2.088	3.070	3.1	21.2
3 12	11 8.36	- 7 19.4	2.084	3.063	3.8	20.2	3 12	11 8.79	+ 0 40.7	2.091	3.081	1.8	21.2
3 22	11 0.53	- 6 22.2	2.109	3.075	5.5	20.3	3 22	11 1.78	+ 1 40.9	2.122	3.092	5.1	21.4
4 1	10 53.88	- 5 22.3	2.163	3.087	8.4	20.5	4 1	10 55.90	+ 2 36.8	2.182	3.103	8.5	21.6
4 11	10 48.97	- 4 25.6	2.242	3.098	11.3	20.7	4 11	10 51.67	+ 3 23.8	2.266	3.113	11.6	21.9
257426	2010 <i>KB</i> ₉₉		3 7.4 185°36	0°4/ 7.8 17			422186	2014 <i>RR</i> ₂₉		3 7.4 151°71	0°4/ 7.8 18		
2 1	11 37.10	+ 0 57.4	2.070	2.870	13.6	21.6	2 1	11 38.73	+ 1 22.0	2.032	2.831	13.8	22.4
2 11	11 32.22	+ 1 33.2	1.983	2.870	10.4	21.3	2 11	11 33.40	+ 1 50.0	1.953	2.840	10.5	22.2
2 21	11 25.31	+ 2 23.5	1.919	2.870	6.6	21.1	2 21	11 26.02	+ 2 31.5	1.898	2.848	6.7	22.0
3 2	11 16.95	+ 3 24.4	1.883	2.869	2.5	20.8	3 2	11 17.21	+ 3 22.6	1.870	2.856	2.5	21.7
3 12	11 8.02	+ 4 29.8	1.876	2.867	1.9	20.8	3 12	11 7.90	+ 4 17.5	1.873	2.863	1.9	21.7
3 22	10 59.45	+ 5 33.2	1.899	2.865	6.1	21.1	3 22	10 59.05	+ 5 10.2	1.904	2.870	6.0	22.0
4 1	10 52.13	+ 6 28.7	1.950	2.862	9.9	21.3	4 1	10 51.54	+ 5 55.3	1.964	2.876	9.9	22.2
4 11	10 46.74	+ 7 11.8	2.025	2.858	13.3	21.5	4 11	10 46.02	+ 6 28.8	2.047	2.881	13.1	22.4
373012	2011 <i>DF</i> ₉		3 7.4 71°01	1°1/ 6.4 16			456926	2007 <i>XN</i> ₅₂		3 7.4 68°71	2°6/ 9.7 18		
2 1	11 34.66	+ 4 19.6	1.768	2.592	14.5	22.0	2 1	11 39.90	- 4 18.8	1.523	2.317	17.8	21.4
2 11	11 30.53	+ 5 13.5	1.703	2.606	10.8	21.8	2 11	11 34.57	- 4 3.8	1.472	2.350	13.9	21.2
2 21	11 24.26	+ 6 20.7	1.662	2.621	6.7	21.6	2 21	11 26.79	- 3 27.2	1.442	2.383	9.4	21.0
3 2	11 16.56	+ 7 34.9	1.648	2.636	2.3	21.3	3 2	11 17.45	- 2 32.9	1.437	2.416	4.7	20.8
3 12	11 8.40	+ 8 48.2	1.662	2.650	2.8	21.4	3 12	11 7.77	- 1 27.9	1.459	2.448	2.9	20.8
3 22	11 0.81	+ 9 53.1	1.704	2.665	7.1	21.7	3 22	10 58.95	- 0 20.5	1.509	2.480	6.6	21.1
4 1	10 54.68	+ 10 43.9	1.772	2.680	11.0	22.0	4 1	10 51.98	+ 0 41.3	1.585	2.512	10.8	21.4
4 11	10 50.64	+ 11 17.4	1.863	2.695	14.3	22.2	4 11	10 47.48	+ 1 31.5	1.684	2.543	14.3	21.7
433242	2012 <i>VP</i> ₇₁		3 7.4 161°14	4°8/ 1.3 17			490002	2008 <i>SJ</i> ₂₀₅		3 7.4 239°29	0°5/ 6.9 17		
2 1	11 35.54	+ 20 27.2	2.598	3.428	10.2	21.2	2 1	11 37.55	+ 2 24.8	1.696	2.512	15.4	22.6
2 11	11 30.67	+ 21 25.9	2.530	3.431	7.8	21.0	2 11	11 33.17	+ 3 14.5	1.601	2.498	11.8	22.3
2 21	11 24.13	+ 22 23.3	2.489	3.434	5.7	20.9	2 21	11 26.26	+ 4 22.3	1.528	2.484	7.4	22.0
3 2	11 16.49	+ 23 13.3	2.477	3.437	4.8	20.9	3 2	11 17.42	+ 5 43.1	1.482	2.469	2.6	21.7
3 12	11 8.47	+ 23 50.6	2.494	3.439	6.0	20.9	3 12	11 7.67	+ 7 8.6	1.464	2.454	2.7	21.7
3 22	11 0.84	+ 24 11.9	2.538	3.441	8.2	21.1	3 22	10 58.21	+ 8 29.5	1.474	2.438	7.7	21.9
4 1	10 54.30	+ 24 15.6	2.609	3.443	10.5	21.2	4 1	10 50.22	+ 9 37.6	1.510	2.421	12.4	22.2
4 11	10 49.38	+ 24 2.2	2.701	3.445	12.6	21.4	4 11	10 44.59	+ 10 27.5	1.569	2.403	16.4	22.4
18374	1991 <i>RA</i> ₁₈		3 7.4 150°12	1°1/ 8.6 18			437777	2015 <i>BH</i> ₁₃₃		3 7.4 263°42	0°3/ 7.1 17		
2 1	11 35.50	- 0 59.8	2.203	2.994	13.1	19.3	2 1	11 36.28	+ 4 17.6	2.028	2.841	13.3	21.7
2 11	11 30.85	- 0 33.5	2.120	3.001	10.1	19.1	2 11	11 31.71	+ 4 35.6	1.937	2.833	10.1	21.4
2 21	11 24.36	+ 0 7.1	2.061	3.007	6.6	18.9	2 21	11 25.06	+ 5 4.5	1.871	2.826	6.4	21.2
3 2	11 16.60	+ 0 58.8	2.030	3.013	2.9	18.6	3 2	11 16.91	+ 5 40.6	1.831	2.818	2.2	20.9
3 12	11 8.37	+ 1 56.6	2.028	3.018	1.8	18.6	3 12	11 8.15	+ 6 18.7	1.820	2.810	2.1	20.9
3 22	11 0.52	+ 2 54.8	2.055	3.023	5.4	18.8	3 22	10 59.71	+ 6 53.3	1.838	2.803	6.3	21.1
4 1	10 53.84	+ 3 47.7	2.111	3.028	9.0	19.0	4 1	10 52.53	+ 7 19.9	1.883	2.795	10.2	21.4
4 11	10 48.92	+ 4 31.0	2.191	3.032	12.1	19.2	4 11	10 47.30	+ 7 35.0	1.952	2.787	13.6	21.6
258449	2001 <i>XT</i> ₂₅₆		3 7.4 132°67	1°2/ 6.1 18			73533	Alonso		3 7.4 195°30	2°4/ 9.4 18		
2 1	11 36.71	+ 5 45.9	2.189	3.001	12.5	21.5	2 1	11 39.07	- 3 3.2	1.903	2.689	15.1	20.0
2 11	11 31.70	+ 6 35.0	2.117	3.015	9.3	21.3	2 11	11 33.94	- 3 0.8	1.813	2.687	11.9	19.8
2 21	11 24.84	+ 7 33.9	2.071	3.028	5.7	21.1	2 21	11 26.53	- 2 41.5	1.745	2.685	8.1	19.5
3 2	11 16.76	+ 8 37.4	2.053	3.040	2.0	20.9	3 2	11 17.45	- 2 7.2	1.703	2.682	4.1	19.3
3 12	11 8.26	+ 9 39.1	2.066	3.052	2.7	21.0	3 12	11 7.68	- 1 22.2	1.690	2.678	2.6	19.2
3 22	11 0.22	+ 10 33.5	2.107	3.064	6.3	21.2	3 22	10 58.27	- 0 32.4	1.705	2.674	6.2	19.4
4 1	10 53.42	+ 11 16.0	2.177	3.075	9.7	21.5	4 1	10 50.25	+ 0 15.7	1.748	2.670	10.2	19.6
4 11	10 48.42	+ 11 44.1	2.270	3.085	12.7	21.7	4 11	10 44.37	+ 0 56.5	1.814	2.664	13.9	19.8
206993	2004 <i>TF</i> ₁₉₁		3 7.4 78°27	0°7/ 7.9 18			414713	2009 <i>WQ</i> ₂₁₈		3 7.4 4°91	5°5/ 12.5 17		
2 1	11 38.28	- 0 30.7	1.456	2.270	17.5	20.8	2 1	11 33.58	- 11 15.4	1.785	2.547	16.8	20.5
2 11	11 33.54	+ 0 13.7	1.401	2.295	13.4	20.6	2 11	11 29.95	- 11 31.8	1.699	2.547	13.9	20.3
2 21	11 26.25	+ 1 18.1	1.367	2.319	8.5	20.4	2 21	11 24.09	- 11 24.6	1.633	2.547	10.6	20.1
3 2	11 17.28	+ 2 36.3	1.358	2.344	3.3	20.1	3 2	11 16.59	- 10 53.5	1.590	2.547	7.3	19.9
3 12	11 7.87	+ 3 59.3	1.377	2.368	2.2	20.1	3 12	11 8.43	- 10 1.3	1.574	2.548	5.5	19.8
3 22	10 59.26	+ 5 17.4	1.423	2.391	7.2	20.5	3 22	11 0.64	- 8 54.2	1.584	2.549	7.0	19.8
4 1	10 52.51	+ 6 22.8	1.494	2.415	11.7	20.8	4 1	10 54.23	- 7 40.2	1.620	2.551	10.2	20.0
4 11	10 48.28	+ 7 10.5	1.588	2.438	15.5	21.1	4 11	10 49.96	- 6 28.0	1.680	2.553	13.6	20.2
408935	2002 <i>AY</i> ₁₅₀		3 7.4 52°80	5°2/ 2.4 18			6919	Tomonaga		3 7.4 11°84	2°3/ 5.6 18		
2 1	11 34.71	+ 13 7.5	1.515	2.365	15.1	20.4	2 1	11 33.44	+ 5 36.1	1.176	2.029	18.4	16.8
2 11	11 30.82	+ 14 53.3	1.472	2.389	11.2	20.2	2 11	11 30.68	+ 6 40.0	1.112	2.030	13.8	16.6
2 21	11 24.51	+ 16 44.6	1.454	2.414	7.3	20.1	2 21	11 24.90	+ 8 2.9	1.068	2.032	8.5	16.3
3 2	11 16.66	+ 18 29.9	1.462	2.438	5.2	20.0	3 2	11 16.94	+ 9 35.6	1.047	2.035	3.2	16.0
3 12	11 8.41	+ 19 58.4	1.497	2.463	6.9	20.1	3 12	11 8.16	+ 11 5.4	1.052	2.038	4.5	16.1
3 22	11 0.93	+ 21 2.7	1.558	2.488	10.4	20.4	3 22	11 0.08	+ 12 20.3	1.080	2.042	10.0	16.4
4 1	10 55.21	+ 21 39.7	1.643	2.513	13.9	20.7	4 1	10 54.05	+ 13 12.2	1.131	2.047	15.1	16.7
4 11	10 51.84	+ 21 50.3	1.747	2.539	16.8	20.9	4 11	10 50.93	+ 13 37.5	1.200	2.052	19.3	16.9
256038	2006 <i>UC</i> ₇₀		3 7.4 105°60	4°5/ 11.8 18			306808	2001 <i>QL</i> ₁₀₅		3 7.4 188°49	4°		

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2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
498894	2008 YN ₁₅₀		3 7.4 118°12	0°3/ 7.0 17			453567	2010 CK ₃₆		3 7.4 68°46	1°3/ 8.2 18		
2 1	11 34.46	+ 3 27.1	2.483	3.287	11.5	22.5	2 1	11 42.78	+ 1 57.6	1.319	2.140	18.6	21.2
2 11	11 29.82	+ 4 5.0	2.410	3.301	8.6	22.3	2 11	11 37.43	+ 1 41.8	1.252	2.149	14.4	21.0
2 21	11 23.60	+ 4 52.7	2.362	3.316	5.3	22.1	2 21	11 29.01	+ 1 41.8	1.205	2.159	9.3	20.7
3 2	11 16.32	+ 5 46.3	2.343	3.330	1.8	21.9	3 2	11 18.42	+ 1 54.6	1.183	2.168	3.8	20.4
3 12	11 8.71	+ 6 40.8	2.354	3.344	1.8	21.9	3 12	11 7.09	+ 2 14.5	1.187	2.178	2.6	20.3
3 22	11 1.48	+ 7 31.2	2.395	3.357	5.3	22.2	3 22	10 56.54	+ 2 35.0	1.217	2.188	7.9	20.7
4 1	10 55.30	+ 8 13.5	2.464	3.370	8.4	22.4	4 1	10 48.14	+ 2 50.1	1.272	2.198	12.9	21.0
4 11	10 50.67	+ 8 44.9	2.558	3.383	11.1	22.6	4 11	10 42.72	+ 2 55.1	1.347	2.208	17.1	21.3
14271	2000 AN ₂₃₃		3 7.4 112°68	0°9/ 6.4 18			15567	Giacomelli		3 7.4 230°93	0°2/ 7.7 18		
2 1	11 34.62	+ 5 15.7	2.261	3.074	12.1	17.9	2 1	11 33.97	+ 1 59.3	2.250	3.054	12.5	19.7
2 11	11 30.11	+ 5 57.0	2.188	3.085	9.0	17.8	2 11	11 29.76	+ 2 25.1	2.161	3.051	9.5	19.5
2 21	11 23.86	+ 6 47.8	2.139	3.096	5.6	17.6	2 21	11 23.76	+ 3 2.9	2.096	3.049	6.0	19.3
3 2	11 16.44	+ 7 43.6	2.119	3.106	1.9	17.3	3 2	11 16.48	+ 3 49.2	2.060	3.046	2.3	19.0
3 12	11 8.63	+ 8 38.8	2.129	3.117	2.3	17.4	3 12	11 8.70	+ 4 39.2	2.052	3.043	1.7	19.0
3 22	11 1.23	+ 9 28.0	2.168	3.127	5.9	17.6	3 22	11 1.24	+ 5 27.4	2.074	3.040	5.6	19.2
4 1	10 54.98	+ 10 6.9	2.234	3.137	9.3	17.8	4 1	10 54.86	+ 6 9.0	2.123	3.037	9.1	19.5
4 11	10 50.42	+ 10 32.9	2.324	3.146	12.2	18.1	4 11	10 50.19	+ 6 40.3	2.196	3.033	12.2	19.7
168990	2001 CO ₃₀		3 7.4 83°07	4°8/ 3.5 18			468270	2015 CE ₆		3 7.4 25°16	0°8/ 8.2 17		
2 1	11 39.50	+ 14 17.9	1.546	2.389	15.2	19.5	2 1	11 33.95	+ 0 12.9	1.869	2.678	14.4	21.3
2 11	11 34.50	+ 15 20.9	1.490	2.402	11.4	19.3	2 11	11 30.06	+ 0 40.5	1.788	2.679	11.1	21.1
2 21	11 26.91	+ 16 28.2	1.456	2.414	7.5	19.1	2 21	11 24.08	+ 1 23.9	1.729	2.680	7.2	20.9
3 2	11 17.57	+ 17 30.7	1.448	2.427	4.9	18.9	3 2	11 16.62	+ 2 19.3	1.697	2.682	2.9	20.6
3 12	11 7.72	+ 18 19.3	1.468	2.439	6.4	19.1	3 12	11 8.59	+ 3 20.6	1.693	2.684	1.9	20.5
3 22	10 58.63	+ 18 47.9	1.514	2.451	10.1	19.3	3 22	11 0.97	+ 4 21.0	1.717	2.686	6.2	20.8
4 1	10 51.40	+ 18 53.9	1.584	2.463	13.8	19.5	4 1	10 54.67	+ 5 14.1	1.767	2.688	10.2	21.0
4 11	10 46.72	+ 18 38.1	1.673	2.476	17.0	19.8	4 11	10 50.38	+ 5 54.9	1.841	2.690	13.7	21.3
212432	2006 OX ₁₂		3 7.4 255°71	2°1/ 5.5 17			467678	2008 UR ₂₂₀		3 7.4 229°21	7°0/ 16.1 17		
2 1	11 37.75	+ 7 33.1	1.854	2.678	13.9	21.5	2 1	11 34.06	- 20 54.3	2.549	3.221	14.4	22.2
2 11	11 33.17	+ 8 23.0	1.756	2.659	10.5	21.2	2 11	11 29.86	- 21 7.1	2.438	3.210	12.6	22.0
2 21	11 26.21	+ 9 24.9	1.681	2.640	6.6	20.9	2 21	11 23.86	- 20 57.4	2.347	3.199	10.5	21.8
3 2	11 17.42	+ 10 32.8	1.634	2.620	2.7	20.6	3 2	11 16.55	- 20 23.2	2.279	3.187	8.5	21.7
3 12	11 7.77	+ 11 39.1	1.615	2.599	3.8	20.7	3 12	11 8.63	- 19 25.5	2.238	3.175	7.1	21.6
3 22	10 58.36	+ 12 36.0	1.624	2.578	8.1	20.9	3 22	11 0.89	- 18 7.8	2.224	3.162	7.3	21.6
4 1	10 50.30	+ 13 17.5	1.660	2.557	12.3	21.1	4 1	10 54.14	- 16 36.3	2.239	3.149	8.9	21.6
4 11	10 44.43	+ 13 40.6	1.717	2.534	16.0	21.3	4 11	10 49.01	- 14 58.7	2.279	3.136	11.1	21.8
325568	2009 SR ₁₂₄		3 7.4 246°68	1°1/ 8.4 17			431561	2007 UD ₄₂		3 7.4 114°40	3°4/ 3.9 17		
2 1	11 37.42	- 0 4.6	2.164	2.957	13.3	21.7	2 1	11 37.49	+ 14 39.7	2.288	3.116	11.5	21.6
2 11	11 32.57	+ 0 9.9	2.058	2.939	10.3	21.5	2 11	11 32.30	+ 15 14.6	2.216	3.121	8.6	21.4
2 21	11 25.66	+ 0 38.2	1.975	2.922	6.8	21.2	2 21	11 25.27	+ 15 51.5	2.170	3.126	5.6	21.2
3 2	11 17.19	+ 1 17.9	1.920	2.903	2.9	20.9	3 2	11 17.00	+ 16 25.1	2.152	3.130	3.5	21.1
3 12	11 7.98	+ 2 4.6	1.894	2.884	1.9	20.8	3 12	11 8.32	+ 16 50.2	2.163	3.135	4.5	21.2
3 22	10 58.97	+ 2 52.7	1.897	2.865	5.8	21.0	3 22	11 0.10	+ 17 3.0	2.203	3.140	7.4	21.3
4 1	10 51.08	+ 3 36.8	1.929	2.845	9.8	21.2	4 1	10 53.11	+ 17 1.4	2.269	3.144	10.4	21.5
4 11	10 45.05	+ 4 12.1	1.984	2.824	13.3	21.4	4 11	10 47.92	+ 16 45.3	2.358	3.149	13.0	21.7
521104	2015 DR ₂₄₄		3 7.4 263°65	5°4/ 12.4 17			95460	2002 DR		3 7.4 137°71	0°7/ 6.7 18		
2 1	11 38.03	- 11 33.5	2.425	3.154	13.8	21.1	2 1	11 39.36	+ 3 47.1	1.924	2.733	14.1	20.3
2 11	11 32.84	- 12 20.8	2.322	3.146	11.5	20.9	2 11	11 33.96	+ 4 35.0	1.853	2.747	10.6	20.1
2 21	11 25.74	- 12 52.4	2.241	3.138	9.0	20.7	2 21	11 26.42	+ 5 35.6	1.806	2.761	6.6	19.9
3 2	11 17.20	- 13 6.9	2.186	3.130	6.6	20.6	3 2	11 17.43	+ 6 43.6	1.787	2.774	2.2	19.6
3 12	11 8.00	- 13 4.8	2.159	3.122	5.4	20.5	3 12	11 7.96	+ 7 51.6	1.797	2.786	2.5	19.7
3 22	10 58.99	- 12 48.5	2.160	3.113	6.4	20.5	3 22	10 59.03	+ 8 52.9	1.837	2.798	6.7	20.0
4 1	10 51.01	- 12 22.2	2.190	3.105	8.8	20.7	4 1	10 51.55	+ 9 42.0	1.904	2.808	10.6	20.2
4 11	10 44.76	- 11 51.5	2.245	3.096	11.5	20.8	4 11	10 46.17	+ 10 15.7	1.994	2.818	13.8	20.4
153346	2001 PD ₂		3 7.4 249°54	0°8/ 6.8 18			363224	2001 VE ₁₂₂		3 7.4 141°18	0°4/ 6.9 18		
2 1	11 40.57	+ 4 53.8	1.637	2.456	15.7	20.5	2 1	11 35.64	+ 2 16.0	2.488	3.285	11.6	21.6
2 11	11 35.60	+ 5 17.5	1.541	2.441	12.0	20.2	2 11	11 30.74	+ 3 20.5	2.412	3.301	8.7	21.4
2 21	11 27.89	+ 5 54.9	1.468	2.425	7.6	19.9	2 21	11 24.22	+ 4 36.8	2.362	3.315	5.4	21.2
3 2	11 18.07	+ 6 41.4	1.421	2.408	2.7	19.6	3 2	11 16.61	+ 6 0.1	2.341	3.328	1.8	21.0
3 12	11 7.25	+ 7 29.8	1.402	2.391	2.8	19.5	3 12	11 8.64	+ 7 24.2	2.352	3.341	1.9	21.0
3 22	10 56.73	+ 8 12.8	1.410	2.374	8.0	19.8	3 22	11 1.04	+ 8 43.1	2.394	3.353	5.4	21.3
4 1	10 47.80	+ 8 44.0	1.444	2.355	12.8	20.0	4 1	10 54.50	+ 9 51.6	2.464	3.364	8.6	21.5
4 11	10 41.41	+ 8 59.6	1.500	2.337	16.9	20.2	4 11	10 49.54	+ 10 46.4	2.560	3.375	11.4	21.7
301234	2009 BY ₂₆		3 7.4 135°92	0°7/ 8.1 18			433210	2012 UZ ₁₀₅		3 7.4 165°22	0°5/ 7.9 17		
2 1	11 41.11	+ 1 9.0	1.818	2.619	15.1	21.5	2 1	11 34.90	+ 1 45.1	2.662	3.456	11.1	21.8
2 11	11 35.40	+ 1 23.8	1.744	2.631	11.6	21.3	2 11	11 30.14	+ 2 2.4	2.575	3.459	8.4	21.6
2 21	11 27.38	+ 1 52.9	1.694	2.643	7.5	21.1	2 21	11 23.84	+ 2 29.4	2.514	3.463	5.4	21.4
3 2	11 17.77	+ 2 32.6	1.669	2.655	2.9	20.8	3 2	11 16.49	+ 3 3.5	2.480	3.465	2.1	21.2
3 12	11 7.62	+ 3 17.2	1.674	2.665	2.0	20.8	3 12	11 8.74	+ 3 40.7	2.477	3.468	1.5	21.2
3 22	10 58.03	+ 4 0.4	1.708	2.675	6.4	21.1	3 22	11 1.29	+ 4 17.2	2.504	3.470	4.8	21.4
4 1	10 50.00	+ 4 36.8	1.769	2.685	10.5	21.4	4 1	10 54.78	+ 4 49.1	2.560	3.472	7.9	21.6
4 11	10 44.24	+ 5 2.3	1.853	2.693	14.1	21.6	4 11	10 49.75	+ 5 13.3	2.642	3.474	10.6	21.8
409099	2003 SP ₃₆₈		3 7.4 201°59	1°0/ 8.3 18			156452	2002 BU ₃		3 7.4 39°12	6°6/ 3.3 18		
2 1	11 36.44	- 0 33.8	1.72										

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2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
228362	2000 <i>UA</i> ₇₃		3 7.4 118°68	6°0/13.9	18		319718	2006 <i>UX</i> ₅₆		3 7.4 145°54	2°7/ 9.9	18	
2 1	11 34.60	-15 12.4	2.099	2.824	15.7	20.3	2 1	11 36.56	-4 47.6	1.818	2.604	15.7	21.3
2 11	11 30.40	-15 21.0	2.014	2.832	13.3	20.2	2 11	11 32.11	-4 36.6	1.736	2.609	12.4	21.1
2 21	11 24.23	-15 6.1	1.948	2.840	10.4	20.0	2 21	11 25.42	-4 5.9	1.675	2.613	8.6	20.9
3 2	11 16.67	-14 27.2	1.907	2.848	7.7	19.8	3 2	11 17.13	-3 17.8	1.640	2.617	4.6	20.7
3 12	11 8.58	-13 27.0	1.892	2.855	6.0	19.7	3 12	11 8.23	-2 17.3	1.633	2.621	2.9	20.6
3 22	11 0.85	-12 11.0	1.905	2.862	6.8	19.8	3 22	10 59.76	-1 11.3	1.653	2.624	6.2	20.8
4 1	10 54.37	-10 46.6	1.945	2.869	9.2	19.9	4 1	10 52.71	0 7.3	1.701	2.627	10.2	21.0
4 11	10 49.77	-9 22.1	2.010	2.876	12.0	20.1	4 11	10 47.79	+0 48.1	1.772	2.630	13.8	21.2
264719	2002 <i>CO</i> ₁₉		3 7.4 317°25	1°6/ 6.1	17		299943	2006 <i>TX</i> ₅₀		3 7.4 192°80	1°9/ 5.2	17	
2 1	11 35.94	+7 14.0	1.713	2.544	14.6	20.2	2 1	11 33.90	+9 35.1	2.518	3.339	10.8	21.2
2 11	11 31.84	+7 42.1	1.629	2.535	11.0	20.0	2 11	11 29.51	+10 14.1	2.436	3.339	8.0	21.0
2 21	11 25.35	+8 20.8	1.567	2.527	6.8	19.7	2 21	11 23.51	+10 59.1	2.380	3.338	5.0	20.8
3 2	11 17.12	+9 4.8	1.532	2.519	2.5	19.4	3 2	11 16.40	+11 45.5	2.352	3.337	2.2	20.6
3 12	11 8.18	+9 47.1	1.524	2.511	3.3	19.4	3 12	11 8.87	+12 28.3	2.354	3.336	3.1	20.7
3 22	10 59.64	+10 21.4	1.543	2.504	7.7	19.7	3 22	11 1.66	+13 3.2	2.385	3.335	6.1	20.9
4 1	10 52.59	+10 42.6	1.588	2.497	12.0	19.9	4 1	10 55.45	+13 27.0	2.444	3.334	9.1	21.1
4 11	10 47.80	+10 48.0	1.654	2.490	15.7	20.1	4 11	10 50.79	+13 37.8	2.527	3.333	11.8	21.2
413916	2006 <i>WT</i> ₉₆		3 7.4 58°05	0°0/ 7.3	18		189183	2003 <i>BN</i> ₁₆		3 7.4 46°11	2°9/ 5.0	18	
2 1	11 36.69	+2 31.0	1.570	2.392	16.1	21.5	2 1	11 35.92	+9 2.8	1.491	2.334	15.7	20.0
2 11	11 32.36	+2 56.4	1.504	2.404	12.2	21.3	2 11	11 31.88	+9 58.0	1.433	2.347	11.7	19.7
2 21	11 25.60	+3 37.1	1.460	2.416	7.7	21.1	2 21	11 25.33	+11 3.2	1.398	2.360	7.2	19.5
3 2	11 17.17	+4 28.2	1.442	2.428	2.8	20.8	3 2	11 17.08	+12 10.3	1.389	2.374	3.3	19.3
3 12	11 8.20	+5 22.3	1.450	2.441	2.3	20.8	3 12	11 8.33	+13 10.3	1.406	2.388	4.6	19.4
3 22	10 59.86	+6 12.1	1.486	2.454	7.1	21.1	3 22	11 0.28	+13 55.6	1.449	2.403	8.8	19.7
4 1	10 53.19	+6 51.4	1.548	2.467	11.5	21.4	4 1	10 54.00	+14 21.8	1.517	2.418	12.9	20.0
4 11	10 48.89	+7 16.2	1.631	2.480	15.2	21.7	4 11	10 50.15	+14 27.5	1.605	2.433	16.4	20.2
325179	2008 <i>FT</i> ₆₉		3 7.4 239°78	2°2/ 5.2	17		341666	2007 <i>VK</i> ₇₆		3 7.4 25°38	0°9/ 6.5	17	
2 1	11 37.86	+9 27.5	2.259	3.077	12.0	21.8	2 1	11 33.01	+5 10.1	1.878	2.704	13.7	20.6
2 11	11 32.81	+10 9.0	2.161	3.061	9.0	21.6	2 11	11 29.29	+5 46.3	1.806	2.710	10.3	20.4
2 21	11 25.76	+10 58.1	2.088	3.045	5.6	21.4	2 21	11 23.56	+6 33.8	1.758	2.717	6.3	20.2
3 2	11 17.25	+11 49.7	2.043	3.028	2.5	21.1	3 2	11 16.44	+7 27.7	1.737	2.724	2.2	19.9
3 12	11 8.08	+12 37.9	2.029	3.011	3.5	21.2	3 12	11 8.85	+8 21.2	1.743	2.732	2.6	20.0
3 22	10 59.15	+13 17.1	2.043	2.993	7.0	21.4	3 22	11 1.72	+9 8.3	1.778	2.740	6.7	20.2
4 1	10 51.36	+13 43.4	2.085	2.974	10.5	21.5	4 1	10 55.92	+9 43.9	1.838	2.749	10.5	20.5
4 11	10 45.39	+13 54.7	2.151	2.954	13.6	21.7	4 11	10 52.06	+10 5.0	1.921	2.758	13.8	20.7
37906	1998 <i>FR</i> ₇₃		3 7.4 87°92	3°4/ 4.9	18		105376	2000 <i>QK</i> ₁₂₉		3 7.4 110°57	0°5/ 6.9	18	
2 1	11 41.36	+10 59.9	1.536	2.371	15.7	18.1	2 1	11 36.69	+2 17.1	1.590	2.410	16.0	19.9
2 11	11 35.84	+11 47.0	1.481	2.390	11.7	17.9	2 11	11 32.39	+3 11.6	1.521	2.420	12.1	19.7
2 21	11 27.73	+12 41.0	1.448	2.408	7.3	17.6	2 21	11 25.66	+4 23.5	1.473	2.430	7.6	19.4
3 2	11 17.90	+13 34.0	1.442	2.426	3.7	17.5	3 2	11 17.22	+5 46.3	1.452	2.440	2.6	19.1
3 12	11 7.62	+14 17.8	1.463	2.444	4.9	17.6	3 12	11 8.20	+7 11.0	1.459	2.449	2.6	19.1
3 22	10 58.17	+14 46.1	1.512	2.461	9.0	17.9	3 22	10 59.75	+8 28.6	1.494	2.458	7.5	19.5
4 1	10 50.61	+14 55.8	1.585	2.478	13.0	18.1	4 1	10 52.95	+9 31.6	1.554	2.467	11.9	19.7
4 11	10 45.64	+14 46.7	1.679	2.495	16.3	18.4	4 11	10 48.52	+10 15.7	1.636	2.475	15.6	20.0
495951	2006 <i>VJ</i> ₁₁₅		3 7.4 145°62	3°0/11.9	17		465918	2010 <i>VG</i> ₁₉₈		3 7.4 71°22	8°6/ 1.4	16	
2 1	11 32.95	-9 49.9	3.279	4.010	10.4	22.5	2 1	11 48.34	+26 56.6	1.645	2.474	15.2	21.6
2 11	11 28.42	-9 39.7	3.189	4.022	8.5	22.3	2 11	11 40.85	+27 51.0	1.610	2.501	12.1	21.5
2 21	11 22.64	-9 16.0	3.124	4.033	6.3	22.2	2 21	11 30.66	+28 34.7	1.597	2.528	9.6	21.4
3 2	11 16.04	-8 39.9	3.086	4.044	4.1	22.1	3 2	11 18.88	+28 58.2	1.611	2.554	8.6	21.4
3 12	11 9.15	-7 53.8	3.078	4.054	3.0	22.0	3 12	11 6.94	+28 55.4	1.651	2.581	9.8	21.5
3 22	11 2.49	-7 1.1	3.101	4.064	4.1	22.1	3 22	10 56.20	+28 25.2	1.717	2.607	12.2	21.7
4 1	10 56.61	-6 5.9	3.153	4.073	6.2	22.2	4 1	10 47.71	+27 30.3	1.806	2.633	14.8	21.9
4 11	10 51.91	-5 12.4	3.233	4.082	8.4	22.4	4 11	10 42.04	+26 16.0	1.915	2.658	17.1	22.1
135373	2001 <i>TQ</i> ₁₃₇		3 7.4 102°36	4°1/ 2.2	18		264668	2001 <i>XD</i> ₁₆₁		3 7.4 98°61	1°6/ 5.9	18	
2 1	11 35.30	+17 6.1	2.580	3.409	10.3	20.1	2 1	11 36.05	+6 41.1	1.842	2.667	13.9	21.1
2 11	11 30.42	+18 12.7	2.526	3.430	7.7	19.9	2 11	11 31.63	+7 26.4	1.770	2.674	10.4	20.8
2 21	11 23.97	+19 19.6	2.500	3.450	5.3	19.8	2 21	11 25.05	+8 22.4	1.722	2.681	6.4	20.6
3 2	11 16.51	+20 20.9	2.502	3.471	4.1	19.8	3 2	11 16.99	+9 23.2	1.700	2.687	2.4	20.4
3 12	11 8.78	+21 11.2	2.534	3.490	5.2	19.9	3 12	11 8.40	+10 21.5	1.707	2.694	3.2	20.4
3 22	11 1.49	+21 46.7	2.594	3.510	7.5	20.0	3 22	11 0.32	+11 10.9	1.743	2.700	7.3	20.7
4 1	10 55.30	+22 5.5	2.681	3.529	9.9	20.2	4 1	10 53.65	+11 46.5	1.804	2.707	11.1	20.9
4 11	10 50.68	+22 7.8	2.791	3.547	12.0	20.4	4 11	10 49.07	+12 5.6	1.887	2.713	14.4	21.2
436667	2011 <i>SR</i> ₆₀		3 7.4 276°53	0°5/ 8.0	17		312086	2007 <i>TF</i> ₉₅		3 7.4 174°44	4°3/ 3.4	18	
2 1	11 33.76	+1 17.4	2.324	3.124	12.2	21.8	2 1	11 40.25	+14 23.0	1.894	2.726	13.4	20.6
2 11	11 29.66	+1 38.4	2.220	3.108	9.4	21.6	2 11	11 34.81	+15 25.2	1.822	2.728	10.1	20.4
2 21	11 23.76	+2 11.6	2.141	3.091	6.1	21.4	2 21	11 27.07	+16 31.7	1.775	2.731	6.6	20.2
3 2	11 16.53	+2 54.2	2.089	3.074	2.4	21.1	3 2	11 17.72	+17 34.9	1.755	2.732	4.4	20.1
3 12	11 8.71	+3 41.8	2.067	3.058	1.7	21.0	3 12	11 7.79	+18 26.6	1.764	2.733	5.7	20.2
3 22	11 1.08	+4 29.2	2.073	3.040	5.5	21.2	3 22	10 58.38	+19 1.2	1.801	2.733	9.1	20.4
4 1	10 54.46	+5 11.4	2.108	3.023	9.1	21.4	4 1	10 50.50	+19 15.7	1.863	2.733	12.5	20.6
4 11	10 49.49	+5 44.4	2.167	3.006	12.3	21.6	4 11	10 44.84	+19 10.0	1.947	2.732	15.5	20.8
131628	2001 <i>XX</i> ₆₀		3 7.4 334°59	2°9/ 5.4	18		500404	2012 <i>TE</i> ₁₀₀		3 7.4 135°11	5°8/15.6	17	
2 1	11 35.61	+8 22.0											

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2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
473089	2015 <i>HN</i> ₁₅₀		3 7.4 237°67	7°0/17.2 17			420538	2012 <i>GC</i> ₄		3 7.5 315°88	3°9/ 4.7 17		
2 1	11 31.78	-22 31.1	2.700	3.360	14.0	21.5	2 1	11 39.37	+13 8.7	1.527	2.370	15.4	20.4
2 11	11 28.03	-22 41.4	2.595	3.354	12.3	21.3	2 11	11 34.83	+13 34.8	1.443	2.355	11.7	20.2
2 21	11 22.66	-22 29.6	2.508	3.348	10.3	21.2	2 21	11 27.47	+14 6.2	1.381	2.341	7.6	19.9
3 2	11 16.13	-21 54.0	2.445	3.342	8.5	21.0	3 2	11 18.00	+14 35.7	1.344	2.327	4.1	19.7
3 12	11 9.10	-20 55.6	2.407	3.336	7.2	20.9	3 12	11 7.63	+14 55.5	1.334	2.314	5.4	19.7
3 22	11 2.28	-19 37.9	2.397	3.329	7.1	20.9	3 22	10 57.72	+14 59.6	1.351	2.301	9.7	19.9
4 1	10 56.39	-18 6.7	2.414	3.322	8.4	21.0	4 1	10 49.58	+14 44.8	1.391	2.289	14.1	20.1
4 11	10 52.00	-16 29.1	2.457	3.316	10.4	21.1	4 11	10 44.12	+14 11.0	1.451	2.277	17.9	20.3
157352	2004 <i>TU</i> ₇₅		3 7.4 143°07	1°4/ 6.0 18			459087	2012 <i>BB</i> ₇₁		3 7.5 82°03	0°4/ 7.8 18		
2 1	11 35.94	+ 6 39.9	2.174	2.991	12.4	20.5	2 1	11 39.44	+ 1 39.9	1.612	2.425	16.2	22.0
2 11	11 31.24	+ 7 21.8	2.098	2.998	9.3	20.3	2 11	11 34.30	+ 2 3.2	1.552	2.446	12.3	22.0
2 21	11 24.68	+ 8 12.8	2.047	3.004	5.7	20.1	2 21	11 26.76	+ 2 41.8	1.514	2.467	7.8	21.6
3 2	11 16.84	+ 9 8.0	2.023	3.010	2.1	19.9	3 2	11 17.62	+ 3 31.0	1.501	2.487	2.9	21.4
3 12	11 8.55	+10 1.3	2.029	3.016	2.8	19.9	3 12	11 8.03	+ 4 23.8	1.517	2.508	2.1	21.3
3 22	11 0.67	+10 47.2	2.064	3.021	6.4	20.2	3 22	10 59.15	+ 5 13.1	1.560	2.528	6.8	21.7
4 1	10 53.99	+11 21.7	2.127	3.026	9.9	20.4	4 1	10 51.99	+ 5 52.9	1.630	2.548	11.1	22.0
4 11	10 49.12	+11 42.2	2.213	3.030	12.8	20.6	4 11	10 47.22	+ 6 19.3	1.722	2.568	14.7	22.3
179062	2001 <i>SP</i> ₉₄		3 7.4 308°62	2°7/10.1 18			465927	2010 <i>WE</i> ₅₂		3 7.5 67°54	0°9/ 6.7 18		
2 1	11 32.19	- 6 6.1	1.673	2.467	16.5	20.1	2 1	11 37.64	+ 5 0.4	1.636	2.461	15.4	21.3
2 11	11 29.10	- 5 33.1	1.582	2.460	13.1	19.8	2 11	11 32.98	+ 5 30.8	1.572	2.475	11.6	21.1
2 21	11 23.70	- 4 35.4	1.512	2.452	9.2	19.6	2 21	11 25.97	+ 6 13.6	1.531	2.489	7.2	20.8
3 2	11 16.58	- 3 15.5	1.467	2.445	4.9	19.3	3 2	11 17.35	+ 7 3.2	1.516	2.504	2.5	20.6
3 12	11 8.73	- 1 39.8	1.449	2.438	2.9	19.1	3 12	11 8.24	+ 7 52.4	1.529	2.518	2.7	20.6
3 22	11 1.21	+ 0 2.3	1.459	2.432	6.5	19.3	3 22	10 59.77	+ 8 34.5	1.569	2.533	7.3	20.9
4 1	10 55.10	+ 1 40.6	1.495	2.425	10.9	19.6	4 1	10 52.95	+ 9 4.3	1.635	2.547	11.5	21.2
4 11	10 51.19	+ 3 6.4	1.553	2.419	14.9	19.8	4 11	10 48.45	+ 9 19.0	1.723	2.562	15.0	21.5
340693	2006 <i>SC</i> ₂		3 7.4 115°85	4°3/12.5 18			210573	1999 <i>UL</i> ₂₀		3 7.5 239°48	0°4/ 7.1 16		
2 1	11 38.00	-11 13.7	2.830	3.551	12.2	21.0	2 1	11 37.12	+ 3 11.5	1.819	2.633	14.6	21.8
2 11	11 32.38	-11 43.2	2.746	3.568	10.0	20.9	2 11	11 32.69	+ 3 48.7	1.726	2.623	11.1	21.6
2 21	11 25.22	-11 58.1	2.686	3.584	7.7	20.8	2 21	11 25.92	+ 4 40.7	1.656	2.612	7.0	21.3
3 2	11 17.01	-11 58.0	2.653	3.600	5.4	20.6	3 2	11 17.41	+ 5 43.1	1.613	2.600	2.5	21.0
3 12	11 8.42	-11 44.6	2.650	3.615	4.3	20.6	3 12	11 8.13	+ 6 48.7	1.599	2.589	2.4	21.0
3 22	11 0.15	-11 20.6	2.676	3.631	5.3	20.7	3 22	10 59.17	+ 7 50.1	1.613	2.577	7.1	21.2
4 1	10 52.85	-10 50.0	2.731	3.645	7.3	20.8	4 1	10 51.58	+ 8 40.7	1.653	2.564	11.4	21.4
4 11	10 47.04	-10 17.3	2.813	3.660	9.6	21.0	4 11	10 46.17	+ 9 16.0	1.716	2.551	15.2	21.6
170365	2003 <i>SV</i> ₂₁₂		3 7.4 239°69	3°9/ 4.1 18			26420	1999 <i>XL</i> ₁₀₃		3 7.5 191°66	3°2/ 4.8 18		
2 1	11 40.27	+13 1.7	1.791	2.623	14.0	20.7	2 1	11 40.28	+ 9 55.5	1.599	2.432	15.3	19.5
2 11	11 35.12	+13 53.3	1.704	2.611	10.6	20.4	2 11	11 35.27	+10 53.0	1.523	2.432	11.5	19.3
2 21	11 27.46	+14 51.4	1.641	2.599	6.9	20.2	2 21	11 27.60	+12 0.6	1.471	2.430	7.2	19.0
3 2	11 17.93	+15 48.4	1.606	2.586	4.1	20.0	3 2	11 18.01	+13 10.4	1.444	2.428	3.5	18.8
3 12	11 7.60	+16 36.2	1.598	2.573	5.5	20.0	3 12	11 7.67	+14 13.0	1.446	2.426	4.9	18.8
3 22	10 57.66	+17 8.2	1.618	2.559	9.3	20.2	3 22	10 57.86	+15 0.7	1.474	2.423	9.2	19.1
4 1	10 49.26	+17 20.5	1.664	2.545	13.2	20.4	4 1	10 49.78	+15 28.5	1.528	2.420	13.4	19.3
4 11	10 43.22	+17 12.4	1.730	2.530	16.6	20.6	4 11	10 44.25	+15 34.9	1.602	2.416	17.1	19.5
192508	1998 <i>OP</i> ₁₃		3 7.4 168°52	1°1/ 6.4 18			301521	2009 <i>FK</i> ₂₂		3 7.5 264°67	2°6/10.7 18		
2 1	11 39.03	+ 4 16.0	1.807	2.621	14.6	21.3	2 1	11 31.52	- 6 47.9	2.514	3.280	12.4	20.3
2 11	11 33.97	+ 5 13.1	1.729	2.626	11.0	21.1	2 11	11 27.86	- 6 26.7	2.410	3.269	9.9	20.1
2 21	11 26.59	+ 6 24.6	1.674	2.631	6.8	20.8	2 21	11 22.58	- 5 48.8	2.330	3.258	7.1	19.9
3 2	11 17.58	+ 7 44.1	1.647	2.634	2.4	20.6	3 2	11 16.15	- 4 55.8	2.276	3.248	4.1	19.7
3 12	11 7.94	+ 9 3.6	1.649	2.637	2.9	20.6	3 12	11 9.21	- 3 51.4	2.251	3.237	2.7	19.6
3 22	10 58.77	+10 14.9	1.680	2.639	7.4	20.9	3 22	11 2.47	- 2 40.6	2.256	3.226	4.9	19.7
4 1	10 51.11	+11 11.7	1.737	2.640	11.5	21.1	4 1	10 56.64	- 1 29.5	2.289	3.215	8.0	19.9
4 11	10 45.66	+11 50.5	1.818	2.640	15.0	21.3	4 11	10 52.30	- 0 23.4	2.348	3.203	10.9	20.1
405992	2006 <i>SN</i> ₃₁₀		3 7.4 66°51	0°0/ 7.2 18			390489	2014 <i>AC</i> ₂₈		3 7.5 303°46	5°3/13.0 17		
2 1	11 40.62	+ 3 26.0	1.551	2.370	16.4	21.3	2 1	11 34.46	-12 31.2	2.368	3.100	14.0	20.8
2 11	11 35.15	+ 3 44.7	1.499	2.397	12.4	21.1	2 11	11 30.20	-13 0.9	2.270	3.096	11.7	20.6
2 21	11 27.23	+ 4 16.9	1.468	2.424	7.7	20.9	2 21	11 24.12	-13 12.8	2.193	3.091	9.1	20.5
3 2	11 17.74	+ 4 57.5	1.464	2.451	2.7	20.7	3 2	11 16.72	-13 5.9	2.142	3.087	6.7	20.3
3 12	11 7.88	+ 5 39.5	1.488	2.478	2.3	20.7	3 12	11 8.73	-12 41.6	2.118	3.082	5.3	20.2
3 22	10 58.86	+ 6 16.5	1.539	2.505	7.1	21.1	3 22	11 0.98	-12 3.3	2.121	3.078	6.3	20.3
4 1	10 51.67	+ 6 43.3	1.615	2.532	11.3	21.4	4 1	10 54.26	-11 16.2	2.153	3.074	8.6	20.4
4 11	10 46.95	+ 6 56.9	1.714	2.558	14.8	21.6	4 11	10 49.21	-10 26.3	2.209	3.069	11.3	20.6
499133	2009 <i>QA</i> ₂₂		3 7.4 158°27	0°2/ 7.2 17			26114	1991 <i>QG</i>		3 7.5 146°05	1°2/ 9.3 18		
2 1	11 36.15	+ 2 39.0	2.407	3.206	11.9	22.7	2 1	11 33.59	- 2 46.7	3.298	4.065	9.7	20.7
2 11	11 31.24	+ 3 22.0	2.325	3.214	9.0	22.5	2 11	11 28.87	- 2 17.6	3.214	4.079	7.5	20.5
2 21	11 24.61	+ 4 16.4	2.269	3.221	5.6	22.3	2 21	11 22.94	- 1 38.0	3.155	4.092	5.0	20.4
3 2	11 16.82	+ 5 17.9	2.241	3.228	2.0	22.0	3 2	11 16.21	- 0 50.0	3.125	4.104	2.4	20.2
3 12	11 8.61	+ 6 21.2	2.244	3.234	1.8	22.0	3 12	11 9.20	+ 0 3.0	3.127	4.116	1.4	20.1
3 22	11 0.75	+ 7 20.8	2.277	3.239	5.5	22.3	3 22	11 2.45	+ 0 57.2	3.160	4.127	3.8	20.3
4 1	10 53.97	+ 8 11.9	2.339	3.244	8.8	22.5	4 1	10 56.46	+ 1 49.0	3.223	4.138	6.3	20.5
4 11	10 48.84	+ 8 51.2	2.425	3.248	11.7	22.7	4 11	10 51.65	+ 2 35.0	3.314	4.147	8.6	20.7
313099	2000 <i>WO</i> ₂₉		3 7.5 49°08	17°1/24.6 17									

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2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
253016	2002 RA ₁₆₁		3 7.5 192°59	0.4/ 7.9	17		368945	2006 WP ₁₉₇		3 7.5 177°23	10.2/12.5	18	
2 1	11 37.64	+ 1 8.3	2.130	2.927	13.3	22.2	2 1	11 48.99	-12 58.0	1.271	2.027	22.7	21.0
2 11	11 32.67	+ 1 37.0	2.039	2.926	10.2	22.0	2 11	11 42.90	-14 42.4	1.191	2.028	19.3	20.8
2 21	11 25.69	+ 2 19.2	1.973	2.923	6.6	21.8	2 21	11 33.04	-16 2.3	1.129	2.030	15.5	20.6
3 2	11 17.28	+ 3 11.5	1.935	2.920	2.5	21.5	3 2	11 20.18	-16 50.3	1.089	2.031	11.9	20.3
3 12	11 8.28	+ 4 8.3	1.926	2.917	1.8	21.5	3 12	11 5.86	-17 2.9	1.072	2.031	10.2	20.2
3 22	10 59.62	+ 5 3.8	1.947	2.913	5.9	21.7	3 22	10 52.01	-16 43.0	1.080	2.030	11.6	20.3
4 1	10 52.17	+ 5 52.3	1.995	2.908	9.7	22.0	4 1	10 40.50	-15 59.4	1.111	2.029	15.1	20.5
4 11	10 46.60	+ 6 29.6	2.068	2.902	13.0	22.2	4 11	10 32.59	-15 5.0	1.163	2.027	19.0	20.7
115653	2003 UK ₁₃₇		3 7.5 69°65	1.5/ 6.2	18		378800	2008 SF ₁₃₄		3 7.5 200°32	0.8/ 8.4	17	
2 1	11 38.56	+ 6 2.4	1.477	2.310	16.4	20.2	2 1	11 34.39	- 0 31.9	2.172	2.969	13.1	22.0
2 11	11 33.87	+ 6 42.9	1.419	2.326	12.3	20.0	2 11	11 30.20	+ 0 0.6	2.082	2.967	10.1	21.8
2 21	11 26.60	+ 7 36.2	1.383	2.343	7.6	19.8	2 21	11 24.13	+ 0 47.8	2.016	2.965	6.6	21.6
3 2	11 17.60	+ 8 35.3	1.372	2.360	2.7	19.5	3 2	11 16.74	+ 1 46.5	1.978	2.962	2.7	21.3
3 12	11 8.09	+ 9 31.7	1.389	2.376	3.4	19.6	3 12	11 8.81	+ 2 51.3	1.968	2.959	1.7	21.2
3 22	10 59.33	+10 17.8	1.432	2.393	8.1	19.9	3 22	11 1.19	+ 3 56.0	1.988	2.956	5.6	21.5
4 1	10 52.41	+10 48.3	1.500	2.410	12.4	20.2	4 1	10 54.71	+ 4 54.6	2.036	2.953	9.3	21.7
4 11	10 48.03	+11 0.9	1.589	2.427	16.1	20.5	4 11	10 49.98	+ 5 42.5	2.108	2.950	12.5	21.9
100097	1993 FK ₁₉		3 7.5 164°60	3.4/ 4.1	18		265638	2005 TE ₂₂		3 7.5 124°05	1.4/ 6.2	18	
2 1	11 37.12	+12 48.8	2.025	2.856	12.6	19.8	2 1	11 37.42	+ 6 33.5	1.886	2.707	13.8	21.3
2 11	11 32.33	+13 37.8	1.951	2.857	9.5	19.6	2 11	11 32.65	+ 7 8.4	1.811	2.713	10.4	21.1
2 21	11 25.47	+14 31.5	1.901	2.859	6.0	19.3	2 21	11 25.73	+ 7 53.3	1.760	2.718	6.4	20.9
3 2	11 17.19	+15 23.8	1.879	2.860	3.5	19.2	3 2	11 17.31	+ 8 43.2	1.737	2.724	2.3	20.6
3 12	11 8.40	+16 7.8	1.886	2.861	4.7	19.3	3 12	11 8.37	+ 9 31.3	1.742	2.729	2.9	20.7
3 22	11 0.05	+16 38.3	1.921	2.862	8.0	19.5	3 22	10 59.90	+10 11.7	1.775	2.734	7.0	21.0
4 1	10 53.05	+16 52.2	1.982	2.863	11.4	19.7	4 1	10 52.86	+10 39.8	1.835	2.739	10.9	21.2
4 11	10 48.04	+16 48.8	2.065	2.863	14.3	19.9	4 11	10 47.90	+10 53.2	1.917	2.744	14.2	21.4
180551	2004 EE ₂₂		3 7.5 29°44	3.1/ 4.8	18		11656	Lipno		3 7.5 132°28	0.7/ 6.7	18	
2 1	11 34.35	+ 8 32.3	1.420	2.267	16.1	20.0	2 1	11 34.29	+ 5 31.6	2.556	3.365	11.0	18.6
2 11	11 30.92	+ 9 39.1	1.358	2.273	12.0	19.8	2 11	11 29.78	+ 5 57.7	2.475	3.369	8.3	18.4
2 21	11 24.89	+10 58.4	1.317	2.280	7.4	19.5	2 21	11 23.70	+ 6 31.7	2.419	3.374	5.1	18.2
3 2	11 17.03	+12 21.1	1.301	2.287	3.5	19.3	3 2	11 16.55	+ 7 10.1	2.392	3.379	1.8	18.0
3 12	11 8.55	+13 36.8	1.312	2.295	4.9	19.4	3 12	11 9.01	+ 7 48.4	2.395	3.383	2.0	18.0
3 22	11 0.70	+14 36.4	1.349	2.303	9.4	19.7	3 22	11 1.81	+ 8 22.5	2.427	3.388	5.3	18.2
4 1	10 54.63	+15 14.4	1.409	2.311	13.7	20.0	4 1	10 55.59	+ 8 48.9	2.488	3.392	8.4	18.4
4 11	10 51.08	+15 28.9	1.489	2.320	17.3	20.2	4 11	10 50.89	+ 9 5.3	2.573	3.396	11.1	18.6
310225	2011 ST ₂₁₉		3 7.5 235°40	1.0/ 8.8	17		209007	2003 BO ₄₈		3 7.5 323°84	3.8/ 2.7	18	
2 1	11 32.59	- 1 0.4	2.740	3.526	11.0	21.2	2 1	11 29.93	+10 45.1	1.989	2.830	12.4	19.6
2 11	11 28.50	- 0 36.7	2.639	3.517	8.5	21.0	2 11	11 27.11	+12 29.0	1.905	2.818	9.2	19.4
2 21	11 22.91	- 0 1.1	2.563	3.507	5.6	20.8	2 21	11 22.34	+14 23.7	1.846	2.806	5.9	19.1
3 2	11 16.26	+ 0 43.9	2.515	3.498	2.5	20.6	3 2	11 16.14	+16 21.0	1.815	2.795	3.8	19.0
3 12	11 9.16	+ 1 34.6	2.497	3.488	1.5	20.5	3 12	11 9.32	+18 10.9	1.814	2.784	5.5	19.1
3 22	11 2.27	+ 2 26.6	2.509	3.478	4.6	20.7	3 22	11 2.79	+19 45.0	1.841	2.773	8.9	19.2
4 1	10 56.22	+ 3 15.4	2.550	3.467	7.7	20.9	4 1	10 57.41	+20 57.1	1.893	2.763	12.3	19.4
4 11	10 51.54	+ 3 57.1	2.617	3.456	10.4	21.0	4 11	10 53.87	+21 44.7	1.966	2.753	15.3	19.6
185498	2007 SN		3 7.5 122°84	4.0/11.5	18		141982	2002 PC ₁₃₂		3 7.5 259°07	1.8/ 6.1	17	
2 1	11 39.23	- 9 13.0	1.996	2.750	15.6	20.7	2 1	11 39.68	+ 7 50.8	1.768	2.592	14.5	20.5
2 11	11 33.85	- 9 7.5	1.921	2.769	12.6	20.5	2 11	11 34.75	+ 8 17.3	1.675	2.578	11.0	20.3
2 21	11 26.39	- 8 41.1	1.868	2.788	9.1	20.3	2 21	11 27.31	+ 8 53.7	1.605	2.563	6.9	20.0
3 2	11 17.52	- 7 55.1	1.841	2.806	5.7	20.1	3 2	11 17.98	+ 9 34.8	1.561	2.548	2.6	19.7
3 12	11 8.17	- 6 53.8	1.842	2.823	4.0	20.0	3 12	11 7.80	+10 13.7	1.546	2.533	3.4	19.7
3 22	10 59.34	- 5 43.6	1.872	2.839	6.0	20.2	3 22	10 57.95	+10 44.3	1.559	2.518	7.9	19.9
4 1	10 51.91	- 4 31.8	1.931	2.855	9.3	20.4	4 1	10 49.58	+11 1.6	1.598	2.502	12.2	20.1
4 11	10 46.52	- 3 25.4	2.014	2.869	12.5	20.7	4 11	10 43.54	+11 3.1	1.659	2.486	16.0	20.3
375776	2009 SZ ₂₀₀		3 7.5 180°81	4.6/ 2.1	16		434330	2004 JM ₂₃		3 7.5 258°65	9.1/20.3	17	
2 1	11 40.14	+19 26.9	2.567	3.389	10.6	22.0	2 1	11 32.92	-29 34.5	2.720	3.319	15.0	20.9
2 11	11 34.21	+20 21.1	2.494	3.391	8.1	21.8	2 11	11 29.09	-30 5.3	2.609	3.306	13.6	20.8
2 21	11 26.48	+21 14.4	2.446	3.392	5.8	21.7	2 21	11 23.47	-30 12.2	2.514	3.294	12.1	20.6
3 2	11 17.53	+22 1.0	2.428	3.392	4.6	21.6	3 2	11 16.54	-29 52.1	2.439	3.281	10.6	20.5
3 12	11 8.15	+22 35.2	2.440	3.391	5.7	21.6	3 12	11 9.00	-29 4.1	2.388	3.268	9.5	20.4
3 22	10 59.18	+22 53.6	2.481	3.390	8.1	21.8	3 22	11 1.63	-27 50.4	2.361	3.254	9.1	20.3
4 1	10 51.38	+22 54.6	2.548	3.388	10.6	22.0	4 1	10 55.23	-26 16.0	2.361	3.241	9.8	20.4
4 11	10 45.31	+22 38.8	2.638	3.385	12.8	22.1	4 11	10 50.44	-24 28.5	2.385	3.227	11.2	20.4
265348	2004 RB ₄₈		3 7.5 231°26	0.2/ 7.2	18		331926	2004 RQ ₃₂₇		3 7.5 140°65	4.9/12.6	17	
2 1	11 35.08	+ 2 41.7	2.175	2.982	12.8	21.1	2 1	11 34.84	-11 46.0	2.102	2.847	15.2	20.7
2 11	11 30.76	+ 3 22.2	2.080	2.972	9.7	20.9	2 11	11 30.63	-11 49.1	2.014	2.852	12.5	20.5
2 21	11 24.53	+ 4 15.8	2.009	2.963	6.1	20.7	2 21	11 24.45	-11 30.8	1.947	2.856	9.5	20.4
3 2	11 16.89	+ 5 18.4	1.966	2.953	2.2	20.4	3 2	11 16.89	-10 51.2	1.905	2.860	6.5	20.2
3 12	11 8.65	+ 6 24.1	1.952	2.942	2.0	20.3	3 12	11 8.76	- 9 53.6	1.890	2.864	4.9	20.1
3 22	11 0.67	+ 7 26.6	1.968	2.931	6.1	20.6	3 22	11 0.99	- 8 43.4	1.904	2.868	6.2	20.2
4 1	10 53.82	+ 8 20.2	2.011	2.920	9.8	20.8	4 1	10 54.42	- 7 27.8	1.945	2.871	9.1	20.3
4 11	10 48.75	+ 9 1.0	2.078	2.908	13.1	21.0	4 11	10 49.71	- 6 14.2	2.010	2.875	12.1	20.5
297711	2001 VP ₁₁₂		3 7.5 140°41	5.3/12.2	18		44182	1998 KL ₄₄		3 7.5 252°15	5.5/ 2.5	18	
2 1	11 39.38	-11 1.1	1.784	2.536	17.2	21.1							

EPHEMERIDES

3 7.5

3 7.5

2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
366838	2005 OX ₂₅		3 7.5 203°01	0°7/ 8.3	13 C		501122	2013 TV ₂₃		3 7.5 179°30	2°9/10.4	17	
2 1	11 36.48	- 0 10.0	2.455	3.242	12.1	23.5	2 1	11 34.76	- 5 38.3	2.043	2.821	14.5	21.0
2 11	11 31.60	+ 0 22.4	2.357	3.237	9.3	23.3	2 11	11 30.61	- 5 32.2	1.954	2.821	11.5	20.8
2 21	11 24.96	+ 1 8.0	2.284	3.230	6.0	23.1	2 21	11 24.47	- 5 8.2	1.888	2.821	8.1	20.6
3 2	11 17.06	+ 2 3.6	2.239	3.223	2.5	22.9	3 2	11 16.92	- 4 27.7	1.847	2.821	4.6	20.4
3 12	11 8.62	+ 3 4.6	2.225	3.216	1.6	22.8	3 12	11 8.78	- 3 34.9	1.834	2.821	3.0	20.3
3 22	11 0.43	+ 4 5.6	2.241	3.207	5.2	23.0	3 22	11 0.99	- 2 35.6	1.851	2.821	5.7	20.4
4 1	10 53.26	+ 5 1.2	2.286	3.198	8.7	23.2	4 1	10 54.40	- 1 36.3	1.894	2.821	9.3	20.7
4 11	10 47.71	+ 5 47.3	2.356	3.188	11.7	23.4	4 11	10 49.69	- 0 42.9	1.961	2.820	12.6	20.9
277679	2006 BR ₂₅₁		3 7.5 300°87	0°8/ 8.2	17		21763	1999 RR ₂₀₁		3 7.5 120°03	4°7/12.3	18	
2 1	11 35.06	+ 1 2.1	1.850	2.660	14.5	21.1	2 1	11 37.71	- 10 46.7	2.281	3.020	14.3	18.2
2 11	11 31.14	+ 1 13.8	1.753	2.645	11.2	20.8	2 11	11 32.58	- 11 7.3	2.199	3.033	11.7	18.0
2 21	11 24.97	+ 1 40.2	1.679	2.631	7.3	20.6	2 21	11 25.58	- 11 9.7	2.139	3.046	8.9	17.9
3 2	11 17.13	+ 2 18.3	1.631	2.616	3.0	20.3	3 2	11 17.28	- 10 54.0	2.104	3.058	6.1	17.7
3 12	11 8.53	+ 3 3.0	1.611	2.602	2.0	20.1	3 12	11 8.51	- 10 22.4	2.098	3.070	4.7	17.6
3 22	11 0.19	+ 3 48.1	1.618	2.588	6.4	20.4	3 22	11 0.12	- 9 39.1	2.121	3.082	5.9	17.7
4 1	10 53.15	+ 4 27.6	1.652	2.574	10.7	20.6	4 1	10 52.91	- 8 49.7	2.171	3.093	8.6	17.9
4 11	10 48.19	+ 4 56.4	1.709	2.560	14.5	20.8	4 11	10 47.49	- 8 0.3	2.247	3.104	11.3	18.1
433842	2015 BO ₂₅₂		3 7.5 147°64	0°3/ 7.8	17		166805	2002 VZ ₆₄		3 7.5 181°90	5°1/ 1.3	17	
2 1	11 34.79	+ 1 7.0	2.259	3.059	12.6	21.6	2 1	11 36.53	+ 20 19.9	2.490	3.320	10.6	20.0
2 11	11 30.37	+ 1 42.6	2.177	3.065	9.6	21.5	2 11	11 31.61	+ 21 23.4	2.420	3.321	8.2	19.8
2 21	11 24.18	+ 2 30.9	2.120	3.070	6.1	21.2	2 21	11 24.93	+ 22 25.8	2.376	3.321	6.0	19.7
3 2	11 16.76	+ 3 28.3	2.090	3.076	2.3	21.0	3 2	11 17.05	+ 23 20.8	2.361	3.321	5.1	19.6
3 12	11 8.89	+ 4 29.4	2.090	3.081	1.7	21.0	3 12	11 8.75	+ 24 2.5	2.375	3.320	6.2	19.7
3 22	11 1.38	+ 5 28.4	2.119	3.085	5.5	21.2	3 22	11 0.82	+ 24 27.2	2.416	3.319	8.5	19.8
4 1	10 54.99	+ 6 20.2	2.177	3.090	9.0	21.4	4 1	10 54.04	+ 24 33.2	2.483	3.318	11.0	20.0
4 11	10 50.30	+ 7 0.8	2.259	3.094	12.0	21.6	4 11	10 48.95	+ 24 21.0	2.572	3.317	13.2	20.1
120972	1998 WE ₄		3 7.5 144°49	1°7/ 8.9	18		72374	2001 CS ₅		3 7.5 289°67	3°1/ 4.3	18	
2 1	11 40.90	- 1 20.7	1.687	2.484	16.3	20.3	2 1	11 33.92	+ 10 13.4	1.937	2.772	13.0	19.6
2 11	11 35.54	- 1 11.9	1.611	2.493	12.6	20.1	2 11	11 30.12	+ 11 18.2	1.855	2.765	9.7	19.4
2 21	11 27.69	- 0 45.7	1.556	2.501	8.4	19.8	2 21	11 24.24	+ 12 31.9	1.798	2.758	6.1	19.2
3 2	11 18.08	- 0 5.0	1.527	2.509	3.8	19.6	3 2	11 16.87	+ 13 47.8	1.767	2.751	3.2	19.0
3 12	11 7.81	+ 0 44.5	1.526	2.516	2.3	19.5	3 12	11 8.87	+ 14 57.7	1.765	2.744	4.6	19.0
3 22	10 58.10	+ 1 36.0	1.553	2.522	6.6	19.8	3 22	11 1.24	+ 15 54.8	1.791	2.737	8.2	19.2
4 1	10 50.02	+ 2 22.5	1.607	2.528	11.0	20.0	4 1	10 54.88	+ 16 34.2	1.843	2.730	11.8	19.4
4 11	10 44.34	+ 2 58.6	1.684	2.534	14.8	20.3	4 11	10 50.49	+ 16 53.9	1.916	2.723	14.9	19.6
125818	2001 XL ₁₆₈		3 7.5 311°44	9°1/26.7	18		106995	2000 YO ₁₀₇		3 7.5 89°51	2°1/ 5.8	18	
2 1	11 33.96	+ 23 13.9	1.572	2.428	14.3	18.7	2 1	11 39.91	+ 7 30.0	1.577	2.406	15.7	19.5
2 11	11 30.94	+ 25 14.4	1.495	2.405	11.6	18.5	2 11	11 34.78	+ 8 16.6	1.518	2.424	11.7	19.2
2 21	11 25.17	+ 27 15.9	1.442	2.382	9.5	18.3	2 21	11 27.15	+ 9 13.8	1.483	2.442	7.2	19.0
3 2	11 17.28	+ 29 5.4	1.414	2.360	9.3	18.2	3 2	11 17.87	+ 10 14.6	1.474	2.460	2.8	18.8
3 12	11 8.42	+ 30 30.2	1.412	2.338	11.4	18.3	3 12	11 8.12	+ 11 10.5	1.493	2.478	3.8	18.9
3 22	10 59.91	+ 31 21.7	1.432	2.317	14.5	18.4	3 22	10 59.10	+ 11 54.5	1.539	2.495	8.1	19.2
4 1	10 53.08	+ 31 36.9	1.473	2.296	17.8	18.6	4 1	10 51.87	+ 12 22.2	1.610	2.513	12.2	19.5
4 11	10 48.87	+ 31 17.8	1.531	2.275	20.7	18.7	4 11	10 47.09	+ 12 31.7	1.703	2.529	15.7	19.7
144621	2004 FU ₆₆		3 7.5 136°16	1°4/ 5.9	18		129180	2005 LB ₁₇		3 7.5 76°84	3°7/11.7	17	
2 1	11 37.89	+ 6 19.9	2.226	3.037	12.3	20.3	2 1	11 33.24	- 9 2.0	2.230	2.988	14.0	20.3
2 11	11 32.64	+ 7 11.1	2.155	3.052	9.2	20.1	2 11	11 29.28	- 8 57.2	2.146	2.996	11.3	20.1
2 21	11 25.56	+ 8 11.5	2.110	3.066	5.7	19.9	2 21	11 23.54	- 8 33.7	2.084	3.004	8.3	20.0
3 2	11 17.25	+ 9 15.8	2.093	3.080	2.1	19.7	3 2	11 16.57	- 7 52.7	2.047	3.012	5.3	19.8
3 12	11 8.53	+ 10 17.7	2.107	3.093	2.8	19.8	3 12	11 9.14	- 6 57.6	2.039	3.019	3.7	19.7
3 22	11 0.27	+ 11 11.6	2.150	3.105	6.3	20.0	3 22	11 2.06	- 5 53.9	2.059	3.027	5.4	19.8
4 1	10 53.25	+ 11 53.3	2.222	3.117	9.7	20.2	4 1	10 56.09	- 4 47.7	2.107	3.035	8.4	20.0
4 11	10 48.03	+ 12 20.5	2.317	3.127	12.6	20.4	4 11	10 51.81	- 3 45.4	2.180	3.043	11.4	20.2
297077	2010 JQ ₁₅₂		3 7.5 242°10	0°0/ 7.5	17		299457	2006 BE ₇₀		3 7.5 10°50	3°1/ 5.6	18	
2 1	11 33.74	+ 2 30.5	2.585	3.384	11.2	21.9	2 1	11 35.66	+ 9 4.0	1.052	1.915	19.3	20.1
2 11	11 29.48	+ 2 58.4	2.485	3.373	8.5	21.7	2 11	11 32.72	+ 9 35.5	0.993	1.917	14.5	19.8
2 21	11 23.61	+ 3 36.9	2.410	3.362	5.4	21.5	2 21	11 26.44	+ 10 19.8	0.954	1.920	9.0	19.5
3 2	11 16.58	+ 4 22.7	2.364	3.351	2.0	21.2	3 2	11 17.74	+ 11 8.1	0.937	1.924	3.8	19.2
3 12	11 9.05	+ 5 11.5	2.348	3.339	1.6	21.2	3 12	11 8.21	+ 11 49.4	0.943	1.929	5.1	19.3
3 22	11 1.74	+ 5 58.8	2.362	3.327	5.1	21.4	3 22	10 59.53	+ 12 14.8	0.972	1.936	10.6	19.6
4 1	10 55.34	+ 6 40.1	2.404	3.314	8.4	21.6	4 1	10 53.19	+ 12 19.0	1.022	1.944	15.8	20.0
4 11	10 50.42	+ 7 12.0	2.471	3.301	11.3	21.8	4 11	10 50.06	+ 12 1.0	1.091	1.953	20.1	20.2
398257	2010 RN ₁₈₀		3 7.5 212°94	1°6/ 5.9	17		189469	1999 SH ₉		3 7.5 193°90	3°9/ 2.5	17	
2 1	11 38.27	+ 6 52.3	2.096	2.910	12.9	22.0	2 1	11 36.47	+ 16 7.1	2.626	3.451	10.3	20.8
2 11	11 33.26	+ 7 37.8	2.005	2.903	9.7	21.8	2 11	11 31.50	+ 17 14.2	2.546	3.448	7.7	20.7
2 21	11 26.15	+ 8 33.6	1.938	2.895	6.0	21.5	2 21	11 24.85	+ 18 23.7	2.494	3.445	5.3	20.5
3 2	11 17.53	+ 9 34.4	1.900	2.886	2.3	21.3	3 2	11 17.04	+ 19 29.6	2.470	3.441	3.9	20.4
3 12	11 8.26	+ 10 33.7	1.891	2.877	3.1	21.3	3 12	11 8.77	+ 20 26.0	2.477	3.437	5.1	20.5
3 22	10 59.31	+ 11 25.3	1.912	2.867	7.0	21.5	3 22	11 0.80	+ 21 8.4	2.514	3.432	7.6	20.6
4 1	10 51.60	+ 12 4.1	1.960	2.856	10.7	21.7	4 1	10 53.85	+ 21 34.1	2.576	3.426	10.2	20.8
4 11	10 45.83	+ 12 27.6	2.031	2.845	14.0	21.9	4 11	10 48.48	+ 21 42.7	2.662	3.420	12.5	20.9
262449	2006 UE ₁₀₈		3 7.5 36°29	10°3/27.4	18		32329	2000 QJ ₆₄		3 7.5 183°08	4°0/ 2.5	18	
2 1	11 41.												

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2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
2487	Juhani		3 7.5 125°88	0°0/ 7.3 18			496307	2013 FJ ₄		3 7.5 305°54	3°8/ 4.5 17		
2 1	11 40.17	+ 2 44.2	1.852	2.659	14.7	17.4	2 1	11 34.88	+ 9 35.5	1.372	2.222	16.4	21.1
2 11	11 34.70	+ 3 11.0	1.782	2.673	11.1	17.2	2 11	11 31.85	+10 39.4	1.283	2.201	12.4	20.8
2 21	11 27.03	+ 3 50.9	1.734	2.687	7.0	17.0	2 21	11 25.89	+11 57.9	1.217	2.180	7.9	20.5
3 2	11 17.84	+ 4 39.4	1.714	2.701	2.5	16.7	3 2	11 17.64	+13 22.5	1.174	2.159	4.0	20.2
3 12	11 8.16	+ 5 30.3	1.723	2.713	2.1	16.7	3 12	11 8.27	+14 41.6	1.158	2.139	5.8	20.2
3 22	10 59.03	+ 6 17.3	1.761	2.726	6.5	17.0	3 22	10 59.22	+15 44.4	1.166	2.119	10.7	20.4
4 1	10 51.43	+ 6 54.9	1.825	2.737	10.5	17.3	4 1	10 51.91	+16 23.3	1.197	2.099	15.6	20.7
4 11	10 45.99	+ 7 19.9	1.914	2.748	13.9	17.5	4 11	10 47.39	+16 35.4	1.247	2.080	19.9	20.9
498651	2008 SW ₈₈		3 7.5 162°81	1°1/ 8.6 17			89651	2001 XX ₂₄₅		3 7.5 283°22	0°2/ 7.3 18		
2 1	11 36.71	+ 0 12.2	2.137	2.933	13.3	22.2	2 1	11 33.62	+ 3 29.6	2.307	3.116	12.0	20.0
2 11	11 31.96	+ 0 19.9	2.051	2.934	10.3	22.0	2 11	11 29.58	+ 3 55.7	2.214	3.107	9.1	19.8
2 21	11 25.27	+ 0 40.3	1.989	2.936	6.7	21.7	2 21	11 23.78	+ 4 32.6	2.145	3.099	5.8	19.6
3 2	11 17.22	+ 1 10.9	1.954	2.937	2.9	21.5	3 2	11 16.71	+ 5 16.8	2.104	3.090	2.1	19.3
3 12	11 8.64	+ 1 47.3	1.948	2.939	1.8	21.4	3 12	11 9.11	+ 6 3.3	2.092	3.082	1.8	19.3
3 22	11 0.41	+ 2 24.7	1.971	2.940	5.6	21.7	3 22	11 1.77	+ 6 47.2	2.109	3.073	5.6	19.5
4 1	10 53.39	+ 2 58.1	2.022	2.941	9.2	21.9	4 1	10 55.48	+ 7 23.7	2.154	3.065	9.1	19.7
4 11	10 48.21	+ 3 23.5	2.097	2.942	12.5	22.1	4 11	10 50.83	+ 7 49.6	2.222	3.057	12.2	19.9
180937	2005 LM ₄₁		3 7.5 5°50	2°2/ 5.6 18			117235	2004 SM ₁₂		3 7.5 291°52	8°0/ 13.9 18		
2 1	11 35.78	+ 7 24.2	1.559	2.396	15.5	20.2	2 1	11 40.68	-17 53.8	2.439	3.122	14.8	19.3
2 11	11 31.91	+ 8 12.7	1.486	2.396	11.6	20.0	2 11	11 35.19	-19 13.5	2.323	3.103	12.9	19.1
2 21	11 25.54	+ 9 13.5	1.435	2.396	7.2	19.7	2 21	11 27.53	-20 16.7	2.228	3.083	10.9	19.0
3 2	11 17.37	+10 19.6	1.410	2.397	2.9	19.4	3 2	11 18.16	-20 59.8	2.159	3.064	9.0	18.8
3 12	11 8.52	+11 22.3	1.412	2.398	3.9	19.5	3 12	11 7.85	-21 20.8	2.116	3.044	8.0	18.7
3 22	11 0.19	+12 13.6	1.440	2.398	8.5	19.8	3 22	10 57.54	-21 20.4	2.101	3.025	8.5	18.7
4 1	10 53.50	+12 47.7	1.493	2.400	12.8	20.0	4 1	10 48.20	-21 2.0	2.112	3.005	10.2	18.8
4 11	10 49.22	+13 2.2	1.567	2.401	16.5	20.3	4 11	10 40.67	-20 31.6	2.148	2.986	12.5	18.9
338977	2004 FW ₁₀₁		3 7.5 359°94	2°5/ 10.2 17			290621	2005 UW ₂₂₉		3 7.5 346°42	0°7/ 8.1 17		
2 1	11 30.97	- 5 38.9	1.994	2.781	14.5	20.6	2 1	11 32.09	+ 0 32.4	1.441	2.270	16.9	20.6
2 11	11 27.81	- 5 10.9	1.907	2.780	11.5	20.4	2 11	11 29.38	+ 0 56.1	1.360	2.262	13.1	20.3
2 21	11 22.75	- 4 23.0	1.842	2.779	8.0	20.2	2 21	11 24.10	+ 1 39.5	1.299	2.255	8.5	20.0
3 2	11 16.33	- 3 17.7	1.802	2.779	4.3	20.0	3 2	11 16.92	+ 2 38.5	1.263	2.249	3.4	19.7
3 12	11 9.37	- 2 0.4	1.791	2.779	2.6	19.9	3 12	11 8.93	+ 3 45.5	1.253	2.244	2.2	19.6
3 22	11 2.74	- 0 38.1	1.808	2.780	5.6	20.1	3 22	11 1.38	+ 4 51.5	1.268	2.240	7.5	19.9
4 1	10 57.29	+ 0 41.5	1.852	2.781	9.3	20.3	4 1	10 55.44	+ 5 47.9	1.308	2.237	12.3	20.2
4 11	10 53.64	+ 1 51.8	1.920	2.782	12.7	20.5	4 11	10 51.96	+ 6 28.6	1.368	2.234	16.6	20.4
228183	2009 TQ ₂₀		3 7.5 168°68	0°1/ 7.3 18			187796	1999 CS ₁₃₂		3 7.5 255°74	1°3/ 6.3 18		
2 1	11 35.83	+ 2 31.5	2.193	2.998	12.7	21.3	2 1	11 35.46	+ 5 17.6	1.828	2.651	14.1	20.6
2 11	11 31.25	+ 3 11.5	2.110	3.001	9.7	21.1	2 11	11 31.41	+ 6 4.0	1.743	2.645	10.7	20.4
2 21	11 24.80	+ 4 4.0	2.051	3.004	6.1	20.9	2 21	11 25.14	+ 7 3.6	1.681	2.639	6.6	20.1
3 2	11 17.05	+ 5 4.8	2.019	3.006	2.2	20.7	3 2	11 17.24	+ 8 10.7	1.645	2.633	2.4	19.8
3 12	11 8.80	+ 6 7.9	2.018	3.008	1.9	20.6	3 12	11 8.68	+ 9 17.9	1.638	2.626	3.0	19.9
3 22	11 0.91	+ 7 7.5	2.046	3.010	5.8	20.9	3 22	11 0.48	+10 17.7	1.659	2.620	7.3	20.1
4 1	10 54.18	+ 7 58.2	2.102	3.011	9.5	21.1	4 1	10 53.64	+11 4.3	1.706	2.613	11.4	20.3
4 11	10 49.23	+ 8 36.4	2.182	3.011	12.6	21.3	4 11	10 48.90	+11 33.9	1.776	2.606	15.0	20.6
245074	2004 HJ		3 7.5 229°83	4°1/ 1.1 18			249450	2009 HF ₅		3 7.5 149°54	1°3/ 6.2 18		
2 1	11 32.55	+15 38.0	2.764	3.595	9.7	20.4	2 1	11 38.29	+ 5 32.1	2.019	2.832	13.4	21.6
2 11	11 28.58	+17 20.7	2.680	3.585	7.3	20.2	2 11	11 33.20	+ 6 22.7	1.944	2.842	10.0	21.4
2 21	11 23.06	+19 7.8	2.624	3.575	5.0	20.1	2 21	11 26.07	+ 7 24.4	1.894	2.851	6.2	21.1
3 2	11 16.42	+20 52.5	2.598	3.565	4.1	20.0	3 2	11 17.53	+ 8 31.6	1.872	2.859	2.2	20.9
3 12	11 9.30	+22 27.9	2.603	3.554	5.4	20.1	3 12	11 8.49	+ 9 37.4	1.879	2.866	2.8	20.9
3 22	11 2.37	+23 48.4	2.638	3.543	7.8	20.2	3 22	10 59.91	+10 35.3	1.916	2.873	6.8	21.2
4 1	10 56.30	+24 50.2	2.699	3.532	10.3	20.4	4 1	10 52.67	+11 20.3	1.980	2.879	10.5	21.4
4 11	10 51.65	+25 32.1	2.783	3.520	12.4	20.5	4 11	10 47.41	+11 49.6	2.067	2.885	13.6	21.7
489992	2008 SQ ₁₆₄		3 7.5 154°05	0°4/ 7.9 18			437076	2012 US ₆₅		3 7.5 20°50	4°3/ 2.8 17		
2 1	11 38.80	+ 0 1.8	1.802	2.603	15.2	22.1	2 1	11 35.49	+16 43.3	2.215	3.050	11.5	21.2
2 11	11 33.83	+ 0 48.4	1.724	2.612	11.6	21.9	2 11	11 31.01	+17 34.8	2.144	3.051	8.7	21.0
2 21	11 26.58	+ 1 52.4	1.669	2.620	7.5	21.6	2 21	11 24.64	+18 27.6	2.099	3.052	5.9	20.8
3 2	11 17.72	+ 3 9.2	1.642	2.627	2.8	21.4	3 2	11 17.00	+19 15.4	2.081	3.054	4.3	20.7
3 12	11 8.27	+ 4 31.0	1.643	2.634	2.0	21.3	3 12	11 8.92	+19 52.3	2.092	3.055	5.5	20.8
3 22	10 59.31	+ 5 49.7	1.673	2.639	6.6	21.6	3 22	11 1.26	+20 13.8	2.131	3.057	8.3	20.9
4 1	10 51.83	+ 6 58.0	1.730	2.644	10.8	21.9	4 1	10 54.82	+20 17.9	2.195	3.059	11.1	21.1
4 11	10 46.56	+ 7 50.9	1.811	2.649	14.4	22.1	4 11	10 50.19	+20 4.6	2.281	3.060	13.7	21.3
89728	2001 YC ₁₃₆		3 7.5 26°77	6°6/ 12.1 18			173529	2000 WY ₃		3 7.5 245°13	6°0/ 14.6 18		
2 1	11 39.47	- 9 42.0	1.587	2.355	18.4	18.3	2 1	11 34.49	-17 5.8	2.734	3.427	13.1	20.1
2 11	11 34.75	-10 45.3	1.510	2.361	15.2	18.1	2 11	11 30.13	-17 34.7	2.624	3.416	11.3	20.0
2 21	11 27.38	-11 27.3	1.452	2.367	11.6	17.9	2 21	11 24.09	-17 45.6	2.536	3.405	9.2	19.8
3 2	11 18.07	-11 45.9	1.418	2.374	8.2	17.7	3 2	11 16.84	-17 37.1	2.472	3.393	7.2	19.6
3 12	11 7.96	-11 41.9	1.410	2.381	6.6	17.6	3 12	11 9.01	-17 9.9	2.435	3.382	6.1	19.6
3 22	10 58.35	-11 19.4	1.427	2.389	8.1	17.7	3 22	11 1.33	-16 26.7	2.427	3.370	6.5	19.6
4 1	10 50.42	-10 45.3	1.470	2.397	11.4	17.9	4 1	10 54.52	-15 32.0	2.446	3.357	8.2	19.6
4 11	10 45.03	-10 7.9	1.535	2.405	14.8	18.2	4 11	10 49.19	-14 31.7	2.491	3.345	10.4	19.8
169039	2001 FO ₄₀		3 7.5 36°25	1°4/ 6.5 18			302119	2001 PF ₄₃		3 7.5 209°61	3°8/ 3.8 17		
2 1	11 37.92	+ 6 20.2	1.325	2.165	17.5	19.8							

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2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
149971	2005 <i>TO</i> ₁₅₉		3 7.5 329°04	1°0/ 8.4 18			251987	2000 <i>DS</i> ₁₁		3 7.5 131°57	0°7/ 8.2 18		
2 1	11 36.87	+ 0 44.9	1.745	2.554	15.3	20.0	2 1	11 35.37	- 0 55.3	1.888	2.689	14.6	20.7
2 11	11 32.54	+ 0 52.5	1.661	2.552	11.8	19.8	2 11	11 31.18	- 0 8.1	1.810	2.697	11.2	20.5
2 21	11 25.88	+ 1 15.2	1.600	2.550	7.7	19.5	2 21	11 24.89	+ 0 56.8	1.755	2.704	7.3	20.3
3 2	11 17.52	+ 1 49.8	1.564	2.549	3.2	19.2	3 2	11 17.16	+ 2 14.7	1.726	2.711	2.9	20.1
3 12	11 8.49	+ 2 31.0	1.556	2.547	2.0	19.1	3 12	11 8.88	+ 3 38.7	1.727	2.718	1.8	20.0
3 22	10 59.86	+ 3 12.7	1.575	2.545	6.5	19.4	3 22	11 1.04	+ 5 0.6	1.757	2.725	6.2	20.3
4 1	10 52.69	+ 3 48.6	1.621	2.544	10.8	19.7	4 1	10 54.55	+ 6 13.3	1.813	2.731	10.2	20.5
4 11	10 47.74	+ 4 14.2	1.689	2.543	14.6	19.9	4 11	10 50.05	+ 7 11.6	1.894	2.737	13.7	20.8
428924	2008 <i>WV</i> ₅₄		3 7.5 318°49	4°3/11.5 17			187741	2100 <i>T</i> ₋₃		3 7.5 62°46	8°2/17.0 18		
2 1	11 32.39	- 8 28.6	1.835	2.611	15.9	20.7	2 1	11 33.23	- 21 41.6	1.680	2.385	19.8	20.1
2 11	11 29.21	- 8 33.0	1.736	2.597	13.0	20.4	2 11	11 29.90	- 21 33.6	1.605	2.401	17.1	19.9
2 21	11 23.84	- 8 15.6	1.658	2.584	9.6	20.2	2 21	11 24.24	- 20 50.5	1.547	2.417	14.0	19.8
3 2	11 16.83	- 7 36.6	1.603	2.570	6.1	20.0	3 2	11 16.95	- 19 31.0	1.511	2.434	10.8	19.6
3 12	11 9.04	- 6 39.3	1.575	2.558	4.3	19.8	3 12	11 9.09	- 17 39.0	1.499	2.450	8.6	19.5
3 22	11 1.50	- 5 30.0	1.575	2.545	6.5	19.9	3 22	11 1.80	- 15 23.4	1.513	2.467	8.6	19.5
4 1	10 55.20	+ 4 16.4	1.600	2.533	10.2	20.1	4 1	10 56.07	- 12 56.8	1.554	2.483	10.7	19.7
4 11	10 50.96	- 3 6.9	1.649	2.522	13.9	20.3	4 11	10 52.61	- 10 32.4	1.620	2.500	13.7	19.9
435307	2007 <i>UH</i> ₅₄		3 7.5 64°86	5°1/13.5 18			408713	2014 <i>NR</i> ₅₉		3 7.5 245°20	3°9/ 4.1 18		
2 1	11 32.81	- 13 26.3	2.216	2.950	14.7	21.1	2 1	11 37.91	+ 10 54.7	1.600	2.439	15.0	21.2
2 11	11 29.03	- 13 28.8	2.130	2.958	12.3	20.9	2 11	11 33.66	+ 12 5.4	1.518	2.430	11.3	20.9
2 21	11 23.44	- 13 9.9	2.066	2.966	9.5	20.8	2 21	11 26.78	+ 13 26.8	1.460	2.420	7.2	20.7
3 2	11 16.60	- 12 29.8	2.026	2.974	6.7	20.6	3 2	11 17.93	+ 14 50.2	1.428	2.411	4.1	20.5
3 12	11 9.28	- 11 31.3	2.014	2.983	5.2	20.5	3 12	11 8.25	+ 16 5.4	1.424	2.401	5.6	20.5
3 22	11 2.30	- 10 19.8	2.029	2.991	6.1	20.6	3 22	10 58.98	+ 17 3.7	1.447	2.391	9.8	20.7
4 1	10 56.44	- 9 2.1	2.072	2.999	8.6	20.8	4 1	10 51.34	+ 17 39.5	1.493	2.380	14.0	21.0
4 11	10 52.31	- 7 45.4	2.140	3.008	11.4	20.9	4 11	10 46.19	+ 17 51.2	1.560	2.370	17.7	21.2
21510	Chemnitz		3 7.5 206°83	0°9/ 8.4 18			38509	1999 <i>TQ</i> ₂₂₀		3 7.5 190°53	0°6/ 6.9 18		
2 1	11 36.04	+ 0 18.9	2.210	3.006	12.9	19.1	2 1	11 39.27	+ 6 4.3	2.044	2.856	13.3	18.3
2 11	11 31.46	+ 0 37.0	2.119	3.003	10.0	18.9	2 11	11 34.00	+ 6 12.5	1.960	2.856	10.0	18.1
2 21	11 25.00	+ 1 8.0	2.051	2.999	6.5	18.6	2 21	11 26.64	+ 6 29.2	1.900	2.855	6.3	17.9
3 2	11 17.18	+ 1 49.3	2.011	2.996	2.7	18.4	3 2	11 17.80	+ 6 50.6	1.868	2.855	2.2	17.6
3 12	11 8.81	+ 2 36.1	2.001	2.992	1.7	18.3	3 12	11 8.40	+ 7 12.2	1.865	2.854	2.2	17.6
3 22	11 0.74	+ 3 23.1	2.019	2.987	5.5	18.5	3 22	10 59.40	+ 7 29.3	1.891	2.854	6.3	17.8
4 1	10 53.80	+ 4 5.3	2.066	2.983	9.2	18.8	4 1	10 51.73	+ 7 38.4	1.944	2.853	10.1	18.1
4 11	10 48.63	+ 4 38.5	2.136	2.978	12.4	19.0	4 11	10 46.05	+ 7 37.0	2.021	2.852	13.4	18.3
508278	2015 <i>HM</i> ₁₈₅		3 7.5 271°54	0°5/ 6.9 17			374528	2006 <i>AO</i> ₅₃		3 7.5 164°53	2°6/10.0 17		
2 1	11 32.97	+ 4 16.1	2.432	3.242	11.5	21.7	2 1	11 36.02	- 4 14.7	2.016	2.799	14.5	21.2
2 11	11 29.04	+ 4 51.7	2.335	3.231	8.7	21.5	2 11	11 31.62	- 4 12.6	1.929	2.800	11.5	21.0
2 21	11 23.43	+ 5 37.6	2.263	3.219	5.4	21.3	2 21	11 25.18	- 3 53.6	1.864	2.800	7.9	20.7
3 2	11 16.61	+ 6 30.1	2.219	3.206	1.9	21.0	3 2	11 17.29	- 3 19.6	1.825	2.801	4.3	20.5
3 12	11 9.27	+ 7 24.2	2.205	3.194	2.0	21.0	3 12	11 8.81	- 2 34.4	1.814	2.802	2.8	20.4
3 22	11 2.15	+ 8 14.7	2.220	3.182	5.6	21.2	3 22	11 0.68	- 1 43.7	1.832	2.802	5.7	20.6
4 1	10 56.00	+ 8 57.0	2.263	3.170	9.0	21.4	4 1	10 53.80	- 0 53.6	1.877	2.803	9.4	20.8
4 11	10 51.40	+ 9 27.8	2.330	3.157	12.0	21.6	4 11	10 48.84	- 0 9.7	1.946	2.803	12.8	21.0
430514	2001 <i>XH</i> ₉		3 7.5 112°34	1°3/ 8.8 18			366823	2005 <i>GJ</i> ₇₂		3 7.5 298°41	1°5/ 6.4 17		
2 1	11 39.44	- 1 5.4	2.266	3.048	13.1	22.5	2 1	11 36.59	+ 6 0.7	1.515	2.349	16.0	21.3
2 11	11 33.74	- 0 49.7	2.197	3.072	10.1	22.3	2 11	11 32.86	+ 6 33.1	1.424	2.332	12.2	21.0
2 21	11 26.24	- 0 21.0	2.152	3.095	6.6	22.1	2 21	11 26.40	+ 7 19.8	1.355	2.315	7.7	20.7
3 2	11 17.57	+ 0 17.7	2.135	3.117	3.0	21.9	3 2	11 17.85	+ 8 15.1	1.311	2.298	2.8	20.4
3 12	11 8.55	+ 1 2.1	2.149	3.139	1.8	21.9	3 12	11 8.31	+ 9 11.0	1.293	2.282	3.4	20.4
3 22	11 0.02	+ 1 47.1	2.192	3.160	5.2	22.1	3 22	10 59.09	+ 9 59.0	1.302	2.265	8.5	20.6
4 1	10 52.75	+ 2 27.9	2.264	3.180	8.5	22.4	4 1	10 51.48	+ 10 32.4	1.335	2.249	13.4	20.9
4 11	10 47.27	+ 3 0.7	2.362	3.200	11.5	22.6	4 11	10 46.44	+ 10 47.3	1.389	2.233	17.6	21.1
53402	1999 <i>JG</i> ₁₁₉		3 7.5 166°26	5°2/29.7 18			336368	2008 <i>UK</i> ₃₈		3 7.5 259°17	4°0/11.7 17		
2 1	11 36.62	+ 22 44.0	2.764	3.590	9.8	18.6	2 1	11 34.27	- 9 11.1	2.199	2.956	14.2	20.9
2 11	11 31.53	+ 23 42.9	2.699	3.594	7.6	18.5	2 11	11 30.28	- 9 11.9	2.096	2.944	11.6	20.7
2 21	11 24.83	+ 24 38.9	2.659	3.597	5.8	18.4	2 21	11 24.37	- 8 53.6	2.014	2.933	8.6	20.4
3 2	11 17.07	+ 25 26.3	2.649	3.600	5.2	18.3	3 2	11 17.02	- 8 16.5	1.958	2.921	5.6	20.2
3 12	11 8.94	+ 26 0.2	2.668	3.602	6.2	18.4	3 12	11 9.02	- 7 23.6	1.929	2.909	4.0	20.1
3 22	11 1.19	+ 26 17.5	2.714	3.604	8.2	18.5	3 22	11 1.23	- 6 19.8	1.930	2.897	5.8	20.2
4 1	10 54.49	+ 26 17.1	2.786	3.606	10.3	18.7	4 1	10 54.51	- 5 11.8	1.957	2.885	9.0	20.4
4 11	10 49.36	+ 25 59.7	2.880	3.608	12.3	18.8	4 11	10 49.55	- 4 6.3	2.010	2.872	12.2	20.5
298892	2004 <i>TX</i> ₁₉		3 7.5 168°57	3°0/ 5.0 18			323836	2005 <i>SU</i> ₅₉		3 7.5 151°93	2°2/ 5.3 18		
2 1	11 42.13	+ 11 0.0	1.777	2.603	14.4	21.5	2 1	11 39.73	+ 10 8.3	2.304	3.119	11.9	21.6
2 11	11 36.42	+ 11 41.3	1.703	2.607	10.8	21.3	2 11	11 34.05	+ 10 44.1	2.230	3.128	8.9	21.4
2 21	11 28.26	+ 12 29.3	1.653	2.610	6.8	21.1	2 21	11 26.52	+ 11 25.5	2.181	3.137	5.5	21.2
3 2	11 18.38	+ 13 17.5	1.629	2.613	3.4	20.9	3 2	11 17.73	+ 12 7.3	2.160	3.145	2.5	21.0
3 12	11 7.87	+ 13 58.4	1.635	2.615	4.5	20.9	3 12	11 8.52	+ 12 44.4	2.170	3.152	3.4	21.1
3 22	10 57.92	+ 14 26.0	1.668	2.616	8.4	21.2	3 22	10 59.74	+ 13 12.2	2.210	3.159	6.6	21.3
4 1	10 49.59	+ 14 37.1	1.727	2.617	12.3	21.4	4 1	10 52.20	+ 13 27.8	2.277	3.165	9.8	21.5
4 11	10 43.64	+ 14 30.5	1.809	2.618	15.6	21.6	4 11	10 46.47	+ 13 29.9	2.368	3.170	12.6	21.7
469347	2000 <i>TG</i> ₆₇		3 7.5 191°34	3°7/ 2.1 18			114758	2003 <i>HD</i> ₄₆		3			

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2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
211196	2002 LU ₄₈		3 7.5 337°10	23°4/15.1	17		152623	1996 XL ₁₂		3 7.5 142°27	3°3/ 4.8	18	
2 1	11 37.66	-30 46.5	1.224	1.897	27.3	18.8	2 1	11 41.93	+10 10.2	1.635	2.464	15.2	20.6
2 11	11 35.48	-34 40.3	1.141	1.873	26.1	18.5	2 11	11 36.41	+11 10.9	1.569	2.475	11.4	20.3
2 21	11 29.33	-38 10.3	1.071	1.851	24.9	18.3	2 21	11 28.32	+12 20.4	1.526	2.485	7.1	20.1
3 2	11 19.38	-41 0.8	1.017	1.830	24.0	18.2	3 2	11 18.46	+13 30.6	1.511	2.495	3.6	19.9
3 12	11 6.75	-42 57.3	0.978	1.811	23.5	18.0	3 12	11 8.00	+14 32.5	1.524	2.503	4.9	20.0
3 22	10 53.43	-43 51.3	0.954	1.794	23.6	18.0	3 22	10 58.20	+15 18.8	1.564	2.511	8.9	20.3
4 1	10 42.01	-43 43.4	0.943	1.779	24.4	18.0	4 1	10 50.17	+15 45.4	1.630	2.519	12.9	20.5
4 11	10 34.72	-42 44.9	0.945	1.767	25.6	18.0	4 11	10 44.64	+15 51.3	1.717	2.526	16.3	20.8
501371	2013 YJ ₄₇		3 7.5 336°40	6°0/29.7	17		368247	2001 WT ₆₅		3 7.5 188°40	2°0/ 9.8	16	
2 1	11 34.73	+20 11.5	2.055	2.897	12.0	20.4	2 1	11 36.05	- 4 16.1	2.304	3.079	13.1	22.2
2 11	11 30.68	+21 31.9	1.988	2.895	9.3	20.2	2 11	11 31.43	- 3 52.1	2.211	3.078	10.3	22.0
2 21	11 24.59	+22 52.2	1.946	2.893	6.9	20.1	2 21	11 24.99	- 3 11.9	2.140	3.077	7.1	21.8
3 2	11 17.08	+24 3.9	1.931	2.891	6.0	20.0	3 2	11 17.24	- 2 17.7	2.097	3.075	3.7	21.6
3 12	11 9.04	+24 59.5	1.944	2.889	7.5	20.1	3 12	11 8.95	- 1 14.0	2.084	3.073	2.2	21.5
3 22	11 1.42	+25 34.0	1.983	2.887	10.1	20.2	3 22	11 0.95	- 0 6.5	2.100	3.070	5.2	21.7
4 1	10 55.12	+25 45.2	2.046	2.885	12.8	20.4	4 1	10 54.04	+ 0 58.6	2.145	3.066	8.7	21.9
4 11	10 50.78	+25 33.9	2.129	2.884	15.3	20.6	4 11	10 48.83	+ 1 56.2	2.215	3.062	11.8	22.1
341604	2007 UH ₁₀₈		3 7.5 61°96	3°9/ 3.6	18		497696	2006 SZ ₇₁		3 7.5 156°01	0°9/ 6.3	17	
2 1	11 36.86	+15 9.9	2.119	2.951	12.1	20.5	2 1	11 34.05	+ 6 18.0	2.901	3.707	9.9	22.7
2 11	11 32.06	+15 53.7	2.053	2.960	9.1	20.3	2 11	11 29.50	+ 6 54.1	2.820	3.714	7.4	22.5
2 21	11 25.33	+16 39.6	2.012	2.968	6.0	20.1	2 21	11 23.55	+ 7 37.1	2.765	3.720	4.6	22.4
3 2	11 17.31	+17 21.5	1.999	2.976	3.9	20.0	3 2	11 16.67	+ 8 23.4	2.739	3.726	1.6	22.2
3 12	11 8.88	+17 53.3	2.015	2.984	5.1	20.1	3 12	11 9.45	+ 9 8.9	2.744	3.731	2.0	22.2
3 22	11 0.94	+18 11.0	2.058	2.993	8.0	20.3	3 22	11 2.51	+ 9 49.5	2.779	3.736	4.9	22.4
4 1	10 54.31	+18 12.5	2.127	3.001	11.0	20.5	4 1	10 56.44	+10 22.1	2.843	3.740	7.7	22.6
4 11	10 49.58	+17 57.6	2.219	3.010	13.7	20.7	4 11	10 51.70	+10 44.5	2.932	3.744	10.2	22.8
56062	1998 XD ₉₁		3 7.5 59°89	0°0/ 7.4	18		167704	2004 TE ₈₆		3 7.5 347°32	0°6/ 8.0	18	
2 1	11 37.00	+ 1 9.5	1.492	2.312	16.9	18.6	2 1	11 34.98	+ 0 53.5	1.270	2.104	18.5	20.2
2 11	11 32.66	+ 1 55.0	1.439	2.338	12.8	18.4	2 11	11 31.91	+ 1 15.7	1.195	2.099	14.3	19.9
2 21	11 25.88	+ 2 58.1	1.409	2.364	8.0	18.2	2 21	11 25.90	+ 1 59.2	1.139	2.096	9.2	19.6
3 2	11 17.52	+ 4 12.5	1.403	2.390	2.9	17.9	3 2	11 17.70	+ 2 59.4	1.106	2.093	3.6	19.3
3 12	11 8.74	+ 5 29.0	1.425	2.416	2.3	17.9	3 12	11 8.58	+ 4 7.6	1.099	2.090	2.5	19.2
3 22	11 0.73	+ 6 39.1	1.474	2.442	7.2	18.3	3 22	10 59.99	+ 5 13.7	1.116	2.088	8.2	19.5
4 1	10 54.49	+ 7 35.8	1.549	2.468	11.5	18.6	4 1	10 53.30	+ 6 8.5	1.157	2.087	13.5	19.8
4 11	10 50.63	+ 8 15.0	1.645	2.494	15.1	18.9	4 11	10 49.44	+ 6 45.6	1.218	2.086	18.0	20.1
21632	Suwanasri		3 7.5 205°41	2°4/ 9.9	18 R		279333	2009 XZ ₁₉		3 7.5 337°25	1°7/ 5.9	18	
2 1	11 39.33	- 4 12.6	2.265	3.034	13.5	19.3	2 1	11 34.89	+ 7 2.3	1.932	2.758	13.4	21.2
2 11	11 33.99	- 4 5.1	2.164	3.027	10.7	19.1	2 11	11 30.85	+ 7 45.1	1.852	2.756	10.0	21.0
2 21	11 26.65	- 3 41.9	2.086	3.020	7.4	18.8	2 21	11 24.75	+ 8 38.2	1.796	2.755	6.2	20.8
3 2	11 17.86	- 3 4.7	2.036	3.012	4.0	18.6	3 2	11 17.18	+ 9 36.0	1.767	2.754	2.4	20.5
3 12	11 8.40	- 2 17.1	2.016	3.003	2.5	18.5	3 12	11 9.04	+10 31.8	1.766	2.753	3.1	20.5
3 22	10 59.20	- 1 24.3	2.025	2.994	5.5	18.7	3 22	11 1.30	+11 19.3	1.794	2.752	7.1	20.8
4 1	10 51.12	- 0 31.9	2.064	2.983	9.0	18.9	4 1	10 54.85	+11 53.6	1.847	2.751	10.9	21.0
4 11	10 44.87	+ 0 14.7	2.127	2.972	12.3	19.0	4 11	10 50.37	+12 12.0	1.924	2.750	14.2	21.2
185347	2006 VW ₅₅		3 7.5 210°26	0°2/ 7.3	17		85184	1991 JG ₁		3 7.5 346°29	56°8/ 1.0	17	
2 1	11 36.91	+ 2 54.5	1.892	2.704	14.2	21.3	2 1	9 44.58	-74 56.9	0.690	1.176	56.8	19.9
2 11	11 32.45	+ 3 27.8	1.806	2.701	10.8	21.1	2 11	9 52.11	-78 44.4	0.662	1.158	58.3	19.8
2 21	11 25.79	+ 4 15.0	1.743	2.697	6.8	20.9	2 21	10 5.12	-81 52.0	0.623	1.143	59.8	19.7
3 2	11 17.55	+ 5 11.6	1.707	2.694	2.4	20.6	3 2	10 36.29	-84 20.1	0.573	1.131	61.1	19.5
3 12	11 8.66	+ 6 11.3	1.699	2.690	2.2	20.5	3 12	11 57.37	-85 53.7	0.512	1.124	62.1	19.3
3 22	11 0.14	+ 7 7.3	1.720	2.685	6.6	20.8	3 22	14 8.63	-85 35.4	0.442	1.121	62.4	19.0
4 1	10 52.96	+ 7 53.4	1.768	2.681	10.7	21.1	4 1	15 25.09	-82 38.1	0.364	1.122	61.3	18.5
4 11	10 47.84	+ 8 25.8	1.839	2.676	14.3	21.3	4 11	15 44.13	-76 16.2	0.282	1.127	57.1	17.9
417018	2005 UH ₅₈		3 7.5 92°58	1°5/ 6.1	18		151091	2001 VF ₉₅		3 7.5 124°01	5°6/ 1.1	18	
2 1	11 37.77	+ 7 3.3	1.847	2.670	14.0	21.7	2 1	11 36.12	+17 9.0	1.967	2.807	12.6	19.7
2 11	11 32.98	+ 7 38.6	1.778	2.681	10.5	21.5	2 11	11 31.74	+18 51.2	1.908	2.816	9.5	19.5
2 21	11 26.02	+ 8 23.6	1.733	2.691	6.5	21.2	2 21	11 25.27	+20 35.8	1.874	2.825	6.7	19.3
3 2	11 17.59	+ 9 12.7	1.714	2.701	2.4	21.0	3 2	11 17.35	+22 13.4	1.869	2.834	5.6	19.3
3 12	11 8.67	+ 9 59.3	1.724	2.711	3.1	21.1	3 12	11 8.94	+23 35.2	1.892	2.843	7.1	19.4
3 22	11 0.28	+10 37.5	1.763	2.721	7.1	21.3	3 22	11 1.02	+24 34.8	1.942	2.851	10.0	19.6
4 1	10 53.35	+11 2.8	1.827	2.731	10.9	21.6	4 1	10 54.49	+25 9.7	2.017	2.859	12.9	19.8
4 11	10 48.53	+11 13.2	1.914	2.741	14.2	21.8	4 11	10 49.99	+25 20.2	2.112	2.867	15.4	20.0
138644	2000 RQ ₃₀		3 7.5 183°49	2°2/10.1	18		455425	2003 KX ₃₅		3 7.5 322°61	7°9/15.5	17	
2 1	11 35.22	- 4 8.1	2.840	3.605	11.1	20.2	2 1	11 31.35	-18 11.9	1.721	2.450	18.6	20.9
2 11	11 30.45	- 4 9.6	2.745	3.605	8.8	20.1	2 11	11 28.67	-18 24.4	1.624	2.439	16.0	20.7
2 21	11 24.20	- 3 59.3	2.674	3.605	6.1	19.9	2 21	11 23.66	-18 6.3	1.544	2.430	13.1	20.4
3 2	11 16.91	- 3 38.5	2.630	3.604	3.4	19.7	3 2	11 16.87	-17 14.9	1.486	2.420	10.0	20.2
3 12	11 9.20	- 3 9.7	2.617	3.604	2.2	19.6	3 12	11 9.26	-15 52.1	1.453	2.411	8.0	20.1
3 22	11 1.72	- 2 36.5	2.634	3.602	4.4	19.8	3 22	11 1.93	-14 4.3	1.444	2.402	8.4	20.1
4 1	10 55.12	- 2 2.7	2.681	3.601	7.2	20.0	4 1	10 55.99	-12 1.8	1.462	2.394	11.0	20.2
4 11	10 49.89	- 1 31.9	2.753	3.599	9.8	20.1	4 11	10 52.26	- 9 57.1	1.503	2.387	14.3	20.4
392524	2011 QT ₄₃		3 7.5 179°91	1°3/ 9.4	18 R		374355	2005 UT ₁₆₃		3 7.5 231°42	2°5/10.2	17	
2 1	11 31.49	- 4 32.3	2.816	3.586	11.1								

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2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
161083	2002 <i>NU</i> ₂₃		3 7.6 258°25	3°9/ 2.8 18			260044	2004 <i>GQ</i> ₅₉		3 7.6 230°72	2°3/10.5 18		
2 1	11 33.57	+12 37.3	2.175	3.009	11.8	20.3	2 1	11 31.73	- 6 27.5	2.345	3.117	13.0	20.3
2 11	11 29.82	+14 6.3	2.089	2.997	8.8	20.1	2 11	11 28.22	- 5 52.1	2.253	3.116	10.3	20.1
2 21	11 24.16	+15 43.0	2.028	2.986	5.8	19.9	2 21	11 23.03	- 4 58.7	2.183	3.115	7.2	19.9
3 2	11 17.10	+17 19.9	1.997	2.974	3.9	19.7	3 2	11 16.67	- 3 49.5	2.140	3.115	4.0	19.7
3 12	11 9.43	+18 48.7	1.995	2.962	5.4	19.8	3 12	11 9.83	- 2 29.3	2.126	3.114	2.4	19.6
3 22	11 2.02	+20 2.4	2.021	2.950	8.5	20.0	3 22	11 3.27	- 1 4.3	2.142	3.113	4.9	19.7
4 1	10 55.72	+20 56.2	2.073	2.938	11.7	20.1	4 1	10 57.70	+ 0 18.7	2.186	3.113	8.2	19.9
4 11	10 51.20	+21 28.3	2.147	2.925	14.5	20.3	4 11	10 53.70	+ 1 33.8	2.256	3.112	11.3	20.1
35019	1981 <i>EH</i> ₁₀		3 7.6 158°03	1°8/ 9.0 18			473758	2016 <i>ES</i> ₃₇		3 7.6 329°16	3°1/ 4.5 17		
2 1	11 40.93	- 1 16.2	1.793	2.586	15.6	19.4	2 1	11 29.21	+ 5 59.4	1.439	2.288	15.8	20.3
2 11	11 35.60	- 1 12.8	1.712	2.592	12.2	19.2	2 11	11 27.40	+ 7 37.5	1.352	2.270	11.9	20.1
2 21	11 27.88	- 0 53.2	1.652	2.597	8.1	18.9	2 21	11 23.08	+ 9 36.7	1.289	2.253	7.4	19.7
3 2	11 18.46	- 0 20.0	1.619	2.601	3.8	18.7	3 2	11 16.82	+11 47.7	1.251	2.237	3.4	19.5
3 12	11 8.37	+ 0 21.8	1.615	2.605	2.3	18.6	3 12	11 9.67	+13 57.3	1.239	2.222	5.2	19.5
3 22	10 58.75	+ 1 6.2	1.639	2.608	6.3	18.8	3 22	11 2.84	+15 52.1	1.254	2.207	10.0	19.8
4 1	10 50.65	+ 1 46.9	1.689	2.611	10.5	19.1	4 1	10 57.54	+17 21.9	1.292	2.194	14.7	20.0
4 11	10 44.82	+ 2 18.8	1.764	2.614	14.2	19.3	4 11	10 54.66	+18 21.7	1.350	2.181	18.8	20.2
148649	2001 <i>SY</i> ₈₆		3 7.6 115°96	1°5/ 8.9 18			414205	2008 <i>DB</i> ₆₇		3 7.6 68°60	0°5/ 7.9 18		
2 1	11 38.67	- 0 49.9	1.889	2.684	14.8	20.8	2 1	11 42.29	+ 3 26.2	1.620	2.433	16.1	20.9
2 11	11 33.72	- 0 43.0	1.812	2.694	11.5	20.5	2 11	11 36.73	+ 3 16.2	1.550	2.444	12.3	20.6
2 21	11 26.60	- 0 20.9	1.757	2.703	7.6	20.3	2 21	11 28.61	+ 3 18.1	1.503	2.455	7.9	20.4
3 2	11 17.97	+ 0 13.4	1.729	2.711	3.5	20.1	3 2	11 18.74	+ 3 28.7	1.481	2.467	3.1	20.1
3 12	11 8.78	+ 0 55.2	1.730	2.720	2.1	20.0	3 12	11 8.26	+ 3 43.2	1.487	2.478	2.1	20.1
3 22	11 0.07	+ 1 38.5	1.759	2.728	6.0	20.3	3 22	10 58.43	+ 3 56.6	1.521	2.490	6.9	20.4
4 1	10 52.77	+ 2 17.7	1.815	2.737	9.9	20.5	4 1	10 50.35	+ 4 4.2	1.581	2.501	11.2	20.7
4 11	10 47.55	+ 2 48.0	1.894	2.744	13.4	20.8	4 11	10 44.76	+ 4 2.8	1.663	2.513	15.0	20.9
264519	2001 <i>QY</i> ₂₈₁		3 7.6 188°12	3°6/ 2.8 17			351587	2005 <i>UJ</i> ₄₅₇		3 7.6 108°02	5°8/ 2.9 18		
2 1	11 37.42	+14 31.4	2.645	3.466	10.3	21.8	2 1	11 41.61	+15 20.4	1.457	2.301	16.0	21.2
2 11	11 32.31	+15 47.3	2.564	3.465	7.8	21.6	2 11	11 36.49	+16 39.9	1.402	2.313	12.0	21.0
2 21	11 25.52	+17 7.1	2.511	3.463	5.2	21.4	2 21	11 28.57	+18 3.6	1.369	2.326	8.1	20.8
3 2	11 17.55	+18 24.5	2.487	3.461	3.6	21.3	3 2	11 18.72	+19 20.6	1.363	2.338	5.8	20.7
3 12	11 9.12	+19 33.2	2.495	3.457	4.8	21.4	3 12	11 8.29	+20 20.2	1.383	2.349	7.4	20.8
3 22	11 0.96	+20 28.4	2.532	3.453	7.4	21.5	3 22	10 58.67	+20 55.8	1.429	2.360	11.1	21.0
4 1	10 53.81	+21 6.9	2.597	3.448	10.0	21.7	4 1	10 51.03	+21 4.8	1.498	2.371	14.8	21.3
4 11	10 48.22	+21 27.7	2.684	3.442	12.4	21.9	4 11	10 46.13	+20 48.9	1.587	2.382	18.1	21.5
134044	Chrisshinohara		3 7.6 237°62	12°5/17.5 18			317503	2002 <i>TS</i> ₁₀		3 7.6 235°23	10°7/ 2.9 18		
2 1	11 44.10	-28 10.8	2.101	2.717	18.5	19.9	2 1	11 58.37	+26 42.7	1.176	2.011	19.6	20.1
2 11	11 38.51	-29 50.9	1.993	2.702	17.0	19.8	2 11	11 50.36	+27 23.4	1.111	2.006	16.0	19.8
2 21	11 30.14	-31 7.4	1.902	2.687	15.3	19.6	2 21	11 37.91	+27 52.6	1.065	2.002	12.5	19.6
3 2	11 19.47	-31 53.3	1.831	2.670	13.7	19.4	3 2	11 22.25	+27 55.2	1.043	1.997	10.7	19.5
3 12	11 7.46	-32 3.8	1.783	2.653	12.6	19.3	3 12	11 5.55	+27 20.4	1.046	1.992	12.0	19.5
3 22	10 55.39	-31 38.6	1.758	2.636	12.6	19.3	3 22	10 50.18	+26 5.8	1.072	1.987	15.6	19.7
4 1	10 44.61	-30 42.0	1.757	2.617	13.6	19.3	4 1	10 38.10	+24 17.6	1.121	1.982	19.6	19.9
4 11	10 36.22	-29 23.1	1.778	2.598	15.4	19.4	4 11	10 30.30	+22 5.9	1.188	1.976	23.3	20.2
327366	2005 <i>UJ</i> ₂₇₆		3 7.6 294°76	2°2/ 9.4 17			264255	2323 <i>T</i> ₋₃		3 7.6 150°58	0°4/ 8.1 18		
2 1	11 35.16	- 2 38.8	1.736	2.536	15.7	21.1	2 1	11 38.96	+ 1 26.9	2.244	3.037	12.9	20.9
2 11	11 31.53	- 2 30.2	1.637	2.520	12.4	20.8	2 11	11 33.62	+ 1 49.6	2.163	3.047	9.8	20.7
2 21	11 25.51	- 2 2.8	1.560	2.504	8.5	20.5	2 21	11 26.41	+ 2 24.2	2.107	3.056	6.3	20.5
3 2	11 17.68	- 1 18.3	1.507	2.488	4.2	20.2	3 2	11 17.91	+ 3 7.3	2.079	3.064	2.5	20.3
3 12	11 8.97	- 0 21.9	1.482	2.472	2.5	20.1	3 12	11 8.94	+ 3 54.1	2.081	3.072	1.6	20.2
3 22	11 0.50	+ 0 39.7	1.484	2.456	6.6	20.3	3 22	11 0.37	+ 4 39.4	2.113	3.079	5.5	20.5
4 1	10 53.37	+ 1 38.7	1.512	2.441	11.0	20.5	4 1	10 53.00	+ 5 18.4	2.173	3.085	9.0	20.7
4 11	10 48.44	+ 2 28.2	1.563	2.425	15.1	20.7	4 11	10 47.43	+ 5 47.7	2.258	3.091	12.1	20.9
53200	1999 <i>CZ</i> ₆₃		3 7.6 108°73	2°3/ 9.9 18			119691	2001 <i>XK</i> ₁₃₂		3 7.6 166°09	2°6/ 4.9 18		
2 1	11 37.88	- 4 20.8	1.995	2.774	14.7	19.1	2 1	11 37.61	+10 7.6	2.086	2.910	12.6	20.6
2 11	11 32.95	- 4 2.4	1.923	2.793	11.5	19.0	2 11	11 32.80	+10 59.6	2.010	2.913	9.4	20.4
2 21	11 26.02	- 3 26.4	1.874	2.811	7.9	18.8	2 21	11 25.98	+11 58.8	1.958	2.916	5.9	20.1
3 2	11 17.74	- 2 35.5	1.851	2.828	4.1	18.6	3 2	11 17.77	+12 59.2	1.935	2.919	2.9	20.0
3 12	11 9.01	- 1 34.9	1.857	2.845	2.4	18.5	3 12	11 9.05	+13 53.9	1.941	2.921	3.9	20.0
3 22	11 0.78	- 0 31.0	1.892	2.862	5.6	18.7	3 22	11 0.73	+14 37.3	1.975	2.923	7.4	20.2
4 1	10 53.89	+ 0 29.6	1.955	2.878	9.2	19.0	4 1	10 53.69	+15 5.6	2.037	2.924	10.8	20.5
4 11	10 48.95	+ 1 21.6	2.042	2.894	12.5	19.2	4 11	10 48.57	+15 17.1	2.120	2.925	13.8	20.7
31519	Mimamarquez		3 7.6 334°45	1°6/ 8.9 18			79073	3410 <i>T</i> ₋₃		3 7.6 249°71	0°1/ 7.4 16		
2 1	11 34.13	- 2 44.4	1.364	2.182	18.3	18.4	2 1	11 38.61	+ 2 58.4	1.836	2.646	14.6	20.7
2 11	11 31.17	- 2 10.0	1.284	2.178	14.3	18.1	2 11	11 34.02	+ 3 26.6	1.737	2.631	11.2	20.4
2 21	11 25.45	- 1 10.0	1.224	2.175	9.6	17.9	2 21	11 27.05	+ 4 9.3	1.662	2.615	7.2	20.1
3 2	11 17.67	+ 0 11.5	1.188	2.172	4.3	17.5	3 2	11 18.26	+ 5 2.4	1.613	2.599	2.6	19.8
3 12	11 9.01	+ 1 45.9	1.177	2.169	2.4	17.4	3 12	11 8.61	+ 5 59.7	1.592	2.583	2.2	19.7
3 22	11 0.81	+ 3 21.9	1.193	2.166	7.6	17.7	3 22	10 59.21	+ 6 54.0	1.600	2.566	7.0	20.0
4 1	10 54.35	+ 4 48.5	1.232	2.164	12.7	18.0	4 1	10 51.14	+ 7 39.0	1.634	2.548	11.4	20.2
4 11	10 50.53	+ 5 57.3	1.293	2.162	17.2	18.2	4 11	10 45.27	+ 8 10.0	1.692	2.530	15.3	20.4
423666	2005 <i>YJ</i> ₁₃₈		3 7.6 193°39	10°0/20.4 17			399953	2006 <i>AT</i> ₆₉		3 7.6 347°86	4°2/ 4.5 18		

2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
292578	2006 TU ₈₇		3 7.6 205 ^o 25	3 ^o 0/11.4 17			496333	2013 OK ₉		3 7.6 170 ^o 46	4 ^o 5/13.2 16		
2 1	11 33.25	- 8 0.8	2.691	3.443	12.0	21.2	2 1	11 37.10	-13 14.0	2.677	3.391	12.9	22.8
2 11	11 29.20	- 7 52.1	2.592	3.440	9.7	21.0	2 11	11 32.09	-13 17.4	2.581	3.396	10.8	22.7
2 21	11 23.61	- 7 28.0	2.516	3.437	7.0	20.8	2 21	11 25.44	-13 3.0	2.507	3.401	8.3	22.5
3 2	11 16.94	- 6 49.6	2.468	3.433	4.4	20.6	3 2	11 17.62	-12 30.7	2.459	3.404	5.9	22.4
3 12	11 9.81	- 5 59.8	2.448	3.430	3.0	20.5	3 12	11 9.34	-11 42.7	2.440	3.407	4.6	22.3
3 22	11 2.91	- 5 2.9	2.458	3.426	4.7	20.6	3 22	11 1.31	-10 43.1	2.451	3.409	5.4	22.4
4 1	10 56.88	- 4 3.9	2.497	3.422	7.4	20.8	4 1	10 54.24	- 9 37.3	2.491	3.410	7.7	22.5
4 11	10 52.26	- 3 7.8	2.562	3.418	10.1	21.0	4 11	10 48.70	- 8 31.2	2.557	3.411	10.2	22.7
293275	2007 CZ ₄₆		3 7.6 332 ^o 58	1 ^o 7/ 5.9 18			347701	2001 WF ₃₅		3 7.6 160 ^o 06	3 ^o 9/ 3.9 18		
2 1	11 30.49	+ 3 20.8	1.500	2.338	15.9	20.0	2 1	11 41.38	+12 31.4	1.869	2.696	13.7	21.4
2 11	11 28.24	+ 4 41.3	1.416	2.327	12.0	19.7	2 11	11 35.87	+13 38.1	1.799	2.704	10.3	21.2
2 21	11 23.56	+ 6 23.0	1.354	2.316	7.5	19.4	2 21	11 28.04	+14 50.9	1.754	2.710	6.6	21.0
3 2	11 17.04	+ 8 18.2	1.318	2.306	2.7	19.1	3 2	11 18.61	+16 2.1	1.737	2.716	4.0	20.8
3 12	11 9.71	+10 15.6	1.309	2.297	3.6	19.1	3 12	11 8.60	+17 3.2	1.748	2.721	5.3	20.9
3 22	11 2.75	+12 3.1	1.327	2.288	8.6	19.4	3 22	10 59.12	+17 48.1	1.788	2.726	8.8	21.1
4 1	10 57.28	+13 30.9	1.369	2.280	13.3	19.6	4 1	10 51.17	+18 13.1	1.854	2.729	12.3	21.4
4 11	10 54.13	+14 33.4	1.431	2.273	17.3	19.9	4 11	10 45.46	+18 17.7	1.941	2.732	15.4	21.6
10491	1986 QS ₁		3 7.6 154 ^o 47	1 ^o 8/ 5.9 18			61423	2000 QS ₁₅		3 7.6 115 ^o 03	0 ^o 2/ 7.4 18		
2 1	11 38.88	+ 5 59.6	1.800	2.619	14.5	18.5	2 1	11 34.44	+ 3 14.9	2.661	3.461	10.9	20.3
2 11	11 34.05	+ 6 59.8	1.726	2.627	10.8	18.3	2 11	11 29.96	+ 3 48.4	2.587	3.475	8.2	20.1
2 21	11 26.92	+ 8 12.5	1.675	2.633	6.7	18.0	2 21	11 24.01	+ 4 31.1	2.537	3.489	5.1	20.0
3 2	11 18.19	+ 9 31.2	1.652	2.639	2.6	17.8	3 2	11 17.07	+ 5 19.4	2.517	3.503	1.8	19.8
3 12	11 8.87	+10 47.4	1.658	2.644	3.4	17.8	3 12	11 9.80	+ 6 9.0	2.527	3.517	1.6	19.7
3 22	11 0.03	+11 53.5	1.693	2.649	7.6	18.1	3 22	11 2.87	+ 6 55.3	2.566	3.530	4.8	20.0
4 1	10 52.68	+12 43.6	1.754	2.653	11.6	18.3	4 1	10 56.90	+ 7 34.6	2.635	3.543	7.8	20.2
4 11	10 47.52	+13 15.0	1.837	2.657	15.0	18.6	4 11	10 52.35	+ 8 4.2	2.729	3.555	10.4	20.4
163548	2002 TR ₉₄		3 7.6 64 ^o 12	0 ^o 4/ 8.0 18			338338	2002 WJ ₇		3 7.6 105 ^o 49	2 ^o 4/10.4 17		
2 1	11 35.58	+ 1 36.9	2.020	2.826	13.6	20.3	2 1	11 34.65	- 5 11.2	2.393	3.164	12.8	21.1
2 11	11 31.25	+ 1 58.4	1.949	2.839	10.4	20.1	2 11	11 30.31	- 4 56.9	2.313	3.176	10.1	20.9
2 21	11 25.00	+ 2 32.7	1.900	2.852	6.6	19.9	2 21	11 24.32	- 4 27.3	2.256	3.189	7.0	20.7
3 2	11 17.45	+ 3 16.1	1.879	2.865	2.6	19.6	3 2	11 17.21	- 3 44.4	2.227	3.201	3.9	20.5
3 12	11 9.46	+ 4 3.0	1.886	2.877	1.7	19.6	3 12	11 9.69	- 2 52.2	2.226	3.213	2.4	20.4
3 22	11 1.92	+ 4 48.1	1.922	2.890	5.7	19.9	3 22	11 2.52	- 1 55.7	2.255	3.225	4.8	20.6
4 1	10 55.65	+ 5 26.2	1.985	2.904	9.4	20.1	4 1	10 56.41	- 1 0.2	2.312	3.237	8.0	20.8
4 11	10 51.24	+ 5 53.6	2.072	2.917	12.6	20.4	4 11	10 51.88	- 0 10.6	2.395	3.248	10.8	21.0
260968	2005 SB ₅₁		3 7.6 78 ^o 38	0 ^o 6/ 7.1 18			155241	2005 WO ₂₂		3 7.6 332 ^o 46	1 ^o 5/ 8.8 17		
2 1	11 37.09	+ 4 15.5	1.796	2.615	14.5	21.4	2 1	11 34.35	- 0 6.1	1.505	2.325	16.8	19.5
2 11	11 32.74	+ 4 43.4	1.717	2.616	11.0	21.1	2 11	11 31.22	- 0 4.0	1.416	2.312	13.1	19.2
2 21	11 26.13	+ 5 24.0	1.660	2.616	6.9	20.9	2 21	11 25.49	+ 0 15.9	1.348	2.300	8.7	19.0
3 2	11 17.92	+ 6 12.5	1.630	2.617	2.5	20.6	3 2	11 17.79	+ 0 51.2	1.304	2.288	3.9	18.6
3 12	11 9.08	+ 7 2.5	1.628	2.618	2.4	20.6	3 12	11 9.18	+ 1 36.3	1.286	2.277	2.3	18.5
3 22	11 0.68	+ 7 47.4	1.654	2.619	6.8	20.9	3 22	11 0.91	+ 2 23.8	1.294	2.267	7.2	18.8
4 1	10 53.70	+ 8 21.9	1.706	2.620	11.0	21.1	4 1	10 54.19	+ 3 6.2	1.327	2.258	12.0	19.0
4 11	10 48.87	+ 8 42.3	1.781	2.621	14.5	21.4	4 11	10 49.93	+ 3 37.2	1.380	2.250	16.3	19.2
282319	2002 TS ₁₅₉		3 7.6 175 ^o 84	2 ^o 6/ 4.3 18			7427	1992 VD		3 7.6 170 ^o 99	1 ^o 8/ 5.8 18		
2 1	11 34.08	+10 18.9	2.487	3.310	10.8	20.9	2 1	11 37.28	+ 7 45.5	2.052	2.872	12.9	18.0
2 11	11 29.90	+11 25.8	2.408	3.311	8.1	20.7	2 11	11 32.62	+ 8 30.1	1.973	2.874	9.7	17.8
2 21	11 24.07	+12 39.3	2.355	3.312	5.1	20.5	2 21	11 25.94	+ 9 23.9	1.918	2.876	6.0	17.6
3 2	11 17.11	+13 53.9	2.331	3.313	2.7	20.3	3 2	11 17.84	+10 21.2	1.891	2.877	2.4	17.3
3 12	11 9.71	+15 3.3	2.337	3.314	3.8	20.4	3 12	11 9.20	+11 15.7	1.893	2.878	3.2	17.4
3 22	11 2.61	+16 2.0	2.373	3.314	6.7	20.6	3 22	11 0.96	+12 1.3	1.924	2.879	6.9	17.6
4 1	10 56.51	+16 46.4	2.436	3.314	9.6	20.8	4 1	10 53.98	+12 33.7	1.982	2.879	10.5	17.9
4 11	10 51.96	+17 14.6	2.522	3.313	12.2	20.9	4 11	10 48.93	+12 50.7	2.063	2.880	13.7	18.1
459507	2013 EA ₁₃		3 7.6 160 ^o 77	1 ^o 4/ 6.3 18			310421	1999 VD ₈₀		3 7.6 95 ^o 53	0 ^o 4/ 7.3 18		
2 1	11 38.12	+ 4 31.8	1.779	2.597	14.7	21.4	2 1	11 39.88	+ 3 29.0	1.695	2.509	15.4	21.1
2 11	11 33.52	+ 5 34.9	1.703	2.603	11.1	21.2	2 11	11 34.78	+ 4 1.4	1.631	2.528	11.7	20.9
2 21	11 26.62	+ 6 52.5	1.650	2.607	6.9	21.0	2 21	11 27.34	+ 4 47.3	1.591	2.545	7.3	20.7
3 2	11 18.10	+ 8 18.1	1.625	2.612	2.5	20.7	3 2	11 18.34	+ 5 41.4	1.576	2.563	2.6	20.4
3 12	11 8.95	+ 9 43.0	1.628	2.615	3.1	20.8	3 12	11 8.85	+ 6 36.6	1.590	2.580	2.3	20.4
3 22	11 0.27	+10 58.8	1.660	2.618	7.5	21.0	3 22	11 0.00	+ 7 25.9	1.632	2.597	6.9	20.8
4 1	10 53.05	+11 59.1	1.718	2.621	11.6	21.3	4 1	10 52.78	+ 8 3.9	1.701	2.614	11.0	21.0
4 11	10 48.03	+12 40.2	1.799	2.623	15.1	21.5	4 11	10 47.84	+ 8 27.3	1.792	2.630	14.5	21.3
270523	2002 GL ₄₉		3 7.6 326 ^o 90	7 ^o 0/12.5 17			8383	1992 UA ₃		3 7.6 117 ^o 78	1 ^o 8/ 5.9 18		
2 1	11 33.99	-10 32.9	1.526	2.303	18.6	19.9	2 1	11 38.21	+ 7 55.3	1.952	2.773	13.4	18.1
2 11	11 31.14	-11 25.9	1.424	2.280	15.7	19.6	2 11	11 33.34	+ 8 34.5	1.881	2.782	10.1	17.9
2 21	11 25.60	-11 56.7	1.342	2.258	12.2	19.3	2 21	11 26.38	+ 9 22.4	1.833	2.791	6.2	17.7
3 2	11 17.89	-12 2.1	1.281	2.237	8.8	19.1	3 2	11 17.99	+10 13.5	1.814	2.800	2.5	17.5
3 12	11 9.02	-11 42.2	1.244	2.217	7.0	18.9	3 12	11 9.11	+11 1.1	1.823	2.808	3.2	17.6
3 22	11 0.27	-11 0.8	1.232	2.197	8.6	19.0	3 22	11 0.71	+11 39.6	1.860	2.816	7.0	17.8
4 1	10 52.98	-10 5.7	1.244	2.179	12.3	19.1	4 1	10 53.69	+12 5.0	1.924	2.824	10.7	18.1
4 11	10 48.23	- 9 6.6	1.277	2.162	16.3	19.3	4 11	10 48.70	+12 15.3	2.011	2.832	13.9	18.3
500668	2012 VL ₃₉		3 7.6 91 ^o 31	0 ^o 3/ 7.3									

EPHEMERIDES

2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
327388	2005 <i>UX</i> ₄₁₄	3 7.6 138°09 2°2/ 5.5 17					404179	2013 <i>CM</i> ₉₃	3 7.6 1°59 1°7/ 8.7 15				
2 1	11 37.50	+ 8 29.4	1.967	2.790	13.3	21.3	2 1	11 38.06	+ 0 45.9	1.191	2.024	19.5	21.8
2 11	11 32.84	+ 9 16.2	1.893	2.796	9.9	21.1	2 11	11 34.52	+ 0 31.6	1.119	2.022	15.2	21.5
2 21	11 26.10	+10 11.7	1.843	2.801	6.2	20.8	2 21	11 27.80	+ 0 36.3	1.067	2.021	10.1	21.2
3 2	11 17.91	+11 10.0	1.820	2.806	2.6	20.6	3 2	11 18.69	+ 0 57.3	1.037	2.021	4.5	20.9
3 12	11 9.20	+12 4.2	1.827	2.811	3.5	20.7	3 12	11 8.61	+ 1 28.5	1.031	2.022	2.7	20.8
3 22	11 0.94	+12 48.2	1.862	2.815	7.3	20.9	3 22	10 59.14	+ 2 2.0	1.050	2.024	8.2	21.1
4 1	10 54.02	+13 18.0	1.923	2.819	10.9	21.2	4 1	10 51.76	+ 2 29.8	1.091	2.026	13.6	21.4
4 11	10 49.09	+13 31.4	2.007	2.823	14.0	21.4	4 11	10 47.45	+ 2 45.9	1.152	2.030	18.2	21.7
402845	2007 <i>PE</i> ₄₆	3 7.6 210°50 0°3/ 7.4 17					496529	2014 <i>WD</i> ₁₂₃	3 7.6 129°77 1°1/ 8.7 18				
2 1	11 39.78	+ 3 2.0	1.970	2.775	14.0	22.6	2 1	11 39.01	- 0 19.9	2.060	2.852	13.9	21.2
2 11	11 34.71	+ 3 35.8	1.877	2.768	10.7	22.4	2 11	11 33.84	- 0 2.9	1.984	2.864	10.7	21.0
2 21	11 27.40	+ 4 23.3	1.808	2.761	6.8	22.1	2 21	11 26.67	+ 0 28.1	1.931	2.877	7.0	20.8
3 2	11 18.44	+ 5 20.1	1.766	2.752	2.4	21.8	3 2	11 18.12	+ 1 9.9	1.905	2.888	3.0	20.6
3 12	11 8.75	+ 6 19.9	1.753	2.743	2.1	21.8	3 12	11 9.09	+ 1 57.5	1.909	2.900	1.8	20.5
3 22	10 59.37	+ 7 16.1	1.770	2.734	6.6	22.0	3 22	11 0.51	+ 2 45.3	1.942	2.910	5.6	20.8
4 1	10 51.30	+ 8 2.8	1.814	2.723	10.7	22.2	4 1	10 53.24	+ 3 28.0	2.002	2.920	9.3	21.1
4 11	10 45.29	+ 8 35.9	1.881	2.712	14.3	22.4	4 11	10 47.90	+ 4 1.2	2.087	2.930	12.6	21.3
29883	1999 <i>GB</i> ₃₁	3 7.6 104°84 1°1/ 8.9 18					299009	2004 <i>XD</i> ₁₀₆	3 7.6 60°13 3°4/ 5.4 18				
2 1	11 32.37	- 2 20.6	2.277	3.068	12.8	18.2	2 1	11 42.72	+10 33.9	1.301	2.143	17.6	20.1
2 11	11 28.77	- 1 39.8	2.190	3.069	9.9	18.0	2 11	11 37.40	+11 13.2	1.254	2.166	13.1	19.9
2 21	11 23.45	- 0 43.1	2.125	3.070	6.6	17.8	2 21	11 29.16	+12 0.3	1.228	2.189	8.2	19.7
3 2	11 16.94	+ 0 26.0	2.089	3.071	3.0	17.5	3 2	11 19.03	+12 46.8	1.228	2.212	3.9	19.5
3 12	11 9.95	+ 1 42.3	2.081	3.072	1.6	17.4	3 12	11 8.46	+13 23.6	1.253	2.236	5.0	19.7
3 22	11 3.25	+ 2 59.3	2.103	3.073	5.1	17.7	3 22	10 58.91	+13 44.4	1.305	2.260	9.5	20.0
4 1	10 57.59	+ 4 10.8	2.153	3.074	8.6	17.9	4 1	10 51.55	+13 46.1	1.380	2.284	13.8	20.3
4 11	10 53.53	+ 5 11.8	2.228	3.075	11.7	18.1	4 11	10 47.07	+13 29.0	1.475	2.307	17.4	20.6
358025	2006 <i>EH</i> ₅₈	3 7.6 247°47 0°7/ 8.1 16					465187	2007 <i>GS</i> ₉	3 7.6 311°90 2°7/ 10.4 17				
2 1	11 41.30	+ 2 6.6	1.673	2.481	15.9	21.1	2 1	11 31.69	- 6 44.7	1.754	2.543	16.1	20.6
2 11	11 36.29	+ 2 8.5	1.579	2.471	12.3	20.8	2 11	11 28.88	- 6 5.9	1.659	2.532	12.9	20.4
2 21	11 28.63	+ 2 24.5	1.508	2.460	8.0	20.5	2 21	11 23.86	- 5 2.1	1.584	2.522	9.0	20.1
3 2	11 18.95	+ 2 51.5	1.463	2.448	3.2	20.2	3 2	11 17.19	- 3 35.6	1.534	2.511	4.9	19.8
3 12	11 8.34	+ 3 24.5	1.445	2.437	2.1	20.1	3 12	11 9.78	- 1 52.8	1.512	2.501	2.8	19.7
3 22	10 58.05	+ 3 57.1	1.456	2.425	7.1	20.4	3 22	11 2.65	- 0 3.0	1.518	2.491	6.2	19.9
4 1	10 49.31	+ 4 23.5	1.492	2.412	11.8	20.6	4 1	10 56.81	+ 1 43.6	1.550	2.482	10.5	20.1
4 11	10 43.03	+ 4 39.0	1.551	2.400	15.9	20.8	4 11	10 53.03	+ 3 18.0	1.606	2.473	14.5	20.3
168398	1998 <i>DG</i>	3 7.6 356°32 2°6/ 5.9 18					188501	2004 <i>PD</i> ₁₀₁	3 7.6 176°44 0°8/ 8.5 17				
2 1	11 35.13	+ 7 59.3	1.153	2.009	18.4	19.3	2 1	11 39.39	+ 1 0.4	2.454	3.239	12.1	20.6
2 11	11 32.36	+ 8 31.9	1.085	2.005	13.9	19.0	2 11	11 33.90	+ 1 6.4	2.364	3.242	9.3	20.4
2 21	11 26.43	+ 9 18.5	1.037	2.002	8.7	18.7	2 21	11 26.63	+ 1 22.8	2.298	3.243	6.1	20.2
3 2	11 18.17	+10 11.2	1.012	1.999	3.5	18.4	3 2	11 18.11	+ 1 47.5	2.261	3.245	2.6	20.0
3 12	11 8.98	+10 59.8	1.011	1.998	4.5	18.4	3 12	11 9.10	+ 2 16.6	2.254	3.245	1.6	19.9
3 22	11 0.46	+11 35.0	1.034	1.998	10.0	18.7	3 22	11 0.40	+ 2 46.1	2.278	3.245	5.1	20.2
4 1	10 54.02	+11 50.4	1.078	2.000	15.1	19.0	4 1	10 52.78	+ 3 12.1	2.331	3.245	8.4	20.4
4 11	10 50.60	+11 43.7	1.141	2.002	19.5	19.3	4 11	10 46.82	+ 3 31.1	2.409	3.244	11.4	20.6
251822	1999 <i>TQ</i> ₁₆₄	3 7.6 198°75 1°9/ 9.6 17					170107	2002 <i>XJ</i> ₈₈	3 7.6 47°16 4°1/ 3.9 18				
2 1	11 38.45	- 3 23.5	2.149	2.927	13.9	21.8	2 1	11 38.96	+16 1.7	2.008	2.841	12.7	19.9
2 11	11 33.51	- 3 4.7	2.053	2.923	10.9	21.6	2 11	11 33.84	+16 36.0	1.945	2.851	9.5	19.7
2 21	11 26.55	- 2 29.3	1.981	2.919	7.4	21.3	2 21	11 26.66	+17 11.2	1.906	2.861	6.3	19.6
3 2	11 18.11	- 1 39.7	1.935	2.914	3.7	21.1	3 2	11 18.11	+17 41.3	1.895	2.871	4.2	19.5
3 12	11 9.03	- 0 40.5	1.919	2.908	2.2	21.0	3 12	11 9.15	+18 0.4	1.912	2.882	5.3	19.5
3 22	11 0.23	+ 0 22.5	1.932	2.902	5.6	21.2	3 22	11 0.75	+18 4.9	1.957	2.892	8.2	19.7
4 1	10 52.61	+ 1 22.9	1.974	2.895	9.3	21.4	4 1	10 53.78	+17 53.1	2.027	2.903	11.3	19.9
4 11	10 46.85	+ 2 15.2	2.040	2.887	12.7	21.6	4 11	10 48.84	+17 25.5	2.119	2.915	14.1	20.2
144845	2004 <i>JM</i> ₄₂	3 7.6 256°02 0°0/ 7.5 17					212580	2006 <i>SN</i> ₁₂₅	3 7.6 128°93 1°2/ 5.9 18				
2 1	11 33.89	+ 2 59.5	2.526	3.329	11.3	21.2	2 1	11 32.70	+ 5 9.0	2.664	3.473	10.6	20.6
2 11	11 29.80	+ 3 28.5	2.428	3.318	8.6	21.0	2 11	11 28.73	+ 6 16.9	2.587	3.483	7.9	20.4
2 21	11 24.08	+ 4 7.9	2.354	3.306	5.5	20.8	2 21	11 23.29	+ 7 34.2	2.536	3.493	4.8	20.2
3 2	11 17.18	+ 4 54.5	2.308	3.295	2.0	20.5	3 2	11 16.87	+ 8 56.0	2.515	3.502	1.8	20.0
3 12	11 9.77	+ 5 43.9	2.293	3.283	1.6	20.5	3 12	11 10.09	+10 16.6	2.525	3.511	2.4	20.1
3 22	11 2.57	+ 6 31.1	2.307	3.272	5.2	20.7	3 22	11 3.60	+11 30.4	2.566	3.520	5.5	20.3
4 1	10 56.29	+ 7 11.8	2.349	3.260	8.5	20.9	4 1	10 58.02	+12 33.0	2.634	3.529	8.4	20.5
4 11	10 51.51	+ 7 42.7	2.416	3.248	11.4	21.1	4 11	10 53.83	+13 21.6	2.728	3.537	10.9	20.7
130589	2000 <i>RD</i> ₈₅	3 7.6 153°54 1°2/ 6.5 18					8582	KazuHisa	3 7.6 164°11 1°4/ 5.7 18				
2 1	11 38.14	+ 4 4.0	1.823	2.638	14.5	20.6	2 1	11 34.82	+ 8 21.4	2.974	3.783	9.6	18.4
2 11	11 33.48	+ 5 6.2	1.748	2.646	10.9	20.4	2 11	11 30.17	+ 9 0.1	2.892	3.788	7.2	18.2
2 21	11 26.59	+ 6 22.9	1.696	2.652	6.8	20.2	2 21	11 24.13	+ 9 44.4	2.837	3.792	4.4	18.0
3 2	11 18.12	+ 7 47.7	1.671	2.659	2.4	19.9	3 2	11 17.17	+10 30.6	2.811	3.797	1.8	17.9
3 12	11 9.06	+ 9 12.2	1.676	2.664	2.9	19.9	3 12	11 9.86	+11 14.5	2.816	3.801	2.4	17.9
3 22	11 0.47	+10 28.3	1.710	2.669	7.2	20.2	3 22	11 2.82	+11 52.3	2.852	3.804	5.1	18.1
4 1	10 53.32	+11 29.5	1.770	2.673	11.2	20.5	4 1	10 56.63	+12 21.0	2.917	3.807	7.8	18.3
4 11	10 48.30	+12 12.3	1.852	2.677	14.7	20.7	4 11	10 51.75	+12 38.9	3.006	3.809	10.2	18.4
269108	2007 <i>JB</i> ₉	3 7.6 111°03 0°7/ 6.9 17					125956	2001 <i>XR</i> ₂₆₂	3 7.				

EPHEMERIDES

3 7.6

3 7.7

2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
292036	2006 <i>QR</i> ₁₆₉		3 7.6 206°67	3°3/11.0	17		261226	2005 <i>UQ</i> ₃₀		3 7.6 349°43	0°9/ 8.5	18	
2 1	11 37.75	- 6 23.7	2.504	3.259	12.7	20.5	2 1	11 35.38	+ 0 0.9	1.688	2.500	15.6	20.9
2 11	11 32.72	- 6 46.1	2.407	3.257	10.3	20.3	2 11	11 31.65	+ 0 23.3	1.606	2.498	12.1	20.6
2 21	11 25.93	- 6 54.8	2.333	3.255	7.4	20.1	2 21	11 25.58	+ 1 3.0	1.546	2.497	7.9	20.4
3 2	11 17.88	- 6 50.3	2.286	3.252	4.7	20.0	3 2	11 17.83	+ 1 56.4	1.511	2.496	3.3	20.1
3 12	11 9.29	- 6 34.4	2.268	3.249	3.4	19.9	3 12	11 9.38	+ 2 56.9	1.504	2.495	2.0	20.0
3 22	11 0.93	- 6 10.4	2.280	3.246	5.2	20.0	3 22	11 1.34	+ 3 57.3	1.523	2.494	6.6	20.3
4 1	10 53.57	- 5 42.5	2.321	3.243	8.1	20.1	4 1	10 54.75	+ 4 50.2	1.569	2.494	11.0	20.5
4 11	10 47.81	- 5 15.3	2.387	3.239	10.9	20.3	4 11	10 50.36	+ 5 30.3	1.637	2.494	14.8	20.8
389424	2010 <i>CZ</i> ₈		3 7.6 242°84	7°1/26.9	17		432923	2011 <i>SC</i> ₁₂₉		3 7.6 234°62	3°0/ 3.9	18	
2 1	11 37.39	+28 5.5	2.564	3.389	10.5	21.1	2 1	11 35.70	+14 5.8	2.658	3.481	10.2	21.5
2 11	11 32.58	+29 25.1	2.493	3.378	8.6	20.9	2 11	11 31.08	+14 47.1	2.572	3.474	7.7	21.3
2 21	11 25.89	+30 39.3	2.449	3.366	7.3	20.8	2 21	11 24.84	+15 31.1	2.512	3.467	5.0	21.1
3 2	11 17.86	+31 40.8	2.431	3.355	7.2	20.8	3 2	11 17.48	+16 13.3	2.481	3.459	3.1	21.0
3 12	11 9.32	+32 23.5	2.442	3.343	8.4	20.8	3 12	11 9.67	+16 48.7	2.480	3.452	4.1	21.0
3 22	11 1.10	+32 43.9	2.478	3.331	10.3	20.9	3 22	11 2.14	+17 13.3	2.508	3.444	6.7	21.2
4 1	10 54.03	+32 41.0	2.538	3.318	12.3	21.1	4 1	10 55.56	+17 24.8	2.563	3.436	9.4	21.3
4 11	10 48.73	+32 16.5	2.617	3.306	14.2	21.2	4 11	10 50.50	+17 22.2	2.642	3.427	11.9	21.5
454173	2013 <i>GE</i> ₁₁		3 7.6 44°54	3°9/ 4.7	18		29825	<i>Dunyazade</i>		3 7.6 114°42	0°6/ 7.1	18	
2 1	11 37.66	+ 9 59.3	1.243	2.095	17.6	21.2	2 1	11 38.12	+ 3 53.5	1.934	2.745	13.9	19.6
2 11	11 33.88	+11 3.9	1.189	2.107	13.2	21.0	2 11	11 33.29	+ 4 30.2	1.863	2.758	10.5	19.4
2 21	11 27.15	+12 19.6	1.156	2.119	8.3	20.7	2 21	11 26.38	+ 5 19.0	1.816	2.771	6.6	19.2
3 2	11 18.38	+13 36.1	1.148	2.132	4.2	20.5	3 2	11 18.06	+ 6 15.0	1.796	2.783	2.3	19.0
3 12	11 8.98	+14 42.0	1.165	2.146	5.7	20.6	3 12	11 9.25	+ 7 11.7	1.805	2.795	2.2	19.0
3 22	11 0.40	+15 28.5	1.206	2.160	10.3	20.9	3 22	11 0.95	+ 8 2.8	1.843	2.807	6.4	19.3
4 1	10 53.91	+15 50.9	1.270	2.174	14.8	21.2	4 1	10 54.01	+ 8 43.3	1.908	2.818	10.2	19.5
4 11	10 50.26	+15 48.7	1.354	2.188	18.5	21.5	4 11	10 49.09	+ 9 9.9	1.996	2.829	13.5	19.7
31100	1997 <i>ML</i> ₄		3 7.6 216°97	3°9/10.8	18		154693	2004 <i>HR</i> ₄₄		3 7.6 254°22	1°4/ 6.7	18	
2 1	11 39.96	- 6 47.9	1.807	2.578	16.3	19.5	2 1	11 41.58	+ 6 29.8	1.454	2.283	16.8	19.8
2 11	11 35.12	- 6 54.7	1.710	2.571	13.2	19.3	2 11	11 36.82	+ 6 50.5	1.371	2.276	12.8	19.5
2 21	11 27.83	- 6 41.1	1.635	2.564	9.5	19.0	2 21	11 29.12	+ 7 23.9	1.310	2.268	8.1	19.2
3 2	11 18.68	- 6 7.4	1.585	2.555	5.7	18.8	3 2	11 19.20	+ 8 4.3	1.274	2.261	3.0	18.9
3 12	11 8.66	- 5 17.3	1.562	2.547	3.9	18.7	3 12	11 8.31	+ 8 44.1	1.264	2.253	3.3	18.9
3 22	10 58.92	- 4 16.8	1.568	2.537	6.6	18.8	3 22	10 57.90	+ 9 15.7	1.281	2.245	8.5	19.2
4 1	10 50.58	- 3 13.6	1.600	2.527	10.6	19.0	4 1	10 49.31	+ 9 33.5	1.323	2.237	13.5	19.4
4 11	10 44.50	- 2 15.4	1.656	2.517	14.5	19.2	4 11	10 43.50	+ 9 34.3	1.386	2.229	17.7	19.7
191671	2004 <i>QC</i> ₂₀		3 7.6 115°37	2°6/ 4.7	18		429954	2012 <i>UL</i> ₁₄₀		3 7.6 183°29	1°4/ 9.1	17	
2 1	11 35.91	+ 9 30.7	2.199	3.022	12.1	20.2	2 1	11 37.01	- 0 43.6	2.403	3.188	12.3	21.5
2 11	11 31.40	+10 38.8	2.133	3.036	8.9	20.1	2 11	11 32.18	- 0 44.1	2.312	3.188	9.6	21.3
2 21	11 25.08	+11 54.3	2.092	3.050	5.6	19.9	2 21	11 25.60	- 0 33.0	2.246	3.188	6.4	21.1
3 2	11 17.55	+13 10.7	2.080	3.064	2.8	19.7	3 2	11 17.77	- 0 12.2	2.207	3.188	3.0	20.8
3 12	11 9.61	+14 21.1	2.098	3.077	3.9	19.8	3 12	11 9.45	+ 0 14.9	2.197	3.187	1.8	20.7
3 22	11 2.11	+15 19.7	2.145	3.090	7.1	20.0	3 22	11 1.42	+ 0 44.3	2.218	3.187	5.0	21.0
4 1	10 55.80	+16 2.5	2.219	3.103	10.2	20.2	4 1	10 54.43	+ 1 11.8	2.266	3.186	8.3	21.2
4 11	10 51.24	+16 28.0	2.316	3.115	12.9	20.5	4 11	10 49.08	+ 1 33.7	2.340	3.185	11.3	21.4
438824	2009 <i>AV</i> ₁₅		3 7.6 193°81	15°0/16.9	18		58281	1993 <i>UR</i> ₅		3 7.6 215°93	3°8/ 4.0	18	
2 1	11 46.58	-24 15.3	1.382	2.069	24.1	21.4	2 1	11 40.29	+12 23.5	1.911	2.739	13.4	20.2
2 11	11 41.42	-26 25.1	1.300	2.069	21.8	21.2	2 11	11 35.21	+13 27.7	1.827	2.731	10.1	19.9
2 21	11 32.57	-28 4.7	1.234	2.067	19.2	21.0	2 21	11 27.79	+14 39.2	1.766	2.723	6.6	19.7
3 2	11 20.64	-29 3.8	1.185	2.065	16.8	20.8	3 2	11 18.64	+15 50.5	1.734	2.714	3.9	19.5
3 12	11 7.05	-29 15.5	1.158	2.063	15.2	20.7	3 12	11 8.77	+16 53.2	1.730	2.704	5.3	19.6
3 22	10 53.68	-28 39.9	1.151	2.060	15.2	20.7	3 22	10 59.25	+17 40.6	1.755	2.693	8.8	19.8
4 1	10 42.44	-27 25.4	1.166	2.057	16.8	20.8	4 1	10 51.14	+18 8.4	1.805	2.682	12.5	20.0
4 11	10 34.70	-25 47.2	1.200	2.053	19.3	20.9	4 11	10 45.22	+18 15.4	1.877	2.670	15.7	20.2
172483	2003 <i>SA</i> ₁₀₈		3 7.6 193°21	3°5/11.1	18		214846	2006 <i>WO</i> ₇₄		3 7.7 146°68	2°0/ 5.1	17	
2 1	11 38.08	- 7 40.8	2.040	2.802	15.0	21.0	2 1	11 35.08	+10 35.1	2.843	3.659	9.8	21.3
2 11	11 33.37	- 7 31.6	1.946	2.801	12.1	20.8	2 11	11 30.43	+11 14.6	2.767	3.667	7.3	21.2
2 21	11 26.54	- 7 2.3	1.873	2.799	8.7	20.6	2 21	11 24.33	+11 58.5	2.718	3.674	4.6	21.0
3 2	11 18.16	- 6 14.2	1.826	2.796	5.2	20.4	3 2	11 17.27	+12 42.6	2.697	3.681	2.2	20.8
3 12	11 9.11	- 5 11.1	1.808	2.792	3.5	20.3	3 12	11 9.88	+13 22.6	2.707	3.687	3.0	20.9
3 22	11 0.35	- 3 59.4	1.818	2.788	5.9	20.4	3 22	11 2.79	+13 54.8	2.747	3.693	5.6	21.1
4 1	10 52.84	- 2 46.2	1.857	2.783	9.5	20.6	4 1	10 56.61	+14 16.4	2.815	3.699	8.3	21.3
4 11	10 47.29	- 1 38.7	1.920	2.777	12.9	20.8	4 11	10 51.80	+14 26.2	2.907	3.704	10.6	21.4
230903	2004 <i>TW</i> ₆₉		3 7.6 157°30	1°6/ 9.3	18		299941	2006 <i>TK</i> ₄₃		3 7.7 206°16	3°1/11.6	17	
2 1	11 35.01	- 2 38.7	2.004	2.796	14.2	20.5	2 1	11 33.02	- 8 36.5	2.701	3.450	12.0	21.8
2 11	11 31.00	- 2 12.4	1.919	2.798	11.1	20.3	2 11	11 29.07	- 8 24.4	2.602	3.447	9.7	21.6
2 21	11 25.00	- 1 29.0	1.856	2.799	7.5	20.1	2 21	11 23.59	- 7 56.3	2.525	3.444	7.1	21.4
3 2	11 17.57	- 0 31.4	1.819	2.800	3.5	19.9	3 2	11 17.04	- 7 13.5	2.476	3.440	4.5	21.2
3 12	11 9.58	+ 0 35.0	1.811	2.802	2.0	19.8	3 12	11 10.04	- 6 18.8	2.455	3.437	3.1	21.1
3 22	11 1.93	+ 1 43.4	1.832	2.803	5.7	20.0	3 22	11 3.25	- 5 16.8	2.465	3.433	4.7	21.2
4 1	10 55.51	+ 2 47.3	1.880	2.804	9.5	20.2	4 1	10 57.33	+ 4 12.6	2.503	3.428	7.4	21.4
4 11	10 50.96	+ 3 41.0	1.952	2.804	12.9	20.5	4 11	10 52.80	- 3 11.3	2.567	3.424	10.1	21.6
430019	2013 <i>RK</i> ₂₄		3 7.6 128°30	1°6/ 9.3	15		468124	2014 <i>TG</i> ₆₅		3 7.7 78°08	2°9/10.5	18	

2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
347109	2010 JX ₂₉		3 7.7 286°00	0°9/ 8.7	17		487620	2015 MN ₈₉		3 7.7 140°84	14°1/21.8	18	
2 1	11 33.07	- 0 50.7	2.250	3.046	12.7	21.4	2 1	11 41.51	+30 4.0	1.230	2.084	17.7	20.6
2 11	11 29.38	- 0 20.3	2.158	3.041	9.9	21.2	2 11	11 37.59	+33 36.0	1.197	2.091	15.2	20.4
2 21	11 23.91	+ 0 24.5	2.089	3.036	6.5	21.0	2 21	11 29.96	+36 54.8	1.187	2.097	14.1	20.4
3 2	11 17.19	+ 1 20.8	2.048	3.032	2.8	20.8	3 2	11 19.58	+39 38.8	1.201	2.102	14.9	20.4
3 12	11 9.93	+ 2 23.4	2.036	3.027	1.6	20.7	3 12	11 8.18	+41 32.6	1.237	2.107	17.1	20.6
3 22	11 2.95	+ 3 26.6	2.053	3.023	5.3	20.9	3 22	10 57.68	+42 30.8	1.293	2.112	19.8	20.8
4 1	10 57.00	+ 4 24.6	2.098	3.018	8.9	21.1	4 1	10 49.78	+42 36.9	1.364	2.116	22.3	21.0
4 11	10 52.70	+ 5 12.6	2.167	3.014	12.0	21.3	4 11	10 45.44	+42 0.1	1.448	2.120	24.5	21.2
54609	2000 RN ₃₆		3 7.7 223°34	0°6/ 8.3	18		9048	1991 RD ₂₄		3 7.7 276°71	2°7/ 5.2	18	
2 1	11 38.33	+ 2 18.4	2.608	3.398	11.4	19.8	2 1	11 36.41	+ 7 54.9	1.616	2.451	15.1	17.4
2 11	11 33.07	+ 2 15.1	2.511	3.392	8.7	19.6	2 11	11 32.67	+ 8 56.3	1.530	2.439	11.4	17.2
2 21	11 26.12	+ 2 20.5	2.439	3.386	5.7	19.4	2 21	11 26.40	+10 11.1	1.467	2.428	7.1	16.9
3 2	11 17.98	+ 2 32.4	2.395	3.380	2.3	19.2	3 2	11 18.22	+11 32.2	1.430	2.416	3.2	16.6
3 12	11 9.33	+ 2 47.8	2.382	3.373	1.5	19.1	3 12	11 9.18	+12 49.8	1.420	2.404	4.4	16.7
3 22	11 0.92	+ 3 3.3	2.399	3.366	4.9	19.3	3 22	11 0.49	+13 55.1	1.437	2.392	8.9	16.9
4 1	10 53.49	+ 3 15.8	2.446	3.360	8.1	19.5	4 1	10 53.32	+14 41.4	1.479	2.380	13.3	17.1
4 11	10 47.61	+ 3 22.3	2.517	3.352	10.9	19.7	4 11	10 48.52	+15 5.5	1.542	2.368	17.1	17.3
411191	2010 JZ ₈₄		3 7.7 290°92	1°0/ 8.3	14	C	35532	1998 FV ₇₁		3 7.7 250°86	0°2/ 7.9	18	
2 1	11 38.48	+ 1 1.2	1.447	2.267	17.4	21.8	2 1	11 37.41	+ 2 27.7	2.001	2.808	13.7	19.2
2 11	11 34.74	+ 1 7.6	1.346	2.242	13.6	21.5	2 11	11 32.90	+ 2 43.8	1.910	2.800	10.5	19.0
2 21	11 28.03	+ 1 32.3	1.265	2.218	9.0	21.1	2 21	11 26.28	+ 3 12.3	1.841	2.793	6.8	18.8
3 2	11 18.91	+ 2 12.6	1.208	2.194	3.8	20.8	3 2	11 18.12	+ 3 50.0	1.799	2.785	2.6	18.5
3 12	11 8.51	+ 3 2.6	1.178	2.169	2.4	20.6	3 12	11 9.29	+ 4 31.8	1.787	2.778	1.8	18.4
3 22	10 58.23	+ 3 54.2	1.173	2.144	8.0	20.9	3 22	11 0.77	+ 5 12.0	1.802	2.770	6.1	18.7
4 1	10 49.56	+ 4 38.9	1.193	2.120	13.5	21.1	4 1	10 53.48	+ 5 45.4	1.845	2.762	10.1	18.9
4 11	10 43.64	+ 5 10.0	1.233	2.095	18.3	21.3	4 11	10 48.16	+ 6 8.1	1.911	2.754	13.6	19.1
355763	2008 RS ₃₁		3 7.7 179°23	0°1/ 7.8	18		500898	2013 LD ₂₈		3 7.7 190°22	3°4/ 3.7	17	
2 1	11 42.42	+ 2 33.3	1.762	2.566	15.4	22.0	2 1	11 38.73	+13 12.6	2.389	3.210	11.3	21.3
2 11	11 36.89	+ 2 52.0	1.678	2.568	11.8	21.8	2 11	11 33.54	+14 16.1	2.307	3.208	8.5	21.1
2 21	11 28.87	+ 3 24.7	1.618	2.569	7.6	21.5	2 21	11 26.50	+15 24.3	2.252	3.206	5.5	20.9
3 2	11 19.06	+ 4 7.4	1.584	2.570	2.8	21.2	3 2	11 18.16	+16 31.2	2.226	3.203	3.5	20.8
3 12	11 8.51	+ 4 53.9	1.579	2.570	2.1	21.2	3 12	11 9.30	+17 30.1	2.230	3.200	4.6	20.9
3 22	10 58.42	+ 5 37.7	1.602	2.569	6.9	21.5	3 22	11 0.75	+18 16.0	2.263	3.195	7.5	21.0
4 1	10 49.89	+ 6 13.0	1.653	2.567	11.2	21.7	4 1	10 53.34	+18 45.5	2.323	3.190	10.5	21.2
4 11	10 43.70	+ 6 35.7	1.726	2.565	15.0	22.0	4 11	10 47.66	+18 57.6	2.407	3.184	13.1	21.4
81787	2000 JW ₇₉		3 7.7 244°36	7°1/14.0	18		140668	2001 UG ₄₈		3 7.7 211°60	4°4/ 2.4	18	
2 1	11 38.91	-15 46.9	2.105	2.818	16.1	18.9	2 1	11 36.26	+17 55.5	2.508	3.338	10.6	20.2
2 11	11 34.19	-16 29.8	1.997	2.805	13.8	18.7	2 11	11 31.62	+18 52.0	2.432	3.334	8.0	20.0
2 21	11 27.22	-16 51.6	1.910	2.791	11.2	18.5	2 21	11 25.25	+19 49.2	2.381	3.331	5.6	19.8
3 2	11 18.50	-16 49.6	1.847	2.777	8.6	18.3	3 2	11 17.69	+20 41.2	2.359	3.327	4.4	19.8
3 12	11 8.89	-16 23.9	1.809	2.762	7.2	18.2	3 12	11 9.67	+21 22.4	2.366	3.323	5.5	19.8
3 22	10 59.41	-15 37.6	1.799	2.748	7.9	18.2	3 22	11 1.98	+21 48.7	2.402	3.319	7.9	20.0
4 1	10 51.11	-14 36.8	1.816	2.732	10.3	18.3	4 1	10 55.36	+21 57.9	2.463	3.315	10.5	20.1
4 11	10 44.80	-13 29.4	1.857	2.716	13.2	18.5	4 11	10 50.37	+21 50.1	2.547	3.310	12.8	20.3
126187	2002 AA ₂₁		3 7.7 152°82	10°6/17.8	18		303688	2005 NY ₆₅		3 7.7 260°43	3°0/10.8	17	
2 1	11 44.29	-25 22.4	2.065	2.703	18.3	19.4	2 1	11 35.24	- 5 53.7	2.423	3.188	12.8	21.0
2 11	11 38.34	-26 38.6	1.978	2.713	16.4	19.2	2 11	11 30.93	- 6 1.8	2.325	3.183	10.3	20.8
2 21	11 29.85	-27 28.6	1.910	2.722	14.2	19.1	2 21	11 24.88	- 5 55.3	2.250	3.177	7.4	20.6
3 2	11 19.46	-27 47.6	1.863	2.730	12.2	19.0	3 2	11 17.58	- 5 35.0	2.202	3.172	4.4	20.4
3 12	11 8.20	-27 33.6	1.839	2.737	10.9	18.9	3 12	11 9.73	- 5 3.6	2.183	3.166	3.0	20.3
3 22	10 57.25	-26 48.9	1.841	2.744	10.8	18.9	3 22	11 2.11	- 4 25.1	2.192	3.161	5.1	20.4
4 1	10 47.79	-25 40.1	1.868	2.750	11.9	19.0	4 1	10 55.47	- 3 44.3	2.230	3.155	8.2	20.6
4 11	10 40.66	-24 16.9	1.918	2.755	13.8	19.1	4 11	10 50.43	- 3 6.1	2.293	3.150	11.1	20.8
293727	2007 RZ ₁₇		3 7.7 240°26	1°9/ 9.2	17		467523	2007 GT ₆₁		3 7.7 334°13	3°7/11.4	17	
2 1	11 39.53	- 1 51.5	1.779	2.573	15.7	21.4	2 1	11 29.59	- 9 6.3	1.548	2.338	17.8	20.6
2 11	11 34.88	- 1 42.6	1.680	2.560	12.3	21.1	2 11	11 27.59	- 8 29.6	1.454	2.326	14.5	20.4
2 21	11 27.74	- 1 16.0	1.603	2.547	8.4	20.8	2 21	11 23.23	- 7 22.5	1.381	2.315	10.4	20.1
3 2	11 18.71	- 0 33.8	1.553	2.534	4.0	20.5	3 2	11 17.07	- 5 46.7	1.331	2.304	6.1	19.8
3 12	11 8.77	+ 0 19.0	1.530	2.520	2.3	20.4	3 12	11 10.09	- 3 48.9	1.307	2.294	3.7	19.6
3 22	10 59.08	+ 1 15.7	1.535	2.506	6.6	20.6	3 22	11 3.42	- 1 40.0	1.309	2.285	6.7	19.8
4 1	10 50.78	+ 2 9.1	1.567	2.490	11.1	20.8	4 1	10 58.17	+ 0 27.3	1.338	2.277	11.3	20.0
4 11	10 44.74	+ 2 52.9	1.622	2.475	15.1	21.1	4 11	10 55.18	+ 2 21.3	1.389	2.269	15.5	20.2
433005	2012 QH ₄₅		3 7.7 199°19	3°8/12.4	17		364217	2006 RU ₄₃		3 7.7 175°85	0°8/ 6.9	17	
2 1	11 34.08	-11 7.2	2.579	3.314	12.9	22.0	2 1	11 39.11	+ 4 48.6	2.114	2.921	13.1	22.3
2 11	11 29.96	-10 51.3	2.478	3.311	10.6	21.8	2 11	11 34.00	+ 5 24.6	2.030	2.924	9.9	22.1
2 21	11 24.21	-10 16.9	2.399	3.308	7.9	21.7	2 21	11 26.86	+ 6 11.4	1.971	2.926	6.2	21.9
3 2	11 17.31	- 9 24.8	2.346	3.304	5.3	21.5	3 2	11 18.31	+ 7 4.5	1.940	2.927	2.2	21.6
3 12	11 9.90	- 8 18.2	2.323	3.300	3.8	21.4	3 12	11 9.19	+ 7 58.0	1.939	2.928	2.3	21.6
3 22	11 2.73	- 7 1.9	2.329	3.295	5.1	21.4	3 22	11 0.45	+ 8 46.1	1.967	2.928	6.3	21.9
4 1	10 56.48	- 5 42.1	2.364	3.290	7.7	21.6	4 1	10 52.96	+ 9 24.0	2.022	2.927	10.0	22.1
4 11	10 51.72	- 4 24.9	2.426	3.284	10.5	21.8	4 11	10 47.37	+ 9 48.5	2.102	2.926	13.2	22.3
49244	1998 TG ₅		3 7.7 55°32	5°3/ 3.6	18		116404	2003 YU ₁₃₅		3 7.7 270°49	0°6/ 8.1	17	

EPHEMERIDES

3 7.7

3 7.7

2020							2020						
2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
62685	2000 <i>TR</i> ₁₉		3 7.7 276 ^o .85	3 ^o .8/ 4.4 18			12601	Tiffanyswann		3 7.7 156 ^o .03	1 ^o .5/ 6.2 18	R	
2 1	11 38.76	+10 25.1	1.598	2.434	15.2	19.1	2 1	11 40.21	+ 6 45.8	1.989	2.802	13.5	19.2
2 11	11 34.72	+11 30.2	1.500	2.410	11.5	18.8	2 11	11 34.90	+ 7 27.4	1.912	2.810	10.2	19.0
2 21	11 27.89	+12 47.9	1.424	2.384	7.4	18.5	2 21	11 27.46	+ 8 18.9	1.861	2.817	6.3	18.8
3 2	11 18.86	+14 10.2	1.375	2.358	4.0	18.2	3 2	11 18.54	+ 9 14.7	1.837	2.823	2.4	18.5
3 12	11 8.69	+15 26.9	1.353	2.332	5.6	18.2	3 12	11 9.08	+10 8.3	1.842	2.829	3.0	18.6
3 22	10 58.70	+16 28.4	1.358	2.305	10.0	18.4	3 22	11 0.08	+10 53.7	1.877	2.834	6.9	18.8
4 1	10 50.22	+17 7.7	1.386	2.278	14.6	18.6	4 1	10 52.46	+11 26.4	1.938	2.838	10.6	19.1
4 11	10 44.29	+17 22.3	1.435	2.250	18.7	18.8	4 11	10 46.87	+11 43.9	2.023	2.842	13.8	19.3
191879	2004 <i>XQ</i> ₁₀₇		3 7.7 143 ^o .00	4 ^o .3/12.5 17			269317	2008 <i>SG</i> ₁₆₈		3 7.7 273 ^o .74	6 ^o .1/13.7 17		
2 1	11 38.06	-10 57.6	2.557	3.286	13.1	20.7	2 1	11 34.85	-14 19.0	2.032	2.764	16.0	20.5
2 11	11 32.89	-11 12.2	2.469	3.297	10.8	20.5	2 11	11 31.16	-14 33.7	1.924	2.748	13.5	20.3
2 21	11 26.02	-11 10.2	2.404	3.307	8.2	20.4	2 21	11 25.32	-14 25.0	1.836	2.732	10.7	20.1
3 2	11 17.98	-10 51.6	2.365	3.317	5.6	20.2	3 2	11 17.84	-13 51.6	1.772	2.716	7.9	19.9
3 12	11 9.47	-10 18.6	2.355	3.327	4.3	20.2	3 12	11 9.55	-12 54.9	1.734	2.700	6.2	19.7
3 22	11 1.28	- 9 35.0	2.375	3.335	5.4	20.2	3 22	11 1.42	-11 39.9	1.723	2.684	7.1	19.7
4 1	10 54.11	- 8 45.9	2.423	3.344	7.8	20.4	4 1	10 54.44	-10 14.0	1.739	2.667	9.9	19.9
4 11	10 48.54	- 7 56.6	2.498	3.351	10.4	20.6	4 11	10 49.40	- 8 46.3	1.780	2.651	13.1	20.0
473238	2015 <i>LZ</i> ₄		3 7.7 261 ^o .69	5 ^o .9/14.5 17			29376	1996 <i>GU</i> ₁₇		3 7.7 280 ^o .57	4 ^o .4/ 4.1 18		
2 1	11 34.27	-15 58.0	2.532	3.239	13.8	21.2	2 1	11 40.41	+14 32.1	1.728	2.563	14.2	18.5
2 11	11 30.23	-16 23.3	2.431	3.234	11.7	21.0	2 11	11 35.59	+15 14.6	1.643	2.551	10.8	18.3
2 21	11 24.46	-16 29.7	2.351	3.229	9.5	20.8	2 21	11 28.19	+16 1.6	1.582	2.538	7.2	18.0
3 2	11 17.44	-16 15.9	2.295	3.224	7.3	20.7	3 2	11 18.89	+16 45.6	1.547	2.526	4.5	17.9
3 12	11 9.86	-15 43.1	2.266	3.219	6.0	20.6	3 12	11 8.78	+17 18.7	1.540	2.513	5.8	17.9
3 22	11 2.47	-14 54.6	2.264	3.214	6.4	20.6	3 22	10 59.08	+17 34.8	1.560	2.501	9.5	18.1
4 1	10 56.04	-13 55.6	2.290	3.209	8.3	20.7	4 1	10 50.95	+17 31.0	1.604	2.488	13.4	18.3
4 11	10 51.16	-12 52.2	2.342	3.203	10.7	20.9	4 11	10 45.24	+17 7.1	1.669	2.476	16.8	18.5
503688	2016 <i>HW</i> ₁₇		3 7.7 170 ^o .99	1 ^o .4/ 6.1 17			208707	2002 <i>JL</i> ₅₁		3 7.7 234 ^o .81	0 ^o .9/ 8.5 16		
2 1	11 35.37	+ 6 13.9	2.210	3.026	12.3	22.2	2 1	11 38.89	- 0 8.2	2.022	2.815	14.1	21.1
2 11	11 31.11	+ 7 4.3	2.129	3.028	9.2	22.0	2 11	11 34.12	+ 0 14.0	1.920	2.802	10.9	20.8
2 21	11 25.01	+ 8 4.8	2.073	3.030	5.7	21.7	2 21	11 27.14	+ 0 51.5	1.840	2.787	7.2	20.6
3 2	11 17.63	+ 9 10.1	2.044	3.031	2.2	21.5	3 2	11 18.50	+ 1 41.5	1.788	2.772	3.1	20.3
3 12	11 9.74	+10 14.0	2.045	3.032	2.7	21.6	3 12	11 9.07	+ 2 38.8	1.765	2.757	1.8	20.2
3 22	11 2.20	+11 10.7	2.076	3.033	6.4	21.8	3 22	10 59.86	+ 3 37.1	1.772	2.740	6.1	20.4
4 1	10 55.78	+11 55.3	2.133	3.033	9.8	22.0	4 1	10 51.84	+ 4 30.0	1.806	2.723	10.2	20.6
4 11	10 51.10	+12 25.1	2.215	3.033	12.8	22.2	4 11	10 45.82	+ 5 12.3	1.863	2.705	13.9	20.8
255987	2006 <i>TT</i> ₈₅		3 7.7 95 ^o .06	1 ^o .6/ 6.3 18			67484	2000 <i>RO</i> ₁₄		3 7.7 10 ^o .60	7 ^o .0/13.1 18		
2 1	11 41.21	+ 7 39.1	1.759	2.580	14.7	21.2	2 1	11 37.06	-11 45.9	1.582	2.344	18.6	18.1
2 11	11 35.78	+ 8 5.5	1.694	2.595	11.0	21.0	2 11	11 33.21	-12 39.4	1.501	2.346	15.6	17.9
2 21	11 28.04	+ 8 40.8	1.653	2.610	6.8	20.8	2 21	11 26.77	-13 9.3	1.439	2.348	12.2	17.7
3 2	11 18.73	+ 9 19.5	1.638	2.625	2.6	20.5	3 2	11 18.40	-13 13.1	1.400	2.350	8.9	17.5
3 12	11 8.94	+ 9 55.0	1.652	2.639	3.1	20.6	3 12	11 9.18	-12 52.0	1.385	2.354	7.1	17.4
3 22	10 59.77	+10 21.9	1.694	2.653	7.3	20.9	3 22	11 0.38	-12 10.9	1.396	2.357	8.3	17.5
4 1	10 52.21	+10 36.3	1.762	2.667	11.2	21.2	4 1	10 53.16	-11 17.4	1.431	2.362	11.4	17.6
4 11	10 46.93	+10 36.4	1.853	2.681	14.6	21.4	4 11	10 48.41	-10 20.8	1.489	2.367	14.8	17.9
374148	2004 <i>TW</i> ₂₁₄		3 7.7 155 ^o .25	5 ^o .6/29.8 16			182705	2001 <i>WX</i> ₇		3 7.7 191 ^o .61	6 ^o .5/27.2 18		
2 1	11 41.37	+24 1.1	2.695	3.513	10.2	22.1	2 1	11 37.39	+27 53.4	2.804	3.625	9.8	20.7
2 11	11 35.27	+25 0.8	2.634	3.522	8.1	22.0	2 11	11 32.39	+29 8.4	2.741	3.624	8.0	20.5
2 21	11 27.44	+25 56.3	2.600	3.531	6.3	21.9	2 21	11 25.71	+30 17.8	2.704	3.622	6.8	20.5
3 2	11 18.47	+26 41.6	2.594	3.540	5.6	21.9	3 2	11 17.88	+31 15.3	2.696	3.619	6.6	20.4
3 12	11 9.14	+27 11.6	2.618	3.547	6.6	21.9	3 12	11 9.62	+31 55.5	2.715	3.617	7.6	20.5
3 22	11 0.26	+27 23.5	2.671	3.554	8.6	22.1	3 22	11 1.71	+32 15.6	2.761	3.614	9.4	20.6
4 1	10 52.57	+27 16.5	2.749	3.561	10.7	22.2	4 1	10 54.87	+32 14.8	2.831	3.610	11.2	20.7
4 11	10 46.59	+26 52.2	2.849	3.566	12.6	22.4	4 11	10 49.63	+31 54.5	2.922	3.607	12.9	20.9
152340	2005 <i>UN</i> ₆₃		3 7.7 275 ^o .72	0 ^o .4/ 8.1 17			409052	2003 <i>SX</i> ₉₀		3 7.7 170 ^o .09	0 ^o .3/ 7.4 18		
2 1	11 35.83	+ 1 6.9	1.842	2.651	14.6	20.7	2 1	11 40.36	+ 3 33.7	2.015	2.819	13.7	22.1
2 11	11 31.88	+ 1 33.7	1.753	2.645	11.2	20.4	2 11	11 35.03	+ 4 3.3	1.933	2.823	10.4	21.8
2 21	11 25.72	+ 2 16.2	1.687	2.639	7.3	20.2	2 21	11 27.57	+ 4 45.0	1.874	2.827	6.6	21.6
3 2	11 17.95	+ 3 10.3	1.648	2.633	2.9	19.9	3 2	11 18.61	+ 5 34.5	1.843	2.830	2.4	21.4
3 12	11 9.48	+ 4 10.1	1.636	2.627	1.9	19.8	3 12	11 9.06	+ 6 25.7	1.842	2.832	2.1	21.3
3 22	11 1.35	+ 5 8.6	1.652	2.621	6.4	20.1	3 22	10 59.92	+ 7 12.9	1.870	2.833	6.3	21.6
4 1	10 54.53	+ 5 59.3	1.695	2.615	10.6	20.3	4 1	10 52.11	+ 7 50.7	1.925	2.834	10.2	21.8
4 11	10 49.78	+ 6 37.2	1.761	2.609	14.3	20.5	4 11	10 46.32	+ 8 16.0	2.004	2.834	13.5	22.1
267407	2002 <i>AF</i> ₁₁₄		3 7.7 121 ^o .24	2 ^o .0/ 9.8 18			144708	2004 <i>GM</i> ₁₈		3 7.7 358 ^o .74	4 ^o .6/ 2.4 18		
2 1	11 39.28	- 3 23.1	2.342	3.113	13.1	21.5	2 1	11 33.54	+15 16.2	2.040	2.881	12.2	19.4
2 11	11 33.82	- 3 14.0	2.267	3.133	10.2	21.3	2 11	11 29.94	+16 35.1	1.970	2.880	9.2	19.2
2 21	11 26.59	- 2 50.8	2.216	3.152	6.9	21.1	2 21	11 24.37	+17 58.2	1.924	2.880	6.2	19.0
3 2	11 18.17	- 2 15.8	2.193	3.170	3.6	21.0	3 2	11 17.43	+19 17.6	1.907	2.879	4.6	18.9
3 12	11 9.37	- 1 32.8	2.199	3.188	2.2	20.9	3 12	11 9.97	+20 25.5	1.917	2.879	6.0	19.0
3 22	11 0.99	- 0 46.8	2.236	3.205	5.0	21.1	3 22	11 2.88	+21 16.0	1.955	2.880	9.0	19.2
4 1	10 53.78	- 0 2.5	2.301	3.221	8.2	21.3	4 1	10 57.03	+21 45.5	2.017	2.880	12.0	19.3
4 11	10 48.30	+ 0 35.5	2.392	3.237	11.1	21.5	4 11	10 53.04					

EPHEMERIDES

2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
85155	1986 <i>VH</i> ₇		3 7.7 100°31	0°8/ 6.9 18			206140	2002 <i>TV</i> ₄₈		3 7.7 54°63	6°3/ 2.0 18		
2 1	11 42.15	+ 4 29.7	1.651	2.466	15.8	19.5	2 1	11 41.18	+22 23.7	1.980	2.813	12.8	19.7
2 11	11 36.57	+ 5 4.9	1.591	2.488	11.9	19.3	2 11	11 35.60	+23 10.4	1.926	2.825	10.0	19.5
2 21	11 28.56	+ 5 52.8	1.554	2.509	7.4	19.1	2 21	11 27.85	+23 52.7	1.896	2.838	7.4	19.4
3 2	11 18.95	+ 6 47.7	1.543	2.530	2.6	18.8	3 2	11 18.68	+24 23.4	1.892	2.850	6.3	19.3
3 12	11 8.87	+ 7 41.9	1.561	2.551	2.6	18.9	3 12	11 9.14	+24 36.4	1.917	2.863	7.4	19.4
3 22	10 59.51	+ 8 28.7	1.608	2.571	7.2	19.2	3 22	11 0.26	+24 28.9	1.968	2.876	9.9	19.6
4 1	10 51.87	+ 9 2.9	1.680	2.590	11.3	19.5	4 1	10 52.96	+24 0.7	2.043	2.889	12.6	19.8
4 11	10 46.63	+ 9 21.6	1.775	2.609	14.8	19.8	4 11	10 47.83	+23 14.1	2.140	2.902	15.0	20.0
23206	2000 <i>SL</i> ₂₂₅		3 7.7 80°17	0°8/ 6.8 18			122692	2000 <i>SC</i> ₁₂		3 7.7 219°49	0°4/ 7.9 18		
2 1	11 34.75	+ 2 59.4	1.856	2.673	14.2	18.2	2 1	11 41.84	+ 2 14.7	1.922	2.722	14.5	20.2
2 11	11 30.89	+ 4 0.0	1.786	2.684	10.7	18.0	2 11	11 36.43	+ 2 28.5	1.826	2.713	11.2	20.0
2 21	11 24.98	+ 5 15.3	1.739	2.696	6.7	17.8	2 21	11 28.65	+ 2 55.5	1.753	2.703	7.2	19.7
3 2	11 17.65	+ 6 39.1	1.720	2.707	2.3	17.5	3 2	11 19.10	+ 3 32.4	1.707	2.692	2.8	19.4
3 12	11 9.83	+ 8 3.6	1.729	2.718	2.5	17.5	3 12	11 8.73	+ 4 13.9	1.690	2.681	1.9	19.3
3 22	11 2.47	+ 9 20.8	1.767	2.730	6.7	17.8	3 22	10 58.65	+ 4 54.2	1.702	2.669	6.5	19.6
4 1	10 56.45	+10 24.4	1.831	2.741	10.6	18.1	4 1	10 49.92	+ 5 27.7	1.742	2.656	10.8	19.8
4 11	10 52.40	+11 10.5	1.918	2.752	13.9	18.3	4 11	10 43.37	+ 5 50.2	1.805	2.643	14.5	20.0
297469	2000 <i>SX</i> ₃₄₃		3 7.7 204°86	3°9/13.4 17			245224	2004 <i>XF</i> ₅₃		3 7.7 255°26	2°3/ 5.7 17		
2 1	11 33.94	-13 14.5	3.272	3.980	10.9	22.5	2 1	11 38.77	+ 7 30.7	1.690	2.517	14.9	20.8
2 11	11 29.56	-13 13.4	3.163	3.974	9.1	22.3	2 11	11 34.45	+ 8 21.8	1.598	2.503	11.3	20.5
2 21	11 23.85	-12 57.5	3.077	3.968	7.0	22.2	2 21	11 27.57	+ 9 25.7	1.529	2.488	7.1	20.2
3 2	11 17.21	-12 26.7	3.018	3.961	5.1	22.0	3 2	11 18.74	+10 36.2	1.486	2.472	3.0	19.9
3 12	11 10.15	-11 43.0	2.987	3.953	3.9	21.9	3 12	11 8.99	+11 44.4	1.471	2.456	3.9	20.0
3 22	11 3.24	-10 49.5	2.987	3.944	4.6	22.0	3 22	10 59.53	+12 42.3	1.484	2.440	8.5	20.2
4 1	10 57.05	- 9 50.2	3.017	3.936	6.5	22.1	4 1	10 51.54	+13 23.3	1.522	2.423	12.9	20.4
4 11	10 52.04	- 8 49.9	3.073	3.926	8.7	22.2	4 11	10 45.92	+13 44.2	1.581	2.406	16.8	20.6
323084	2002 <i>TL</i> ₂₈₁		3 7.7 161°61	11°2/ 2.2 17			387473	2013 <i>XR</i> ₂₃		3 7.7 19°48	6°6/13.6 17		
2 1	11 59.94	+28 54.4	1.274	2.099	18.9	20.4	2 1	11 37.02	-13 20.0	2.017	2.751	16.0	20.4
2 11	11 51.23	+29 47.6	1.217	2.103	15.6	20.2	2 11	11 32.66	-14 11.1	1.931	2.755	13.5	20.2
2 21	11 38.35	+30 27.1	1.180	2.107	12.6	20.0	2 21	11 26.19	-14 42.1	1.865	2.759	10.7	20.0
3 2	11 22.62	+30 38.3	1.168	2.110	11.2	20.0	3 2	11 18.16	-14 51.1	1.824	2.763	8.1	19.9
3 12	11 6.15	+30 11.1	1.180	2.112	12.5	20.0	3 12	11 9.48	-14 38.9	1.808	2.768	6.6	19.8
3 22	10 51.17	+29 4.3	1.217	2.114	15.5	20.2	3 22	11 1.11	-14 9.0	1.820	2.773	7.4	19.9
4 1	10 39.40	+27 23.9	1.276	2.116	19.0	20.4	4 1	10 54.00	-13 27.1	1.857	2.779	9.8	20.0
4 11	10 31.70	+25 20.0	1.354	2.117	22.1	20.7	4 11	10 48.87	-12 40.4	1.919	2.785	12.5	20.2
111359	2001 <i>XX</i> ₁₁₄		3 7.7 175°13	9°6/19.9 18			18113	Bibring		3 7.7 262°21	0°8/ 7.0 18		
2 1	11 38.48	-29 39.3	2.785	3.370	14.9	20.0	2 1	11 39.01	+ 4 18.1	1.590	2.413	15.9	18.2
2 11	11 33.50	-30 50.2	2.688	3.371	13.6	19.9	2 11	11 34.77	+ 4 49.7	1.498	2.399	12.2	17.9
2 21	11 26.61	-31 39.8	2.609	3.372	12.2	19.8	2 21	11 27.85	+ 5 36.8	1.429	2.385	7.7	17.6
3 2	11 18.30	-32 4.4	2.550	3.372	10.8	19.7	3 2	11 18.87	+ 6 34.1	1.384	2.371	2.8	17.3
3 12	11 9.29	-32 2.5	2.515	3.373	9.9	19.6	3 12	11 8.92	+ 7 34.1	1.367	2.357	2.8	17.2
3 22	11 0.43	-31 35.1	2.505	3.373	9.7	19.6	3 22	10 59.27	+ 8 28.6	1.377	2.342	7.9	17.5
4 1	10 52.57	-30 46.1	2.519	3.373	10.2	19.6	4 1	10 51.18	+ 9 10.5	1.413	2.327	12.7	17.7
4 11	10 46.38	-29 41.9	2.557	3.373	11.4	19.7	4 11	10 45.58	+ 9 35.3	1.469	2.312	16.9	18.0
55200	2001 <i>RO</i> ₁₉		3 7.7 69°89	0°7/ 6.9 18			118110	2493 <i>T-3</i>		3 7.7 113°39	1°1/ 6.8 18		
2 1	11 36.00	+ 5 3.9	2.122	2.936	12.8	19.4	2 1	11 42.23	+ 6 13.6	1.693	2.511	15.3	20.2
2 11	11 31.55	+ 5 33.0	2.053	2.949	9.6	19.2	2 11	11 36.71	+ 6 34.3	1.624	2.522	11.6	20.0
2 21	11 25.26	+ 6 11.9	2.007	2.963	6.0	19.0	2 21	11 28.74	+ 7 5.4	1.577	2.534	7.2	19.7
3 2	11 17.74	+ 6 56.0	1.989	2.976	2.1	18.8	3 2	11 19.08	+ 7 42.0	1.558	2.545	2.6	19.5
3 12	11 9.80	+ 7 40.1	2.000	2.990	2.1	18.8	3 12	11 8.84	+ 8 17.3	1.566	2.555	2.7	19.5
3 22	11 2.30	+ 8 18.9	2.040	3.003	5.9	19.1	3 22	10 59.22	+ 8 45.7	1.603	2.566	7.3	19.8
4 1	10 56.03	+ 8 48.4	2.107	3.017	9.4	19.3	4 1	10 51.27	+ 9 2.5	1.666	2.576	11.5	20.1
4 11	10 51.54	+ 9 5.9	2.198	3.030	12.4	19.6	4 11	10 45.70	+ 9 5.7	1.751	2.585	15.0	20.3
415880	2001 <i>SZ</i> ₃₂₈		3 7.7 139°75	0°4/ 7.3 18			360032	2013 <i>AX</i> ₃₂		3 7.7 2°08	3°5/10.0 18		
2 1	11 38.09	+ 3 17.8	2.149	2.953	13.0	22.4	2 1	11 38.18	- 3 24.6	1.270	2.084	19.6	20.6
2 11	11 33.14	+ 3 56.1	2.073	2.964	9.8	22.2	2 11	11 34.56	- 3 44.8	1.194	2.083	15.6	20.3
2 21	11 26.29	+ 4 46.1	2.022	2.975	6.2	22.0	2 21	11 27.88	- 3 42.6	1.138	2.082	10.9	20.1
3 2	11 18.13	+ 5 43.4	1.998	2.985	2.2	21.7	3 2	11 18.89	- 3 18.8	1.104	2.083	5.9	19.8
3 12	11 9.50	+ 6 41.9	2.004	2.994	2.0	21.7	3 12	11 8.93	- 2 38.4	1.094	2.083	3.7	19.6
3 22	11 1.29	+ 7 35.9	2.040	3.003	5.9	22.0	3 22	10 59.51	- 1 49.4	1.110	2.084	7.8	19.9
4 1	10 54.31	+ 8 20.5	2.103	3.011	9.5	22.2	4 1	10 52.04	- 1 1.0	1.149	2.086	12.9	20.2
4 11	10 49.16	+ 8 52.3	2.191	3.019	12.6	22.4	4 11	10 47.50	- 0 21.3	1.209	2.088	17.4	20.4
481543	2007 <i>RN</i> ₇		3 7.7 128°96	5°0/ 4.5 17			494220	2016 <i>LK</i> ₄₂		3 7.7 224°73	3°7/12.9 16		
2 1	11 43.86	- 1 57.3	0.474	1.358	31.4	22.1	2 1	11 33.59	-12 9.8	3.223	3.940	10.9	23.6
2 11	11 41.55	+ 1 26.1	0.438	1.372	23.6	21.7	2 11	11 29.36	-12 5.5	3.109	3.928	9.0	23.4
2 21	11 33.55	+ 5 54.0	0.415	1.385	14.3	21.3	2 21	11 23.78	-11 46.3	3.018	3.915	6.9	23.3
3 2	11 21.15	+10 55.3	0.409	1.397	5.7	20.9	3 2	11 17.22	-11 12.6	2.954	3.902	4.9	23.1
3 12	11 7.26	+15 38.6	0.423	1.408	9.4	21.2	3 12	11 10.23	-10 26.2	2.919	3.889	3.7	23.0
3 22	10 55.19	+19 20.3	0.454	1.418	18.2	21.7	3 22	11 3.37	- 9 30.4	2.915	3.875	4.5	23.1
4 1	10 47.51	+21 42.2	0.500	1.425	25.8	22.1	4 1	10 57.21	- 8 29.4	2.940	3.861	6.6	23.2
4 11	10 45.27	+22 49.7	0.557	1.432	31.8	22.6	4 11	10 52.23	- 7 27.9	2.992	3.846	8.9	23.3
133412	2003 <i>SM</i> ₁₇₇		3 7.7 153°08	1°4/ 6.2 18			12866	Yanamadala		3 7.7 272°92	1°7/ 6.3 18		

EPHEMERIDES

3 7.7

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2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
498206	2007 TH ₄₀₄		3 7.7 133°81	0°8 / 8.7 17			332527	2008 NZ ₄		3 7.7 217°99	0°0 / 7.6 17		
2 1	11 35.42	- 0 15.4	2.797	3.579	10.9	22.2	2 1	11 35.84	+ 1 45.2	2.141	2.944	13.1	21.9
2 11	11 30.73	+ 0 9.0	2.717	3.593	8.3	22.0	2 11	11 31.62	+ 2 21.7	2.050	2.939	10.0	21.6
2 21	11 24.60	+ 0 43.9	2.662	3.606	5.4	21.9	2 21	11 25.46	+ 3 11.9	1.982	2.934	6.4	21.4
3 2	11 17.50	+ 1 26.9	2.635	3.618	2.3	21.7	3 2	11 17.91	+ 4 11.7	1.942	2.928	2.4	21.1
3 12	11 10.07	+ 2 13.9	2.640	3.631	1.3	21.6	3 12	11 9.76	+ 5 15.5	1.932	2.923	1.8	21.1
3 22	11 2.94	+ 3 0.8	2.674	3.642	4.4	21.8	3 22	11 1.90	+ 6 17.0	1.950	2.916	5.8	21.3
4 1	10 56.72	+ 3 43.7	2.738	3.653	7.3	22.0	4 1	10 55.17	+ 7 10.5	1.996	2.910	9.6	21.6
4 11	10 51.87	+ 4 19.3	2.828	3.664	9.9	22.2	4 11	10 50.23	+ 7 51.7	2.066	2.903	12.9	21.7
141784	2002 NV ₁₃		3 7.7 146°02	0°3 / 7.4 18			295673	2008 TK ₈₅		3 7.7 42°78	2°4 / 9.6 18		
2 1	11 39.13	+ 2 52.0	2.214	3.012	12.8	21.4	2 1	11 35.70	- 4 14.7	1.333	2.145	19.0	20.9
2 11	11 33.88	+ 3 32.1	2.137	3.025	9.7	21.2	2 11	11 32.47	- 3 46.1	1.260	2.148	15.0	20.7
2 21	11 26.74	+ 4 23.9	2.085	3.036	6.1	21.0	2 21	11 26.44	- 2 50.8	1.206	2.153	10.2	20.4
3 2	11 18.32	+ 5 23.0	2.061	3.047	2.2	20.7	3 2	11 18.35	- 1 32.5	1.176	2.157	5.0	20.1
3 12	11 9.45	+ 6 23.8	2.067	3.058	1.9	20.7	3 12	11 9.44	+ 0 0.3	1.171	2.161	2.7	20.0
3 22	11 0.98	+ 7 20.3	2.104	3.067	5.8	21.0	3 22	11 1.09	+ 1 36.5	1.192	2.166	7.4	20.3
4 1	10 53.73	+ 8 7.6	2.168	3.075	9.3	21.2	4 1	10 54.56	+ 3 4.6	1.237	2.171	12.4	20.6
4 11	10 48.29	+ 8 42.4	2.257	3.083	12.3	21.5	4 11	10 50.71	+ 4 16.0	1.304	2.177	16.8	20.9
187981	Soluri		3 7.7 56°09	0°4 / 7.4 18			499307	2009 WC ₅₂		3 7.7 233°76	0°5 / 8.3 18 C		
2 1	11 37.54	+ 3 32.5	1.603	2.425	15.8	20.7	2 1	11 38.15	- 0 3.2	2.954	3.729	10.5	24.4
2 11	11 33.31	+ 4 0.7	1.535	2.435	12.0	20.5	2 11	11 32.94	+ 0 35.0	2.835	3.708	8.1	24.2
2 21	11 26.66	+ 4 43.1	1.490	2.446	7.6	20.3	2 21	11 26.13	+ 1 25.0	2.742	3.686	5.3	24.0
3 2	11 18.34	+ 5 34.6	1.470	2.457	2.7	20.0	3 2	11 18.15	+ 2 24.3	2.678	3.662	2.2	23.7
3 12	11 9.45	+ 6 27.9	1.477	2.467	2.3	20.0	3 12	11 9.58	+ 3 28.7	2.647	3.638	1.3	23.6
3 22	11 1.12	+ 7 15.8	1.511	2.478	7.1	20.3	3 22	11 1.10	+ 4 33.5	2.647	3.612	4.6	23.8
4 1	10 54.41	+ 7 52.3	1.571	2.490	11.4	20.6	4 1	10 53.40	+ 5 33.9	2.678	3.585	7.8	24.0
4 11	10 50.01	+ 8 13.9	1.653	2.501	15.1	20.8	4 11	10 47.03	+ 6 26.1	2.736	3.557	10.6	24.1
83615	2001 SE ₂₈₇		3 7.7 240°13	6°2 / 28.5 18			111624	2002 AL ₁₂₅		3 7.7 11°15	0°1 / 7.8 18		
2 1	11 36.35	+23 45.6	2.468	3.299	10.6	19.3	2 1	11 36.42	+ 2 56.8	1.156	1.999	19.3	19.3
2 11	11 31.86	+25 4.1	2.395	3.291	8.5	19.2	2 11	11 33.34	+ 3 4.0	1.091	2.001	14.8	19.0
2 21	11 25.53	+26 20.2	2.349	3.282	6.7	19.0	2 21	11 27.13	+ 3 29.6	1.044	2.004	9.5	18.7
3 2	11 17.90	+27 26.5	2.330	3.274	6.3	19.0	3 2	11 18.63	+ 4 8.7	1.020	2.007	3.6	18.4
3 12	11 9.75	+28 16.7	2.339	3.265	7.5	19.1	3 12	11 9.25	+ 4 53.0	1.021	2.012	2.6	18.3
3 22	11 1.92	+28 46.6	2.375	3.255	9.6	19.2	3 22	11 0.57	+ 5 33.6	1.045	2.018	8.5	18.7
4 1	10 55.20	+28 54.6	2.435	3.246	11.9	19.3	4 1	10 53.99	+ 6 2.7	1.092	2.025	13.8	19.0
4 11	10 50.21	+28 41.5	2.516	3.236	14.0	19.5	4 11	10 50.40	+ 6 15.4	1.159	2.033	18.4	19.3
358096	2006 KN ₁₉		3 7.7 303°82	4°1 / 4.7 16			208685	2002 GG ₁₂₆		3 7.7 315°19	1°9 / 6.3 18		
2 1	11 39.11	+11 45.8	1.389	2.235	16.5	21.1	2 1	11 36.21	+ 6 17.0	1.368	2.209	17.0	20.3
2 11	11 35.21	+12 30.7	1.306	2.220	12.5	20.9	2 11	11 32.99	+ 6 55.2	1.283	2.195	12.9	20.0
2 21	11 28.31	+13 24.8	1.245	2.206	8.1	20.6	2 21	11 26.90	+ 7 48.9	1.220	2.182	8.1	19.7
3 2	11 19.09	+14 20.0	1.208	2.191	4.4	20.3	3 2	11 18.58	+ 8 51.8	1.181	2.169	3.1	19.4
3 12	11 8.81	+15 6.2	1.197	2.177	5.8	20.3	3 12	11 9.24	+ 9 54.3	1.168	2.156	3.8	19.4
3 22	10 58.96	+15 35.1	1.211	2.163	10.4	20.6	3 22	11 0.28	+10 47.1	1.180	2.144	9.1	19.6
4 1	10 50.96	+15 41.8	1.248	2.150	15.1	20.8	4 1	10 53.08	+11 22.8	1.216	2.133	14.1	19.9
4 11	10 45.80	+15 25.1	1.305	2.137	19.3	21.0	4 11	10 48.61	+11 37.3	1.271	2.122	18.5	20.1
496358	2013 QW ₇₁		3 7.7 180°74	2°6 / 4.9 17			187210	2005 SO ₁₀₅		3 7.7 202°21	0°9 / 6.7 17		
2 1	11 37.73	+10 0.1	2.172	2.993	12.2	22.5	2 1	11 37.17	+ 4 42.8	2.347	3.152	12.0	21.3
2 11	11 32.96	+10 52.7	2.092	2.994	9.2	22.3	2 11	11 32.46	+ 5 28.7	2.255	3.147	9.1	21.1
2 21	11 26.25	+11 52.5	2.038	2.995	5.8	22.1	2 21	11 25.92	+ 6 25.5	2.188	3.142	5.7	20.8
3 2	11 18.17	+12 53.7	2.011	2.995	2.8	21.9	3 2	11 18.07	+ 7 28.6	2.149	3.136	2.0	20.6
3 12	11 9.56	+13 49.7	2.014	2.994	3.8	22.0	3 12	11 9.67	+ 8 32.3	2.141	3.130	2.3	20.6
3 22	11 1.32	+14 35.0	2.046	2.994	7.2	22.2	3 22	11 1.53	+ 9 30.9	2.163	3.123	5.9	20.8
4 1	10 54.28	+15 5.6	2.105	2.992	10.5	22.4	4 1	10 54.45	+10 19.4	2.213	3.115	9.4	21.0
4 11	10 49.08	+15 19.8	2.187	2.991	13.4	22.6	4 11	10 49.05	+10 54.5	2.288	3.106	12.4	21.2
275425	2011 CV ₁₆		3 7.7 333°59	3°3 / 9.5 17			291520	2006 EZ		3 7.7 191°19	11°9 / 14.1 18		
2 1	11 39.91	- 0 24.9	1.447	2.259	17.7	19.7	2 1	11 48.12	-17 5.8	1.366	2.095	22.6	20.9
2 11	11 35.78	- 1 18.7	1.353	2.242	14.1	19.4	2 11	11 42.47	-19 2.9	1.283	2.095	19.7	20.6
2 21	11 28.68	- 1 59.5	1.280	2.226	9.8	19.1	2 21	11 33.22	-20 34.6	1.218	2.094	16.5	20.4
3 2	11 19.25	- 2 27.1	1.231	2.211	5.3	18.8	3 2	11 21.03	-21 32.4	1.173	2.093	13.5	20.2
3 12	11 8.66	- 2 43.1	1.208	2.196	3.6	18.7	3 12	11 7.32	-21 51.5	1.151	2.091	11.9	20.1
3 22	10 58.33	- 2 50.9	1.211	2.183	7.7	18.9	3 22	10 53.90	-21 33.0	1.153	2.089	12.6	20.2
4 1	10 49.69	- 2 55.4	1.238	2.171	12.5	19.1	4 1	10 42.59	-20 45.1	1.178	2.087	15.2	20.3
4 11	10 43.80	- 3 2.0	1.286	2.160	16.9	19.3	4 11	10 34.67	-19 40.9	1.223	2.084	18.5	20.5
370966	2005 ST ₁₃₃		3 7.7 209°63	0°3 / 7.4 17			68657	2002 CW ₈₇		3 7.7 246°76	0°2 / 7.9 18		
2 1	11 38.17	+ 3 35.0	2.258	3.059	12.5	22.4	2 1	11 39.88	+ 2 3.1	1.842	2.647	14.8	20.3
2 11	11 33.28	+ 4 4.9	2.164	3.053	9.5	22.2	2 11	11 35.14	+ 2 26.8	1.741	2.631	11.4	20.0
2 21	11 26.47	+ 4 45.9	2.094	3.047	6.0	22.0	2 21	11 27.97	+ 3 5.4	1.662	2.614	7.4	19.7
3 2	11 18.27	+ 5 34.3	2.053	3.040	2.2	21.7	3 2	11 18.93	+ 3 55.4	1.610	2.596	2.8	19.4
3 12	11 9.48	+ 6 24.9	2.042	3.032	1.9	21.7	3 12	11 8.97	+ 4 50.9	1.587	2.578	2.0	19.3
3 22	11 0.96	+ 7 12.2	2.060	3.024	5.8	21.9	3 22	10 59.23	+ 5 45.0	1.592	2.559	6.8	19.6
4 1	10 53.54	+ 7 51.4	2.106	3.015	9.5	22.1	4 1	10 50.81	+ 6 30.9	1.624	2.540	11.3	19.8
4 11	10 47.90	+ 8 19.2	2.177	3.005	12.7	22.3	4 11	10 44.60	+ 7 3.9	1.679	2.520	15.2	20.0
254629	2005 JH ₅₀		3 7.7 300°18	2°1 / 5.9 17			463766	2014 SX ₁₃₉		3 7.7 37°51	1°2 / 6.8 18		
2 1	11 36.91	+ 7 2.9	1.582	2.416	15.5	21.1	2 1	11 39.54	+ 6 26.8	1.413	2.247	16.9	21.3

2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
91818 1999 <i>TU</i> ₂₆₇ 3 7.7 227°66 6°0/14.2 18							106036 2000 <i>SE</i> ₃₀₄ 3 7.7 88°42 5°2/14.2 18						
2 1	11 36.70	-15 45.9	2.439	3.144	14.3	19.7	2 1	11 33.34	-14 50.0	2.475	3.193	13.8	19.4
2 11	11 32.21	-16 7.4	2.331	3.134	12.2	19.5	2 11	11 29.50	-14 54.4	2.386	3.200	11.6	19.2
2 21	11 25.85	-16 9.0	2.244	3.124	9.8	19.4	2 21	11 24.01	-14 38.8	2.318	3.207	9.1	19.1
3 2	11 18.09	-15 49.3	2.181	3.113	7.4	19.2	3 2	11 17.38	-14 3.2	2.275	3.214	6.7	18.9
3 12	11 9.66	-15 9.5	2.146	3.102	6.0	19.1	3 12	11 10.29	-13 9.8	2.259	3.221	5.2	18.8
3 22	11 1.39	-14 13.1	2.139	3.090	6.6	19.1	3 22	11 3.48	-12 3.3	2.271	3.229	5.8	18.9
4 1	10 54.12	-13 5.7	2.160	3.078	8.8	19.2	4 1	10 57.66	-10 49.5	2.311	3.236	8.0	19.0
4 11	10 48.51	-11 54.3	2.206	3.065	11.4	19.4	4 11	10 53.39	-9 35.0	2.377	3.243	10.4	19.2
32636 2001 <i>SD</i> ₅₈ 3 7.7 92°04 1°1/ 8.7 18							307424 2002 <i>TA</i> ₂₆₆ 3 7.7 190°94 6°2/ 1.3 18						
2 1	11 38.33	- 1 40.2	1.472	2.281	17.6	19.8	2 1	11 41.25	+21 9.6	2.087	2.917	12.4	19.7
2 11	11 34.10	- 1 1.6	1.405	2.296	13.6	19.5	2 11	11 35.80	+22 21.2	2.017	2.916	9.6	19.5
2 21	11 27.26	- 0 1.2	1.360	2.310	8.9	19.3	2 21	11 28.13	+23 31.4	1.973	2.915	7.2	19.3
3 2	11 18.61	+ 1 15.8	1.339	2.324	3.8	19.0	3 2	11 18.92	+24 32.1	1.956	2.913	6.2	19.3
3 12	11 9.33	+ 2 40.8	1.346	2.337	2.1	18.9	3 12	11 9.14	+25 15.7	1.967	2.910	7.5	19.3
3 22	11 0.69	+ 4 3.8	1.380	2.351	7.1	19.3	3 22	10 59.82	+25 37.8	2.005	2.907	10.1	19.5
4 1	10 53.80	+ 5 16.2	1.439	2.364	11.7	19.6	4 1	10 51.92	+25 36.7	2.068	2.903	12.9	19.6
4 11	10 49.43	+ 6 11.6	1.520	2.377	15.7	19.8	4 11	10 46.13	+25 14.0	2.151	2.899	15.4	19.8
386163 2007 <i>TR</i> ₄₃₃ 3 7.7 106°61 2°4/ 4.9 18							74028 1998 <i>HR</i> ₁₈ 3 7.7 283°54 0°1/ 7.6 17						
2 1	11 36.21	+10 28.2	2.492	3.311	10.9	21.7	2 1	11 39.66	+ 3 40.0	1.632	2.449	15.8	19.8
2 11	11 31.46	+11 20.4	2.428	3.329	8.1	21.5	2 11	11 35.37	+ 3 53.2	1.529	2.426	12.2	19.5
2 21	11 25.12	+12 17.6	2.391	3.347	5.1	21.3	2 21	11 28.35	+ 4 20.7	1.448	2.403	7.9	19.2
3 2	11 17.73	+13 14.8	2.382	3.365	2.6	21.2	3 2	11 19.17	+ 4 58.9	1.392	2.379	2.9	18.8
3 12	11 10.01	+14 6.4	2.404	3.382	3.4	21.3	3 12	11 8.87	+ 5 41.6	1.364	2.355	2.3	18.7
3 22	11 2.70	+14 48.1	2.455	3.399	6.3	21.5	3 22	10 58.72	+ 6 21.6	1.363	2.330	7.6	19.0
4 1	10 56.46	+15 16.8	2.533	3.416	9.1	21.7	4 1	10 50.03	+ 6 52.5	1.387	2.306	12.6	19.2
4 11	10 51.79	+15 31.4	2.635	3.432	11.6	21.9	4 11	10 43.81	+ 7 9.4	1.433	2.282	16.9	19.4
84115 2002 <i>RC</i> ₂₅ 3 7.7 79°51 0°8/ 8.4 18							152778 1999 <i>RF</i> ₁₆₃ 3 7.7 215°86 1°4/ 9.3 18						
2 1	11 38.85	+ 0 10.7	1.691	2.497	15.9	19.5	2 1	11 35.02	- 2 53.6	2.339	3.121	12.8	20.6
2 11	11 34.09	+ 0 37.3	1.628	2.517	12.1	19.3	2 11	11 30.88	- 2 18.6	2.241	3.114	10.0	20.4
2 21	11 27.06	+ 1 20.3	1.588	2.538	7.8	19.1	2 21	11 24.97	- 1 27.7	2.166	3.107	6.7	20.1
3 2	11 18.49	+ 2 15.2	1.574	2.559	3.2	18.8	3 2	11 17.77	- 0 23.6	2.119	3.100	3.2	19.9
3 12	11 9.45	+ 3 15.2	1.588	2.579	1.9	18.8	3 12	11 10.00	+ 0 48.8	2.101	3.092	1.7	19.8
3 22	11 1.04	+ 4 12.9	1.629	2.599	6.4	19.1	3 22	11 2.47	+ 2 3.4	2.114	3.084	5.1	20.0
4 1	10 54.21	+ 5 2.1	1.698	2.619	10.5	19.4	4 1	10 55.94	+ 3 13.9	2.155	3.075	8.7	20.2
4 11	10 49.61	+ 5 38.2	1.789	2.639	14.0	19.7	4 11	10 51.04	+ 4 15.2	2.221	3.066	11.8	20.4
384197 2009 <i>BP</i> ₁₃₇ 3 7.7 63°30 2°4/ 9.9 17							140314 2001 <i>SV</i> ₃₂₀ 3 7.7 49°87 1°2/ 8.8 17						
2 1	11 37.60	- 2 57.0	2.140	2.921	13.8	21.2	2 1	11 37.73	+ 0 40.3	2.134	2.929	13.3	19.8
2 11	11 32.85	- 3 9.2	2.059	2.930	10.9	21.0	2 11	11 32.96	+ 0 35.2	2.053	2.935	10.3	19.6
2 21	11 26.18	- 3 7.4	2.001	2.938	7.5	20.8	2 21	11 26.26	+ 0 41.7	1.995	2.941	6.8	19.4
3 2	11 18.18	- 2 53.1	1.970	2.946	4.0	20.6	3 2	11 18.23	+ 0 57.6	1.964	2.947	3.0	19.1
3 12	11 9.66	- 2 29.5	1.967	2.955	2.5	20.5	3 12	11 9.69	+ 1 19.1	1.963	2.954	1.8	19.0
3 22	11 1.53	- 2 1.0	1.993	2.963	5.3	20.7	3 22	11 1.53	+ 1 42.1	1.990	2.960	5.4	19.3
4 1	10 54.61	- 1 32.3	2.047	2.972	8.8	20.9	4 1	10 54.58	+ 2 2.1	2.045	2.967	9.0	19.5
4 11	10 49.50	- 1 7.9	2.125	2.981	11.9	21.1	4 11	10 49.46	+ 2 15.7	2.124	2.973	12.2	19.7
53413 1999 <i>NE</i> ₁₂ 3 7.7 294°80 4°3/ 2.2 17							58120 1981 <i>EU</i> ₁₁ 3 7.7 252°15 0°3/ 7.9 17 R						
2 1	11 32.40	+13 53.3	2.224	3.061	11.4	19.1	2 1	11 40.38	+ 3 15.7	2.145	2.944	13.2	19.9
2 11	11 29.08	+15 26.3	2.137	3.047	8.6	18.9	2 11	11 35.17	+ 3 19.2	2.042	2.928	10.2	19.6
2 21	11 23.90	+17 6.2	2.077	3.033	5.8	18.7	2 21	11 27.82	+ 3 33.1	1.963	2.913	6.6	19.4
3 2	11 17.38	+18 45.5	2.044	3.018	4.3	18.5	3 2	11 18.87	+ 3 54.5	1.911	2.897	2.5	19.1
3 12	11 10.24	+20 15.7	2.041	3.004	5.7	18.6	3 12	11 9.16	+ 4 19.3	1.889	2.880	1.8	19.0
3 22	11 3.33	+21 30.2	2.067	2.990	8.7	18.7	3 22	10 59.67	+ 4 43.0	1.897	2.863	6.0	19.2
4 1	10 57.47	+22 24.1	2.117	2.976	11.7	18.9	4 1	10 51.34	+ 5 1.3	1.932	2.846	9.9	19.4
4 11	10 53.31	+22 56.0	2.189	2.961	14.4	19.1	4 11	10 44.93	+ 5 10.7	2.124	2.828	13.3	19.6
6957 1988 <i>HA</i> 3 7.7 308°00 0°5/ 8.2 18							113247 2002 <i>RV</i> ₁₃₁ 3 7.7 296°67 7°6/ 13.9 17						
2 1	11 36.03	+ 1 6.3	1.621	2.438	15.9	17.3	2 1	11 34.93	-14 32.3	1.618	2.367	18.8	19.9
2 11	11 32.39	+ 1 29.0	1.534	2.429	12.3	17.1	2 11	11 31.88	-15 3.2	1.512	2.346	16.1	19.6
2 21	11 26.28	+ 2 8.8	1.468	2.421	8.0	16.8	2 21	11 26.20	-15 7.0	1.424	2.325	12.9	19.4
3 2	11 18.31	+ 3 2.1	1.427	2.413	3.2	16.5	3 2	11 18.39	-14 40.2	1.358	2.304	9.6	19.1
3 12	11 9.53	+ 4 2.1	1.414	2.405	2.0	16.4	3 12	11 9.46	-13 43.3	1.317	2.283	7.6	18.9
3 22	11 1.10	+ 5 0.9	1.427	2.398	7.0	16.7	3 22	11 0.63	-12 21.5	1.300	2.262	8.6	18.9
4 1	10 54.15	+ 5 51.3	1.466	2.391	11.6	16.9	4 1	10 53.19	-10 44.2	1.308	2.242	11.9	19.1
4 11	10 49.53	+ 6 27.6	1.527	2.384	15.7	17.2	4 11	10 48.19	- 9 3.2	1.339	2.222	15.8	19.2
167074 2003 <i>RN</i> ₁₄ 3 7.7 137°74 3°1/10.5 18							81980 2000 <i>QT</i> ₉₆ 3 7.7 187°44 0°8/ 6.6 18						
2 1	11 39.73	- 5 28.6	1.843	2.620	15.9	20.8	2 1	11 35.00	+ 6 18.4	3.091	3.892	9.5	20.5
2 11	11 34.77	- 5 26.4	1.763	2.629	12.6	20.6	2 11	11 30.38	+ 6 50.3	3.001	3.892	7.1	20.4
2 21	11 27.55	- 5 4.9	1.705	2.638	8.9	20.4	2 21	11 24.41	+ 7 28.7	2.936	3.890	4.4	20.2
3 2	11 18.72	- 4 25.8	1.672	2.646	5.0	20.1	3 2	11 17.52	+ 8 10.5	2.902	3.889	1.6	20.0
3 12	11 9.27	- 3 33.6	1.667	2.654	3.2	20.0	3 12	11 10.25	+ 8 51.7	2.899	3.886	1.8	20.0
3 22	11 0.26	- 2 34.8	1.691	2.662	6.1	20.2	3 22	11 3.20	+ 9 28.8	2.926	3.884	4.7	20.2
4 1	10 52.70	- 1 36.4	1.742	2.669	9.9	20.5	4 1	10 56.95	+ 9 58.7	2.982	3.880	7.4	20.4
4 11	10 47.30	- 0 45.0	1.817	2.675	13.5	20.7	4 11	10 51.94	+10 19.3	3.064	3.877	9.8	20.5
473763 2016 <i>EL</i> ₅₄ 3 7.7 66°00 3°9/ 5.3 18							381896 2010 <i>BT</i> ₁₁ 3 7.7 28°33 3°7/11.5 17						
2 1	11 48.69	+15 53.7	1.744	2.566	14.7	20.6	2 1	11 33.79	- 7 50.9	1.959	2.731	15.2	20.4
2 11	11 41.55	+15 54.4	1.675	2.575	11.2	20.4	2 11	11 30.22	- 7 47.7	1.876	2.735	12.3	20.2
2 21	11 31.78	+15 54.7	1.630	2.583	7.3	20.2	2 21	11 24.66	- 7 24.3	1.814	2.740	8.9	20.0
3 2	11 20.24	+15 48.7	1.612	2.592	4.2	20.0	3 2	11 17.68	- 6 42.1	1.777	2.745	5.5	19.8
3 12	11 8.19	+15 31.3	1.623	2.601	5.0	20.0	3 12	11 10.13	- 5 45.0	1.767	2.751	3.7	19.7
3 22	10 56.92	+15 0.0	1.663	2.609	8.6	20.3	3 22	11 2.94	- 4 39.2	1.785	2.756	5.8	19.8
4 1	10 47.53	+14 14.6	1.730	2.618	12.3	20.5	4 1	10 56.99	- 3 31.8	1.830	2.762	9.2	20.0
4 11	10 40.75	+13 16.6	1.819	2.627	15.6	20.8	4 11						

EPHEMERIDES

Table with columns for year, right ascension (α), declination (δ), magnitude (Δ), magnitude (r), magnitude (β), and magnitude (V). It lists various astronomical objects and their data points for different years.

EPHEMERIDES

3 7.8

3 7.8

2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
84457	2002 <i>TY</i> ₂₅₀		3 7.8 20°60'		3°3/11.4 18		357342	2003 <i>QK</i> ₁₇		3 7.8 239°66'		0°2/ 8.0 17	
2 1	11 33.17	- 7 36.6	2.000	2.773	14.9	19.0	2 1	11 41.24	+ 2 18.3	1.935	2.735	14.4	21.7
2 11	11 29.84	- 7 21.6	1.914	2.776	12.0	18.9	2 11	11 36.21	+ 2 37.5	1.832	2.719	11.1	21.5
58104	1979 <i>ML</i> ₇		3 7.8 257°70'		1°5/ 6.6 18		83522	2001 <i>SZ</i> ₁₄₆		3 7.8 12°11'		0°3/ 8.1 18	
2 1	11 38.80	+ 5 6.8	1.647	2.470	15.4	20.1	2 1	11 34.96	+ 1 56.8	2.016	2.824	13.5	19.5
2 11	11 34.70	+ 5 54.2	1.553	2.455	11.8	19.8	2 11	11 31.15	+ 2 17.9	1.934	2.826	10.4	19.2
271864	2004 <i>TV</i> ₂₉₉		3 7.8 98°86'		0°4/ 7.4 18		164604	2054 <i>T-2</i>		3 7.8 234°07'		0°1/ 7.7 17	
2 1	11 38.17	+ 4 11.4	1.987	2.797	13.6	21.4	2 1	11 38.04	+ 3 39.6	2.784	3.575	10.7	21.1
2 11	11 33.52	+ 4 36.0	1.912	2.806	10.3	21.2	2 11	11 33.04	+ 3 59.9	2.676	3.560	8.2	20.9
372385	2009 <i>QY</i> ₉		3 7.8 187°62'		0°2/ 8.1 16		94553	2001 <i>VA</i> ₁₄		3 7.8 28°57'		5°9/12.1 18	
2 1	11 38.74	+ 1 51.9	2.567	3.355	11.6	22.2	2 1	11 38.92	- 9 0.8	1.389	2.172	19.8	19.2
2 11	11 33.60	+ 2 17.8	2.474	3.354	8.9	22.0	2 11	11 35.08	- 9 34.4	1.312	2.175	16.3	19.0
157293	2004 <i>RU</i> ₃₂₁		3 7.8 249°59'		1°4/ 9.1 17		238420	2004 <i>FJ</i> ₅₃		3 7.8 314°59'		0°2/ 8.1 17	
2 1	11 36.63	- 1 14.6	1.969	2.764	14.3	20.4	2 1	11 33.20	+ 0 24.5	2.167	2.969	12.9	21.3
2 11	11 32.52	- 0 58.7	1.878	2.760	11.2	20.2	2 11	11 29.73	+ 1 10.1	2.078	2.967	9.9	21.1
217629	1992 <i>SJ</i> ₅		3 7.8 330°20'		1°6/ 6.9 18		205774	2002 <i>CH</i> ₆₇		3 7.8 11°40'		2°3/ 9.3 18	
2 1	11 44.51	+ 9 34.5	1.534	2.361	16.2	19.5	2 1	11 40.49	- 0 38.9	1.362	2.177	18.5	20.5
2 11	11 39.13	+ 9 19.5	1.449	2.352	12.4	19.2	2 11	11 36.27	- 0 56.2	1.286	2.178	14.5	20.3
173958	2001 <i>XR</i> ₂₀		3 7.8 117°31'		7°1/17.9 18		289387	2005 <i>CE</i> ₃₀		3 7.8 293°61'		2°4/ 5.9 17	
2 1	11 38.58	-23 54.8	3.023	3.649	13.2	20.6	2 1	11 37.24	+ 7 12.2	1.522	2.358	15.9	20.8
2 11	11 33.34	-24 38.1	2.938	3.667	11.6	20.5	2 11	11 33.76	+ 8 0.6	1.429	2.338	12.1	20.5
320067	2007 <i>EL</i> ₄₀		3 7.8 129°00'		9°0/ 4.3 17		380249	2001 <i>US</i> ₂₀₉		3 7.8 87°06'		7°0/27.8 18	
2 1	12 0.83	+23 29.2	1.128	1.962	20.3	20.5	2 1	11 38.24	+26 36.4	2.384	3.212	11.1	20.6
2 11	11 52.35	+23 54.3	1.069	1.968	16.1	20.3	2 11	11 33.31	+28 3.4	2.344	3.233	8.9	20.5
136944	1998 <i>QK</i> ₈₁		3 7.8 168°09'		5°5/13.8 18		6804	Maruseppu		3 7.8 33°08'		2°9/ 9.9 18	
2 1	11 38.31	-14 24.1	2.193	2.912	15.3	20.9	2 1	11 37.52	- 3 25.7	1.212	2.031	20.1	16.7
2 11	11 33.63	-14 30.6	2.100	2.917	12.9	20.7	2 11	11 34.21	- 3 25.4	1.146	2.037	15.9	16.4

EPHEMERIDES

3 7.8

3 7.8

2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
144763	2004 HU ₁₁		3 7.8 292°13	5°9/	1.3 17		423220	2004 RS ₁₉₁		3 7.8 176°41	1°6/	9.7 17	
2 1	11 38.16	+21 30.7	2.223	3.056	11.6	20.0	2 1	11 38.05	- 2 36.8	2.675	3.444	11.6	22.4
2 11	11 33.60	+22 29.8	2.138	3.038	9.1	19.8	2 11	11 33.01	- 2 22.8	2.582	3.447	9.1	22.3
2 21	11 26.98	+23 27.7	2.079	3.021	6.9	19.6	2 21	11 26.37	- 1 56.4	2.513	3.449	6.2	22.1
3 2	11 18.86	+24 17.3	2.046	3.004	5.9	19.5	3 2	11 18.59	- 1 19.6	2.472	3.450	3.1	21.9
3 12	11 10.09	+24 51.7	2.042	2.987	7.2	19.6	3 12	11 10.35	- 0 35.9	2.462	3.451	1.8	21.8
3 22	11 1.63	+25 6.6	2.064	2.969	9.7	19.7	3 22	11 2.36	+ 0 10.4	2.482	3.451	4.5	22.0
4 1	10 54.39	+25 0.0	2.111	2.952	12.4	19.8	4 1	10 55.30	+ 0 55.0	2.532	3.451	7.6	22.2
4 11	10 49.04	+24 32.6	2.179	2.935	15.0	20.0	4 11	10 49.73	+ 1 33.8	2.608	3.449	10.4	22.3
121534	1999 UJ ₄₁		3 7.8 249°09	0°6/	7.3 18 R		421368	2013 TD ₁₃₀		3 7.8 185°97	1°9/	5.9 17	
2 1	11 38.27	+ 4 57.0	1.954	2.768	13.7	20.2	2 1	11 37.56	+ 7 55.2	2.108	2.926	12.7	21.2
2 11	11 33.74	+ 5 17.4	1.871	2.767	10.4	19.9	2 11	11 33.06	+ 8 40.8	2.026	2.926	9.5	21.0
2 21	11 27.07	+ 5 48.4	1.811	2.766	6.6	19.7	2 21	11 26.58	+ 9 35.3	1.969	2.926	5.9	20.8
3 2	11 18.89	+ 6 26.1	1.778	2.765	2.4	19.4	3 2	11 18.70	+10 33.3	1.940	2.925	2.5	20.5
3 12	11 10.09	+ 7 4.7	1.773	2.763	2.2	19.4	3 12	11 10.26	+11 28.4	1.939	2.924	3.2	20.6
3 22	11 1.66	+ 7 38.8	1.797	2.762	6.4	19.7	3 22	11 2.17	+12 14.8	1.968	2.923	6.8	20.8
4 1	10 54.53	+ 8 3.8	1.848	2.761	10.3	19.9	4 1	10 55.29	+12 48.2	2.024	2.922	10.4	21.0
4 11	10 49.39	+ 8 16.5	1.922	2.760	13.7	20.1	4 11	10 50.25	+13 6.1	2.103	2.920	13.4	21.2
102677	1999 VJ ₆₈		3 7.8 152°36	0°6/	8.5 18		52717	1998 FV ₁₂₁		3 7.8 328°76	0°3/	7.5 18	
2 1	11 39.59	+ 0 11.6	2.086	2.878	13.8	20.8	2 1	11 34.24	+ 3 19.7	2.138	2.949	12.8	19.6
2 11	11 34.54	+ 0 42.9	2.005	2.887	10.6	20.6	2 11	11 30.56	+ 3 49.7	2.050	2.944	9.7	19.3
2 21	11 27.48	+ 1 28.6	1.948	2.895	6.9	20.4	2 21	11 25.01	+ 4 31.5	1.985	2.939	6.2	19.1
3 2	11 19.01	+ 2 24.9	1.919	2.903	2.8	20.1	3 2	11 18.12	+ 5 21.2	1.948	2.935	2.3	18.8
3 12	11 10.02	+ 3 26.2	1.919	2.910	1.6	20.0	3 12	11 10.67	+ 6 13.5	1.939	2.930	1.8	18.8
3 22	11 1.41	+ 4 26.2	1.949	2.917	5.7	20.3	3 22	11 3.51	+ 7 2.6	1.959	2.926	5.8	19.1
4 1	10 54.07	+ 5 19.1	2.006	2.922	9.5	20.6	4 1	10 57.45	+ 7 43.4	2.006	2.922	9.5	19.3
4 11	10 48.62	+ 6 0.6	2.089	2.928	12.7	20.8	4 11	10 53.11	+ 8 12.4	2.077	2.918	12.7	19.5
428722	2008 RQ ₅₇		3 7.8 144°49	0°3/	8.2 17		188014	2001 TP ₁₃₇		3 7.8 64°69	1°8/	5.9 18	
2 1	11 37.90	+ 1 59.9	2.189	2.988	13.0	22.4	2 1	11 35.00	+ 3 46.7	1.630	2.457	15.4	20.3
2 11	11 33.20	+ 2 18.4	2.107	2.993	9.9	22.2	2 11	11 31.48	+ 5 17.4	1.570	2.474	11.5	20.1
2 21	11 26.60	+ 2 48.6	2.048	2.998	6.4	22.0	2 21	11 25.69	+ 7 4.4	1.533	2.492	7.1	19.8
3 2	11 18.68	+ 3 27.2	2.017	3.002	2.5	21.8	3 2	11 18.37	+ 8 59.1	1.523	2.509	2.7	19.6
3 12	11 10.26	+ 4 9.3	2.015	3.007	1.6	21.7	3 12	11 10.54	+10 50.8	1.541	2.527	3.5	19.7
3 22	11 2.18	+ 4 49.8	2.043	3.011	5.5	22.0	3 22	11 3.26	+12 29.3	1.587	2.545	7.8	20.0
4 1	10 55.27	+ 5 24.3	2.098	3.015	9.1	22.2	4 1	10 57.49	+13 47.6	1.659	2.563	11.8	20.3
4 11	10 50.14	+ 5 48.9	2.178	3.018	12.2	22.4	4 11	10 53.89	+14 42.3	1.753	2.581	15.2	20.5
293890	2007 RK ₂₉₃		3 7.8 83°88	0°3/	7.5 17		430044	2013 RV ₈₆		3 7.8 115°31	1°4/	6.6 17	
2 1	11 35.21	+ 3 6.4	2.170	2.978	12.7	21.0	2 1	11 42.09	+ 8 29.3	2.112	2.923	12.9	21.6
2 11	11 31.15	+ 3 44.4	2.094	2.987	9.6	20.8	2 11	11 36.35	+ 8 41.0	2.037	2.932	9.7	21.4
2 21	11 25.29	+ 4 34.2	2.042	2.996	6.1	20.6	2 21	11 28.57	+ 8 58.9	1.987	2.942	6.1	21.2
3 2	11 18.18	+ 5 31.3	2.018	3.005	2.2	20.4	3 2	11 19.42	+ 9 18.9	1.965	2.951	2.4	21.0
3 12	11 10.63	+ 6 30.1	2.023	3.014	1.8	20.4	3 12	11 9.79	+ 9 36.3	1.973	2.960	2.6	21.0
3 22	11 3.44	+ 7 24.7	2.057	3.023	5.7	20.6	3 22	11 0.63	+ 9 47.0	2.010	2.969	6.4	21.3
4 1	10 57.39	+ 8 10.3	2.119	3.032	9.2	20.9	4 1	10 52.82	+ 9 48.3	2.075	2.978	9.9	21.5
4 11	10 53.05	+ 8 43.4	2.204	3.040	12.3	21.1	4 11	10 46.97	+ 9 38.5	2.163	2.986	12.9	21.7
380345	2002 QK ₁₁₂		3 7.8 91°93	3°2/	10.8 17		467303	2016 EZ ₁₉₉		3 7.8 281°70	2°1/	10.1 18	
2 1	11 38.75	- 5 4.4	2.132	2.902	14.2	20.8	2 1	11 33.38	- 6 15.3	1.793	2.579	15.9	21.0
2 11	11 33.95	- 5 24.4	2.044	2.905	11.4	20.6	2 11	11 30.37	- 5 21.9	1.693	2.567	12.6	20.7
2 21	11 27.15	- 5 29.2	1.979	2.907	8.1	20.4	2 21	11 25.15	- 4 2.6	1.615	2.554	8.8	20.5
3 2	11 18.92	- 5 19.6	1.939	2.910	4.8	20.2	3 2	11 18.25	- 2 20.5	1.563	2.542	4.5	20.2
3 12	11 10.09	- 4 58.2	1.929	2.913	3.2	20.1	3 12	11 10.56	- 0 22.7	1.538	2.529	2.3	20.0
3 22	11 1.59	- 4 29.1	1.947	2.916	5.6	20.2	3 22	11 3.10	+ 1 40.7	1.543	2.516	6.2	20.2
4 1	10 54.27	- 3 57.4	1.992	2.919	8.9	20.4	4 1	10 56.89	+ 3 38.8	1.574	2.504	10.6	20.5
4 11	10 48.81	- 3 28.3	2.063	2.922	12.1	20.6	4 11	10 52.73	+ 5 22.5	1.630	2.491	14.6	20.7
31272	Makosinski		3 7.8 359°90	0°6/	7.2 18		283542	2001 UN ₅₃		3 7.8 106°91	4°3/	13.8 18	
2 1	11 34.44	+ 4 31.5	1.844	2.667	14.0	18.3	2 1	11 33.76	-14 2.9	2.637	3.354	13.0	20.7
2 11	11 30.95	+ 4 57.3	1.765	2.665	10.7	18.0	2 11	11 29.79	-13 43.8	2.551	3.368	10.8	20.6
2 21	11 25.35	+ 5 35.0	1.708	2.664	6.7	17.8	2 21	11 24.32	-13 5.2	2.488	3.383	8.3	20.4
3 2	11 18.26	+ 6 20.3	1.677	2.664	2.4	17.5	3 2	11 17.81	-12 8.0	2.451	3.397	5.8	20.3
3 12	11 10.57	+ 7 7.0	1.674	2.664	2.2	17.5	3 12	11 10.93	-10 55.6	2.442	3.411	4.3	20.2
3 22	11 3.26	+ 7 48.9	1.699	2.665	6.5	17.8	3 22	11 4.35	- 9 32.9	2.463	3.425	5.1	20.3
4 1	10 57.24	+ 8 20.8	1.749	2.667	10.5	18.0	4 1	10 58.72	- 8 6.2	2.512	3.439	7.3	20.4
4 11	10 53.19	+ 8 39.2	1.822	2.669	14.0	18.2	4 11	10 54.52	- 6 41.7	2.589	3.452	9.8	20.6
341665	2007 VZ ₇₅		3 7.8 56°98	1°4/	6.4 17		378818	2008 SO ₂₅₄		3 7.8 142°85	3°5/	11.9 17	
2 1	11 35.76	+ 6 35.0	2.057	2.877	12.9	20.6	2 1	11 36.96	- 8 53.7	2.458	3.204	13.2	21.3
2 11	11 31.62	+ 7 14.0	1.989	2.889	9.7	20.4	2 11	11 32.32	- 8 50.8	2.371	3.213	10.7	21.1
2 21	11 25.60	+ 8 2.1	1.945	2.902	6.0	20.2	2 21	11 25.98	- 8 31.1	2.306	3.222	7.8	20.9
3 2	11 18.30	+ 8 54.4	1.928	2.915	2.3	20.0	3 2	11 18.45	- 7 55.4	2.268	3.231	5.0	20.7
3 12	11 10.57	+ 9 44.8	1.940	2.928	2.7	20.1	3 12	11 10.46	- 7 7.0	2.259	3.239	3.5	20.7
3 22	11 3.28	+10 27.6	1.981	2.941	6.4	20.3	3 22	11 2.78	- 6 10.3	2.279	3.246	5.0	20.8
4 1	10 57.22	+10 58.9	2.048	2.954	9.8	20.5	4 1	10 56.12	- 5 11.0	2.328	3.254	7.9	21.0
4 11	10 52.96	+11 16.1	2.139	2.967	12.8	20.8	4 11	10 51.05	- 4 14.5	2.403	3.260	10.6	21.1
51204	2000 JE ₉		3 7.8 97°57	2°4/	10.0 18		176047	2000 SL ₃₆₂		3 7.8 140°70	1°3/	6.0 18	
2 1	11 38.08	- 3 59.8	1.788	2.576	15.8	18.8	2 1	11 34.30	+ 6 37.6	2.943	3.748	9.8	20.7
2 11	11 33.71	- 3 48.6	1.712	2.586	12.5	18.6	2 11	11 30.01	+ 7 31.5	2.866	3.760	7.3	20.5
2 21	11 27.10	- 3 18.5	1.657	2.596	8.6	18.4	2 21	11 24.37	+ 8 32.5	2.815	3.770	4.5	20.3
3 2	11 18.91	- 2 31.8	1.628	2.606	4.5	18.1	3 2	11 17.82	+ 9 36.5	2.795	3.781	1.8	20.1
3 12	11 10.12	- 1 34.0	1.626	2.616	2.6	18.0	3 12	11 10.93	+10 38.7	2.805	3.791	2.2	20.2
3 22	11 1.80	+ 0 31.9	1.653	2.625	6.0	18.3	3 22	11 4.31	+11 34.8	2.846	3.800	5.0	20.4
4 1	10 54.90	+ 0 27.3	1.706	2.635	10.0	18.5	4 1	10 58.53	+12 21.2	2.916	3.809	7.7	20.6
4 11	10 50.13	+ 1 17.4	1.783	2.644	13.6	18.8	4 11	10 54.03	+12 55.8	3.011	3.818	10.1	20.8

2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
341291	2007 <i>RD</i> ₂₉₆		3 7.8 100°59	2°8/ 5.1 17			176518	2001 <i>YD</i> ₇₆		3 7.8 87°31	0°1/ 7.7 17		
2 1	11 39.01	+12 17.0	2.216	3.038	12.0	21.1	2 1	11 36.43	+3 37.5	2.410	3.212	11.8	20.6
2 11	11 33.98	+12 48.3	2.143	3.045	9.0	20.9	2 11	11 31.85	+3 59.9	2.338	3.227	8.9	20.4
2 21	11 27.07	+13 23.5	2.095	3.051	5.7	20.7	2 21	11 25.64	+4 31.6	2.290	3.241	5.6	20.2
3 2	11 18.86	+13 57.6	2.075	3.057	3.0	20.5	3 2	11 18.32	+5 9.2	2.270	3.256	2.1	20.0
3 12	11 10.20	+14 25.1	2.084	3.063	3.9	20.6	3 12	11 10.62	+5 48.2	2.280	3.270	1.6	20.0
3 22	11 1.96	+14 42.0	2.122	3.069	7.0	20.8	3 22	11 3.31	+6 24.2	2.319	3.285	5.1	20.2
4 1	10 54.96	+14 45.8	2.187	3.075	10.1	21.0	4 1	10 57.05	+6 53.3	2.387	3.299	8.3	20.5
4 11	10 49.77	+14 35.5	2.275	3.080	12.9	21.2	4 11	10 52.38	+7 12.9	2.479	3.313	11.1	20.7
456730	2007 <i>SQ</i> ₂₂		3 7.8 121°67	0°4/ 7.5 18			406228	2007 <i>BR</i> ₃₆		3 7.8 87°10	3°7/ 4.3 18		
2 1	11 41.37	+3 20.3	1.814	2.621	14.9	22.1	2 1	11 41.03	+12 10.4	1.863	2.690	13.7	21.0
2 11	11 36.08	+3 54.3	1.745	2.637	11.3	21.9	2 11	11 35.64	+13 18.9	1.814	2.719	10.2	20.8
2 21	11 28.53	+4 41.5	1.699	2.652	7.1	21.7	2 21	11 28.12	+14 32.1	1.791	2.747	6.5	20.7
3 2	11 19.43	+5 36.7	1.680	2.667	2.6	21.4	3 2	11 19.24	+15 42.4	1.795	2.774	3.8	20.5
3 12	11 9.80	+6 33.3	1.690	2.681	2.1	21.4	3 12	11 10.01	+16 42.0	1.827	2.801	5.0	20.7
3 22	11 0.73	+7 24.6	1.729	2.694	6.6	21.7	3 22	11 1.46	+17 25.2	1.888	2.828	8.2	20.9
4 1	10 53.17	+8 5.0	1.795	2.707	10.6	22.0	4 1	10 54.46	+17 49.4	1.975	2.854	11.5	21.2
4 11	10 47.80	+8 31.4	1.884	2.719	14.0	22.2	4 11	10 49.58	+17 54.5	2.084	2.880	14.3	21.4
493003	2014 <i>SL</i> ₂₀₇		3 7.8 123°13	2°3/ 5.5 18			331783	2003 <i>GB</i> ₄₄		3 7.8 279°30	3°3/ 4.1 17		
2 1	11 39.60	+8 38.7	2.055	2.873	13.0	21.6	2 1	11 35.33	+9 25.4	1.961	2.791	13.0	20.8
2 11	11 34.51	+9 33.2	1.989	2.888	9.7	21.4	2 11	11 31.78	+10 50.5	1.860	2.767	9.8	20.5
2 21	11 27.43	+10 35.7	1.947	2.904	6.0	21.2	2 21	11 26.04	+12 28.6	1.784	2.743	6.3	20.2
3 2	11 19.00	+11 40.1	1.934	2.918	2.7	21.0	3 2	11 18.61	+14 12.2	1.735	2.718	3.5	20.0
3 12	11 10.13	+12 39.5	1.950	2.932	3.5	21.1	3 12	11 10.33	+15 52.0	1.716	2.693	4.9	20.0
3 22	11 1.74	+13 28.0	1.995	2.946	7.0	21.4	3 22	11 2.19	+17 19.0	1.725	2.667	8.7	20.2
4 1	10 54.68	+14 1.9	2.067	2.959	10.4	21.6	4 1	10 55.19	+18 26.5	1.760	2.641	12.5	20.4
4 11	10 49.55	+14 19.3	2.162	2.971	13.4	21.8	4 11	10 50.15	+19 11.0	1.816	2.616	15.9	20.5
435334	2007 <i>VR</i> ₄₉		3 7.8 54°86	6°0/14.5 18			330999	2009 <i>UJ</i> ₄₆		3 7.8 185°72	3°3/ 4.6 18		
2 1	11 35.11	-15 6.0	2.154	2.877	15.5	20.3	2 1	11 39.39	+12 31.7	2.100	2.925	12.5	20.8
2 11	11 31.21	-15 26.9	2.072	2.888	13.0	20.1	2 11	11 34.46	+13 18.3	2.022	2.925	9.4	20.6
2 21	11 25.42	-15 25.9	2.010	2.899	10.3	20.0	2 21	11 27.48	+14 9.8	1.969	2.925	6.1	20.4
3 2	11 18.28	-15 2.2	1.972	2.910	7.7	19.8	3 2	11 19.06	+15 0.2	1.943	2.924	3.4	20.2
3 12	11 10.61	-14 17.9	1.960	2.921	6.1	19.8	3 12	11 10.08	+15 43.1	1.947	2.923	4.5	20.3
3 22	11 3.29	-13 17.8	1.976	2.932	6.7	19.8	3 22	11 1.49	+16 13.3	1.979	2.922	7.7	20.5
4 1	10 57.13	-12 8.4	2.018	2.944	8.9	20.0	4 1	10 54.18	+16 27.6	2.037	2.920	11.0	20.7
4 11	10 52.75	-10 57.1	2.085	2.955	11.5	20.2	4 11	10 48.80	+16 25.2	2.118	2.918	13.9	20.9
50260	2000 <i>BK</i> ₂₇		3 7.8 123°35	1°2/ 8.8 18			82746	2001 <i>QR</i> ₄		3 7.8 173°71	0°4/ 8.3 18		
2 1	11 44.99	+0 2.0	1.682	2.476	16.4	18.7	2 1	11 35.56	+1 14.6	2.495	3.289	11.7	20.3
2 11	11 38.98	+0 9.2	1.612	2.494	12.7	18.5	2 11	11 31.25	+1 41.1	2.407	3.290	9.0	20.1
2 21	11 30.45	+0 32.2	1.565	2.510	8.3	18.2	2 21	11 25.31	+2 18.8	2.343	3.291	5.8	19.9
3 2	11 20.17	+1 7.8	1.543	2.527	3.6	18.0	3 2	11 18.22	+3 4.8	2.308	3.292	2.3	19.7
3 12	11 9.30	+1 50.0	1.551	2.542	2.0	17.9	3 12	11 10.68	+3 54.5	2.302	3.293	1.4	19.6
3 22	10 59.06	+2 32.6	1.587	2.557	6.5	18.2	3 22	11 3.40	+4 43.2	2.326	3.294	4.9	19.8
4 1	10 50.54	+3 9.2	1.650	2.570	10.8	18.5	4 1	10 57.09	+5 26.4	2.378	3.294	8.2	20.0
4 11	10 44.47	+3 35.5	1.736	2.583	14.5	18.8	4 11	10 52.30	+6 0.5	2.456	3.294	11.1	20.2
166969	2003 <i>OR</i> ₃		3 7.8 209°31	1°2/ 8.9 17			367314	2007 <i>YZ</i> ₄₈		3 7.8 326°49	2°5/ 5.9 18		
2 1	11 39.90	-1 5.8	2.018	2.806	14.3	21.6	2 1	11 36.30	+7 41.8	1.413	2.256	16.5	20.7
2 11	11 35.02	-0 43.7	1.922	2.800	11.1	21.3	2 11	11 33.10	+8 27.1	1.333	2.245	12.5	20.4
2 21	11 27.96	-0 5.7	1.849	2.793	7.4	21.1	2 21	11 27.13	+9 26.2	1.274	2.236	7.9	20.1
3 2	11 19.28	+0 45.4	1.803	2.786	3.3	20.8	3 2	11 19.06	+10 31.9	1.240	2.226	3.3	19.8
3 12	11 9.87	+1 44.4	1.786	2.778	1.8	20.7	3 12	11 10.06	+11 34.5	1.232	2.218	4.2	19.9
3 22	11 0.73	+2 44.9	1.799	2.768	5.9	21.0	3 22	11 1.48	+12 25.1	1.249	2.210	9.1	20.1
4 1	10 52.82	+3 40.5	1.839	2.759	10.0	21.2	4 1	10 54.60	+12 57.0	1.290	2.202	13.9	20.4
4 11	10 46.90	+4 25.9	1.903	2.748	13.5	21.4	4 11	10 50.34	+13 7.2	1.350	2.195	18.0	20.6
283909	2004 <i>FM</i> ₁₃		3 7.8 18°80	1°3/ 9.0 17			309403	2007 <i>TF</i> ₂₅₃		3 7.8 276°55	1°7/ 6.6 16		
2 1	11 37.70	+0 19.9	2.135	2.930	13.4	20.8	2 1	11 39.97	+6 17.5	1.593	2.419	15.7	21.0
2 11	11 33.14	+0 15.9	2.049	2.931	10.4	20.6	2 11	11 35.81	+6 52.5	1.494	2.397	12.1	20.7
2 21	11 26.63	+0 24.0	1.987	2.932	6.9	20.3	2 21	11 28.88	+7 41.5	1.417	2.375	7.7	20.4
3 2	11 18.74	+0 41.9	1.951	2.934	3.1	20.1	3 2	11 19.76	+8 39.2	1.366	2.352	2.9	20.0
3 12	11 10.30	+1 5.8	1.944	2.935	1.8	20.0	3 12	11 9.52	+9 37.3	1.341	2.329	3.4	20.0
3 22	11 2.18	+1 31.5	1.967	2.937	5.4	20.2	3 22	10 59.45	+10 27.7	1.344	2.306	8.4	20.2
4 1	10 55.24	+1 54.4	2.016	2.939	9.0	20.5	4 1	10 50.88	+11 3.3	1.372	2.283	13.3	20.5
4 11	10 50.11	+2 10.8	2.090	2.941	12.2	20.7	4 11	10 44.84	+11 20.1	1.421	2.259	17.6	20.7
503212	2015 <i>HM</i> ₃₅		3 7.8 105°96	2°9/11.8 17			271089	2003 <i>QO</i> ₁₃		3 7.8 217°49	1°4/ 5.9 18		
2 1	11 32.94	-9 8.4	2.561	3.311	12.6	21.1	2 1	11 35.86	+6 30.4	2.791	3.596	10.3	21.5
2 11	11 29.23	-8 34.7	2.475	3.321	10.2	20.9	2 11	11 31.41	+7 31.8	2.692	3.585	7.7	21.3
2 21	11 23.99	-7 43.0	2.411	3.331	7.3	20.8	2 21	11 25.40	+8 42.3	2.619	3.574	4.8	21.1
3 2	11 17.71	-6 35.4	2.375	3.341	4.5	20.6	3 2	11 18.27	+9 57.3	2.576	3.562	2.0	20.8
3 12	11 11.04	-5 16.2	2.367	3.351	2.9	20.5	3 12	11 10.64	+11 11.5	2.564	3.549	2.5	20.9
3 22	11 4.65	-3 51.0	2.390	3.360	4.6	20.6	3 22	11 3.18	+12 19.4	2.584	3.535	5.6	21.1
4 1	10 59.20	-2 26.0	2.442	3.370	7.4	20.8	4 1	10 56.55	+13 16.8	2.632	3.521	8.6	21.2
4 11	10 55.17	-1 7.0	2.520	3.379	10.1	21.0	4 11	10 51.30	+14 0.7	2.705	3.506	11.2	21.4
511630	2015 <i>BA</i> ₁₀₂		3 7.8 79°74	2°0/ 9.5 18			382773	2003 <i>SC</i> ₇₁		3 7.8 208°06	3°4/11.6 17		
2 1	11 41.68	-0 49.4	2.017	2.803	14.4	20.8	2 1	11 36.62	-8				

EPHEMERIDES

3 7.9

3 7.9

2020	α ₂₀₀₀	δ ₂₀₀₀	Δ	r	β	V	2020	α ₂₀₀₀	δ ₂₀₀₀	Δ	r	β	V
33057	1997 <i>US</i> ₁₇		3 7.9 284° 03'	4.0°/ 4.7	18		252485	2001 <i>UE</i> ₇₅		3 7.9 60° 65'	5.1°/ 3.4	18	
2 1	11 39.54	+11 5.9	1.463	2.305	16.0	18.3	2 1	11 39.11	+14 44.9	1.598	2.441	14.9	19.7
2 11	11 35.48	+12 2.3	1.386	2.298	12.1	18.0	2 11	11 34.64	+15 56.5	1.548	2.458	11.2	19.5
2 21	11 28.59	+13 8.7	1.331	2.291	7.8	17.8	2 21	11 27.72	+17 11.8	1.520	2.476	7.4	19.3
3 2	11 19.60	+14 16.5	1.302	2.285	4.2	17.5	3 2	11 19.17	+18 21.3	1.518	2.494	5.1	19.2
3 12	11 9.71	+15 15.8	1.299	2.278	5.6	17.6	3 12	11 10.15	+19 16.3	1.544	2.512	6.5	19.3
3 22	11 0.29	+15 58.0	1.321	2.271	9.9	17.8	3 22	11 1.83	+19 50.6	1.596	2.531	9.9	19.6
4 1	10 52.63	+16 18.0	1.367	2.265	14.3	18.1	4 1	10 55.23	+20 1.9	1.672	2.549	13.3	19.8
4 11	10 47.64	+16 14.8	1.434	2.259	18.2	18.3	4 11	10 51.00	+19 50.9	1.768	2.567	16.3	20.1
436658	2011 <i>RO</i> ₁₈		3 7.9 207° 49'	0.7°/ 6.9	17		354053	2001 <i>SL</i> ₃₂₅		3 7.9 122° 53'	0.0°/ 7.6	18	
2 1	11 34.94	+ 5 15.5	2.805	3.608	10.3	22.1	2 1	11 39.64	+ 0 12.7	1.735	2.538	15.6	21.5
2 11	11 30.65	+ 5 48.8	2.712	3.603	7.8	21.9	2 11	11 34.90	+ 1 16.0	1.666	2.555	11.9	21.3
2 21	11 24.88	+ 6 30.1	2.645	3.599	4.9	21.7	2 21	11 27.86	+ 2 37.6	1.620	2.571	7.6	21.0
3 2	11 18.07	+ 7 16.0	2.607	3.594	1.8	21.5	3 2	11 19.24	+ 4 11.3	1.601	2.587	2.8	20.8
3 12	11 10.83	+ 8 2.4	2.600	3.589	1.8	21.5	3 12	11 10.08	+ 5 48.3	1.611	2.602	2.0	20.8
3 22	11 3.80	+ 8 44.8	2.622	3.583	4.9	21.7	3 22	11 1.45	+ 7 19.5	1.650	2.617	6.7	21.1
4 1	10 57.62	+ 9 19.9	2.673	3.577	7.9	21.9	4 1	10 54.35	+ 8 37.1	1.717	2.630	10.9	21.4
4 11	10 52.79	+ 9 44.8	2.750	3.571	10.5	22.0	4 11	10 49.46	+ 9 36.3	1.806	2.643	14.5	21.6
151764	2003 <i>EX</i> ₁₂		3 7.9 321° 27'	2.5°/ 9.5	17		68114	Deákferenc		3 7.9 206° 28'	1.7°/ 9.5	18	
2 1	11 40.32	- 0 36.3	1.618	2.421	16.6	19.6	2 1	11 40.46	- 2 20.3	2.150	2.928	13.8	20.3
2 11	11 35.90	- 1 5.7	1.526	2.410	13.1	19.3	2 11	11 35.34	- 2 4.8	2.051	2.922	10.9	20.1
2 21	11 28.82	- 1 20.7	1.455	2.399	9.0	19.0	2 21	11 28.13	- 1 33.8	1.976	2.915	7.4	19.8
3 2	11 19.70	- 1 22.3	1.409	2.389	4.5	18.7	3 2	11 19.38	- 0 49.5	1.927	2.907	3.6	19.6
3 12	11 9.62	- 1 13.7	1.390	2.379	2.8	18.6	3 12	11 9.93	+ 0 3.6	1.909	2.899	2.0	19.5
3 22	10 59.83	- 0 59.4	1.397	2.370	6.8	18.8	3 22	11 0.72	+ 0 59.9	1.920	2.890	5.6	19.7
4 1	10 51.58	- 0 44.9	1.431	2.361	11.4	19.0	4 1	10 52.67	+ 1 53.4	1.959	2.879	9.4	19.9
4 11	10 45.78	- 0 35.6	1.487	2.353	15.5	19.3	4 11	10 46.50	+ 2 38.7	2.023	2.868	12.8	20.1
217868	2001 <i>QT</i> ₁₅₃		3 7.9 177° 89'	2° 8'/ 5.0	16		75133	1999 <i>VT</i> ₇₄		3 7.9 226° 79'	0° 5'/ 7.4	18	
2 1	11 38.79	+10 13.9	2.023	2.846	12.9	21.3	2 1	11 39.09	+ 3 3.4	1.996	2.801	13.8	20.9
2 11	11 34.08	+11 8.5	1.945	2.847	9.7	21.1	2 11	11 34.49	+ 3 43.6	1.899	2.790	10.6	20.7
2 21	11 27.29	+12 10.7	1.891	2.848	6.1	20.8	2 21	11 27.68	+ 4 38.0	1.826	2.779	6.7	20.4
3 2	11 19.01	+13 14.3	1.866	2.849	3.1	20.6	3 2	11 19.24	+ 5 42.0	1.780	2.767	2.5	20.1
3 12	11 10.16	+14 11.9	1.869	2.849	4.1	20.7	3 12	11 10.04	+ 6 49.2	1.764	2.754	2.1	20.1
3 22	11 1.70	+14 57.7	1.901	2.849	7.6	20.9	3 22	11 1.08	+ 7 52.7	1.777	2.741	6.5	20.3
4 1	10 54.52	+15 27.5	1.960	2.848	11.1	21.1	4 1	10 53.34	+ 8 46.0	1.817	2.727	10.6	20.5
4 11	10 49.31	+15 39.6	2.041	2.847	14.2	21.3	4 11	10 47.58	+ 9 25.0	1.880	2.713	14.2	20.7
206130	2002 <i>SJ</i> ₅₂		3 7.9 89° 20'	3° 5'/ 3.8	18 R		404328	2013 <i>FZ</i> ₁₆		3 7.9 236° 25'	0° 8'/ 7.2	18	
2 1	11 35.11	+12 0.7	2.126	2.958	12.1	19.7	2 1	11 37.73	+ 2 56.2	1.715	2.531	15.2	21.4
2 11	11 31.19	+13 13.1	2.056	2.963	9.0	19.5	2 11	11 33.75	+ 3 47.4	1.626	2.523	11.6	21.2
2 21	11 25.38	+14 31.7	2.012	2.969	5.8	19.3	2 21	11 27.35	+ 4 55.7	1.559	2.515	7.4	20.9
3 2	11 18.28	+15 49.5	1.995	2.975	3.6	19.2	3 2	11 19.15	+ 6 15.5	1.519	2.506	2.7	20.6
3 12	11 10.69	+16 59.1	2.008	2.981	4.8	19.3	3 12	11 10.12	+ 7 38.6	1.507	2.497	2.5	20.6
3 22	11 3.49	+17 54.7	2.049	2.986	7.8	19.5	3 22	11 1.40	+ 8 56.0	1.523	2.488	7.4	20.8
4 1	10 57.46	+18 32.3	2.115	2.992	10.9	19.7	4 1	10 54.09	+10 0.3	1.565	2.478	11.8	21.1
4 11	10 53.22	+18 50.8	2.204	2.998	13.7	19.9	4 11	10 49.03	+10 46.3	1.630	2.468	15.7	21.3
417281	2006 <i>AG</i> ₉₀		3 7.9 97° 40'	5° 8'/ 13.6	18		381205	2007 <i>RK</i> ₉₄		3 7.9 63° 33'	0° 9'/ 6.9	18	
2 1	11 38.22	-13 9.5	1.997	2.731	16.2	21.3	2 1	11 36.89	+ 4 50.6	2.036	2.849	13.3	20.9
2 11	11 33.69	-13 32.5	1.917	2.743	13.5	21.1	2 11	11 32.41	+ 5 31.0	1.978	2.875	9.9	20.7
2 21	11 27.06	-13 33.3	1.856	2.755	10.5	20.9	2 21	11 26.07	+ 6 21.7	1.945	2.900	6.2	20.5
3 2	11 18.94	-13 11.4	1.820	2.767	7.5	20.8	3 2	11 18.53	+ 7 17.5	1.938	2.925	2.2	20.3
3 12	11 10.22	-12 29.0	1.811	2.778	5.8	20.7	3 12	11 10.64	+ 8 12.2	1.961	2.950	2.3	20.4
3 22	11 1.90	-11 31.3	1.829	2.789	6.8	20.7	3 22	11 3.26	+ 9 0.2	2.013	2.975	6.0	20.7
4 1	10 54.88	-10 25.3	1.874	2.800	9.4	20.9	4 1	10 57.18	+ 9 37.3	2.092	3.001	9.5	20.9
4 11	10 49.85	- 9 18.7	1.944	2.811	12.3	21.1	4 11	10 52.92	+10 0.8	2.194	3.026	12.5	21.2
502041	2015 <i>AF</i> ₁₄₂		3 7.9 243° 99'	2° 2'/ 5.7	17		168073	2006 <i>DW</i> ₆		3 7.9 319° 79'	0° 4'/ 8.2	18	
2 1	11 36.98	+ 8 20.8	1.966	2.790	13.2	21.5	2 1	11 36.11	+ 1 6.3	1.330	2.160	18.1	20.1
2 11	11 32.81	+ 9 8.5	1.883	2.786	10.0	21.2	2 11	11 33.15	+ 1 30.8	1.247	2.149	14.0	19.8
2 21	11 26.54	+10 5.6	1.825	2.783	6.2	21.0	2 21	11 27.30	+ 2 16.1	1.183	2.139	9.1	19.5
3 2	11 18.76	+11 6.3	1.794	2.779	2.7	20.8	3 2	11 19.20	+ 3 18.1	1.143	2.129	3.6	19.2
3 12	11 10.36	+12 3.6	1.792	2.776	3.5	20.8	3 12	11 10.07	+ 4 28.3	1.128	2.120	2.3	19.1
3 22	11 2.31	+12 51.2	1.818	2.772	7.3	21.0	3 22	11 1.31	+ 5 36.8	1.139	2.111	8.0	19.4
4 1	10 55.53	+13 24.3	1.870	2.768	11.0	21.3	4 1	10 54.30	+ 6 34.2	1.173	2.103	13.4	19.6
4 11	10 50.70	+13 40.6	1.944	2.765	14.3	21.5	4 11	10 50.04	+ 7 13.8	1.228	2.096	18.0	19.9
294005	2007 <i>TO</i> ₉₄		3 7.9 68° 41'	5° 9'/ 2.2	18		500337	2012 <i>SY</i> ₄₅		3 7.9 197° 68'	0° 8'/ 7.0	17	
2 1	11 41.30	+21 38.9	2.092	2.922	12.3	20.2	2 1	11 39.07	+ 6 24.5	2.419	3.224	11.7	22.2
2 11	11 35.76	+22 28.7	2.041	2.939	9.6	20.0	2 11	11 33.97	+ 6 39.7	2.331	3.222	8.8	22.0
2 21	11 28.18	+23 15.0	2.014	2.957	7.0	19.9	2 21	11 27.09	+ 7 2.2	2.267	3.220	5.6	21.8
3 2	11 19.29	+23 50.6	2.015	2.974	5.9	19.9	3 2	11 18.95	+ 7 28.7	2.231	3.218	2.0	21.5
3 12	11 10.06	+24 9.9	2.044	2.991	6.9	19.9	3 12	11 10.31	+ 7 54.8	2.226	3.215	2.0	21.5
3 22	11 1.46	+24 9.9	2.099	3.008	9.3	20.1	3 22	11 1.95	+ 8 16.6	2.251	3.212	5.6	21.7
4 1	10 54.32	+23 50.2	2.180	3.025	11.9	20.3	4 1	10 54.66	+ 8 30.7	2.303	3.209	8.9	21.9
4 11	10 49.22	+23 12.6	2.282	3.043	14.2	20.5	4 11	10 49.03	+ 8 34.9	2.381	3.206	11.8	22.1
37573	Enricocaruso		3 7.9 84° 61'	2° 0'/ 6.2									

EPHEMERIDES

3 7.9

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2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
299259	2005 <i>NZ</i> ₄₂		3 7.9 238 ^o :29	0 ^o :8/ 8.8	17		34709	2001 <i>OW</i> ₉₆		3 7.9 108 ^o :48	3 ^o :3/ 4.3	18	
2 1	11 34.77	- 0 10.2	2.698	3.483	11.1	22.0	2 1	11 36.64	+ 9 11.2	1.805	2.637	13.9	19.0
2 11	11 30.65	+ 0 14.6	2.595	3.472	8.6	21.8	2 11	11 32.65	+10 41.1	1.739	2.647	10.4	18.8
2 21	11 24.98	+ 0 51.1	2.516	3.461	5.7	21.6	2 21	11 26.47	+12 21.5	1.698	2.656	6.5	18.6
3 2	11 18.18	+ 1 36.7	2.466	3.449	2.5	21.3	3 2	11 18.78	+14 3.7	1.684	2.666	3.5	18.4
3 12	11 10.87	+ 2 27.6	2.446	3.437	1.3	21.2	3 12	11 10.53	+15 38.0	1.698	2.676	4.8	18.5
3 22	11 3.74	+ 3 19.1	2.455	3.424	4.6	21.4	3 22	11 2.74	+16 56.3	1.741	2.685	8.5	18.7
4 1	10 57.45	+ 4 6.9	2.494	3.412	7.8	21.6	4 1	10 56.36	+17 53.3	1.809	2.694	12.1	19.0
4 11	10 52.54	+ 4 47.0	2.559	3.399	10.6	21.8	4 11	10 52.06	+18 27.3	1.899	2.702	15.2	19.2
212454	2006 <i>QZ</i> ₁₉		3 7.9 196 ^o :39	1 ^o :4/ 6.1	17		211445	2003 <i>AM</i> ₆₅		3 7.9 36 ^o :94	10 ^o :1/ 25.9	18	
2 1	11 34.04	+ 5 56.8	2.569	3.380	10.9	20.7	2 1	11 38.43	+31 1.0	1.792	2.629	13.8	19.2
2 11	11 30.13	+ 6 57.3	2.482	3.378	8.2	20.5	2 11	11 34.15	+32 43.5	1.760	2.645	11.6	19.0
2 21	11 24.64	+ 8 7.4	2.420	3.376	5.1	20.3	2 21	11 27.43	+34 13.7	1.750	2.661	10.3	19.0
3 2	11 18.04	+ 9 22.3	2.387	3.373	2.0	20.1	3 2	11 19.11	+35 21.3	1.766	2.677	10.3	19.0
3 12	11 10.98	+10 36.2	2.385	3.371	2.5	20.1	3 12	11 10.35	+35 59.1	1.806	2.694	11.6	19.1
3 22	11 4.16	+11 43.6	2.413	3.368	5.7	20.3	3 22	11 2.34	+36 4.8	1.868	2.712	13.5	19.3
4 1	10 58.25	+12 39.8	2.468	3.365	8.8	20.5	4 1	10 56.08	+35 39.8	1.951	2.730	15.6	19.5
4 11	10 53.79	+13 22.0	2.549	3.361	11.5	20.7	4 11	10 52.17	+34 48.8	2.052	2.749	17.4	19.7
460047	2014 <i>OZ</i> ₁₉₄		3 7.9 222 ^o :81	1 ^o :1/ 6.7	17		495399	2014 <i>QV</i> ₃₁₅		3 7.9 220 ^o :30	0 ^o :5/ 7.4	17	
2 1	11 39.07	+ 4 4.7	1.963	2.772	13.8	22.4	2 1	11 39.89	+ 2 57.3	1.806	2.615	14.9	22.6
2 11	11 34.52	+ 5 1.4	1.867	2.762	10.5	22.1	2 11	11 35.31	+ 3 38.5	1.714	2.607	11.4	22.4
2 21	11 27.74	+ 6 12.8	1.796	2.750	6.6	21.9	2 21	11 28.33	+ 4 35.3	1.645	2.599	7.3	22.1
3 2	11 19.29	+ 7 33.4	1.752	2.738	2.4	21.6	3 2	11 19.55	+ 5 42.8	1.603	2.590	2.7	21.8
3 12	11 10.07	+ 8 55.8	1.737	2.726	2.7	21.6	3 12	11 9.95	+ 6 53.6	1.589	2.580	2.3	21.7
3 22	11 1.08	+10 11.9	1.752	2.712	7.0	21.8	3 22	11 0.65	+ 8 0.1	1.604	2.569	7.0	22.0
4 1	10 53.34	+11 15.1	1.794	2.698	11.1	22.0	4 1	10 52.72	+ 8 55.1	1.646	2.558	11.4	22.2
4 11	10 47.62	+12 1.0	1.859	2.683	14.7	22.2	4 11	10 46.99	+ 9 34.2	1.710	2.546	15.2	22.4
88886	2001 <i>SA</i> ₂₈₆		3 7.9 158 ^o :49	6 ^o :4/ 28.6	18		353469	2011 <i>SW</i> ₁₃		3 7.9 276 ^o :12	0 ^o :4/ 8.2	17	
2 1	11 42.80	+26 19.1	2.638	3.453	10.5	20.3	2 1	11 41.68	+ 2 34.1	1.456	2.274	17.3	21.6
2 11	11 36.69	+27 34.4	2.581	3.463	8.5	20.1	2 11	11 37.35	+ 2 37.4	1.361	2.257	13.5	21.3
2 21	11 28.73	+28 44.3	2.550	3.472	6.9	20.0	2 21	11 30.02	+ 2 56.5	1.287	2.241	8.9	21.0
3 2	11 19.55	+29 41.9	2.548	3.480	6.5	20.0	3 2	11 20.31	+ 3 28.3	1.238	2.224	3.5	20.6
3 12	11 9.96	+30 21.5	2.575	3.488	7.5	20.1	3 12	11 9.39	+ 4 6.5	1.215	2.207	2.2	20.5
3 22	11 0.81	+30 40.2	2.630	3.494	9.4	20.2	3 22	10 58.70	+ 4 43.7	1.219	2.189	7.9	20.8
4 1	10 52.89	+30 37.5	2.709	3.500	11.4	20.4	4 1	10 49.71	+ 5 13.0	1.247	2.172	13.2	21.0
4 11	10 46.76	+30 15.3	2.810	3.505	13.2	20.5	4 11	10 43.48	+ 5 28.8	1.296	2.155	17.8	21.3
28621	2000 <i>FZ</i> ₂₈		3 7.9 322 ^o :16	1 ^o :4/ 8.8	18		429681	2011 <i>HZ</i> ₆		3 7.9 258 ^o :57	3 ^o :1/ 4.2	17	
2 1	11 40.46	+ 0 7.0	1.413	2.227	18.0	18.8	2 1	11 34.27	+ 9 33.0	2.100	2.929	12.3	21.4
2 11	11 36.24	+ 0 10.2	1.334	2.226	14.0	18.6	2 11	11 30.71	+10 55.6	2.017	2.923	9.2	21.2
2 21	11 29.13	+ 0 32.0	1.275	2.225	9.3	18.3	2 21	11 25.22	+12 28.1	1.958	2.917	5.8	20.9
3 2	11 19.87	+ 1 9.3	1.241	2.225	4.1	18.0	3 2	11 18.33	+14 3.5	1.928	2.911	3.2	20.8
3 12	11 9.69	+ 1 55.8	1.232	2.224	2.3	17.8	3 12	11 10.84	+15 33.5	1.928	2.904	4.4	20.8
3 22	10 59.99	+ 2 43.5	1.250	2.223	7.4	18.2	3 22	11 3.63	+16 50.7	1.955	2.898	7.8	21.0
4 1	10 52.09	+ 3 24.8	1.293	2.222	12.4	18.4	4 1	10 57.55	+17 49.9	2.010	2.892	11.2	21.2
4 11	10 46.91	+ 3 53.6	1.357	2.222	16.8	18.7	4 11	10 53.24	+18 28.5	2.086	2.885	14.2	21.4
205524	2001 <i>SJ</i> ₁₀₁		3 7.9 118 ^o :29	0 ^o :2/ 8.2	17		246575	2008 <i>TP</i> ₁₆₄		3 7.9 58 ^o :70	1 ^o :6/ 9.6	18	
2 1	11 35.96	+ 1 42.8	2.591	3.383	11.3	21.6	2 1	11 34.26	- 3 14.6	1.985	2.776	14.4	20.8
2 11	11 31.44	+ 2 11.2	2.514	3.397	8.6	21.4	2 11	11 30.70	- 2 40.0	1.903	2.782	11.2	20.6
2 21	11 25.39	+ 2 49.8	2.462	3.410	5.5	21.3	2 21	11 25.18	- 1 47.2	1.845	2.787	7.6	20.4
3 2	11 18.30	+ 3 35.5	2.438	3.423	2.2	21.1	3 2	11 18.30	- 0 39.7	1.813	2.793	3.6	20.2
3 12	11 10.84	+ 4 23.8	2.445	3.436	1.4	21.0	3 12	11 10.88	+ 0 36.7	1.809	2.800	1.9	20.1
3 22	11 3.71	+ 5 10.3	2.482	3.448	4.7	21.3	3 22	11 3.82	+ 1 54.7	1.833	2.806	5.5	20.3
4 1	10 57.55	+ 5 50.9	2.547	3.461	7.8	21.5	4 1	10 57.95	+ 3 7.2	1.886	2.812	9.3	20.5
4 11	10 52.85	+ 6 22.5	2.637	3.472	10.5	21.7	4 11	10 53.91	+ 4 8.6	1.962	2.818	12.7	20.8
214875	2007 <i>RG</i> ₉₅		3 7.9 82 ^o :30	1 ^o :1/ 6.9	18		385272	2001 <i>RH</i> ₁₃₀		3 7.9 92 ^o :35	0 ^o :7/ 7.0	18	
2 1	11 41.01	+ 4 21.6	1.569	2.389	16.2	20.8	2 1	11 37.39	+ 4 58.5	2.572	3.372	11.2	22.0
2 11	11 36.03	+ 5 10.8	1.514	2.414	12.2	20.6	2 11	11 32.43	+ 5 34.4	2.510	3.399	8.4	21.8
2 21	11 28.59	+ 6 13.9	1.482	2.438	7.6	20.4	2 21	11 25.96	+ 6 18.3	2.473	3.426	5.2	21.7
3 2	11 19.53	+ 7 24.0	1.476	2.462	2.7	20.2	3 2	11 18.51	+ 7 6.2	2.466	3.452	1.9	21.5
3 12	11 10.02	+ 8 32.4	1.497	2.486	2.8	20.2	3 12	11 10.78	+ 7 53.4	2.489	3.478	1.8	21.5
3 22	11 1.23	+ 9 31.3	1.547	2.510	7.4	20.6	3 22	11 3.45	+ 8 35.6	2.542	3.503	5.1	21.8
4 1	10 54.19	+10 15.1	1.622	2.533	11.6	20.9	4 1	10 57.18	+ 9 9.3	2.624	3.528	8.0	22.0
4 11	10 49.54	+10 40.9	1.719	2.556	15.1	21.2	4 11	10 52.40	+ 9 32.3	2.730	3.552	10.6	22.2
122550	2000 <i>QH</i> ₂₃₀		3 7.9 138 ^o :66	0 ^o :8/ 6.9	18		153932	2001 <i>YJ</i> ₇₀		3 7.9 0 ^o :88	6 ^o :4/ 12.5	18	
2 1	11 35.45	+ 2 35.8	2.084	2.892	13.2	20.1	2 1	11 38.17	- 9 33.2	1.538	2.312	18.6	18.9
2 11	11 31.49	+ 3 47.0	2.005	2.899	10.0	19.9	2 11	11 34.38	-10 29.5	1.456	2.311	15.4	18.7
2 21	11 25.63	+ 5 12.7	1.951	2.905	6.2	19.6	2 21	11 27.92	-11 4.1	1.393	2.310	11.8	18.5
3 2	11 18.44	+ 6 47.1	1.925	2.912	2.2	19.4	3 2	11 19.44	-11 14.8	1.352	2.310	8.3	18.2
3 12	11 10.74	+ 8 22.6	1.929	2.918	2.3	19.4	3 12	11 10.05	-11 2.4	1.337	2.310	6.4	18.1
3 22	11 3.39	+ 9 51.3	1.962	2.924	6.3	19.7	3 22	11 1.03	-10 31.6	1.346	2.312	8.0	18.2
4 1	10 57.21	+11 6.9	2.023	2.929	10.0	19.9	4 1	10 53.61	- 9 49.6	1.381	2.314	11.5	18.4
4 11	10 52.82	+12 5.3	2.108	2.934	13.1	20.1	4 11	10 48.69	- 9 5.3</				

EPHEMERIDES

2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
157761	2007 DA ₃₇		3 7.9 273°50	0°0/ 7.7 17			17158	1999 KA ₈		3 7.9 234°79	4°1/12.7 18		
2 1	11 37.58	+ 2 38.5	1.929	2.737	14.1	20.6	2 1	11 34.97	-10 55.2	2.566	3.302	12.9	18.5
2 11	11 33.44	+ 3 0.3	1.832	2.723	10.8	20.4	2 11	11 30.94	-10 59.4	2.463	3.295	10.7	18.3
2 21	11 27.10	+ 3 35.6	1.758	2.710	7.0	20.1	2 21	11 25.25	-10 46.5	2.381	3.287	8.1	18.1
3 2	11 19.09	+ 4 20.8	1.710	2.696	2.7	19.8	3 2	11 18.35	-10 16.6	2.326	3.280	5.6	18.0
3 12	11 10.31	+ 5 10.3	1.691	2.682	1.9	19.7	3 12	11 10.90	- 9 31.9	2.299	3.273	4.1	17.9
3 22	11 1.77	+ 5 57.8	1.700	2.668	6.4	20.0	3 22	11 3.63	- 8 36.6	2.300	3.265	5.2	17.9
4 1	10 54.45	+ 6 37.5	1.736	2.654	10.5	20.2	4 1	10 57.26	- 7 35.7	2.330	3.257	7.8	18.1
4 11	10 49.14	+ 7 5.1	1.795	2.640	14.2	20.4	4 11	10 52.38	- 6 35.3	2.386	3.249	10.5	18.2
229322	2005 NV ₁₁		3 7.9 86°31	1°0/ 7.1 18			499468	2010 GY ₁₁₇		3 7.9 217°20	6°5/28.1 17		
2 1	11 41.77	+ 3 52.3	1.326	2.154	18.2	20.9	2 1	11 39.01	+26 59.8	2.680	3.501	10.2	21.5
2 11	11 37.11	+ 4 36.0	1.268	2.171	13.8	20.7	2 11	11 33.95	+28 7.8	2.610	3.495	8.3	21.4
2 21	11 29.55	+ 5 36.6	1.230	2.188	8.6	20.4	2 21	11 27.10	+29 10.7	2.567	3.488	6.9	21.3
3 2	11 19.99	+ 6 47.0	1.217	2.205	3.1	20.2	3 2	11 19.02	+30 2.1	2.551	3.482	6.6	21.2
3 12	11 9.78	+ 7 57.1	1.231	2.221	3.0	20.2	3 12	11 10.46	+30 36.3	2.564	3.475	7.6	21.3
3 22	11 0.36	+ 8 57.6	1.271	2.237	8.3	20.5	3 22	11 2.24	+30 50.3	2.603	3.468	9.5	21.4
4 1	10 52.96	+ 9 41.5	1.335	2.253	13.1	20.9	4 1	10 55.12	+30 43.3	2.666	3.460	11.5	21.5
4 11	10 48.34	+10 5.5	1.420	2.269	17.1	21.1	4 11	10 49.68	+30 16.7	2.750	3.452	13.3	21.7
88771	2001 SA ₇₃		3 7.9 181°25	0°7/ 7.2 18			90221	2003 BF ₈		3 7.9 288°18	1°8/ 9.8 17		
2 1	11 40.53	+ 3 12.5	1.965	2.768	14.0	20.9	2 1	11 34.82	- 2 45.3	2.297	3.080	12.9	19.8
2 11	11 35.51	+ 4 2.5	1.880	2.770	10.7	20.7	2 11	11 31.06	- 2 33.4	2.188	3.061	10.2	19.6
2 21	11 28.31	+ 5 6.6	1.818	2.771	6.8	20.4	2 21	11 25.46	- 2 6.7	2.102	3.042	7.0	19.3
3 2	11 19.51	+ 6 19.7	1.785	2.771	2.5	20.1	3 2	11 18.47	- 1 26.9	2.043	3.023	3.5	19.1
3 12	11 10.06	+ 7 34.6	1.781	2.770	2.3	20.1	3 12	11 10.81	- 0 37.9	2.013	3.003	2.0	18.9
3 22	11 0.97	+ 8 43.9	1.806	2.769	6.6	20.4	3 22	11 3.28	+ 0 15.4	2.012	2.984	5.2	19.1
4 1	10 53.19	+ 9 41.4	1.859	2.766	10.6	20.6	4 1	10 56.72	+ 1 7.2	2.039	2.965	8.8	19.3
4 11	10 47.46	+10 23.2	1.936	2.763	14.1	20.8	4 11	10 51.78	+ 1 52.6	2.090	2.945	12.1	19.5
346843	2009 DZ ₉₂		3 7.9 337°25	4°2/ 3.9 17			430606	2002 UU ₆₀		3 7.9 190°78	4°7/ 1.9 17		
2 1	11 40.42	+17 5.9	2.212	3.038	11.9	20.4	2 1	11 37.17	+18 33.2	2.513	3.341	10.6	22.1
2 11	11 35.18	+17 35.1	2.135	3.036	9.1	20.2	2 11	11 32.58	+19 41.1	2.439	3.340	8.1	21.9
2 21	11 27.95	+18 4.5	2.083	3.034	6.2	20.0	2 21	11 26.25	+20 49.6	2.392	3.338	5.8	21.8
3 2	11 19.33	+18 28.5	2.059	3.032	4.2	19.9	3 2	11 18.70	+21 52.4	2.373	3.336	4.7	21.7
3 12	11 10.21	+18 41.8	2.063	3.031	5.2	19.9	3 12	11 10.69	+22 43.5	2.383	3.334	5.8	21.8
3 22	11 1.52	+18 40.9	2.096	3.029	8.0	20.1	3 22	11 2.99	+23 18.5	2.421	3.332	8.2	21.9
4 1	10 54.09	+18 24.2	2.155	3.027	11.0	20.3	4 1	10 56.35	+23 35.1	2.486	3.329	10.7	22.1
4 11	10 48.56	+17 52.2	2.237	3.026	13.6	20.4	4 11	10 51.33	+23 33.5	2.572	3.326	13.0	22.2
88400	2001 QO ₂₃		3 7.9 177°64	0°2/ 7.6 18			213934	2003 UN ₄₁₅		3 7.9 84°14	4°5/12.3 18		
2 1	11 39.40	+ 3 23.9	2.447	3.241	11.9	21.0	2 1	11 35.29	-10 58.8	1.614	2.382	18.1	20.4
2 11	11 34.22	+ 3 54.0	2.359	3.244	9.0	20.8	2 11	11 31.99	-10 31.9	1.532	2.387	14.8	20.1
2 21	11 27.27	+ 4 34.2	2.295	3.246	5.7	20.6	2 21	11 26.27	- 9 36.0	1.470	2.392	10.9	19.9
3 2	11 19.08	+ 5 21.0	2.261	3.247	2.1	20.4	3 2	11 18.80	- 8 12.4	1.431	2.397	6.9	19.7
3 12	11 10.38	+ 6 9.7	2.256	3.247	1.7	20.3	3 12	11 10.62	- 6 27.5	1.419	2.402	4.5	19.6
3 22	11 1.98	+ 6 55.2	2.283	3.247	5.3	20.6	3 22	11 2.86	- 4 30.9	1.434	2.408	6.6	19.7
4 1	10 54.63	+ 7 33.3	2.338	3.245	8.7	20.8	4 1	10 56.59	- 2 34.4	1.476	2.413	10.6	19.9
4 11	10 48.91	+ 8 1.0	2.418	3.244	11.6	21.0	4 11	10 52.61	- 0 48.4	1.542	2.418	14.5	20.2
408215	2013 EP ₆₈		3 7.9 253°76	1°2/ 6.9 17			464790	2004 BB ₈		3 7.9 29°58	1°8/ 6.6 18		
2 1	11 38.43	+ 4 10.1	1.697	2.516	15.2	21.7	2 1	11 38.28	+ 6 45.1	1.315	2.156	17.5	21.2
2 11	11 34.42	+ 4 59.2	1.603	2.502	11.6	21.4	2 11	11 34.57	+ 7 15.6	1.254	2.165	13.2	20.9
2 21	11 27.89	+ 6 4.4	1.531	2.488	7.4	21.1	2 21	11 28.01	+ 7 59.2	1.214	2.174	8.3	20.7
3 2	11 19.44	+ 7 20.4	1.486	2.473	2.7	20.8	3 2	11 19.45	+ 8 49.0	1.197	2.184	3.2	20.4
3 12	11 10.07	+ 8 38.7	1.469	2.458	2.9	20.8	3 12	11 10.21	+ 9 36.1	1.207	2.195	3.5	20.5
3 22	11 0.95	+ 9 50.7	1.479	2.442	7.7	21.0	3 22	11 1.66	+10 12.6	1.241	2.207	8.6	20.8
4 1	10 53.25	+10 48.7	1.516	2.427	12.3	21.3	4 1	10 55.03	+10 32.9	1.300	2.219	13.3	21.1
4 11	10 47.83	+11 28.0	1.574	2.410	16.3	21.5	4 11	10 51.11	+10 34.8	1.378	2.231	17.2	21.3
24311	1999 YS ₁₅		3 7.9 215°48	1°1/ 6.7 18			477066	2009 BG ₅₇		3 7.9 310°37	1°1/ 6.7 16		
2 1	11 36.39	+ 5 21.4	2.131	2.945	12.7	19.3	2 1	11 33.89	+ 4 54.7	1.983	2.804	13.3	21.7
2 11	11 32.24	+ 6 2.9	2.046	2.942	9.6	19.1	2 11	11 30.59	+ 5 39.6	1.888	2.789	10.1	21.5
2 21	11 26.15	+ 6 55.2	1.984	2.940	6.0	18.9	2 21	11 25.26	+ 6 37.3	1.817	2.774	6.3	21.2
3 2	11 18.69	+ 7 53.6	1.950	2.937	2.2	18.6	3 2	11 18.42	+ 7 43.1	1.773	2.760	2.3	20.9
3 12	11 10.65	+ 8 52.0	1.945	2.933	2.4	18.6	3 12	11 10.88	+ 8 50.1	1.757	2.745	2.6	20.9
3 22	11 2.92	+ 9 44.5	1.969	2.930	6.3	18.9	3 22	11 3.58	+ 9 51.6	1.769	2.731	6.7	21.1
4 1	10 56.33	+10 26.0	2.020	2.927	9.9	19.1	4 1	10 57.42	+10 41.3	1.807	2.718	10.7	21.3
4 11	10 51.53	+10 53.5	2.095	2.923	13.1	19.3	4 11	10 53.11	+11 15.5	1.868	2.705	14.1	21.5
500592	2012 UJ ₁₀₄		3 7.9 107°74	3°0/11.2 17			104690	2000 GX ₁₅₆		3 7.9 195°76	2°2/10.6 18		
2 1	11 36.99	- 6 14.3	2.435	3.195	12.9	21.3	2 1	11 34.72	- 5 21.5	2.475	3.243	12.5	20.4
2 11	11 32.40	- 6 22.7	2.349	3.203	10.4	21.1	2 11	11 30.74	- 4 59.9	2.380	3.241	9.9	20.2
2 21	11 26.12	- 6 16.6	2.286	3.211	7.4	21.0	2 21	11 25.11	- 4 22.7	2.308	3.239	7.0	20.0
3 2	11 18.64	- 5 56.7	2.250	3.219	4.5	20.8	3 2	11 18.30	- 3 31.6	2.263	3.237	3.8	19.8
3 12	11 10.70	- 5 25.9	2.243	3.227	3.0	20.7	3 12	11 10.99	- 2 30.7	2.247	3.235	2.3	19.7
3 22	11 3.06	- 4 48.3	2.265	3.234	4.9	20.8	3 22	11 3.92	- 1 25.1	2.261	3.233	4.7	19.8
4 1	10 56.44	- 4 8.5	2.316	3.242	7.9	21.0	4 1	10 57.79	- 0 20.5	2.304	3.230	7.9	20.0
4 11	10 51.41	- 3 31.3	2.392	3.249	10.7	21.2	4 11	10 53.17	+ 0 38.0	2.373	3.227	10.9	20.2
157785	4233 T ₋₃		3 7.9 218°80	5°3/ 2.3 18			374603	2006 DN ₁₂₆		3 7.9 173°11	1°4/ 9.4 17		
2 1	11 41.76	+20 6.1	2.319	3.142									

EPHEMERIDES

3 7.9

3 7.9

2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
140764	2001 UB ₁₂₂	3 7.9	133°77'	6°2/29.2	18		457955	2009 VH ₅₄	3 7.9	304°05'	8°2/1.2	17	
2 1	11 39.65	+25 38.5	2.568	3.390	10.5	19.4	2 1	11 43.20	+23 54.3	1.660	2.498	14.6	20.5
2 11	11 34.37	+26 40.0	2.510	3.398	8.4	19.2	2 11	11 38.29	+24 54.4	1.577	2.477	11.7	20.3
2 21	11 27.32	+27 36.4	2.478	3.405	6.8	19.1	2 21	11 30.48	+25 51.0	1.517	2.456	9.2	20.1
3 2	11 19.09	+28 21.3	2.473	3.412	6.3	19.1	3 2	11 20.47	+26 33.8	1.483	2.436	8.2	20.0
3 12	11 10.49	+28 49.4	2.497	3.419	7.3	19.2	3 12	11 9.50	+26 53.5	1.474	2.416	9.6	20.0
3 22	11 2.32	+28 58.0	2.548	3.425	9.2	19.3	3 22	10 58.95	+26 44.5	1.490	2.396	12.6	20.1
4 1	10 55.34	+28 46.5	2.624	3.432	11.2	19.5	4 1	10 50.18	+26 6.1	1.529	2.376	16.0	20.3
4 11	10 50.09	+28 16.5	2.720	3.438	13.1	19.6	4 11	10 44.11	+25 1.5	1.587	2.357	19.1	20.4
40614	1999 RW ₁₆₂	3 7.9	98°75'	2°3/10.2	18		429882	2012 TM ₇	3 7.9	352°71'	4°0/12.2	17	
2 1	11 36.02	- 4 15.8	1.976	2.760	14.7	19.1	2 1	11 34.26	- 9 22.3	2.103	2.861	14.7	21.1
2 11	11 32.08	- 3 58.8	1.892	2.764	11.6	18.9	2 11	11 30.71	- 9 19.6	2.011	2.860	12.0	20.9
2 21	11 26.12	- 3 23.7	1.829	2.767	8.0	18.7	2 21	11 25.25	- 8 56.9	1.941	2.860	8.9	20.7
3 2	11 18.71	- 2 32.8	1.793	2.771	4.2	18.5	3 2	11 18.41	- 8 14.8	1.896	2.859	5.7	20.5
3 12	11 10.72	- 1 31.3	1.785	2.774	2.4	18.3	3 12	11 10.98	- 7 16.9	1.878	2.858	4.0	20.4
3 22	11 3.07	- 0 25.4	1.805	2.778	5.6	18.5	3 22	11 3.81	- 6 8.7	1.888	2.858	5.6	20.5
4 1	10 56.64	+ 0 37.9	1.852	2.781	9.3	18.8	4 1	10 57.76	- 4 57.1	1.926	2.858	8.8	20.7
4 11	10 52.11	+ 1 32.8	1.924	2.784	12.8	19.0	4 11	10 53.48	- 3 49.2	1.988	2.858	12.0	20.9
381958	2010 EV ₇₀	3 7.9	48°70'	2°4/10.4	18		26216	1997 VE ₃	3 7.9	192°50'	3°5/12.2	18	
2 1	11 34.18	- 5 12.6	1.935	2.719	14.9	20.6	2 1	11 35.15	- 9 35.4	2.583	3.325	12.7	19.1
2 11	11 30.67	- 4 47.6	1.859	2.730	11.8	20.4	2 11	11 31.03	- 9 28.5	2.484	3.324	10.4	18.9
2 21	11 25.19	- 4 3.3	1.805	2.741	8.2	20.2	2 21	11 25.29	- 9 4.6	2.409	3.322	7.7	18.8
3 2	11 18.34	- 3 2.4	1.776	2.753	4.4	20.0	3 2	11 18.40	- 8 24.7	2.359	3.320	5.0	18.6
3 12	11 10.99	- 1 50.6	1.776	2.765	2.5	19.9	3 12	11 11.00	- 7 31.6	2.339	3.318	3.5	18.5
3 22	11 4.04	- 0 34.8	1.804	2.777	5.5	20.1	3 22	11 3.82	- 6 29.8	2.348	3.315	4.9	18.6
4 1	10 58.33	+ 0 37.6	1.859	2.789	9.2	20.4	4 1	10 57.55	- 5 24.7	2.386	3.313	7.6	18.7
4 11	10 54.48	+ 1 40.4	1.938	2.802	12.5	20.6	4 11	10 52.76	- 4 21.9	2.449	3.309	10.4	18.9
109096	2001 QJ ₃₃	3 7.9	244°02'	4°6/13.6	17		264671	2001 XU ₂₂₁	3 7.9	127°74'	5°4/2.7	18	
2 1	11 34.97	-13 34.1	2.676	3.392	12.9	20.3	2 1	11 40.97	+18 4.4	1.939	2.772	13.0	20.9
2 11	11 30.95	-13 34.1	2.562	3.378	10.8	20.2	2 11	11 35.84	+19 8.4	1.876	2.779	10.0	20.7
2 21	11 25.29	-13 15.7	2.470	3.363	8.4	20.0	2 21	11 28.48	+20 12.8	1.837	2.787	7.0	20.6
3 2	11 18.40	-12 38.5	2.403	3.348	6.1	19.8	3 2	11 19.60	+21 9.9	1.826	2.794	5.4	20.5
3 12	11 10.93	-11 44.7	2.365	3.332	4.6	19.7	3 12	11 10.20	+21 52.0	1.843	2.801	6.7	20.6
3 22	11 3.58	-10 38.0	2.356	3.316	5.4	19.7	3 22	11 1.34	+22 14.6	1.887	2.807	9.5	20.7
4 1	10 57.08	- 9 24.0	2.375	3.300	7.8	19.8	4 1	10 53.96	+22 15.7	1.955	2.814	12.5	20.9
4 11	10 52.02	- 8 8.9	2.421	3.283	10.4	20.0	4 11	10 48.71	+21 56.4	2.045	2.820	15.2	21.1
234998	2003 BQ ₆₇	3 7.9	90°62'	3°1/10.1	18		457269	2008 RC ₄₅	3 7.9	134°55'	0°9/7.1	18	
2 1	11 42.95	- 3 24.5	1.434	2.231	18.6	20.4	2 1	11 43.31	+ 4 44.3	1.717	2.528	15.4	22.6
2 11	11 37.95	- 3 37.1	1.365	2.244	14.7	20.2	2 11	11 37.78	+ 5 19.5	1.647	2.541	11.7	22.4
2 21	11 30.12	- 3 28.9	1.317	2.257	10.2	19.9	2 21	11 29.81	+ 6 7.4	1.600	2.554	7.3	22.2
3 2	11 20.27	- 3 1.8	1.293	2.271	5.4	19.7	3 2	11 20.13	+ 7 2.4	1.579	2.566	2.7	21.9
3 12	11 9.68	- 2 20.9	1.295	2.283	3.2	19.6	3 12	11 9.85	+ 7 57.1	1.588	2.577	2.6	21.9
3 22	10 59.73	- 1 33.7	1.323	2.296	7.1	19.8	3 22	11 0.14	+ 8 44.8	1.624	2.588	7.1	22.2
4 1	10 51.68	- 0 48.0	1.377	2.309	11.7	20.1	4 1	10 52.06	+ 9 19.9	1.688	2.597	11.3	22.5
4 11	10 46.35	- 0 10.7	1.453	2.321	15.7	20.4	4 11	10 46.34	+ 9 39.6	1.774	2.607	14.9	22.8
221266	2005 UW ₃₁₀	3 7.9	213°02'	1°4/6.6	17		193727	2001 FS ₁₃₉	3 7.9	298°94'	0°8/8.5	18	
2 1	11 38.06	+ 6 7.2	1.921	2.739	13.7	21.2	2 1	11 35.94	- 0 38.5	1.282	2.108	18.8	20.5
2 11	11 33.72	+ 6 47.6	1.838	2.737	10.4	21.0	2 11	11 33.28	- 0 6.7	1.192	2.093	14.7	20.2
2 21	11 27.22	+ 7 39.3	1.778	2.734	6.5	20.7	2 21	11 27.59	+ 0 50.4	1.123	2.077	9.7	19.9
3 2	11 19.15	+ 8 36.9	1.745	2.731	2.5	20.5	3 2	11 19.50	+ 2 8.9	1.076	2.061	4.1	19.5
3 12	11 10.43	+ 9 33.6	1.740	2.728	2.8	20.5	3 12	11 10.19	+ 3 39.9	1.054	2.046	2.3	19.3
3 22	11 2.06	+10 23.0	1.765	2.725	6.9	20.7	3 22	11 1.14	+ 5 11.8	1.057	2.031	8.3	19.6
4 1	10 55.00	+10 59.9	1.815	2.722	10.9	20.9	4 1	10 53.85	+ 6 32.7	1.084	2.016	14.0	19.9
4 11	10 49.95	+11 21.2	1.888	2.718	14.3	21.2	4 11	10 49.42	+ 7 33.7	1.130	2.002	18.9	20.1
126639	2002 CG ₁₇₄	3 7.9	30°80'	2°0/5.9	18		170128	2003 AN ₁₇	3 7.9	71°94'	1°9/9.6	18	
2 1	11 37.46	+ 7 49.7	1.895	2.719	13.7	20.0	2 1	11 39.94	- 1 5.9	2.187	2.970	13.5	19.7
2 11	11 33.26	+ 8 32.6	1.817	2.719	10.3	19.8	2 11	11 34.77	- 1 20.3	2.110	2.983	10.5	19.6
2 21	11 26.91	+ 9 25.3	1.762	2.719	6.4	19.6	2 21	11 27.69	- 1 22.6	2.055	2.995	7.1	19.4
3 2	11 19.02	+10 22.0	1.734	2.720	2.7	19.4	3 2	11 19.30	- 1 14.3	2.028	3.007	3.6	19.2
3 12	11 10.53	+11 15.7	1.734	2.720	3.3	19.4	3 12	11 10.43	- 0 58.7	2.030	3.020	2.1	19.1
3 22	11 2.42	+12 0.0	1.763	2.720	7.2	19.6	3 22	11 1.97	- 0 39.6	2.062	3.032	5.2	19.3
4 1	10 55.65	+12 30.4	1.817	2.720	11.1	19.9	4 1	10 54.72	- 0 21.2	2.121	3.045	8.6	19.5
4 11	10 50.89	+12 44.4	1.894	2.720	14.4	20.1	4 11	10 49.28	- 0 7.4	2.206	3.057	11.7	19.8
186199	2001 VT ₁₂₁	3 7.9	186°65'	3°5/11.9	18		338889	2004 BV ₁₅₁	3 7.9	31°97'	1°6/6.0	17	
2 1	11 36.76	- 9 27.7	2.327	3.074	13.8	20.8	2 1	11 33.78	+ 5 37.9	2.036	2.858	12.9	20.2
2 11	11 32.42	- 9 8.5	2.230	3.074	11.2	20.6	2 11	11 30.34	+ 6 43.1	1.959	2.860	9.7	20.0
2 21	11 26.24	- 8 29.8	2.156	3.073	8.2	20.4	2 21	11 25.00	+ 8 0.2	1.905	2.863	6.0	19.8
3 2	11 18.76	- 7 32.9	2.107	3.071	5.2	20.2	3 2	11 18.31	+ 9 23.4	1.879	2.866	2.4	19.5
3 12	11 10.70	- 6 21.5	2.088	3.070	3.5	20.1	3 12	11 11.10	+10 45.0	1.882	2.869	3.0	19.6
3 22	11 2.90	- 5 1.3	2.098	3.067	5.2	20.2	3 22	11 4.23	+11 58.0	1.914	2.872	6.7	19.8
4 1	10 56.14	- 3 39.3	2.137	3.064	8.3	20.4	4 1	10 58.51	+12 56.7	1.973	2.875	10.3	20.0
4 11	10 51.05	- 2 22.0	2.202	3.060	11.4	20.5	4 11	10 54.58	+13 37.9	2.054	2.878	13.5	20.2
206911	2004 PE ₁₄	3 7.9	142°25'	1°6/6.4	18		246646	2008 YK ₁₉	3 7.9	192°17'	0°9/7.1	18	
2 1	11 41.85	+ 6 6.1	1.886	2.698	14.2	2							

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2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V	
406876	2009 CZ ₁₁ 3 7.9 36 ^o 89 4 ^h 1/10.9 18							268961	2007 DR ₁₀₉ 3 7.9 304 ^o 11 0 ^h 6/ 8.4 17					
2 1	11 39.41	- 5 39.7	1.429	2.224	18.8	20.7	2 1	11 35.69	+ 0 43.2	1.732	2.544	15.3	20.9	
2 11	11 35.41	- 6 0.3	1.354	2.228	15.1	20.4	2 11	11 32.30	+ 1 7.0	1.636	2.529	11.9	20.6	
2 21	11 28.63	- 5 58.3	1.297	2.233	10.8	20.2	2 21	11 26.56	+ 1 47.8	1.562	2.514	7.8	20.3	
3 2	11 19.78	- 5 34.2	1.264	2.237	6.4	19.9	3 2	11 19.02	+ 2 42.2	1.514	2.499	3.2	20.0	
3 12	11 10.08	- 4 52.3	1.256	2.242	4.2	19.8	3 12	11 10.63	+ 3 44.0	1.493	2.485	1.9	19.9	
3 22	11 0.87	- 3 59.7	1.275	2.248	7.2	20.0	3 22	11 2.47	+ 4 45.7	1.499	2.470	6.6	20.1	
4 1	10 53.43	- 3 5.2	1.318	2.253	11.7	20.3	4 1	10 55.64	+ 5 39.9	1.531	2.456	11.2	20.4	
4 11	10 48.62	- 2 17.1	1.382	2.259	15.8	20.5	4 11	10 50.96	+ 6 20.9	1.586	2.443	15.2	20.6	
52261	Izumishikibu 3 7.9 125 ^o 51 5 ^h 9/29.9 18							204870	2007 RJ ₂₇₈ 3 7.9 167 ^o 11 4 ^h 7/ 1.9 17					
2 1	11 39.67	+22 53.8	2.412	3.239	11.0	19.0	2 1	11 37.50	+18 54.1	2.558	3.385	10.5	20.7	
2 11	11 34.47	+24 0.2	2.355	3.250	8.6	18.8	2 11	11 32.80	+20 1.6	2.489	3.388	8.0	20.5	
2 21	11 27.44	+25 3.2	2.324	3.260	6.6	18.7	2 21	11 26.40	+21 9.4	2.446	3.391	5.8	20.4	
3 2	11 19.18	+25 55.9	2.321	3.271	5.9	18.7	3 2	11 18.83	+22 10.9	2.431	3.394	4.7	20.3	
3 12	11 10.54	+26 32.7	2.346	3.281	7.0	18.7	3 12	11 10.83	+23 0.5	2.446	3.396	5.8	20.4	
3 22	11 2.36	+26 50.2	2.399	3.291	9.1	18.9	3 22	11 3.16	+23 34.1	2.489	3.398	8.1	20.5	
4 1	10 55.40	+26 47.4	2.477	3.300	11.4	19.1	4 1	10 56.54	+23 49.6	2.558	3.400	10.5	20.7	
4 11	10 50.23	+26 25.8	2.575	3.309	13.4	19.2	4 11	10 51.53	+23 47.1	2.650	3.401	12.7	20.8	
406504	2007 VE ₁₂₁ 3 7.9 256 ^o 03 1 ^h 8/ 6.6 16							132078	2002 CE ₁₆₄ 3 7.9 152 ^o 48 1 ^h 7/ 6.4 18					
2 1	11 41.61	+ 7 36.9	1.609	2.435	15.6	21.4	2 1	11 43.17	+ 7 10.4	1.929	2.740	14.0	20.4	
2 11	11 36.86	+ 8 0.5	1.527	2.430	11.9	21.2	2 11	11 37.49	+ 7 48.3	1.854	2.750	10.5	20.2	
2 21	11 29.45	+ 8 34.6	1.468	2.425	7.5	20.9	2 21	11 29.56	+ 8 35.5	1.804	2.759	6.6	20.0	
3 2	11 20.08	+ 9 13.5	1.434	2.420	2.9	20.6	3 2	11 20.06	+ 9 26.8	1.781	2.767	2.6	19.7	
3 12	11 9.87	+ 9 50.2	1.427	2.415	3.3	20.6	3 12	11 9.98	+10 15.4	1.787	2.774	3.0	19.8	
3 22	11 0.09	+10 18.1	1.448	2.410	8.0	20.9	3 22	11 0.40	+10 55.3	1.823	2.781	7.0	20.0	
4 1	10 51.95	+10 32.3	1.494	2.405	12.5	21.1	4 1	10 52.26	+11 22.3	1.886	2.786	10.8	20.3	
4 11	10 46.29	+10 30.3	1.562	2.400	16.3	21.3	4 11	10 46.27	+11 34.2	1.972	2.791	14.1	20.5	
248403	2005 SJ ₉₉ 3 7.9 232 ^o 66 1 ^h 0/ 9.1 17							279866	2001 KH ₇₀ 3 7.9 331 ^o 00 5 ^h 8/14.2 17					
2 1	11 35.55	- 0 18.1	2.788	3.570	10.9	21.1	2 1	11 33.06	-14 31.0	1.945	2.683	16.4	20.1	
2 11	11 31.22	- 0 6.0	2.687	3.561	8.5	20.9	2 11	11 30.06	-14 28.7	1.849	2.678	13.8	19.9	
2 21	11 25.37	+ 0 16.6	2.610	3.553	5.6	20.7	2 21	11 24.98	-14 0.8	1.773	2.673	10.8	19.7	
3 2	11 18.43	+ 0 47.7	2.562	3.544	2.6	20.5	3 2	11 18.38	-13 6.5	1.720	2.668	7.8	19.5	
3 12	11 11.02	+ 1 24.0	2.544	3.535	1.4	20.4	3 12	11 11.10	-11 49.1	1.693	2.663	5.8	19.3	
3 22	11 3.78	+ 2 1.6	2.556	3.525	4.4	20.6	3 22	11 4.07	-10 14.7	1.694	2.659	6.7	19.4	
4 1	10 57.37	+ 2 36.6	2.596	3.515	7.4	20.7	4 1	10 58.23	- 8 32.3	1.721	2.655	9.5	19.5	
4 11	10 52.32	+ 3 5.7	2.663	3.505	10.2	20.9	4 11	10 54.30	- 6 51.3	1.773	2.651	12.8	19.7	
92592	2000 PV ₁₅ 3 7.9 156 ^o 33 2 ^h 8/10.3 18							290157	2005 QV ₁₈₇ 3 7.9 270 ^o 26 0 ^h 9/ 8.9 17					
2 1	11 42.00	- 4 22.7	1.868	2.644	15.7	20.2	2 1	11 37.56	+ 0 50.9	2.517	3.304	11.8	21.0	
2 11	11 36.74	- 4 22.9	1.785	2.651	12.5	20.0	2 11	11 32.98	+ 0 53.8	2.408	3.286	9.2	20.8	
2 21	11 29.17	- 4 5.1	1.723	2.657	8.7	19.8	2 21	11 26.63	+ 1 7.1	2.324	3.268	6.1	20.6	
3 2	11 19.93	- 3 30.9	1.688	2.663	4.7	19.6	3 2	11 18.98	+ 1 28.9	2.267	3.250	2.7	20.3	
3 12	11 10.01	- 2 44.7	1.680	2.668	2.9	19.5	3 12	11 10.69	+ 1 55.9	2.240	3.231	1.5	20.2	
3 22	11 0.49	- 1 52.5	1.702	2.673	6.0	19.7	3 22	11 2.55	+ 2 24.0	2.243	3.212	4.9	20.4	
4 1	10 52.40	- 1 1.1	1.751	2.677	10.0	19.9	4 1	10 55.31	+ 2 49.4	2.274	3.193	8.4	20.6	
4 11	10 46.49	- 0 16.5	1.824	2.680	13.5	20.1	4 11	10 49.62	+ 3 8.5	2.331	3.174	11.4	20.7	
28296	1999 CQ ₆₃ 3 7.9 13 ^o 92 2 ^h 3/10.5 18							196175	2002 XR ₂ 3 7.9 169 ^o 29 0 ^h 8/ 8.6 18					
2 1	11 32.83	- 5 47.6	1.983	2.766	14.7	18.8	2 1	11 41.09	- 0 31.3	1.739	2.537	15.8	21.6	
2 11	11 29.70	- 5 13.2	1.897	2.768	11.6	18.6	2 11	11 36.23	+ 0 3.7	1.657	2.541	12.3	21.4	
2 21	11 24.65	- 4 18.2	1.833	2.769	8.1	18.4	2 21	11 28.93	+ 0 56.9	1.597	2.545	8.0	21.1	
3 2	11 18.21	- 3 5.6	1.795	2.771	4.3	18.2	3 2	11 19.88	+ 2 4.2	1.564	2.548	3.3	20.8	
3 12	11 11.20	- 1 41.0	1.784	2.774	2.4	18.0	3 12	11 10.10	+ 3 18.5	1.559	2.550	1.8	20.7	
3 22	11 4.52	- 0 12.0	1.803	2.776	5.4	18.2	3 22	11 0.74	+ 4 31.7	1.582	2.552	6.6	21.0	
4 1	10 58.99	+ 1 13.7	1.848	2.779	9.2	18.5	4 1	10 52.87	+ 5 36.1	1.633	2.553	11.0	21.3	
4 11	10 55.26	+ 2 29.1	1.918	2.782	12.6	18.7	4 11	10 47.28	+ 6 26.3	1.706	2.553	14.8	21.5	
430646	2003 SH ₁₃₉ 3 7.9 180 ^o 99 4 ^h 4/13.1 17							370050	2000 SX ₂₆₇ 3 7.9 71 ^o 32 2 ^h 0/ 6.4 18					
2 1	11 38.64	-12 14.0	2.818	3.532	12.4	22.1	2 1	11 44.23	+ 9 57.1	1.782	2.601	14.6	20.2	
2 11	11 33.55	-12 29.8	2.718	3.533	10.3	22.0	2 11	11 38.37	+10 4.1	1.714	2.613	11.0	20.0	
2 21	11 26.86	-12 29.7	2.640	3.534	7.9	21.8	2 21	11 30.13	+10 16.7	1.669	2.625	6.9	19.8	
3 2	11 19.01	-12 13.7	2.589	3.534	5.7	21.7	3 2	11 20.27	+10 30.1	1.652	2.638	2.9	19.6	
3 12	11 10.65	-11 43.3	2.567	3.533	4.4	21.6	3 12	11 9.89	+10 39.0	1.663	2.650	3.3	19.6	
3 22	11 2.50	-11 1.7	2.574	3.532	5.2	21.6	3 22	11 0.13	+10 39.3	1.703	2.662	7.3	19.9	
4 1	10 55.22	-10 13.4	2.611	3.530	7.4	21.8	4 1	10 52.00	+10 28.3	1.769	2.674	11.2	20.2	
4 11	10 49.39	- 9 23.6	2.675	3.528	9.8	21.9	4 11	10 46.19	+10 5.3	1.858	2.687	14.5	20.4	
112631	2002 PT ₇₇ 3 7.9 261 ^o 69 3 ^h 1/ 5.1 18							58474	1996 RU ₁₀ 3 7.9 162 ^o 31 0 ^h 5/ 7.3 18					
2 1	11 40.89	+13 1.8	2.116	2.939	12.5	19.6	2 1	11 40.04	+ 2 54.7	2.125	2.924	13.3	20.2	
2 11	11 35.69	+13 27.1	2.032	2.933	9.5	19.4	2 11	11 34.98	+ 3 45.3	2.044	2.932	10.1	20.0	
2 21	11 28.40	+13 56.0	1.973	2.928	6.1	19.2	2 21	11 27.91	+ 4 48.9	1.987	2.938	6.4	19.8	
3 2	11 19.62	+14 23.2	1.941	2.922	3.3	19.0	3 2	11 19.45	+ 6 0.7	1.958	2.944	2.3	19.6	
3 12	11 10.24	+14 43.3	1.938	2.916	4.2	19.0	3 12	11 10.43	+ 7 14.0	1.960	2.950	2.0	19.6	
3 22	11 1.23	+14 51.9	1.964	2.911	7.4	19.2	3 22	11 1.79	+ 8 22.1	1.991	2.954	6.1	19.8	
4 1	10 53.50	+14 46.6	2.016	2.905	10.8	19.4	4 1	10 54.37	+ 9 19.4	2.051	2.957	9.8	20.1	
4 11	10 47.72	+14 26.7	2.092	2.899	13.8	19.6	4 11	10 48.83	+10 2.2	2.134	2.960	13.0	20.3	
65706	1992 NA 3 7.9 148 ^o 29 0 ^h 1/ 7.8 18							5972	Harr yatkinson 3 7.9 41 ^o 82 2 ^h 0/ 5.8 18					
2 1	11 42.92	+ 3 4.6	2.817	3.596	10.9	22.1	2 1	11 33.93	+ 4 28.4	1.677	2.505	14.9	15.9	
2 11	11 36.56	+ 3 34.2	2.737	3.613	8.3	22.0	2 11	11 30.83	+ 5 55.4	1.605	2.511	11.2	15.7	
2 21	11 28.62	+ 4 12.5	2.683	3.629	5.2	21.8	2 21	11 25.49	+ 7 38.9	1.558	2.517	6.9	15.5	
3 2	11 19.64	+ 4 56.2	2.659	3.644	2.0	21.6	3 2	11 18.57	+ 9 30.8	1.537	2.524	2.7	15.2	
3 12	11 10.28	+ 5 41.2	2.667	3.658	1.4	21.5	3 12	11 11.04	+11 20.5	1.544	2.530	3.6	15.3	
3 22	11 1.27	+ 6 23.3	2.708	3.670	4.7	21.8	3 22	11 3.94	+12 58.3	1.580	2.537	7.9	15.6	
4 1	10 53.27	+ 6 59.0	2.779	3.681	7.7	22.0	4 1	10 58.25	+14 16.4	1.640	2.544	12.0	15.8	
4 11	10 46.79	+ 7 25.8	2.876	3.691	10.3	22.2	4 11	10 54.66	+15 11.2	1.723	2.551	15.5	16.1	

2020							2020						
2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
415548	2014 <i>QH</i> ₁₇₇		3 7.9	71° 94'	2.5°/ 5.7	18	354057	2001 <i>TM</i> ₅₃		3 7.9	94° 83'	2.3°/ 6.1	17
2 1	11 40.14	+ 7 39.5	1.601	2.429	15.5	21.6	2 1	11 44.27	+ 7 50.3	1.541	2.365	16.3	21.6
2 11	11 35.38	+ 8 41.1	1.550	2.455	11.6	21.4	2 11	11 38.62	+ 8 37.1	1.487	2.389	12.2	21.4
2 21	11 28.24	+ 9 53.1	1.523	2.481	7.2	21.2	2 21	11 30.36	+ 9 34.2	1.455	2.412	7.6	21.2
3 2	11 19.54	+11 7.5	1.521	2.507	3.1	21.0	3 2	11 20.38	+10 34.1	1.449	2.435	3.1	21.0
3 12	11 10.43	+12 15.5	1.548	2.532	3.9	21.1	3 12	11 9.92	+11 28.3	1.472	2.457	3.8	21.0
3 22	11 2.04	+13 9.8	1.602	2.558	8.0	21.4	3 22	11 0.26	+12 9.8	1.522	2.479	8.2	21.4
4 1	10 55.33	+13 45.8	1.682	2.583	11.9	21.7	4 1	10 52.46	+12 34.4	1.597	2.500	12.3	21.6
4 11	10 50.95	+14 2.2	1.783	2.608	15.2	22.0	4 11	10 47.22	+12 40.7	1.694	2.521	15.8	21.9
304019	2006 <i>DH</i> ₃₃		3 7.9	249° 19'	0.6°/ 7.5	18	114266	2002 <i>XK</i> ₅		3 7.9	134° 36'	2.7°/ 11.2	18
2 1	11 41.74	+ 4 46.7	1.604	2.423	16.0	20.9	2 1	11 34.68	- 7 1.0	2.338	3.101	13.3	20.1
2 11	11 37.05	+ 5 3.5	1.517	2.415	12.3	20.7	2 11	11 30.82	- 6 41.1	2.249	3.106	10.6	19.9
2 21	11 29.65	+ 5 33.3	1.452	2.407	7.8	20.4	2 21	11 25.24	- 6 3.6	2.183	3.110	7.6	19.7
3 2	11 20.22	+ 6 11.8	1.412	2.399	2.9	20.0	3 2	11 18.46	- 5 10.5	2.143	3.114	4.4	19.5
3 12	11 9.87	+ 6 52.1	1.400	2.390	2.5	20.0	3 12	11 11.18	- 4 5.9	2.132	3.118	2.8	19.4
3 22	10 59.88	+ 7 27.5	1.415	2.381	7.5	20.3	3 22	11 4.18	- 2 55.2	2.150	3.121	4.9	19.5
4 1	10 51.49	+ 7 52.1	1.455	2.373	12.2	20.5	4 1	10 58.20	- 1 44.7	2.196	3.125	8.1	19.7
4 11	10 45.60	+ 8 2.2	1.518	2.364	16.3	20.8	4 11	10 53.81	- 0 40.2	2.268	3.128	11.1	19.9
228042	2008 <i>GW</i> ₁₁₉		3 7.9	273° 55'	5.0°/ 12.9	17	506386	2017 <i>RW</i> ₇		3 7.9	22° 53'	0.9°/ 8.8	17
2 1	11 35.25	-11 57.3	1.936	2.685	16.1	21.1	2 1	11 38.61	+ 1 20.1	2.054	2.853	13.7	20.7
2 11	11 31.84	-11 50.3	1.828	2.668	13.5	20.8	2 11	11 34.00	+ 1 18.3	1.970	2.854	10.6	20.5
2 21	11 26.23	-11 18.6	1.739	2.650	10.3	20.6	2 21	11 27.36	+ 1 28.4	1.908	2.856	7.0	20.3
3 2	11 18.92	-10 21.8	1.675	2.632	7.0	20.3	3 2	11 19.28	+ 1 47.7	1.874	2.857	3.0	20.0
3 12	11 10.75	- 9 2.7	1.637	2.614	5.0	20.2	3 12	11 10.62	+ 2 12.2	1.868	2.859	1.7	19.9
3 22	11 2.72	- 7 27.9	1.627	2.596	6.5	20.2	3 22	11 2.30	+ 2 37.4	1.890	2.861	5.6	20.2
4 1	10 55.85	- 5 46.3	1.645	2.578	10.0	20.4	4 1	10 55.20	+ 2 58.7	1.941	2.863	9.4	20.4
4 11	10 50.97	- 4 7.5	1.687	2.559	13.6	20.6	4 11	10 50.00	+ 3 12.5	2.015	2.865	12.7	20.7
343083	2009 <i>DD</i> ₉		3 7.9	98° 84'	1.6°/ 9.7	17	161069	2002 <i>LG</i> ₈		3 7.9	249° 27'	2.3°/ 10.5	18
2 1	11 36.40	- 2 22.0	2.431	3.210	12.4	21.3	2 1	11 36.25	- 5 17.4	2.474	3.239	12.6	21.5
2 11	11 31.95	- 2 10.1	2.352	3.223	9.7	21.1	2 11	11 32.07	- 4 59.5	2.361	3.221	10.1	21.3
2 21	11 25.86	- 1 45.1	2.297	3.236	6.5	21.0	2 21	11 26.11	- 4 25.5	2.271	3.202	7.1	21.0
3 2	11 18.64	- 1 9.4	2.269	3.248	3.2	20.8	3 2	11 18.83	- 3 37.0	2.209	3.183	3.9	20.8
3 12	11 11.02	- 0 26.9	2.271	3.261	1.8	20.7	3 12	11 10.89	- 2 37.6	2.176	3.164	2.3	20.7
3 22	11 3.73	+ 0 18.0	2.303	3.274	4.7	20.9	3 22	11 3.08	- 1 32.3	2.173	3.144	4.9	20.8
4 1	10 57.47	+ 1 0.5	2.362	3.286	7.9	21.1	4 1	10 56.15	- 0 26.7	2.199	3.123	8.3	21.0
4 11	10 52.76	+ 1 36.5	2.448	3.298	10.7	21.3	4 11	10 50.77	+ 0 33.3	2.250	3.102	11.4	21.1
140060	2001 <i>SD</i> ₁₀₂		3 7.9	157° 89'	3.2°/ 11.9	17	305926	2009 <i>FJ</i> ₆₈		3 7.9	237° 21'	0.9°/ 6.8	17
2 1	11 35.10	- 8 35.9	2.555	3.304	12.7	20.4	2 1	11 35.12	+ 5 52.2	2.741	3.546	10.5	22.1
2 11	11 31.00	- 8 29.0	2.463	3.307	10.3	20.2	2 11	11 30.95	+ 6 26.8	2.644	3.536	7.9	21.9
2 21	11 25.29	- 8 5.7	2.393	3.310	7.5	20.0	2 21	11 25.25	+ 7 9.5	2.572	3.526	5.0	21.7
3 2	11 18.45	- 7 27.1	2.349	3.313	4.8	19.9	3 2	11 18.45	+ 7 56.6	2.529	3.516	1.8	21.5
3 12	11 11.14	- 6 36.3	2.335	3.316	3.2	19.8	3 12	11 11.18	+ 8 43.8	2.517	3.505	2.0	21.5
3 22	11 4.07	- 5 37.7	2.349	3.318	4.8	19.9	3 22	11 4.10	+ 9 26.8	2.535	3.494	5.1	21.7
4 1	10 57.94	- 4 36.8	2.393	3.320	7.6	20.0	4 1	10 57.86	+10 1.7	2.581	3.483	8.2	21.8
4 11	10 53.28	- 3 38.9	2.462	3.322	10.3	20.2	4 11	10 52.99	+10 25.9	2.651	3.472	10.9	22.0
400289	2007 <i>TH</i> ₅₁		3 7.9	200° 10'	1.3°/ 9.1	17	196671	2003 <i>SU</i> ₅₃		3 7.9	335° 30'	2.1°/ 10.1	18
2 1	11 39.36	- 1 46.3	1.938	2.727	14.7	21.8	2 1	11 33.56	- 4 30.8	1.807	2.601	15.5	20.2
2 11	11 34.77	- 1 17.6	1.846	2.724	11.5	21.4	2 11	11 30.52	- 4 1.7	1.718	2.595	12.3	20.0
2 21	11 27.97	- 0 31.4	1.777	2.720	7.7	21.6	2 21	11 25.33	- 3 11.4	1.650	2.591	8.4	19.7
3 2	11 19.53	+ 0 29.1	1.734	2.716	3.5	21.1	3 2	11 18.56	- 2 2.8	1.607	2.586	4.3	19.5
3 12	11 10.37	+ 1 38.3	1.720	2.711	1.8	21.0	3 12	11 11.10	- 0 41.7	1.592	2.582	2.3	19.3
3 22	11 1.50	+ 2 49.0	1.735	2.705	6.0	21.2	3 22	11 3.94	+ 0 43.8	1.604	2.578	5.9	19.6
4 1	10 53.92	+ 3 54.0	1.777	2.699	10.1	21.5	4 1	10 58.03	+ 2 5.3	1.643	2.575	10.1	19.8
4 11	10 48.36	+ 4 47.7	1.844	2.692	13.8	21.7	4 11	10 54.12	+ 3 15.6	1.706	2.572	13.8	20.0
196575	2003 <i>QV</i> ₃₆		3 7.9	212° 36'	0.3°/ 7.6	17	123277	2000 <i>UU</i> ₉₃		3 7.9	70° 57'	3.4°/ 11.2	18
2 1	11 39.05	+ 4 11.0	2.553	3.348	11.4	21.4	2 1	11 39.23	- 6 39.7	1.829	2.601	16.1	20.1
2 11	11 34.00	+ 4 30.6	2.455	3.341	8.7	21.2	2 11	11 34.52	- 6 39.8	1.765	2.626	12.8	19.9
2 21	11 27.22	+ 4 59.2	2.383	3.333	5.5	20.9	2 21	11 27.66	- 6 20.1	1.722	2.650	9.1	19.7
3 2	11 19.19	+ 5 33.6	2.339	3.325	2.1	20.7	3 2	11 19.36	- 5 42.4	1.704	2.674	5.4	19.5
3 12	11 10.62	+ 6 9.6	2.326	3.316	1.6	20.6	3 12	11 10.61	- 4 51.2	1.713	2.699	3.4	19.5
3 22	11 2.26	+ 6 43.0	2.343	3.307	5.2	20.9	3 22	11 2.41	- 3 53.2	1.751	2.723	5.8	19.7
4 1	10 54.88	+ 7 10.0	2.389	3.297	8.5	21.1	4 1	10 55.66	- 2 55.2	1.816	2.746	9.4	19.9
4 11	10 49.05	+ 7 27.6	2.460	3.287	11.4	21.2	4 11	10 50.99	- 2 3.6	1.905	2.770	12.7	20.2
483028	2015 <i>AL</i> ₁₄₈		3 7.9	139° 52'	2.9°/ 4.8	17	64795	2001 <i>XC</i> ₂₀₇		3 7.9	93° 06'	7.1°/ 27.5	18
2 1	11 38.35	+10 56.1	2.177	2.999	12.2	21.3	2 1	11 37.43	+26 44.5	2.398	3.227	11.0	18.7
2 11	11 33.65	+11 52.2	2.105	3.007	9.1	21.1	2 11	11 32.90	+28 14.8	2.352	3.240	8.9	18.6
2 21	11 27.04	+12 54.5	2.059	3.015	5.8	20.9	2 21	11 26.53	+29 39.0	2.331	3.253	7.4	18.5
3 2	11 19.12	+13 56.9	2.040	3.022	3.1	20.8	3 2	11 18.92	+30 49.6	2.337	3.265	7.2	18.5
3 12	11 10.73	+14 52.8	2.052	3.030	4.0	20.8	3 12	11 10.91	+31 40.3	2.371	3.278	8.4	18.6
3 22	11 2.73	+15 36.9	2.092	3.036	7.2	21.0	3 22	11 3.35	+32 8.0	2.431	3.290	10.2	18.8
4 1	10 55.94	+16 5.6	2.158	3.043	10.4	21.3	4 1	10 57.01	+32 12.1	2.514	3.302	12.2	18.9
4 11	10 50.96	+16 17.5	2.248	3.049	13.2	21.4	4 11	10 52.45	+31 54.5	2.616	3.314	14.0	19.1
12113													

EPHEMERIDES

3 7.9

3 7.9

2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
26378	1999 <i>GF</i> ₃₅		3 7.9 88°31'	3°1/11.7	18		326963	2004 <i>JC</i> ₇		3 7.9 219°54'	6°1/16.1	18	
2 1	11 34.45	- 8 33.6	2.286	3.043	13.7	18.1	2 1	11 36.82	-20 33.6	2.571	3.240	14.4	21.7
2 11	11 30.65	- 8 11.8	2.204	3.054	11.1	17.9	2 11	11 32.50	-20 12.0	2.455	3.229	12.5	21.5
2 21	11 25.13	- 7 31.2	2.144	3.066	8.0	17.8	2 21	11 26.38	-19 25.5	2.359	3.218	10.2	21.4
3 2	11 18.42	- 6 33.6	2.110	3.077	4.9	17.6	3 2	11 18.95	-18 12.9	2.287	3.206	7.9	21.2
3 12	11 11.27	- 5 23.4	2.105	3.089	3.1	17.5	3 12	11 10.91	-16 36.4	2.244	3.194	6.2	21.1
3 22	11 4.44	- 4 6.5	2.129	3.100	5.0	17.6	3 22	11 3.04	-14 41.0	2.230	3.180	6.4	21.0
4 1	10 58.68	- 2 49.3	2.182	3.111	8.1	17.8	4 1	10 56.14	-12 34.4	2.245	3.166	8.3	21.1
4 11	10 54.52	- 1 38.2	2.260	3.123	11.0	18.0	4 11	10 50.83	-10 25.6	2.289	3.152	10.9	21.3
287655	2003 <i>MW</i> ₂		3 7.9 256°34'	2°5/ 5.6	17		48411	Johnventre		3 7.9 101°46'	1°1/ 6.9	18	
2 1	11 38.14	+ 6 59.1	1.656	2.484	15.1	21.0	2 1	11 43.02	+ 5 50.8	2.075	2.878	13.4	19.3
2 11	11 34.31	+ 8 4.8	1.566	2.472	11.5	20.7	2 11	11 37.04	+ 6 25.1	2.016	2.907	10.1	19.1
2 21	11 27.94	+ 9 25.5	1.500	2.458	7.2	20.5	2 21	11 29.10	+ 7 8.3	1.982	2.935	6.3	18.9
3 2	11 19.62	+10 53.8	1.459	2.445	3.1	20.2	3 2	11 19.89	+ 7 55.5	1.976	2.962	2.3	18.7
3 12	11 10.39	+12 20.1	1.447	2.431	4.1	20.2	3 12	11 10.34	+ 8 40.9	2.000	2.988	2.4	18.7
3 22	11 1.44	+13 35.0	1.462	2.417	8.6	20.4	3 22	11 1.38	+ 9 19.3	2.054	3.014	6.1	19.0
4 1	10 53.94	+14 31.3	1.501	2.403	13.1	20.7	4 1	10 53.82	+ 9 47.0	2.135	3.039	9.6	19.3
4 11	10 48.78	+15 5.2	1.563	2.388	16.9	20.9	4 11	10 48.23	+10 1.8	2.241	3.063	12.6	19.5
518129	2016 <i>CO</i> ₂₈₈		3 7.9 143°13'	1°0/ 6.9	17		457531	2008 <i>WU</i> ₆₉		3 7.9 120°95'	3°0/10.5	18	
2 1	11 37.16	+ 4 49.7	2.100	2.911	13.0	21.4	2 1	11 41.36	- 5 10.4	1.672	2.454	17.0	22.1
2 11	11 32.84	+ 5 35.5	2.021	2.916	9.8	21.2	2 11	11 36.46	- 5 3.3	1.598	2.467	13.5	21.9
2 21	11 26.60	+ 6 32.6	1.966	2.921	6.1	21.0	2 21	11 29.10	- 4 35.1	1.545	2.480	9.4	21.6
3 2	11 19.00	+ 7 35.9	1.940	2.926	2.3	20.7	3 2	11 19.99	- 3 48.1	1.517	2.492	5.1	21.4
3 12	11 10.88	+ 8 39.2	1.942	2.931	2.4	20.7	3 12	11 10.23	- 2 47.7	1.516	2.504	3.1	21.3
3 22	11 3.11	+ 9 36.2	1.974	2.935	6.2	21.0	3 22	11 0.99	- 1 41.3	1.543	2.516	6.3	21.5
4 1	10 56.54	+10 21.8	2.033	2.939	9.8	21.2	4 1	10 53.34	- 0 37.1	1.597	2.526	10.5	21.8
4 11	10 51.78	+10 53.0	2.115	2.943	13.0	21.4	4 11	10 48.03	+ 0 18.0	1.675	2.537	14.2	22.0
467348	2003 <i>GY</i> ₄₃		3 7.9 307°68'	9°1/27.9	17		209529	2004 <i>TO</i> ₉₁		3 7.9 293°44'	0°9/ 8.6	14 C	
2 1	11 38.54	+24 19.8	1.617	2.464	14.5	20.5	2 1	11 39.31	+ 1 6.0	1.426	2.246	17.6	20.7
2 11	11 34.95	+25 57.5	1.536	2.440	11.8	20.3	2 11	11 35.62	+ 1 12.6	1.334	2.231	13.8	20.5
2 21	11 28.51	+27 34.1	1.479	2.415	9.6	20.1	2 21	11 29.02	+ 1 37.3	1.263	2.215	9.1	20.1
3 2	11 19.88	+28 57.6	1.446	2.391	9.2	20.0	3 2	11 20.12	+ 2 17.2	1.215	2.200	3.8	19.8
3 12	11 10.21	+29 56.5	1.438	2.367	11.0	20.0	3 12	11 10.07	+ 3 5.8	1.194	2.186	2.2	19.6
3 22	11 0.86	+30 23.5	1.454	2.344	14.0	20.2	3 22	11 0.28	+ 3 55.1	1.198	2.171	7.7	19.9
4 1	10 53.16	+30 16.1	1.491	2.321	17.2	20.3	4 1	10 52.15	+ 4 37.0	1.227	2.156	13.0	20.2
4 11	10 48.11	+29 36.8	1.545	2.298	20.2	20.5	4 11	10 46.73	+ 5 5.3	1.277	2.142	17.6	20.4
225871	2001 <i>XC</i> ₂₄₆		3 7.9 141°04'	0°4/ 7.6	16		417783	2007 <i>EL</i> ₄₁		3 7.9 5°24'	0°9/ 7.2	18	
2 1	11 39.61	+ 3 37.6	2.216	3.016	12.8	22.0	2 1	11 34.50	+ 3 15.2	1.489	2.320	16.4	20.9
2 11	11 34.54	+ 4 8.3	2.139	3.027	9.7	21.8	2 11	11 31.58	+ 4 1.9	1.415	2.320	12.5	20.6
2 21	11 27.60	+ 4 49.7	2.086	3.037	6.1	21.6	2 21	11 26.17	+ 5 6.2	1.362	2.320	7.9	20.4
3 2	11 19.36	+ 5 37.8	2.061	3.047	2.3	21.3	3 2	11 18.93	+ 6 21.8	1.334	2.321	2.9	20.1
3 12	11 10.64	+ 6 27.2	2.066	3.056	1.8	21.3	3 12	11 10.95	+ 7 39.6	1.333	2.323	2.7	20.0
3 22	11 2.32	+ 7 12.7	2.100	3.065	5.7	21.6	3 22	11 3.43	+ 8 50.3	1.358	2.326	7.7	20.3
4 1	10 55.17	+ 7 49.6	2.163	3.073	9.2	21.8	4 1	10 57.48	+ 9 46.3	1.408	2.329	12.3	20.6
4 11	10 49.82	+ 8 15.0	2.250	3.080	12.2	22.0	4 11	10 53.88	+10 22.9	1.478	2.332	16.2	20.9
395352	2011 <i>QT</i> ₆₆		3 7.9 114°01'	1°8/ 9.5	18		175260	2005 <i>JS</i> ₉₃		3 7.9 319°58'	0°8/ 8.5	17	
2 1	11 40.15	- 3 12.5	1.647	2.440	16.8	21.4	2 1	11 36.89	+ 1 10.9	1.430	2.254	17.3	20.2
2 11	11 35.53	- 2 42.1	1.576	2.455	13.1	21.2	2 11	11 33.70	+ 1 20.6	1.341	2.240	13.5	19.9
2 21	11 28.49	- 1 50.9	1.526	2.469	8.8	21.0	2 21	11 27.74	+ 1 48.4	1.273	2.227	8.9	19.6
3 2	11 19.74	- 0 42.7	1.502	2.483	4.2	20.7	3 2	11 19.61	+ 2 31.2	1.228	2.214	3.7	19.2
3 12	11 10.39	+ 0 35.2	1.506	2.497	2.2	20.6	3 12	11 10.44	+ 3 22.2	1.210	2.201	2.1	19.1
3 22	11 1.58	+ 1 54.3	1.538	2.510	6.4	20.9	3 22	11 1.58	+ 4 13.5	1.217	2.190	7.5	19.4
4 1	10 54.36	+ 3 6.3	1.596	2.523	10.7	21.2	4 1	10 54.34	+ 4 56.9	1.248	2.179	12.7	19.6
4 11	10 49.45	+ 4 4.8	1.678	2.535	14.5	21.5	4 11	10 49.70	+ 5 26.2	1.300	2.168	17.1	19.9
267469	2002 <i>EJ</i> ₁₅₇		3 7.9 42°46'	1°7/ 9.1	18		304122	2006 <i>JY</i> ₇₃		3 7.9 125°55'	0°2/ 8.1	18	
2 1	11 43.64	+ 1 17.2	1.611	2.415	16.6	20.4	2 1	11 41.53	+ 1 26.4	1.821	2.622	15.1	22.1
2 11	11 38.21	+ 0 46.1	1.541	2.427	12.9	20.2	2 11	11 36.34	+ 1 58.3	1.750	2.637	11.6	21.9
2 21	11 30.21	+ 0 27.9	1.493	2.440	8.6	20.0	2 21	11 28.90	+ 2 45.0	1.702	2.652	7.4	21.7
3 2	11 20.40	+ 0 20.8	1.470	2.452	4.0	19.7	3 2	11 19.89	+ 3 42.0	1.680	2.666	2.9	21.5
3 12	11 9.96	+ 0 21.4	1.475	2.466	2.3	19.7	3 12	11 10.34	+ 4 42.7	1.688	2.679	1.8	21.4
3 22	11 0.12	+ 0 25.2	1.508	2.480	6.5	20.0	3 22	11 1.30	+ 5 40.0	1.724	2.692	6.3	21.7
4 1	10 52.00	+ 0 27.8	1.567	2.494	10.8	20.2	4 1	10 53.74	+ 6 28.0	1.787	2.704	10.4	22.0
4 11	10 46.36	+ 0 25.0	1.648	2.508	14.5	20.5	4 11	10 48.36	+ 7 2.6	1.874	2.716	13.9	22.2
33939	2000 <i>LO</i> ₃₅		3 7.9 168°64'	3°3/ 2.9	18		7447	Marcusaurelius		3 7.9 230°17'	3°4/10.7	18	
2 1	11 34.80	+14 20.1	3.004	3.825	9.2	19.7	2 1	11 40.59	- 5 9.9	1.800	2.578	16.1	18.1
2 11	11 30.56	+15 36.6	2.929	3.829	6.9	19.6	2 11	11 35.97	- 5 21.5	1.705	2.571	13.0	17.9
2 21	11 24.93	+16 56.4	2.881	3.833	4.6	19.4	2 21	11 28.90	- 5 14.5	1.632	2.564	9.3	17.6
3 2	11 18.33	+18 14.0	2.863	3.836	3.3	19.3	3 2	11 19.99	- 4 49.6	1.583	2.557	5.3	17.4
3 12	11 11.35	+19 24.2	2.876	3.839	4.3	19.4	3 12	11 10.21	- 4 10.2	1.563	2.549	3.4	17.2
3 22	11 4.61	+20 22.6	2.919	3.841	6.5	19.5	3 22	11 0.69	- 3 22.0	1.570	2.541	6.4	17.4
4 1	10 58.67	+21 6.2	2.990	3.843	8.8	19.7	4 1	10 52.55	- 2 31.9	1.603	2.533	10.5	17.6
4 11	10 54.03	+21 34.1	3.084	3.844	10.9	19.9	4 11	10 46.62	- 1 46.7	1.661	2.524	14.3	17.8
4093	Bennett		3 7.9 57°94'	4°6/12.9	18		122318	2000 <i>QV</i> ₁₂		3 7.9 117°66'	0°9/ 6.9	18	
2 1	11 35												

EPHEMERIDES

3 7.9

3 7.9

2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
377836	2006 <i>BS</i> ₁₂₂		3 7.9 256°27	0°5/ 8.5 17			419131	2009 <i>SZ</i> ₂₄₂		3 7.9 116°26	0°3/ 8.2 18		
2 1	11 37.75	+ 1 28.3	2.041	2.842	13.7	21.3	2 1	11 42.90	+ 2 46.9	2.316	3.104	12.7	21.8
2 11	11 33.46	+ 1 43.8	1.950	2.836	10.6	21.1	2 11	11 36.86	+ 2 55.5	2.245	3.125	9.7	21.7
2 21	11 27.11	+ 2 12.2	1.881	2.830	6.9	20.8	2 21	11 29.00	+ 3 13.7	2.198	3.145	6.2	21.5
3 2	11 19.26	+ 2 50.6	1.840	2.825	2.8	20.6	3 2	11 19.92	+ 3 38.5	2.180	3.165	2.4	21.3
3 12	11 10.75	+ 3 34.0	1.827	2.819	1.6	20.5	3 12	11 10.44	+ 4 5.9	2.193	3.184	1.5	21.2
3 22	11 2.53	+ 4 16.9	1.843	2.813	5.8	20.7	3 22	11 1.43	+ 4 31.6	2.236	3.202	5.2	21.5
4 1	10 55.48	+ 4 53.9	1.886	2.807	9.7	21.0	4 1	10 53.66	+ 4 52.0	2.308	3.220	8.6	21.7
4 11	10 50.32	+ 5 20.9	1.953	2.800	13.1	21.2	4 11	10 47.68	+ 5 4.4	2.405	3.237	11.5	22.0
136735	1995 <i>VP</i> ₁₀		3 7.9 215°20	3°4/12.7 18			278335	2007 <i>HW</i> ₇₉		3 7.9 4°40	5°7/13.6 16		
2 1	11 34.01	-11 6.9	2.942	3.670	11.6	21.2	2 1	11 32.12	-12 51.4	1.569	2.335	18.6	20.7
2 11	11 30.07	-10 47.7	2.834	3.663	9.5	21.0	2 11	11 29.78	-12 45.2	1.486	2.335	15.5	20.5
2 21	11 24.70	-10 12.0	2.749	3.655	7.2	20.8	2 21	11 25.05	-12 9.2	1.421	2.335	11.9	20.2
3 2	11 18.29	-9 20.6	2.690	3.647	4.8	20.7	3 2	11 18.56	-11 3.2	1.379	2.337	8.1	20.0
3 12	11 11.43	-8 16.3	2.661	3.638	3.4	20.6	3 12	11 11.31	-9 31.8	1.361	2.338	5.7	19.9
3 22	11 4.73	-7 3.3	2.663	3.629	4.5	20.6	3 22	11 4.44	-7 44.0	1.369	2.341	7.1	20.0
4 1	10 58.80	-5 46.8	2.693	3.620	6.9	20.8	4 1	10 59.02	-5 51.0	1.404	2.344	10.7	20.2
4 11	10 54.14	-4 32.2	2.751	3.610	9.4	20.9	4 11	10 55.84	-4 4.2	1.461	2.348	14.4	20.4
373409	1997 <i>EF</i> ₂₁		3 7.9 180°31	1°6/ 9.3 17			134861	2000 <i>OT</i> ₆₈		3 7.9 184°82	0°2/ 8.2 17		
2 1	11 40.05	-0 34.0	2.101	2.888	13.8	21.3	2 1	11 37.55	+ 1 11.7	2.146	2.944	13.2	20.8
2 11	11 35.10	-0 38.6	2.012	2.889	10.8	21.1	2 11	11 33.18	+ 1 46.9	2.059	2.944	10.2	20.6
2 21	11 28.10	-0 30.3	1.947	2.889	7.2	20.9	2 21	11 26.88	+ 2 35.8	1.995	2.944	6.6	20.3
3 2	11 19.63	-0 11.1	1.908	2.889	3.4	20.6	3 2	11 19.18	+ 3 34.7	1.958	2.943	2.6	20.1
3 12	11 10.53	+ 0 15.3	1.898	2.889	1.9	20.5	3 12	11 10.91	+ 4 37.8	1.951	2.942	1.6	20.0
3 22	11 1.75	+ 0 44.2	1.918	2.889	5.5	20.8	3 22	11 2.94	+ 5 39.0	1.973	2.941	5.6	20.3
4 1	10 54.18	+ 1 11.1	1.965	2.888	9.2	21.0	4 1	10 56.10	+ 6 32.6	2.023	2.939	9.4	20.5
4 11	10 48.51	+ 1 31.6	2.037	2.887	12.5	21.2	4 11	10 51.05	+ 7 14.3	2.097	2.937	12.7	20.7
16103	Lorsolomon		3 7.9 314°97	1°9/ 6.6 18			432490	2010 <i>EK</i> ₇₇		3 7.9 34°69	1°2/ 9.2 17		
2 1	11 37.83	+ 6 51.9	1.378	2.217	17.0	17.8	2 1	11 35.00	- 1 19.4	1.926	2.726	14.4	21.4
2 11	11 34.57	+ 7 20.9	1.290	2.201	13.0	17.5	2 11	11 31.40	- 0 55.6	1.848	2.732	11.2	21.2
2 21	11 28.38	+ 8 4.1	1.224	2.184	8.3	17.2	2 21	11 25.79	- 0 15.6	1.792	2.738	7.4	21.0
3 2	11 19.89	+ 8 55.4	1.181	2.168	3.2	16.9	3 2	11 18.77	+ 0 37.4	1.762	2.745	3.4	20.8
3 12	11 10.30	+ 9 46.1	1.164	2.153	3.7	16.8	3 12	11 11.21	+ 1 37.7	1.760	2.751	1.7	20.6
3 22	11 1.01	+10 27.4	1.173	2.138	9.0	17.1	3 22	11 4.01	+ 2 38.7	1.786	2.759	5.6	20.9
4 1	10 53.44	+10 52.4	1.205	2.124	14.1	17.3	4 1	10 58.06	+ 3 34.0	1.839	2.766	9.5	21.2
4 11	10 48.62	+10 57.6	1.256	2.110	18.5	17.6	4 11	10 53.98	+ 4 18.7	1.916	2.774	12.9	21.4
53205	1999 <i>CA</i> ₇₄		3 7.9 46°23	1°6/ 6.3 18			422232	2014 <i>RL</i> ₆₃		3 7.9 129°84	6°1/ 1.3 18		
2 1	11 34.59	+ 3 32.9	1.659	2.485	15.2	18.7	2 1	11 42.70	+20 40.5	2.099	2.926	12.4	21.4
2 11	11 31.41	+ 4 54.6	1.586	2.489	11.5	18.5	2 11	11 37.03	+22 7.2	2.047	2.944	9.6	21.2
2 21	11 25.94	+ 6 33.9	1.535	2.493	7.1	18.2	2 21	11 29.24	+23 32.1	2.020	2.961	7.1	21.1
3 2	11 18.83	+ 8 23.2	1.511	2.498	2.7	18.0	3 2	11 20.03	+24 46.5	2.021	2.977	6.2	21.1
3 12	11 11.08	+10 12.1	1.515	2.502	3.2	18.0	3 12	11 10.39	+25 43.1	2.051	2.992	7.4	21.2
3 22	11 3.75	+11 50.4	1.547	2.507	7.7	18.3	3 22	11 1.30	+26 17.3	2.109	3.007	9.8	21.4
4 1	10 57.84	+13 10.3	1.604	2.512	11.9	18.5	4 1	10 53.67	+26 28.1	2.191	3.020	12.4	21.5
4 11	10 54.07	+14 7.3	1.684	2.517	15.5	18.8	4 11	10 48.10	+26 16.9	2.294	3.033	14.7	21.7
282815	2006 <i>RN</i> ₆₀		3 7.9 191°92	0°3/ 8.4 17			32176	2000 <i>NS</i> ₁₄		3 7.9 24°26	3°6/10.2 18		
2 1	11 34.07	+ 0 9.1	2.496	3.289	11.7	21.4	2 1	11 41.85	- 2 37.9	1.313	2.122	19.4	17.6
2 11	11 30.29	+ 0 52.7	2.406	3.288	9.0	21.2	2 11	11 37.55	- 3 13.0	1.240	2.125	15.5	17.4
2 21	11 24.90	+ 1 49.4	2.339	3.287	5.8	21.0	2 21	11 30.20	- 3 28.6	1.187	2.129	10.8	17.1
3 2	11 18.38	+ 2 55.6	2.301	3.286	2.4	20.8	3 2	11 20.56	- 3 25.0	1.156	2.134	5.9	16.8
3 12	11 11.39	+ 4 6.3	2.293	3.284	1.4	20.7	3 12	11 9.98	- 3 6.0	1.150	2.139	3.7	16.7
3 22	11 4.64	+ 5 15.7	2.315	3.283	4.9	20.9	3 22	10 59.96	- 2 38.2	1.170	2.144	7.6	16.9
4 1	10 58.81	+ 6 18.7	2.365	3.281	8.2	21.1	4 1	10 51.90	- 2 8.9	1.214	2.150	12.4	17.2
4 11	10 54.45	+ 7 11.0	2.440	3.279	11.1	21.3	4 11	10 46.75	- 1 45.3	1.279	2.156	16.8	17.5
138681	2000 <i>SX</i> ₃₂		3 7.9 55°41	2°6/ 5.4 18			494725	2005 <i>SR</i> ₂₈₉		3 7.9 270°79	3°2/ 5.9 18		
2 1	11 38.14	+11 26.6	2.186	3.009	12.1	19.6	2 1	11 43.57	+10 15.9	1.381	2.217	17.1	21.5
2 11	11 33.47	+11 57.1	2.116	3.018	9.1	19.4	2 11	11 38.86	+10 46.4	1.303	2.212	13.0	21.3
2 21	11 26.93	+12 32.2	2.072	3.028	5.8	19.2	2 21	11 31.04	+11 26.4	1.247	2.206	8.3	21.0
3 2	11 19.14	+13 6.7	2.055	3.038	2.9	19.1	3 2	11 20.90	+12 8.4	1.216	2.201	3.9	20.7
3 12	11 10.92	+13 35.5	2.067	3.048	3.6	19.1	3 12	11 9.75	+12 43.4	1.211	2.195	4.8	20.7
3 22	11 3.13	+13 54.4	2.108	3.058	6.8	19.4	3 22	10 59.14	+13 4.2	1.232	2.190	9.6	21.0
4 1	10 56.55	+14 0.5	2.175	3.068	10.0	19.6	4 1	10 50.47	+13 6.1	1.276	2.184	14.4	21.2
4 11	10 51.76	+13 53.1	2.266	3.078	12.7	19.8	4 11	10 44.72	+12 48.2	1.341	2.179	18.5	21.5
240309	2003 <i>FY</i> ₁₀₃		3 7.9 325°63	2°8/10.1 18			155920	2001 <i>OG</i> ₁₀₄		3 7.9 237°77	1°7/ 6.5 18		
2 1	11 35.59	- 4 17.1	1.315	2.127	19.2	20.4	2 1	11 41.88	+ 6 11.1	1.782	2.597	14.8	21.3
2 11	11 32.90	- 4 5.4	1.231	2.119	15.3	20.1	2 11	11 37.07	+ 6 56.5	1.685	2.582	11.3	21.0
2 21	11 27.31	- 3 27.6	1.167	2.112	10.6	19.8	2 21	11 29.70	+ 7 55.3	1.611	2.567	7.2	20.7
3 2	11 19.48	- 2 25.5	1.125	2.105	5.5	19.5	3 2	11 20.37	+ 9 1.9	1.564	2.550	2.8	20.4
3 12	11 10.61	- 1 6.0	1.108	2.098	3.0	19.3	3 12	11 10.08	+10 8.2	1.545	2.533	3.2	20.4
3 22	11 2.11	+ 0 20.6	1.116	2.092	7.5	19.6	3 22	11 0.00	+11 6.5	1.555	2.514	7.8	20.6
4 1	10 55.34	+ 1 43.0	1.147	2.086	12.7	19.8	4 1	10 51.32	+11 50.2	1.592	2.496	12.3	20.8
4 11	10 51.31	+ 2 51.4	1.200	2.081	17.4	20.1	4 11	10 44.94	+12 15.8	1.650	2.476	16.1	21.0
32676	6802 <i>P-L</i>		3 7.9 180°70	1°0/ 6.9 18			167788	2005 <i>AL</i> ₃₆		3 7.9 82°55	1°1/ 8.9 18		
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2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
425016	2009 <i>EL</i> ₆		3 7.9 135°56	2.8/ 4.8	18		499289	2009 <i>VB</i> ₁₁₄		3 7.9 116°60	6.5/15.0	18	
2 1	11 38.46	+12 58.8	2.553	3.371	10.7	21.4	2 1	11 37.23	-16 29.1	2.114	2.825	16.0	21.2
2 11	11 33.49	+13 34.3	2.479	3.378	8.1	21.2	2 11	11 33.06	-16 48.8	2.027	2.833	13.6	21.0
2 21	11 26.87	+14 12.9	2.431	3.385	5.2	21.0	2 21	11 26.86	-16 45.2	1.960	2.841	10.9	20.8
3 2	11 19.13	+14 50.0	2.411	3.391	2.9	20.9	3 2	11 19.21	-16 17.0	1.917	2.849	8.3	20.7
3 12	11 11.00	+15 20.6	2.421	3.398	3.7	20.9	3 12	11 10.96	-15 26.1	1.899	2.856	6.6	20.6
3 22	11 3.21	+15 41.2	2.461	3.404	6.4	21.1	3 22	11 3.02	-14 17.4	1.909	2.863	7.1	20.6
4 1	10 56.48	+15 49.4	2.529	3.409	9.2	21.3	4 1	10 56.29	-12 58.0	1.946	2.870	9.2	20.8
4 11	10 51.31	+15 44.4	2.620	3.415	11.7	21.5	4 11	10 51.43	-11 36.2	2.008	2.877	11.9	20.9
250218	2002 <i>VC</i> ₈₄		3 7.9 136°11	4.8/13.5	18		497301	2005 <i>SO</i> ₂₃₉		3 7.9 182°63	5.7/16.2	18	
2 1	11 38.54	-13 17.7	2.233	2.957	14.9	20.3	2 1	11 35.23	-19 27.2	3.066	3.733	12.3	21.5
2 11	11 33.83	-13 10.3	2.148	2.971	12.4	20.2	2 11	11 30.99	-19 44.6	2.964	3.733	10.7	21.4
2 21	11 27.23	-12 41.0	2.085	2.984	9.5	20.0	2 21	11 25.30	-19 44.2	2.882	3.733	8.8	21.3
3 2	11 19.31	-11 50.5	2.047	2.996	6.6	19.8	3 2	11 18.57	-19 25.1	2.825	3.733	7.0	21.1
3 12	11 10.87	-10 41.9	2.037	3.008	4.8	19.7	3 12	11 11.39	-18 48.3	2.795	3.732	5.9	21.1
3 22	11 2.80	- 9 21.3	2.056	3.019	5.8	19.8	3 22	11 4.38	-17 56.4	2.793	3.731	6.0	21.1
4 1	10 55.89	- 7 55.7	2.103	3.030	8.5	20.0	4 1	10 58.15	-16 54.0	2.820	3.730	7.3	21.1
4 11	10 50.76	- 6 32.6	2.177	3.040	11.4	20.2	4 11	10 53.23	-15 46.3	2.873	3.728	9.2	21.3
261418	2005 <i>UJ</i> ₄₉₀		3 7.9 146°57	1.3/ 9.2	18		473901	2016 <i>ER</i> ₁₄₇		3 7.9 338°57	2.4/ 5.8	17	
2 1	11 40.23	- 0 41.3	2.132	2.918	13.7	21.2	2 1	11 36.38	+ 7 32.1	1.635	2.469	15.0	21.2
2 11	11 35.16	- 0 34.1	2.049	2.925	10.6	21.0	2 11	11 32.89	+ 8 25.1	1.557	2.465	11.3	20.9
2 21	11 28.10	- 0 13.6	1.989	2.932	7.1	20.8	2 21	11 26.98	+ 9 30.4	1.502	2.461	7.1	20.7
3 2	11 19.65	+ 0 17.8	1.957	2.938	3.3	20.5	3 2	11 19.31	+10 41.2	1.472	2.458	3.0	20.4
3 12	11 10.64	+ 0 55.9	1.953	2.944	1.8	20.4	3 12	11 10.89	+11 48.8	1.470	2.455	3.9	20.4
3 22	11 2.00	+ 1 35.5	1.979	2.950	5.4	20.7	3 22	11 2.88	+12 45.1	1.494	2.452	8.2	20.7
4 1	10 54.57	+ 2 11.8	2.033	2.955	9.0	20.9	4 1	10 56.34	+13 24.3	1.544	2.450	12.4	20.9
4 11	10 49.00	+ 2 40.3	2.112	2.960	12.3	21.1	4 11	10 52.07	+13 43.4	1.614	2.448	16.1	21.2
348597	2005 <i>XB</i> ₄		3 7.9 59°61	5.6/11.9	18		388783	2008 <i>AZ</i> ₃₂		3 7.9 82°19	3.7/12.2	17	
2 1	11 40.81	- 8 21.9	1.337	2.123	20.3	20.7	2 1	11 35.93	- 8 55.7	2.377	3.127	13.5	21.3
2 11	11 36.69	- 8 53.6	1.267	2.133	16.6	20.4	2 11	11 31.77	- 9 2.1	2.293	3.136	11.0	21.2
2 21	11 29.60	- 8 59.3	1.216	2.143	12.2	20.2	2 21	11 25.88	- 8 51.6	2.230	3.145	8.1	21.0
3 2	11 20.33	- 8 38.3	1.186	2.153	7.9	20.0	3 2	11 18.80	- 8 25.0	2.193	3.154	5.3	20.8
3 12	11 10.19	- 7 54.4	1.182	2.163	5.6	19.9	3 12	11 11.25	- 7 45.0	2.185	3.163	3.7	20.7
3 22	11 0.64	- 6 55.3	1.202	2.174	7.9	20.0	3 22	11 3.99	- 6 56.1	2.205	3.172	5.2	20.9
4 1	10 53.02	- 5 50.8	1.247	2.184	12.1	20.3	4 1	10 57.76	- 6 3.6	2.253	3.182	7.9	21.0
4 11	10 48.22	- 4 50.8	1.314	2.195	16.1	20.6	4 11	10 53.13	- 5 13.1	2.327	3.191	10.7	21.2
145540	2006 <i>GR</i> ₄₇		3 7.9 286°72	0.0/ 7.7	16		226690	2004 <i>JH</i> ₂₀		3 7.9 305°48	1.5/ 9.3	17	
2 1	11 38.57	+ 2 25.4	1.511	2.332	16.7	20.6	2 1	11 35.30	- 1 44.6	1.602	2.411	16.5	20.4
2 11	11 34.95	+ 2 49.8	1.416	2.315	12.9	20.3	2 11	11 32.33	- 1 25.3	1.501	2.390	13.0	20.1
2 21	11 28.57	+ 3 31.9	1.343	2.297	8.4	20.0	2 21	11 26.83	- 0 45.2	1.421	2.369	8.8	19.8
3 2	11 20.00	+ 4 27.6	1.294	2.280	3.2	19.7	3 2	11 19.34	+ 0 13.2	1.366	2.349	4.1	19.5
3 12	11 10.34	+ 5 29.5	1.271	2.263	2.3	19.6	3 12	11 10.82	+ 1 23.9	1.337	2.328	2.1	19.3
3 22	11 0.91	+ 6 29.0	1.276	2.246	7.7	19.8	3 22	11 2.47	+ 2 38.6	1.334	2.308	6.9	19.6
4 1	10 53.02	+ 7 17.9	1.305	2.228	12.8	20.1	4 1	10 55.48	+ 3 48.3	1.357	2.289	11.8	19.8
4 11	10 47.68	+ 7 50.5	1.355	2.211	17.3	20.3	4 11	10 50.81	+ 4 45.1	1.402	2.270	16.2	20.0
403287	2009 <i>BD</i> ₆₂		3 7.9 69°30	1.7/ 9.1	18		141002	2001 <i>WY</i> ₃₀		3 7.9 131°39	2.3/ 5.1	18	
2 1	11 43.69	+ 0 5.7	1.428	2.237	18.1	21.1	2 1	11 35.96	+10 22.8	2.594	3.411	10.6	19.9
2 11	11 38.50	- 0 3.5	1.366	2.254	14.1	20.8	2 11	11 31.61	+11 14.1	2.520	3.420	7.9	19.7
2 21	11 30.52	+ 0 4.5	1.324	2.272	9.3	20.6	2 21	11 25.69	+12 10.8	2.473	3.429	5.0	19.6
3 2	11 20.60	+ 0 26.6	1.307	2.290	4.2	20.4	3 2	11 18.71	+13 8.0	2.454	3.437	2.5	19.4
3 12	11 10.05	+ 0 57.3	1.316	2.308	2.3	20.3	3 12	11 11.34	+14 0.4	2.466	3.445	3.3	19.5
3 22	11 0.22	+ 1 29.7	1.353	2.325	7.0	20.6	3 22	11 4.28	+14 43.6	2.507	3.453	6.1	19.7
4 1	10 52.32	+ 1 57.4	1.414	2.343	11.6	20.9	4 1	10 58.20	+15 14.4	2.575	3.460	8.9	19.9
4 11	10 47.12	+ 2 15.5	1.498	2.361	15.6	21.2	4 11	10 53.59	+15 31.2	2.668	3.467	11.4	20.0
191322	2003 <i>KJ</i>		3 7.9 243°25	0.4/ 8.5	18		98530	2000 <i>VR</i> ₃₄		3 7.9 98°00	2.2/ 6.1	18	
2 1	11 36.48	- 0 10.6	2.345	3.135	12.5	20.9	2 1	11 41.40	+ 7 16.1	1.623	2.447	15.6	19.3
2 11	11 32.36	+ 0 31.8	2.238	3.119	9.7	20.7	2 11	11 36.48	+ 8 8.8	1.562	2.465	11.7	19.1
2 21	11 26.39	+ 1 29.2	2.155	3.102	6.3	20.4	2 21	11 29.10	+ 9 12.7	1.524	2.482	7.3	18.9
3 2	11 19.04	+ 2 38.3	2.100	3.085	2.6	20.1	3 2	11 20.05	+10 20.4	1.513	2.499	3.0	18.7
3 12	11 11.03	+ 3 53.6	2.075	3.067	1.5	20.0	3 12	11 10.46	+11 23.5	1.529	2.515	3.7	18.8
3 22	11 3.16	+ 5 9.0	2.080	3.049	5.4	20.3	3 22	11 1.51	+12 14.6	1.574	2.531	7.9	19.1
4 1	10 56.25	+ 6 18.1	2.114	3.030	9.1	20.4	4 1	10 54.23	+12 48.7	1.643	2.547	12.0	19.3
4 11	10 50.97	+ 7 16.1	2.173	3.010	12.3	20.6	4 11	10 49.33	+13 4.1	1.735	2.562	15.4	19.6
364746	2007 <i>VJ</i> ₂₆₉		3 7.9 314°27	5.0/ 4.0	18		310407	1999 <i>ST</i> ₂₂		3 7.9 91°85	0.4/ 8.4	18	
2 1	11 40.40	+13 57.5	1.502	2.344	15.6	20.5	2 1	11 40.78	+ 0 33.1	1.689	2.492	16.0	21.2
2 11	11 36.18	+14 57.3	1.430	2.341	11.9	20.2	2 11	11 35.89	+ 1 6.6	1.626	2.514	12.2	21.0
2 21	11 29.19	+16 3.4	1.380	2.338	7.9	20.0	2 21	11 28.67	+ 1 56.5	1.585	2.535	7.9	20.8
3 2	11 20.16	+17 6.7	1.356	2.334	5.1	19.8	3 2	11 19.87	+ 2 58.0	1.571	2.556	3.1	20.5
3 12	11 10.31	+17 57.3	1.358	2.331	6.5	19.9	3 12	11 10.58	+ 4 3.7	1.585	2.577	1.8	20.5
3 22	11 0.98	+18 28.0	1.386	2.328	10.4	20.1	3 22	11 1.90	+ 5 6.0	1.627	2.597	6.4	20.8
4 1	10 53.42	+18 35.0	1.438	2.326	14.4	20.3	4 1	10 54.80	+ 5 58.5	1.696	2.616	10.6	21.1
4 11	10 48.48	+18 18.5	1.509	2.323	18.0	20.6	4 11	10 49.96	+ 6 36.8	1.788	2.635	14.1	21.4
324549	2006 <i>WN</i> ₆₄		3 7.9 34°17	2.1/ 6.6	18		149445	2003 <i>CQ</i> ₅		3 7.9 292°00	4.7/11.		

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2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
148726	2001 TY ₇₃		3 7.9 48°40	0°5/ 7.6 18			286116	2001 TO ₁₂₆		3 7.9 237°55	2°6/11.3 17		
2 1	11 39.15	+ 3 58.3	1.522	2.346	16.4	19.2	2 1	11 33.68	- 7 35.7	2.432	3.192	12.9	21.7
2 11	11 34.91	+ 4 21.7	1.462	2.362	12.5	19.0	2 11	11 30.13	- 7 4.7	2.332	3.186	10.4	21.5
2 21	11 28.16	+ 4 59.1	1.422	2.378	7.9	18.8	2 21	11 24.91	- 6 15.5	2.255	3.180	7.4	21.3
3 2	11 19.71	+ 5 45.0	1.408	2.395	2.9	18.5	3 2	11 18.48	- 5 9.8	2.204	3.175	4.3	21.1
3 12	11 10.69	+ 6 32.2	1.421	2.412	2.3	18.5	3 12	11 11.53	- 3 51.9	2.182	3.169	2.6	21.0
3 22	11 2.32	+ 7 13.5	1.461	2.429	7.1	18.9	3 22	11 4.78	- 2 27.6	2.191	3.163	4.8	21.1
4 1	10 55.65	+ 7 43.3	1.526	2.447	11.5	19.2	4 1	10 58.96	- 1 3.5	2.228	3.156	8.0	21.3
4 11	10 51.37	+ 7 58.4	1.613	2.465	15.2	19.4	4 11	10 54.65	+ 0 14.2	2.290	3.150	11.0	21.5
521068	2015 DH ₂₃₉		3 7.9 172°75	1°8/10.2 17			148693	2001 SJ ₂₅₃		3 7.9 93°53	0°4/ 7.6 18		
2 1	11 34.74	- 4 28.3	2.474	3.245	12.4	21.8	2 1	11 37.90	+ 2 42.6	1.827	2.638	14.6	20.5
2 11	11 30.83	- 4 0.4	2.382	3.247	9.8	21.6	2 11	11 33.66	+ 3 25.6	1.756	2.650	11.1	20.3
2 21	11 25.29	- 3 17.2	2.313	3.248	6.7	21.4	2 21	11 27.27	+ 4 22.9	1.708	2.662	7.0	20.1
3 2	11 18.59	- 2 20.8	2.272	3.249	3.5	21.2	3 2	11 19.38	+ 5 29.2	1.687	2.673	2.6	19.9
3 12	11 11.41	- 1 15.7	2.260	3.250	1.9	21.1	3 12	11 10.96	+ 6 37.4	1.694	2.685	2.1	19.8
3 22	11 4.48	- 0 7.1	2.279	3.250	4.6	21.2	3 22	11 3.00	+ 7 40.2	1.730	2.696	6.4	20.1
4 1	10 58.49	+ 0 59.2	2.325	3.251	7.9	21.4	4 1	10 56.42	+ 8 31.6	1.792	2.708	10.4	20.4
4 11	10 54.00	+ 1 58.2	2.398	3.251	10.8	21.6	4 11	10 51.89	+ 9 7.8	1.878	2.719	13.9	20.6
90709	Wettin		3 7.9 52°27	3°0/ 5.7 18			192115	2006 DG ₂		3 7.9 90°84	0°1/ 7.8 18		
2 1	11 41.55	+11 5.6	1.649	2.480	15.0	19.2	2 1	11 37.28	+ 2 32.5	1.968	2.776	13.9	21.0
2 11	11 36.48	+11 35.1	1.594	2.500	11.3	19.0	2 11	11 33.08	+ 3 6.3	1.893	2.784	10.6	20.8
2 21	11 29.03	+12 10.4	1.562	2.519	7.1	18.8	2 21	11 26.85	+ 3 53.3	1.841	2.793	6.7	20.6
3 2	11 20.00	+12 45.1	1.556	2.540	3.4	18.6	3 2	11 19.23	+ 4 49.0	1.816	2.802	2.5	20.3
3 12	11 10.52	+13 12.2	1.577	2.560	4.2	18.7	3 12	11 11.07	+ 5 47.2	1.820	2.811	1.8	20.3
3 22	11 1.76	+13 26.9	1.626	2.581	8.0	19.0	3 22	11 3.32	+ 6 41.7	1.852	2.819	6.0	20.6
4 1	10 54.68	+13 26.4	1.700	2.601	11.8	19.2	4 1	10 56.84	+ 7 26.9	1.911	2.828	9.8	20.8
4 11	10 49.94	+13 10.3	1.796	2.622	15.0	19.5	4 11	10 52.26	+ 7 59.2	1.994	2.836	13.1	21.0
272413	2005 TM ₅₆		3 7.9 170°71	1°3/ 6.7 16			109968	2001 SA ₅₁		3 7.9 260°13	0°5/ 7.4 17		
2 1	11 39.71	+ 6 19.2	2.152	2.961	12.8	22.4	2 1	11 35.26	+ 3 41.0	2.358	3.163	11.9	20.6
2 11	11 34.79	+ 6 54.8	2.070	2.964	9.7	22.2	2 11	11 31.39	+ 4 20.3	2.260	3.151	9.1	20.4
2 21	11 27.89	+ 7 39.7	2.012	2.967	6.1	22.0	2 21	11 25.75	+ 5 11.0	2.186	3.139	5.8	20.1
3 2	11 19.60	+ 8 29.5	1.982	2.969	2.3	21.7	3 2	11 18.82	+ 6 9.2	2.141	3.127	2.1	19.9
3 12	11 10.75	+ 9 18.1	1.982	2.970	2.5	21.7	3 12	11 11.31	+ 7 9.6	2.125	3.115	1.9	19.8
3 22	11 2.25	+10 0.2	2.012	2.972	6.3	22.0	3 22	11 4.00	+ 8 6.6	2.139	3.103	5.6	20.1
4 1	10 54.96	+10 31.4	2.068	2.972	9.9	22.2	4 1	10 57.65	+ 8 55.1	2.180	3.090	9.1	20.3
4 11	10 49.50	+10 49.3	2.149	2.972	13.0	22.4	4 11	10 52.88	+ 9 31.4	2.245	3.077	12.2	20.4
116729	2004 DR ₂₂		3 7.9 86°89	1°3/ 6.4 18 R			183382	2002 XJ ₅₁		3 7.9 110°29	1°4/ 6.7 18		
2 1	11 34.74	+ 5 29.2	2.222	3.037	12.2	19.8	2 1	11 39.90	+ 5 43.3	1.878	2.693	14.1	20.9
2 11	11 30.95	+ 6 26.2	2.147	3.044	9.2	19.6	2 11	11 35.09	+ 6 28.0	1.810	2.708	10.6	20.7
2 21	11 25.40	+ 7 33.7	2.096	3.052	5.7	19.4	2 21	11 28.13	+ 7 23.7	1.766	2.722	6.6	20.5
3 2	11 18.63	+ 8 46.4	2.073	3.060	2.2	19.2	3 2	11 19.71	+ 8 24.7	1.749	2.736	2.5	20.3
3 12	11 11.41	+ 9 57.9	2.080	3.067	2.6	19.2	3 12	11 10.77	+ 9 24.1	1.761	2.749	2.7	20.3
3 22	11 4.53	+11 2.1	2.116	3.075	6.1	19.4	3 22	11 2.33	+10 15.2	1.801	2.762	6.8	20.6
4 1	10 58.72	+11 54.0	2.180	3.083	9.5	19.7	4 1	10 55.31	+10 53.3	1.868	2.775	10.6	20.8
4 11	10 54.57	+12 30.7	2.267	3.090	12.4	19.9	4 11	10 50.34	+11 15.7	1.959	2.787	13.9	21.1
145825	1998 UE ₄₂		3 7.9 105°65	1°7/ 6.4 18			26806	1982 KX ₁		3 7.9 357°92	0°3/ 7.7 18		
2 1	11 42.02	+ 7 0.0	1.993	2.804	13.6	21.5	2 1	11 31.05	+ 0 12.4	1.857	2.672	14.3	18.0
2 11	11 36.46	+ 7 45.8	1.933	2.828	10.2	21.3	2 11	11 28.57	+ 1 24.6	1.774	2.669	10.9	17.8
2 21	11 28.86	+ 8 40.5	1.897	2.852	6.3	21.2	2 21	11 24.11	+ 2 55.9	1.714	2.668	7.0	17.5
3 2	11 19.92	+ 9 38.3	1.890	2.876	2.5	20.9	3 2	11 18.22	+ 4 40.5	1.680	2.667	2.6	17.2
3 12	11 10.59	+10 32.5	1.912	2.898	2.9	21.0	3 12	11 11.73	+ 6 29.9	1.675	2.666	2.0	17.2
3 22	11 1.82	+11 17.6	1.963	2.920	6.7	21.3	3 22	11 5.55	+ 8 14.7	1.699	2.666	6.4	17.5
4 1	10 54.47	+11 49.4	2.042	2.941	10.2	21.5	4 1	11 0.55	+ 9 46.5	1.749	2.667	10.5	17.7
4 11	10 49.14	+12 6.2	2.144	2.962	13.2	21.8	4 11	10 57.40	+10 59.6	1.823	2.669	14.0	17.9
469187	2016 FD ₄₁		3 7.9 305°02	5°8/ 2.7 17			43914	1995 YC ₂		3 7.9 132°75	1°9/ 9.9 18		
2 1	11 38.23	+16 23.2	1.625	2.469	14.5	20.7	2 1	11 39.68	- 3 39.3	2.022	2.800	14.6	19.7
2 11	11 34.51	+17 34.0	1.543	2.455	11.2	20.5	2 11	11 34.83	- 3 14.7	1.944	2.814	11.4	19.5
2 21	11 28.15	+18 49.7	1.485	2.440	7.8	20.2	2 21	11 27.95	- 2 32.6	1.889	2.827	7.8	19.3
3 2	11 19.81	+20 1.1	1.453	2.425	5.9	20.1	3 2	11 19.64	- 1 36.1	1.860	2.839	3.9	19.1
3 12	11 10.58	+20 58.0	1.447	2.411	7.4	20.1	3 12	11 10.80	- 0 30.5	1.861	2.851	2.1	19.0
3 22	11 1.71	+21 33.0	1.466	2.397	10.9	20.3	3 22	11 2.38	+ 0 37.7	1.890	2.862	5.5	19.2
4 1	10 54.41	+21 42.4	1.509	2.383	14.7	20.5	4 1	10 55.25	+ 1 41.6	1.948	2.872	9.2	19.5
4 11	10 49.54	+21 26.1	1.571	2.370	18.1	20.7	4 11	10 50.04	+ 2 36.0	2.031	2.882	12.5	19.7
482823	2013 XX ₂₁		3 7.9 138°60	13°6/22.6 18			411297	2010 TH ₈₀		3 7.9 71°92	1°2/ 7.1 18		
2 1	11 44.03	+30 3.1	1.307	2.154	17.3	20.7	2 1	11 42.71	+ 6 33.7	1.621	2.441	15.8	21.0
2 11	11 39.72	+33 26.5	1.274	2.164	14.8	20.5	2 11	11 37.46	+ 6 51.6	1.559	2.458	11.9	20.8
2 21	11 31.81	+36 36.9	1.265	2.172	13.6	20.5	2 21	11 29.73	+ 7 19.8	1.520	2.476	7.5	20.6
3 2	11 21.25	+39 14.4	1.280	2.181	14.2	20.5	3 2	11 20.32	+ 7 53.0	1.507	2.493	2.8	20.4
3 12	11 9.69	+41 4.2	1.318	2.188	16.2	20.7	3 12	11 10.38	+ 8 24.5	1.521	2.510	2.7	20.4
3 22	10 58.98	+42 1.3	1.377	2.195	18.8	20.9	3 22	11 1.11	+ 8 48.6	1.563	2.528	7.2	20.7
4 1	10 50.74	+42 8.8	1.452	2.202	21.3	21.1	4 1	10 53.56	+ 9 1.2	1.632	2.545	11.4	21.0
4 11	10 45.92	+41 35.2	1.540	2.208	23.4	21.3	4 11	10 48.41	+ 9 0.1	1.722	2.562	14.9	21.3
100698	1997 YK ₁₅		3 7.9 210°23	0°7/ 7.1 18			269810	1999 VZ ₁₀₈		3 7.9 85°86	5°2/ 2.9 18		
2 1	11 36.22	+ 5 5.7	2.811	3.610	10.4	21							

EPHEMERIDES

3 7.9

3 8.0

2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
458968	2011 <i>WK</i> ₁₇		3 7.9 156°39	4.2/ 4.0	18		207410	2006 <i>BC</i> ₂₅₂		3 7.9 134°33	1.1/ 6.9	18	
2 1	11 42.52	+13 37.4	1.869	2.695	13.7	21.7	2 1	11 41.09	+ 4 4.8	1.723	2.536	15.3	21.2
2 11	11 37.20	+14 42.1	1.799	2.702	10.4	21.5	2 11	11 36.23	+ 4 56.9	1.652	2.548	11.6	21.0
2 21	11 29.55	+15 52.0	1.755	2.709	6.8	21.3	2 21	11 28.99	+ 6 3.4	1.604	2.559	7.3	20.8
3 2	11 20.27	+16 59.0	1.737	2.715	4.3	21.2	3 2	11 20.09	+ 7 18.1	1.583	2.570	2.7	20.5
3 12	11 10.39	+17 55.1	1.749	2.720	5.5	21.2	3 12	11 10.57	+ 8 32.5	1.590	2.580	2.7	20.6
3 22	11 1.01	+18 34.2	1.788	2.725	8.9	21.4	3 22	11 1.56	+ 9 38.8	1.626	2.589	7.2	20.8
4 1	10 53.14	+18 53.1	1.853	2.729	12.3	21.7	4 1	10 54.10	+10 30.7	1.689	2.598	11.4	21.1
4 11	10 47.48	+18 51.5	1.940	2.732	15.3	21.9	4 11	10 48.90	+11 4.9	1.774	2.606	14.9	21.4
397830	2008 <i>SE</i> ₁₅₇		3 7.9 165°34	1.3/ 9.1	18		460119	2014 <i>PV</i> ₂₉		3 7.9 134°37	1.0/ 7.0	18	
2 1	11 41.29	- 1 46.8	1.779	2.570	15.8	22.4	2 1	11 40.84	+ 4 36.4	1.946	2.754	14.0	21.8
2 11	11 36.41	- 1 17.7	1.696	2.575	12.3	22.1	2 11	11 35.77	+ 5 20.9	1.874	2.767	10.6	21.6
2 21	11 29.14	- 0 29.9	1.636	2.580	8.2	21.9	2 21	11 28.57	+ 6 17.3	1.826	2.780	6.6	21.4
3 2	11 20.15	+ 0 32.8	1.602	2.584	3.7	21.6	3 2	11 19.90	+ 7 20.2	1.805	2.792	2.4	21.2
3 12	11 10.46	+ 1 44.2	1.596	2.587	1.9	21.5	3 12	11 10.71	+ 8 22.7	1.814	2.803	2.4	21.2
3 22	11 1.16	+ 2 56.3	1.619	2.590	6.3	21.8	3 22	11 1.97	+ 9 18.3	1.851	2.813	6.5	21.5
4 1	10 53.33	+ 4 1.5	1.669	2.592	10.6	22.1	4 1	10 54.62	+10 1.8	1.916	2.823	10.3	21.7
4 11	10 47.73	+ 4 54.1	1.743	2.593	14.4	22.3	4 11	10 49.28	+10 30.3	2.005	2.833	13.6	22.0
318667	2005 <i>ON</i> ₉		3 7.9 241°45	1.6/ 6.6	17		498794	2008 <i>UK</i> ₂₀₆		3 7.9 133°40	0.6/ 7.3	18	
2 1	11 39.54	+ 6 43.0	1.917	2.734	13.8	20.9	2 1	11 36.05	+ 3 2.4	2.327	3.129	12.2	21.4
2 11	11 35.04	+ 7 19.8	1.827	2.725	10.5	20.7	2 11	11 31.87	+ 3 56.2	2.249	3.139	9.2	21.3
2 21	11 28.28	+ 8 7.4	1.759	2.715	6.6	20.4	2 21	11 25.98	+ 5 1.8	2.196	3.148	5.8	21.1
3 2	11 19.84	+ 9 0.7	1.719	2.705	2.6	20.1	3 2	11 18.90	+ 6 14.4	2.171	3.157	2.1	20.8
3 12	11 10.66	+ 9 53.0	1.707	2.695	2.9	20.1	3 12	11 11.37	+ 7 28.2	2.176	3.165	1.9	20.8
3 22	11 1.75	+10 37.9	1.724	2.684	7.1	20.4	3 22	11 4.17	+ 8 36.9	2.211	3.174	5.5	21.1
4 1	10 54.14	+11 10.2	1.768	2.673	11.1	20.6	4 1	10 58.02	+ 9 35.6	2.274	3.181	8.9	21.3
4 11	10 48.59	+11 26.9	1.834	2.662	14.7	20.8	4 11	10 53.48	+10 20.6	2.361	3.189	11.8	21.5
411659	2011 <i>WL</i> ₁₉		3 7.9 116°64	3.8/11.2	18		61487	2000 <i>QB</i> ₄₃		3 8.0 285°62	0.9/ 8.8	18	
2 1	11 39.52	- 6 54.7	1.653	2.431	17.3	21.7	2 1	11 37.45	+ 0 7.4	1.807	2.611	15.1	19.9
2 11	11 35.23	- 6 55.5	1.574	2.438	14.0	21.5	2 11	11 33.57	+ 0 25.1	1.716	2.603	11.7	19.7
2 21	11 28.48	- 6 33.9	1.515	2.445	10.0	21.3	2 21	11 27.41	+ 0 58.9	1.647	2.596	7.7	19.4
3 2	11 19.92	- 5 51.0	1.480	2.451	5.9	21.1	3 2	11 19.55	+ 1 45.8	1.604	2.588	3.3	19.1
3 12	11 10.63	- 4 51.7	1.472	2.457	3.8	20.9	3 12	11 10.91	+ 2 40.0	1.589	2.581	1.8	19.0
3 22	11 1.77	- 3 43.2	1.491	2.464	6.5	21.1	3 22	11 2.56	+ 3 34.8	1.602	2.573	6.2	19.3
4 1	10 54.45	- 2 34.1	1.537	2.469	10.6	21.4	4 1	10 55.53	+ 4 23.5	1.641	2.566	10.6	19.5
4 11	10 49.45	- 1 32.1	1.606	2.475	14.4	21.6	4 11	10 50.59	+ 5 0.8	1.703	2.559	14.3	19.7
31334	1998 <i>HW</i> ₁₀₂		3 7.9 3°80	0.3/ 7.7	18		11834	1985 <i>RQ</i> ₃		3 8.0 271°59	0.6/ 7.3	18	
2 1	11 34.50	+ 3 15.8	1.972	2.787	13.6	18.1	2 1	11 35.91	+ 2 34.8	2.155	2.960	12.9	18.9
2 11	11 31.04	+ 3 44.6	1.891	2.787	10.3	17.9	2 11	11 32.18	+ 3 30.3	2.045	2.936	9.9	18.6
2 21	11 25.61	+ 4 25.9	1.833	2.787	6.6	17.6	2 21	11 26.45	+ 4 41.2	1.959	2.912	6.3	18.4
3 2	11 18.78	+ 5 15.6	1.801	2.788	2.5	17.4	3 2	11 19.19	+ 6 3.1	1.901	2.888	2.3	18.1
3 12	11 11.39	+ 6 7.8	1.798	2.789	1.9	17.3	3 12	11 11.14	+ 7 29.5	1.873	2.863	2.1	18.0
3 22	11 4.33	+ 6 56.4	1.823	2.791	6.0	17.6	3 22	11 3.19	+ 8 52.9	1.874	2.837	6.3	18.2
4 1	10 58.47	+ 7 36.2	1.874	2.793	9.8	17.8	4 1	10 56.25	+10 6.3	1.903	2.812	10.3	18.4
4 11	10 54.43	+ 8 3.3	1.949	2.796	13.2	18.0	4 11	10 51.05	+11 4.5	1.955	2.786	13.8	18.6
185457	2007 <i>AN</i> ₂		3 7.9 313°63	15.2/17.4	18		271111	2003 <i>RH</i> ₁₇		3 8.0 265°77	0.9/ 8.8	17	
2 1	11 49.72	+47 39.0	1.805	2.582	16.1	19.4	2 1	11 39.54	+ 1 8.0	2.063	2.859	13.7	21.0
2 11	11 43.77	+49 37.6	1.777	2.580	15.4	19.4	2 11	11 34.90	+ 1 8.4	1.966	2.849	10.7	20.8
2 21	11 34.19	+51 10.8	1.769	2.579	15.3	19.3	2 21	11 28.14	+ 1 20.9	1.892	2.839	7.1	20.6
3 2	11 22.09	+52 6.9	1.782	2.577	15.9	19.4	3 2	11 19.81	+ 1 43.3	1.845	2.829	3.1	20.3
3 12	11 9.25	+52 19.1	1.814	2.576	17.0	19.4	3 12	11 10.75	+ 2 11.4	1.827	2.818	1.7	20.2
3 22	10 57.52	+51 47.2	1.863	2.574	18.3	19.5	3 22	11 1.93	+ 2 40.6	1.838	2.808	5.7	20.4
4 1	10 48.43	+50 35.7	1.927	2.573	19.7	19.7	4 1	10 54.28	+ 3 5.9	1.876	2.798	9.7	20.6
4 11	10 42.79	+48 52.8	2.003	2.571	21.0	19.8	4 11	10 48.55	+ 3 23.4	1.938	2.787	13.1	20.8
111549	2001 <i>YC</i> ₁₃₇		3 7.9 173°49	5.1/ 2.4	18		4890	<i>Shikanosima</i>		3 8.0 254°47	2.5/ 6.0	18	
2 1	11 42.45	+19 45.7	2.359	3.181	11.4	20.4	2 1	11 40.59	+ 7 12.1	1.550	2.379	16.0	17.3
2 11	11 36.74	+20 44.2	2.288	3.184	8.8	20.2	2 11	11 36.45	+ 8 5.1	1.460	2.365	12.2	17.0
2 21	11 29.08	+21 41.8	2.243	3.187	6.4	20.1	2 21	11 29.53	+ 9 12.7	1.392	2.351	7.7	16.7
3 2	11 20.07	+22 32.0	2.227	3.189	5.1	20.0	3 2	11 20.44	+10 27.9	1.350	2.336	3.3	16.4
3 12	11 10.56	+23 8.4	2.240	3.190	6.2	20.1	3 12	11 10.31	+11 41.3	1.335	2.320	4.1	16.4
3 22	11 1.47	+23 27.3	2.281	3.191	8.6	20.2	3 22	11 0.45	+12 43.4	1.347	2.305	8.9	16.7
4 1	10 53.62	+23 27.1	2.348	3.191	11.2	20.4	4 1	10 52.17	+13 27.1	1.383	2.289	13.6	16.9
4 11	10 47.64	+23 8.5	2.437	3.191	13.6	20.5	4 11	10 46.46	+13 48.9	1.441	2.272	17.8	17.1
500033	2011 <i>SS</i> ₇₅		3 7.9 176°99	1.8/10.2	17		234987	2003 <i>AJ</i> ₈₂		3 8.0 43°80	20.3/18.1	18	
2 1	11 36.16	- 3 22.7	2.861	3.627	11.0	22.0	2 1	11 48.59	+46 58.8	1.116	1.933	21.6	18.6
2 11	11 31.68	- 3 15.7	2.767	3.629	8.7	21.8	2 11	11 44.06	+49 41.3	1.118	1.952	20.6	18.6
2 21	11 25.75	- 2 57.0	2.697	3.630	6.0	21.6	2 21	11 34.73	+51 42.4	1.136	1.971	20.4	18.7
3 2	11 18.79	- 2 28.2	2.654	3.630	3.2	21.4	3 2	11 22.29	+52 47.3	1.171	1.991	21.0	18.8
3 12	11 11.41	- 1 52.3	2.642	3.631	1.9	21.3	3 12	11 9.37	+52 50.1	1.221	2.012	22.1	18.9
3 22	11 4.23	- 1 13.0	2.660	3.631	4.2	21.5	3 22	10 58.48	+51 55.3	1.285	2.034	23.5	19.1
4 1	10 57.89	- 0 34.1	2.708	3.631	7.0	21.7	4 1	10 51.25	+50 13.1	1.362	2.056	24.8	19.3
4 11	10 52.87	+ 0 0.6	2.781	3.630	9.6	21.9	4 11	10 48.23	+47 56.4	1.449	2.078	26.0	19.5
192105	2006 <i>CL</i> ₁₈		3 7.9 23°91	0.5/ 7.5	18		272709	2005 <i>YZ</i> ₂₇		3 8.0 64°19	0.3/ 7.7		