

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

2020	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45° - 26°	2020	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45° - 26°				
316934 2001 AA₅₂									416296 2003 RM₁												
5	1	16 39.60	-34 45.5	2.084	2.970	11.1	21.5	146 W	10	81	5	1	16 46.92	-31 27.0	1.808	2.699	12.2	22.0	145 W	14	85
5	6	16 35.20	-34 54.5	2.046	2.966	9.6	21.4	151 W	10	81	5	11	16 38.56	-31 37.2	1.722	2.677	8.8	21.7	156 W	13	84
5	11	16 30.25	-35 0.0	2.014	2.963	8.1	21.3	156 W	10	81	5	21	16 27.89	-31 34.2	1.659	2.653	5.3	21.5	166 W	13	84
5	16	16 24.83	-35 1.6	1.988	2.959	6.6	21.2	160 W	10	81	5	31	16 15.94	-31 16.0	1.624	2.629	3.9	21.3	170 E	14	85
5	21	16 19.07	-34 59.2	1.969	2.955	5.4	21.2	164 W	10	81	6	10	16 4.09	-30 43.9	1.616	2.603	6.6	21.4	163 E	14	85
5	26	16 13.12	-34 52.5	1.957	2.951	4.7	21.1	166 W	10	81	6	20	15 53.65	-30 2.0	1.634	2.577	10.6	21.6	152 E	15	86
5	31	16 7.13	-34 41.8	1.953	2.947	4.8	21.1	166 E	10	81	402901 2007 TF₃₆										
6	5	16 1.28	-34 27.4	1.955	2.942	5.6	21.1	164 E	11	82	5	1	16 48.59	-52 28.3	2.167	2.958	14.2	22.2	134 W	-	64
6	10	15 55.69	-34 9.8	1.964	2.937	6.9	21.2	160 E	11	82	5	6	16 43.02	-52 56.8	2.132	2.957	13.3	22.2	138 W	-	63
6	15	15 53.51	-33 49.6	1.980	2.932	8.4	21.3	155 E	11	82	5	11	16 36.60	-53 19.3	2.102	2.956	12.4	22.1	141 W	-	63
6	20	15 45.84	-33 27.4	2.002	2.927	10.0	21.4	150 E	12	83	5	16	16 29.47	-53 34.9	2.078	2.955	11.7	22.1	144 W	-	62
6	25	15 41.79	-33 4.1	2.030	2.921	11.5	21.5	145 E	12	83	5	21	16 21.81	-53 42.8	2.059	2.953	11.1	22.0	146 W	-	62
427583 2003 QK₁₀₃									5	26	16 13.85	-53 42.4	2.047	2.951	10.7	22.0	147 W	-	62		
5	1	16 40.09	-5 25.0	1.652	2.559	12.2	21.5	147 W	40	69	5	31	16 5.83	-53 33.8	2.040	2.949	10.5	22.0	148 E	-	62
5	11	16 32.63	-4 36.3	1.575	2.532	9.2	21.2	156 W	40	69	6	5	15 58.02	-53 17.2	2.040	2.947	10.7	22.0	148 E	-	63
5	21	16 23.20	-3 57.3	1.522	2.504	7.1	21.0	162 W	41	68	6	10	15 50.63	-52 53.2	2.046	2.944	11.1	22.0	146 E	-	63
5	31	16 12.75	-3 33.2	1.495	2.476	7.6	21.0	161 E	41	68	6	15	15 43.85	-52 22.6	2.058	2.942	11.7	22.0	144 E	-	64
6	10	16 2.44	-3 27.6	1.494	2.447	10.5	21.1	154 E	42	67	6	20	15 37.86	-51 46.5	2.075	2.939	12.5	22.1	141 E	-	64
6	20	15 53.39	-3 42.0	1.516	2.417	14.1	21.2	145 E	41	68	6	25	15 32.76	-51 6.2	2.098	2.935	13.3	22.1	138 E	-	65
6	30	15 46.53	-4 15.7	1.558	2.387	17.6	21.4	135 E	41	68	429405 2010 TE₄₈										
136745 1995 WL₈									5	1	16 49.29	-12 57.0	1.913	2.813	11.2	22.0	147 W	32	77		
5	1	16 42.67	-25 11.7	1.924	2.831	10.8	22.4	148 W	20	89	5	11	16 42.08	-12 13.7	1.832	2.793	7.9	21.7	158 W	33	76
5	11	16 33.96	-24 15.1	1.818	2.789	7.1	22.1	160 W	21	88	5	21	16 33.02	-11 32.1	1.776	2.771	4.8	21.5	167 W	33	76
5	21	16 23.17	-23 5.3	1.739	2.745	2.9	21.7	172 W	22	87	5	31	16 22.95	-10 55.6	1.748	2.749	4.1	21.4	169 E	34	75
5	31	16 11.25	-21 44.4	1.689	2.701	1.8	21.5	175 E	23	86	6	10	16 12.91	-10 27.5	1.747	2.726	7.0	21.5	161 E	35	74
6	10	15 59.41	-20 17.0	1.668	2.655	6.6	21.7	163 E	25	84	6	20	16 3.87	-10 10.4	1.772	2.703	10.7	21.7	150 E	35	74
6	20	15 48.83	-18 49.7	1.675	2.607	11.1	21.9	150 E	26	83	461625 2005 EM₃₆										
509871 2009 BX₂									5	1	16 50.42	+ 5 30.4	1.907	2.758	13.5	22.1	140 W	51	58		
5	1	16 43.37	- 5 20.8	1.652	3.456	9.2	22.4	147 W	40	69	5	6	16 46.80	+ 6 16.5	1.891	2.770	12.4	22.0	144 W	51	58
5	11	16 36.35	- 4 51.1	2.487	3.432	7.0	22.2	156 W	40	69	5	11	16 42.74	+ 6 58.4	1.882	2.781	11.5	22.0	147 W	52	57
5	21	16 28.02	- 4 28.5	2.431	3.408	5.3	22.0	162 W	41	68	5	16	16 38.33	+ 7 35.3	1.878	2.792	10.8	22.0	149 W	53	56
5	31	16 19.00	- 4 15.7	2.403	3.382	5.3	22.0	162 E	41	68	5	21	16 33.67	+ 8 6.5	1.880	2.802	10.4	22.0	150 W	53	56
6	10	16 10.05	- 4 14.5	2.404	3.356	7.1	22.1	156 E	41	68	5	26	16 28.88	+ 8 31.3	1.889	2.813	10.4	22.0	150 W	54	55
6	20	16 1.84	- 4 25.6	2.432	3.328	9.6	22.2	147 E	41	68	5	31	16 24.09	+ 8 49.5	1.904	2.823	10.6	22.0	149 E	54	55
436163 2009 VO₆₀									6	5	16 19.41	+ 9 0.8	1.925	2.833	11.1	22.1	147 E	54	55		
5	1	16 45.13	-27 24.6	2.723	3.610	8.7	22.4	147 W	18	89	6	10	16 14.96	+ 9 5.4	1.952	2.843	11.9	22.1	145 E	54	55
5	11	16 36.40	-27 54.9	2.647	3.605	6.0	22.2	158 W	17	88	6	15	16 10.81	+ 9 3.4	1.984	2.852	12.7	22.2	142 E	54	55
5	21	16 26.20	-28 18.7	2.600	3.598	3.2	22.0	169 W	17	88	6	20	16 7.07	+ 8 55.2	2.022	2.862	13.7	22.3	138 E	54	55
5	31	16 15.29	-28 34.9	2.583	3.590	2.2	21.9	172 E	16	87	6	25	16 3.80	+ 8 41.3	2.065	2.871	14.6	22.4	135 E	54	55
6	10	16 4.52	-28 43.7	2.596	3.581	4.6	22.0	163 E	16	87	278327 2007 HA₅₉										
6	20	15 54.71	-28 46.4	2.639	3.572	7.5	22.2	153 E	16	87	5	1	16 52.27	-41 58.7	3.512	4.331	8.6	21.8	140 W	3	74
347961 2003 RK₁									5	6	16 46.88	-42 23.5	3.469	4.330	7.8	21.7	144 W	3	74		
5	1	16 45.49	-25 1.2	2.646	3.538	8.8	22.2	148 W	20	89	5	11	16 41.01	-42 45.2	3.432	4.328	6.9	21.7	149 W	2	73
5	11	16 37.88	-25 11.6	2.555	3.516	6.0	21.9	159 W	20	89	5	16	16 34.72	-43 3.5	3.402	4.325	6.2	21.6	153 W	2	73
5	21	16 28.78	-25 16.9	2.492	3.493	2.9	21.7	170 W	20	89	5	21	16 28.10	-43 17.8	3.380	4.323	5.5	21.6	156 W	2	73
5	31	16 18.86	-25 16.9	2.458	3.469	1.3	21.5	175 E	20	89	5	26	16 21.26	-43 28.1	3.366	4.320	5.1	21.5	158 W	2	73
6	10	16 8.97	-25 12.1	2.454	3.445	4.3	21.7	165 E	20	89	5	31	16 14.33	-43 34.0	3.360	4.317	5.0	21.5	158 E	1	72
6	20	15 59.89	-25 4.1	2.478	3.419	7.6	21.9	154 E	20	89	6	5	16 7.43	-43 35.8	3.361	4.313	5.3	21.5	157 E	1	72
422646 1996 RW₁₃									6	10	16 0.67	-43 33.5	3.371	4.309	5.8	21.6	155 E	1	72		
5	1	16 46.34	-30 53.1	1.474	2.375	13.8	21.8	146 W	14	85	6	15	15 54.16	-43 27.5	3.387	4.305	6.5	21.6	151 E	2	73
5	11	16 38.63	-31 14.4	1.385	2.345	10.0	21.5	156 W	14	85	6	20	15 48.02	-43 18.3	3.412	4.301	7.4	21.7	147 E	2	73
5	21	16 28.07	-31 22.0	1.318	2.314	6.0	21.2	166 W	14	85	6	25	15 42.31	-43 6.3	3.443	4.296	8.2	21.7	143 E	2	73
5	31	16 15.79	-31 12.9	1.277	2.283	4.4	21.0	170 E	14	85	217807 2000 XK₄₄										
6	10	16 3.43	-30 47.5	1.261	2.251	7.8	21.1	163 E	14	85	5	1	16 56.09	-26 50.5	1.352	2.252	14.9	21.3	145 W	18	89
6	20	15 52.61	-30 9.9	1.270	2.219	12.4	21.3	152 E	15	86	5	11	16 45.13	-27 35.7	1.265	2.228	10.4	21.0	157 W	17	88
6	30	15 44.70	-29 27.4	1.299	2.186	16.9	21.5	141 E	16	87	5	21	16 30.50	-28 11.9	1.201	2.201	5.4	20.7	168 W	17	88
175729 1998 BB₁₀									5	31	16 13.51	-28 33.8	1.164	2.173	3.7	20.5	172 E	16	87		
5	1	16 46.40	+ 2 57.9	0.747	1.663	21.6	21.8	143 W	48	61	6	5	16 4.77	-28 38.6	1.156	2.158	5.8	20.5	168 E	16	87
5	6	16 40.35	+ 4 3.8	0.708	1.646	19.8	21.6	146 W	49	60	6	10	15 56.23	-28 39.6	1.154	2.142	8.5	20.7	162 E	16	87
5	11	16 32.81	+ 5 6.9	0.674	1.627	18.3	21.4	150 W	50	59	6	15	15 48.14	-28 37.3	1.159	2.126	11.4	20.8	156 E	16	87
5	16	16 23.84	+ 6 4.6	0.644	1.608	17.3	21.3	152 W	51	58	6	20	15 40.76	-28 32.5	1.170	2.109	14.2	20.9	149 E	16	87
5	21	16 13.61	+ 6 54.0	0.619	1.587	17.2	21.2	152 W	52	57	6	25	15 34.26	-28 26.1	1.186	2.092	16.8	21.0	143 E	17	88
5	26	16 2.39	+ 7 32.1	0.600	1.566	18.1	21.1	151 E	53	5											

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

2020	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°	2020	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°		
504322 2007 RL₁₉₂										494975 2009 WO₁₀₆ (continuation)											
5	1	16 58.76	-17 10.6	1.325	2.227	15.0	21.5	145 W	28	81	5	21	16 49.31	-43 15.1	0.923	1.886	13.6	21.2	154 W	2	73
5	11	16 52.93	-16 48.3	1.234	2.195	10.8	21.1	156 W	28	81	5	26	16 37.82	-42 33.7	0.903	1.880	11.7	21.1	158 W	2	73
5	21	16 44.15	-16 25.2	1.164	2.163	6.0	20.8	167 W	29	80	5	31	16 25.95	-41 37.5	0.888	1.874	10.5	21.0	160 E	3	74
5	31	16 33.32	-16 3.6	1.119	2.130	2.8	20.5	174 W	29	80	6	5	16 14.23	-40 27.4	0.880	1.866	10.6	20.9	160 E	5	76
6	5	16 27.57	-15 54.4	1.105	2.113	4.3	20.5	171 E	29	80	6	10	16 3.13	-39 5.2	0.878	1.858	11.8	21.0	158 E	6	77
6	10	16 21.86	-15 46.8	1.098	2.097	6.8	20.6	166 E	29	80	6	15	15 53.04	-37 33.8	0.882	1.850	13.9	21.1	154 E	7	78
6	15	16 16.39	-15 41.2	1.096	2.080	9.5	20.7	160 E	29	80	6	20	15 44.25	-35 56.5	0.892	1.840	16.4	21.2	149 E	9	80
6	20	16 11.34	-15 38.0	1.100	2.064	12.3	20.8	154 E	29	80	6	25	15 36.97	-34 17.1	0.908	1.829	19.2	21.3	144 E	11	82
6	25	16 6.91	-15 37.6	1.109	2.047	14.9	20.9	149 E	29	80	6	30	15 31.28	-32 38.8	0.928	1.818	21.8	21.4	138 E	12	83
6	30	16 3.22	-15 40.3	1.123	2.031	17.5	21.0	143 E	29	80	10636 1998 QK₅₆										
7	5	16 0.38	-15 46.3	1.141	2.014	19.8	21.1	138 E	29	80	5	1	17 23.87	-3 14.0	1.580	2.412	16.7	21.5	136 W	42	67
7	10	15 58.45	-15 55.4	1.163	1.998	22.0	21.2	133 E	29	80	5	6	17 19.29	-2 36.7	1.561	2.433	15.0	21.4	141 W	42	67
7	15	15 57.47	-16 7.8	1.188	1.981	23.9	21.3	128 E	29	80	5	11	17 14.07	-2 2.3	1.549	2.453	13.2	21.4	146 W	43	66
7	20	15 57.46	-16 23.1	1.216	1.965	25.7	21.4	123 E	29*	80	5	16	17 8.29	-1 31.5	1.542	2.473	11.6	21.3	151 W	43	66
7	25	15 58.41	-16 41.3	1.246	1.949	27.2	21.4	119 E	28*	81	5	21	17 2.10	-1 5.1	1.541	2.492	10.1	21.3	154 W	44	65
162157 1999 CV₈										5	26	16 55.64	-0 43.6	1.547	2.511	9.1	21.3	157 W	44	65	
5	1	17 1.42	+8 20.3	0.878	1.752	23.3	21.7	137 W	53	56	5	31	16 49.09	-0 27.5	1.559	2.529	8.6	21.3	158 W	45	64
5	6	16 55.49	+9 17.5	0.852	1.750	21.7	21.6	140 W	54	55	6	5	16 42.61	-0 17.2	1.579	2.546	8.7	21.3	158 E	45	64
5	11	16 48.39	+10 7.6	0.830	1.747	20.2	21.5	143 W	55	54	6	10	16 36.36	-0 12.5	1.605	2.563	9.5	21.4	155 E	45	64
5	16	16 40.26	+10 48.2	0.813	1.744	19.1	21.4	146 W	56	53	6	15	16 30.47	-0 13.4	1.638	2.580	10.6	21.5	152 E	45	64
5	21	16 31.31	+11 17.2	0.801	1.739	18.4	21.4	147 W	56	53	6	20	16 25.05	-0 19.7	1.676	2.596	11.9	21.6	148 E	45	64
5	26	16 21.84	+11 32.8	0.793	1.734	18.4	21.3	147 W	57	52	6	25	16 20.22	-0 31.0	1.721	2.612	13.3	21.7	144 E	44	65
5	31	16 12.19	+11 33.7	0.791	1.728	19.1	21.3	146 E	57	52	6	30	16 16.03	-0 46.8	1.772	2.627	14.6	21.9	139 E	44	65
6	5	16 2.71	+11 19.8	0.794	1.721	20.3	21.4	144 E	56	53	504315 2007 RF₂₄										
6	10	15 53.70	+10 51.5	0.802	1.714	21.9	21.4	141 E	56	53	5	1	17 25.88	-25 47.4	1.185	2.051	19.0	21.4	138 W	19	90
6	15	15 45.44	+10 9.9	0.813	1.705	23.9	21.5	137 E	55	54	5	11	17 23.61	-25 36.2	1.087	2.019	15.1	21.0	149 W	19	90
6	20	15 38.15	+9 16.5	0.829	1.696	25.9	21.6	133 E	54	55	5	21	17 17.66	-25 16.6	1.007	1.987	10.2	20.7	160 W	20	89
6	25	15 32.01	+8 13.2	0.849	1.685	28.0	21.7	129 E	53	56	5	31	17 8.56	-24 47.0	0.948	1.956	4.5	20.2	171 W	20	89
361518 2007 FD										6	5	17 3.22	-24 28.3	0.926	1.940	1.6	20.0	177 W	21	88	
5	1	17 3.55	-18 58.4	2.162	3.035	11.3	21.9	144 W	26	83	6	10	16 57.62	-24 7.4	0.911	1.925	2.0	20.0	176 E	21	88
5	11	16 54.90	-18 23.9	2.055	3.004	8.0	21.6	156 W	27	82	6	15	16 52.00	-23 44.7	0.901	1.910	5.1	20.1	170 E	21	88
5	21	16 44.10	-17 45.1	1.975	2.971	4.3	21.3	167 W	27	82	6	20	16 46.59	-23 20.7	0.896	1.894	8.3	20.2	164 E	22	87
5	31	16 31.92	-17 3.6	1.925	2.936	1.7	21.1	175 E	28	81	6	25	16 41.65	-22 56.5	0.897	1.879	11.5	20.3	158 E	22	87
6	10	16 19.39	-16 21.9	1.905	2.899	5.0	21.2	166 E	29	80	6	30	16 37.39	-22 32.8	0.902	1.865	14.5	20.4	153 E	22	87
6	20	16 7.61	-15 43.4	1.914	2.861	9.1	21.4	154 E	29	80	7	5	16 33.98	-22 10.5	0.913	1.850	17.4	20.6	147 E	23	86
417527 2006 TD₃₁										7	10	16 31.52	-21 50.2	0.927	1.836	20.1	20.7	142 E	23	86	
5	1	17 11.95	-25 14.6	2.672	3.518	10.2	21.4	142 W	20	89	7	15	16 30.10	-21 32.6	0.945	1.822	22.6	20.8	136 E	23	86
5	11	17 7.49	-25 20.1	2.567	3.493	7.7	21.2	152 W	20	89	7	20	16 29.77	-21 17.9	0.966	1.808	24.9	20.9	132 E	24	85
5	21	17 1.35	-25 22.2	2.486	3.467	4.8	21.0	163 W	20	89	7	25	16 30.53	-21 6.4	0.990	1.795	26.9	21.0	127 E	24	85
5	31	16 54.05	-25 20.4	2.432	3.442	1.8	20.7	174 W	20	89	7	30	16 32.38	-20 57.9	1.016	1.782	28.7	21.1	123 E	24*	85
6	10	16 46.27	-25 14.7	2.406	3.417	2.0	20.7	173 E	20	89	8	4	16 35.28	-20 52.4	1.044	1.769	30.3	21.1	118 E	24*	85
6	20	16 38.73	-25 6.0	2.408	3.392	5.2	20.9	163 E	20	89	8	9	16 39.16	-20 49.4	1.074	1.757	31.7	21.2	115 E	24*	85
6	30	16 32.18	-24 55.9	2.437	3.367	8.3	21.0	152 E	20	89	8	14	16 43.99	-20 48.5	1.105	1.745	32.8	21.3	111 E	24*	85
7	10	16 27.20	-24 46.2	2.490	3.342	11.0	21.2	141 E	20	89	8	19	16 49.70	-20 49.4	1.137	1.734	33.9	21.4	107 E	24*	85
7	20	16 24.18	-24 38.8	2.563	3.317	13.4	21.3	131 E	20	89	8	24	16 56.26	-20 51.6	1.170	1.723	34.7	21.5	104 E	24*	85
7	30	16 23.34	-24 34.9	2.652	3.293	15.3	21.5	121 E	20*	89	316870 2000 QE₁₇₄										
238456 2004 RK										5	1	17 35.77	-30 4.8	1.675	2.497	16.4	21.4	136 W	15	86	
5	1	17 13.26	+8 49.3	0.873	1.730	24.9	21.3	134 W	54	55	5	11	17 31.11	-30 15.3	1.566	2.470	13.2	21.1	146 W	15	86
5	6	17 8.07	+10 23.5	0.860	1.740	23.3	21.3	137 W	55	54	5	21	17 23.20	-30 18.0	1.478	2.443	9.3	20.8	157 W	15	86
5	11	17 1.85	+11 49.6	0.851	1.749	21.9	21.2	140 W	57	52	5	31	17 12.59	-30 9.2	1.414	2.414	5.1	20.5	168 W	15	86
5	16	16 54.77	+13 5.3	0.847	1.757	20.8	21.2	142 W	58	51	6	5	17 6.62	-29 59.8	1.391	2.400	3.4	20.3	172 W	15	86
5	21	16 47.03	+14 8.3	0.848	1.765	20.1	21.2	143 W	59	50	6	10	17 0.44	-29 47.0	1.375	2.386	3.1	20.3	173 E	15	86
5	26	16 38.91	+14 56.6	0.853	1.772	20.0	21.2	143 W	60	49	6	15	16 54.23	-29 30.9	1.366	2.371	4.6	20.4	169 E	15	86
5	31	16 30.72	+15 29.2	0.863	1.779	20.3	21.2	143 E	60	49	6	20	16 48.19	-29 11.8	1.363	2.356	6.8	20.4	164 E	16	87
6	5	16 22.74	+15 45.9	0.878	1.784	21.0	21.3	141 E	61	48	6	25	16 42.53	-28 50.5	1.366	2.341	9.2	20.5	158 E	16	87
6	10	16 15.24	+15 47.1	0.897	1.789	22.0	21.4	139 E	61	48	6	30	16 37.43	-28 27.6	1.375	2.326	11.5	20.6	153 E	17	88
6	15	16 8.44	+15 34.0	0.920	1.794	23.2	21.5	136 E	61	48	7	5	16 33.01	-28 3.9	1.390	2.311	13.8	20.7	147 E	17	88
6	20	16 2.49	+15 7.8	0.946	1.797	24.6	21.6	133 E	60	49	7	10	16 29.38	-27 40.2	1.410	2.295	16.0	20.8	142 E	17	88
6	25	15 57.54	+14 30.3	0.976	1.800	25.9	21.7	129 E	60	49	7	15	16 26.60	-27 17.2	1.434	2.280	17.9	20.9	136 E	18	89
183182 Weinheim										7	20	16 24.74	-26 55.5	1.462	2.264	19.8	21.0	131 E	18	89	
5	1	17 21.07	-31 32.0	2.326	3.152	12.2	21.4	138 W	13	84	7	25	16 23.80	-26 35.6	1.494	2.248	21.4	21.1	126 E	18	89
5	11	17 14.3																			

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

20/21	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°-26°	20/21	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°-26°	
509024 2005 PZ₁									257737 2000 AY₄₈									
<i>(continuation)</i>																		
6 10	16 51.18	-51 59.8	1.633	2.567	11.2	20.7	151 E	—	5 1	18 0.76	-12 3.0	2.158	2.907	15.5	21.3	130 W	33	76
6 15	16 42.67	-51 56.6	1.616	2.545	11.6	20.7	150 E	—	5 11	17 56.44	-12 20.3	2.039	2.887	13.0	21.1	140 W	33	76
6 20	16 34.37	-51 44.4	1.605	2.523	12.4	20.7	148 E	—	5 21	17 49.53	-12 46.2	1.940	2.867	9.9	20.9	151 W	32	77
6 25	16 26.58	-51 23.9	1.600	2.502	13.5	20.7	145 E	—	5 31	17 40.33	-13 21.4	1.865	2.846	6.4	20.6	162 W	32	77
6 30	16 19.55	-50 55.9	1.601	2.480	14.7	20.7	142 E	—	6 10	17 29.50	-14 5.7	1.818	2.824	3.5	20.4	170 W	31	78
7 5	16 13.47	-50 21.8	1.606	2.457	16.1	20.8	138 E	—	6 20	17 17.95	-14 57.8	1.799	2.801	4.4	20.4	168 E	30	79
7 10	16 8.49	-49 43.0	1.616	2.435	17.5	20.8	134 E	—	6 30	17 6.77	-15 55.8	1.809	2.777	8.0	20.6	158 E	29	80
7 15	16 4.67	-49 0.8	1.631	2.412	18.9	20.8	130 E	—	7 10	16 57.02	-16 57.8	1.846	2.752	11.8	20.7	147 E	28	81
7 20	16 2.06	-48 16.7	1.649	2.389	20.2	20.9	126 E	—	7 20	16 49.48	-18 2.1	1.906	2.726	15.1	20.9	136 E	27	82
7 25	16 0.68	-47 31.7	1.671	2.366	21.5	20.9	122 E	—	7 30	16 44.66	-19 7.8	1.984	2.699	17.9	21.1	125 E	26	83
7 30	16 0.48	-46 47.0	1.695	2.343	22.6	21.0	117 E	—	8 9	16 42.74	-20 14.0	2.077	2.672	20.1	21.2	115 E	25*	84
8 4	16 1.41	-46 3.3	1.722	2.320	23.7	21.0	113 E	—	8 19	16 43.71	-21 19.9	2.178	2.644	21.6	21.4	106 E	23*	85
8 9	16 3.41	-45 21.1	1.750	2.296	24.6	21.1	109 E	—	8 29	16 47.43	-22 25.0	2.285	2.615	22.5	21.5	97 E	21*	86
8 14	16 6.41	-44 40.7	1.780	2.272	25.4	21.1	106 E	—	316876 2000 RF₄₃									
8 19	16 10.36	-44 2.2	1.812	2.249	26.1	21.1	102 E	—	5 1	18 1.94	-13 40.3	2.915	3.641	12.3	21.5	130 W	31	78
8 24	16 15.19	-43 25.8	1.843	2.225	26.7	21.2	98 E	—	5 11	17 58.51	-13 7.2	2.778	3.608	10.4	21.3	140 W	32	77
8 29	16 20.84	-42 51.4	1.876	2.200	27.2	21.2	95 E	—	5 21	17 53.19	-12 35.6	2.662	3.574	8.1	21.1	150 W	32	77
9 3	16 27.24	-42 18.8	1.908	2.176	27.6	21.2	91 E	1*	5 31	17 46.23	-12 6.9	2.571	3.540	5.7	20.8	160 W	33	76
9 8	16 34.35	-41 47.5	1.940	2.152	27.9	21.2	88 E	1*	6 10	17 38.11	-11 42.6	2.507	3.504	3.7	20.7	167 W	33	76
9 13	16 42.11	-41 17.4	1.972	2.128	28.1	21.3	85 E	1*	6 20	17 29.42	-11 24.1	2.472	3.468	3.9	20.6	167 E	34	75
9 18	16 50.49	-40 48.1	2.004	2.103	28.2	21.3	81 E	2*	6 30	17 20.87	-11 12.4	2.466	3.431	6.3	20.7	158 E	34	75
9 23	16 59.44	-40 19.2	2.034	2.079	28.2	21.3	78 E	2*	7 10	17 13.16	-11 8.3	2.486	3.393	9.1	20.8	148 E	34	75
9 28	17 8.91	-39 50.3	2.064	2.054	28.2	21.3	75 E	2*	7 20	17 6.88	-11 12.0	2.531	3.355	11.7	21.0	138 E	34	75
10 3	17 18.87	-39 20.9	2.092	2.030	28.0	21.3	73 E	3*	7 30	17 2.45	-11 23.0	2.596	3.316	14.0	21.1	128 E	34	75
10 8	17 29.27	-38 50.7	2.119	2.005	27.9	21.3	70 E	3*	8 9	17 0.12	-11 40.4	2.677	3.276	15.9	21.2	118 E	33	76
10 13	17 40.09	-38 19.2	2.145	1.981	27.6	21.3	67 E	4*	8 19	16 59.96	-12 3.0	2.768	3.235	17.3	21.3	109 E	33*	76
10 18	17 51.29	-37 46.0	2.170	1.957	27.3	21.3	64 E	4*	8 29	17 1.96	-12 29.4	2.866	3.194	18.2	21.3	100 E	32*	76
10 23	18 2.84	-37 10.8	2.194	1.932	27.0	21.2	62 E	5*	9 8	17 6.00	-12 58.1	2.967	3.152	18.6	21.4	91 E	31*	76*
10 28	18 14.70	-36 33.1	2.215	1.908	26.6	21.2	59 E	6*	9 18	17 11.94	-13 27.7	3.068	3.109	18.7	21.5	83 E	29*	72*
11 2	18 26.83	-35 52.6	2.236	1.884	26.1	21.2	57 E	6*	9 28	17 19.63	-13 56.6	3.164	3.066	18.4	21.5	75 E	28*	66*
11 7	18 39.20	-35 9.0	2.255	1.861	25.6	21.2	54 E	7*	10 8	17 28.89	-14 23.7	3.255	3.022	17.8	21.5	68 E	27*	59*
11 12	18 51.79	-34 22.1	2.272	1.837	25.1	21.2	52 E	7*	10 18	17 39.59	-14 47.5	3.337	2.977	17.0	21.5	61 E	25*	51*
11 17	19 4.55	-33 31.4	2.289	1.814	24.6	21.1	50 E	8*	10 28	17 51.57	-15 7.0	3.409	2.932	15.8	21.5	54 E	24*	44*
11 22	19 17.46	-32 36.8	2.303	1.791	24.0	21.1	47 E	9*	11 7	18 4.69	-15 21.0	3.470	2.886	14.5	21.4	47 E	23*	37*
11 27	19 30.50	-31 38.2	2.317	1.768	23.4	21.1	45 E	9*	11 17	18 18.85	-15 28.7	3.519	2.839	13.1	21.4	40 E	21*	29*
12 2	19 43.61	-30 35.4	2.329	1.746	22.7	21.0	43 E	10*	11 27	18 33.92	-15 29.0	3.554	2.792	11.1	21.3	34 E	19*	22*
12 7	19 56.79	-29 28.1	2.339	1.724	22.1	21.0	41 E	10*	12 7	18 49.78	-15 21.4	3.575	2.744	9.7	21.2	28 E	16*	15*
12 12	20 10.02	-28 16.5	2.349	1.702	21.4	21.0	39 E	11*	12 17	19 6.34	-15 5.1	3.582	2.696	7.9	21.1	22 E	13*	8*
12 17	20 23.28	-27 0.4	2.357	1.682	20.7	20.9	37 E	12*	12 27	19 23.50	-14 39.6	3.575	2.648	6.1	21.0	17 E	10*	2*
12 22	20 36.54	-25 39.8	2.365	1.661	20.0	20.9	35 E	12*	1 6	19 41.17	-14 4.6	3.555	2.599	4.4	20.8	12 E	6*	—
12 27	20 49.78	-24 14.7	2.371	1.642	19.2	20.8	33 E	13*	1 16	19 59.28	-13 19.9	3.520	2.550	3.0	20.7	8 E	1*	—
1 1	21 3.01	-22 45.3	2.377	1.623	18.5	20.8	32 E	13*	402139 2004 QN₃									
1 6	21 16.20	-21 11.7	2.381	1.604	17.7	20.7	30 E	13*	5 1	18 11.44	-11 51.8	1.503	2.259	20.9	21.3	127 W	33	76
1 11	21 29.37	-19 34.0	2.385	1.587	17.0	20.7	28 E	13*	5 11	18 11.32	-10 51.5	1.381	2.223	18.3	21.0	136 W	34	75
1 16	21 42.50	-17 52.3	2.389	1.570	16.2	20.6	26 E	13*	5 21	18 7.97	-9 52.6	1.275	2.186	15.2	20.7	146 W	35	74
501935 2014 XO₆									5 31	18 1.42	-8 59.2	1.187	2.149	11.5	20.3	155 W	36	73
5 1	17 44.11	-14 37.0	1.115	1.954	21.8	21.3	134 W	30	79									
5 11	17 44.40	-14 38.0	1.006	1.914	18.3	21.0	143 W	30	79									
5 21	17 40.99	-14 49.1	0.913	1.873	14.0	20.6	153 W	30	79									
5 31	17 33.90	-15 13.9	0.837	1.833	8.8	20.1	164 W	30	79									
6 10	17 23.82	-15 54.7	0.782	1.794	4.2	19.7	172 W	29	80									
6 15	17 18.06	-16 21.1	0.763	1.774	4.5	19.7	172 E	29	80									
6 20	17 12.11	-16 51.3	0.748	1.755	6.9	19.7	168 E	28	81									
6 25	17 6.26	-17 25.1	0.739	1.736	10.0	19.8	163 E	28	81									
6 30	17 0.79	-18 2.1	0.735	1.717	13.4	19.9	157 E	27	82									
7 5	16 55.95	-18 41.8	0.735	1.699	16.6	20.0	151 E	26	83									
7 10	16 51.96	-19 23.7	0.739	1.681	19.8	20.1	146 E	26	83									
7 15	16 48.98	-20 7.5	0.747	1.663	22.8	20.2	141 E	25	84									
7 20	16 47.17	-20 52.7	0.759	1.646	25.6	20.3	136 E	24	85									
7 30	16 47.37	-22 25.8	0.790	1.613	30.5	20.4	126 E	23	86									
8 9	16 52.77	-23 59.7	0.828	1.582	34.4	20.6	118 E	21*	88									
8 19	17 3.16	-25 30.5	0.872	1.555	37.4	20.8	111 E	19*	90									
8 29	17 18.21	-26 54.0	0.920	1.530	39.7	20.9	105 E	18*	89									
9 8	17 37.39	-28 5.4	0.969	1.508	41.2	21.0	99 E	17*	88									
9 18	18 0.17	-28 59.9	1.021	1.491	42.2	21.2	95 E	16*	87*									
9 28	18 26.02	-29 32.9	1.074	1.477	42.7	21.3	91 E	15*	84*									
10 8	18 54.27	-29 40.1	1.129	1.468	42.8	21.4	87 E	15*	81*									
10 18	19 24.26	-29 18.6	1.186	1.463	42.6	21.5	84 E	16*	78*									
176425 2001 VQ₆₇									5 1	18 21.46	-53 33.6	2.316	2.969	16.8	21.5	121 W	—	62
5 1	17 58.73	-30 6.9	1.561	2.347	19.0	21.5	131 W	15	86									
5 11	17 53.76	-30 57.6	1.484	2.358	15.6	21.3	141 W	14	85									
5 21	17 45.10	-31 44.6	1.425	2.368	11.5	21.0	152 W	13	84									
5 31	17 33.39	-32 22.4	1.389	2.377	7.2	20.8	163 W	13	84									
6 10	17 19.87	-32 45.8	1.378	2.384	4.2	20.7	170 W	12	83									
6 20	17 6.18	-32 52.6	1.393	2.391	6.0	20.8	166 E	12	83									
6 30	16 54.00	-32 44.5	1.435	2.397	10.1	21.0	155 E	12	83									
7 10	16 44.66	-32 26.6	1.500	2.402	14.1	21.3	145 E	13	84									
250418 2003 VV₂									5 6	18 19.83	-54 30.3	2.264	2.962	16.2	21.4	125 W	—	61
5 1	18 21.46	-53 33.6	2.316	2.969	16.8	21.5	121 W	—	62									
5 11	18 17.10	-55 26.0	2.216															

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

2020	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45° - 26°	20/21	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45° - 26°		
250418 2003 VV₂ (continuation)									315194 2007 PO₃₇ (continuation)										
5 26	18 1.89	-57 55.9	2.099	2.932	13.3	21.1	138 W	58	6 15	18 42.04	-30 30.8	1.124	2.117	7.9	19.9	163 W	14	85	
5 31	17 54.57	-58 35.9	2.070	2.924	12.8	21.1	140 W	57	6 20	18 36.48	-30 27.4	1.096	2.101	5.6	19.8	168 W	15	86	
6 5	17 46.32	-59 8.8	2.048	2.916	12.3	21.0	142 W	57	6 25	18 30.41	-30 20.4	1.074	2.086	3.7	19.6	172 W	15	86	
6 10	17 37.34	-59 33.5	2.030	2.908	12.1	21.0	143 W	56	6 30	18 24.05	-30 9.7	1.058	2.070	3.7	19.5	172 E	15	86	
6 15	17 27.90	-59 49.2	2.019	2.899	12.0	21.0	143 E	56	7 5	18 17.65	-29 55.0	1.048	2.054	5.6	19.6	169 E	15	86	
6 20	17 18.30	-59 55.5	2.013	2.890	12.2	21.0	143 E	56	7 10	18 11.45	-29 36.6	1.043	2.038	8.2	19.7	163 E	15	86	
6 25	17 8.89	-59 52.3	2.014	2.881	12.6	21.0	142 E	56	7 15	18 5.68	-29 14.8	1.045	2.023	10.9	19.8	158 E	16	87	
6 30	17 0.00	-59 40.3	2.019	2.871	13.2	21.0	140 E	56	7 20	18 0.56	-28 50.4	1.052	2.007	13.7	19.9	152 E	16	87	
7 5	16 51.89	-59 20.2	2.030	2.862	13.9	21.0	137 E	57	7 25	17 56.27	-28 24.0	1.063	1.991	16.3	20.0	147 E	17	88	
7 10	16 44.78	-58 53.3	2.047	2.852	14.8	21.1	134 E	57	7 30	17 52.96	-27 56.7	1.080	1.976	18.8	20.1	141 E	17	88	
7 15	16 38.81	-58 20.7	2.067	2.842	15.6	21.1	131 E	58	8 4	17 50.69	-27 28.9	1.100	1.960	21.1	20.2	136 E	18	89	
7 20	16 34.08	-57 43.9	2.093	2.832	16.5	21.1	128 E	58	8 9	17 49.51	-27 1.5	1.123	1.945	23.2	20.3	131 E	18	89	
7 25	16 30.62	-57 4.0	2.122	2.821	17.3	21.2	124 E	59	8 19	17 50.41	-26 8.7	1.179	1.915	26.8	20.5	122 E	19	90	
7 30	16 28.42	-56 22.4	2.155	2.810	18.1	21.2	121 E	60	8 29	17 55.49	-25 20.1	1.244	1.885	29.5	20.6	113 E	20	89	
8 4	16 27.43	-55 40.0	2.190	2.799	18.9	21.3	117 E	60	9 8	18 4.31	-24 34.7	1.313	1.856	31.5	20.8	105 E	20	89	
8 9	16 27.59	-54 57.5	2.229	2.788	19.5	21.4	113 E	61	9 18	18 16.38	-23 50.6	1.386	1.828	32.9	20.9	98 E	21	88	
8 14	16 28.81	-54 15.6	2.270	2.776	20.1	21.4	109 E	62	9 28	18 31.25	-23 5.0	1.460	1.801	33.8	21.0	92 E	22	85*	
8 19	16 31.03	-53 34.7	2.312	2.765	20.6	21.4	106 E	62	10 8	18 48.44	-22 15.0	1.534	1.776	34.2	21.1	86 E	23	79*	
8 24	16 34.17	-52 55.1	2.357	2.753	21.0	21.5	102 E	63	10 18	19 7.56	-21 17.9	1.607	1.752	34.2	21.2	81 E	24	73*	
286101 2001 TM₇₅									438017 2003 YO₃										
5 1	18 44.49	-18 43.3	1.395	2.091	24.6	21.3	120 W	26	83	5 1	18 54.73	-51 8.3	1.116	1.813	29.7	21.4	117 W	—	65
5 11	18 48.92	-18 2.1	1.275	2.063	22.5	21.0	129 W	27	82	5 6	18 51.03	-51 24.9	1.083	1.827	28.0	21.3	122 W	—	65
5 21	18 50.12	-17 21.7	1.167	2.034	19.5	20.7	138 W	28	81	5 11	18 45.33	-51 37.8	1.053	1.842	26.2	21.2	126 W	—	64
5 31	18 47.80	-16 44.1	1.074	2.006	15.7	20.3	148 W	28	81	5 16	18 37.59	-51 44.8	1.025	1.855	24.2	21.1	131 W	—	64
6 10	18 42.05	-16 11.5	0.999	1.977	11.1	20.0	158 W	29	80	5 21	18 27.89	-51 43.3	1.001	1.868	22.0	21.0	136 W	—	64
6 20	18 33.35	-15 45.7	0.943	1.949	6.1	19.6	168 W	29	80	5 26	18 16.43	-51 30.3	0.981	1.880	19.7	20.9	141 W	—	64
6 25	18 28.22	-15 36.0	0.924	1.935	4.4	19.4	172 W	29	80	5 31	18 3.62	-51 3.4	0.965	1.892	17.5	20.8	146 W	—	65
6 30	18 22.84	-15 28.5	0.910	1.921	4.4	19.4	172 E	30	79	6 5	17 49.98	-50 20.6	0.955	1.903	15.4	20.7	150 W	—	66
7 5	18 17.43	-15 23.5	0.902	1.908	6.3	19.5	168 E	30	79	6 10	17 36.11	-49 21.2	0.951	1.913	13.8	20.7	153 W	—	67
7 10	18 12.21	-15 21.1	0.899	1.894	9.0	19.6	163 E	30	79	6 15	17 22.62	-48 6.0	0.953	1.922	12.9	20.7	155 E	—	68
7 15	18 7.39	-15 21.1	0.901	1.881	11.8	19.7	158 E	30	79	6 20	17 10.05	-46 36.9	0.961	1.931	12.8	20.7	155 E	—	69
7 20	18 3.18	-15 23.8	0.908	1.868	14.7	19.8	152 E	30	79	6 25	16 58.83	-44 57.1	0.976	1.939	13.6	20.8	153 E	—	71
7 30	17 57.25	-15 36.3	0.935	1.842	20.0	20.0	142 E	29	80	6 30	16 49.25	-43 10.5	0.997	1.946	15.1	20.9	150 E	2	73
8 9	17 55.29	-15 56.9	0.977	1.818	24.6	20.2	132 E	29	80	7 5	16 41.41	-41 21.0	1.025	1.953	16.9	21.0	146 E	4	75
8 19	17 57.55	-16 22.9	1.031	1.795	28.3	20.4	123 E	29	80	7 10	16 35.31	-39 31.9	1.058	1.959	18.8	21.1	142 E	5	76
8 29	18 3.94	-16 51.0	1.092	1.773	31.1	20.6	115 E	28	81	7 15	16 30.86	-37 46.0	1.096	1.964	20.8	21.3	137 E	7	78
9 8	18 14.08	-17 17.8	1.159	1.752	33.2	20.7	108 E	28	81	7 20	16 27.96	-36 5.3	1.139	1.968	22.6	21.4	132 E	9	80
9 18	18 27.50	-17 39.6	1.229	1.733	34.7	20.9	101 E	27	82	275847 2001 SM₆₁									
9 28	18 43.76	-17 53.3	1.303	1.716	35.5	21.0	95 E	27	82*	5 1	19 1.93	+4 29.6	2.737	3.235	16.9	21.4	111 W	49*	60
10 8	19 2.40	-17 56.0	1.377	1.701	36.0	21.1	90 E	27	79*	5 11	19 0.29	+5 50.8	2.651	3.262	15.7	21.3	119 W	51	58
10 18	19 22.98	-17 45.4	1.453	1.688	36.0	21.2	85 E	27	75*	5 21	18 56.53	+7 3.7	2.578	3.288	14.2	21.2	127 W	52	57
10 28	19 45.13	-17 19.8	1.529	1.678	35.7	21.3	80 E	28	70*	5 31	18 50.81	+8 4.0	2.521	3.314	12.6	21.2	135 W	53	56
11 7	20 8.47	-16 38.0	1.605	1.669	35.2	21.4	76 E	28	65*	6 10	18 43.48	+8 47.7	2.485	3.338	11.0	21.1	141 W	54	55
11 17	20 32.69	-15 39.6	1.682	1.664	34.4	21.5	72 E	29	59*	6 20	18 35.06	+9 11.7	2.471	3.362	9.7	21.0	146 W	54	55
497205 2004 TD₃₂₈									434786 2006 PW										
5 1	18 53.46	-18 51.2	1.259	1.948	27.2	21.3	118 W	26	83	5 1	19 6.03	+23 29.9	1.365	1.871	31.6	21.5	103 W	68*	41
5 11	19 1.27	-19 11.5	1.142	1.918	25.2	21.0	126 W	26	83	5 6	19 2.09	+24 26.8	1.346	1.900	30.6	21.5	107 W	69	40
5 21	19 6.17	-19 45.1	1.036	1.889	22.5	20.6	135 W	25	84	5 11	18 56.98	+25 17.6	1.328	1.928	29.4	21.4	110 W	70	39
5 31	19 7.67	-20 35.7	0.943	1.860	18.7	20.3	144 W	24	85	5 16	18 50.72	+26 0.9	1.312	1.954	28.2	21.4	114 W	71	38
6 10	19 5.52	-21 45.4	0.865	1.833	14.0	19.9	154 W	23	86	5 21	18 43.35	+26 34.7	1.298	1.980	27.0	21.4	117 W	72	37
6 20	18 59.76	-23 12.8	0.805	1.806	8.3	19.5	165 W	22	87	5 26	18 34.98	+26 57.2	1.287	2.004	25.7	21.3	121 W	72	37
6 25	18 55.71	-24 1.5	0.782	1.793	5.2	19.3	171 W	21	88	5 31	18 25.75	+27 6.6	1.279	2.027	24.5	21.3	124 W	72	37
6 30	18 51.09	-24 52.1	0.765	1.781	2.1	19.0	176 W	20	89	6 5	18 15.89	+27 1.8	1.276	2.049	23.4	21.3	127 W	72	37
7 5	18 46.13	-25 43.4	0.753	1.769	2.2	19.0	176 E	19	90	6 10	18 5.64	+26 41.9	1.278	2.070	22.5	21.3	129 W	72	37
7 10	18 41.05	-26 34.0	0.746	1.757	5.4	19.1	171 E	18	89	6 15	17 55.27	+26 6.6	1.284	2.090	21.7	21.3	130 W	71	38
7 15	18 36.12	-27 22.7	0.744	1.745	8.8	19.3	165 E	18	89	6 20	17 45.06	+25 16.3	1.296	2.109	21.2	21.3	131 E	70	39
7 20	18 31.62	-28 8.3	0.747	1.735	12.1	19.4	159 E	17	88	6 25	17 35.28	+24 12.1	1.313	2.127	21.0	21.4	131 E	69	40
7 25	18 27.81	-28 50.3	0.755	1.724	15.3	19.5	153 E	16	87	6 30	17 26.16	+22 55.7	1.336	2.144	21.0	21.4	131 E	68	41
7 30	18 24.91	-29 28.1	0.767	1.714	18.3	19.6	148 E	16	87	7 5	17 17.89	+21 29.1	1.365	2.160	21.3	21.5	130 E	66	43
8 4	18 23.09	-30 1.6	0.783	1.705	21.1	19.8	143 E	15	86	7 10	17 10.58	+19 54.5	1.399	2.174	21.7	21.6	128 E	65	44
8 9	18 22.44	-30 30.7	0.802	1.696	23.7	19.9	138 E	14	85	7 15	17 4.31	+18 14.3	1.438	2.188	22.3	21.7	125 E	63	46
8 19	18 24.84	-31 16.2	0.849	1.679	28.1	20.1	129 E	14	85	315194 2007 PO₃₇									
8 29	18 32.19	-31 45.3	0.905	1.665	31.4	20.3	121 E	13	84	5 1	18 53.58	-29 58.5	1.589	2.255	23.0	21.4	119 W	15	86
9 8	18 44.02	-31 58.1	0.969	1.654	33.9</														

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

20/21	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°-26°	2020	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°-26°	
506480 2003 QV₅₂									279718 1579 T-2 (continuation)									
5 1	19 31.62	-34 36.0	1.188	1.813	31.2	21.3	111 W	10* 81	6 25	20 41.35	-7 34.4	0.854	1.768	20.9	19.7	142 W	37	72
5 6	19 39.99	-34 51.6	1.134	1.799	30.8	21.2	114 W	10* 81	6 30	20 41.31	-7 15.0	0.817	1.755	18.9	19.5	146 W	38	71
5 11	19 47.83	-35 7.9	1.082	1.786	30.2	21.0	117 W	10* 81	7 5	20 40.46	-7 1.1	0.784	1.743	16.7	19.4	151 W	38	71
5 16	19 55.08	-35 25.0	1.033	1.773	29.5	20.9	120 W	9* 81	7 10	20 38.85	-6 53.4	0.755	1.731	14.3	19.2	155 W	38	71
5 21	20 1.63	-35 43.0	0.985	1.760	28.6	20.8	124 W	9* 80	7 20	20 33.63	-6 58.3	0.710	1.709	9.5	18.8	164 W	38	71
5 26	20 7.41	-36 2.2	0.940	1.748	27.6	20.6	127 W	9* 80	7 30	20 26.72	-7 30.7	0.682	1.689	6.8	18.6	169 E	37	72
5 31	20 12.33	-36 22.5	0.898	1.737	26.3	20.5	131 W	9 80	8 9	20 19.79	-8 26.1	0.673	1.672	9.4	18.7	164 E	37	72
6 5	20 16.32	-36 43.7	0.858	1.726	25.0	20.3	134 W	8 79	8 14	20 16.86	-9 0.0	0.676	1.664	11.9	18.8	160 E	36	73
6 10	20 19.30	-37 5.4	0.821	1.715	23.4	20.1	138 W	8 79	8 19	20 14.57	-9 36.3	0.682	1.657	14.7	18.9	155 E	35	74
6 15	20 21.19	-37 27.1	0.787	1.705	21.7	20.0	142 W	8 78	8 24	20 13.10	-10 13.6	0.693	1.651	17.4	19.0	151 E	35	74
6 20	20 21.91	-37 48.0	0.757	1.696	19.8	19.8	146 W	7 78	8 29	20 12.59	-10 50.5	0.708	1.645	20.1	19.1	146 E	34	75
6 25	20 21.47	-38 7.0	0.730	1.687	17.8	19.7	149 W	7 78	9 3	20 13.10	-11 26.0	0.726	1.640	22.5	19.3	141 E	34	75
6 30	20 19.88	-38 22.5	0.707	1.678	15.8	19.5	153 W	7 78	9 8	20 14.67	-11 58.9	0.747	1.636	24.8	19.4	137 E	33	76
7 5	20 17.26	-38 33.1	0.688	1.671	13.9	19.4	157 W	6 77	9 13	20 17.30	-12 28.5	0.771	1.632	26.8	19.5	133 E	33	76
7 10	20 13.74	-38 37.2	0.673	1.664	12.2	19.3	160 W	6 77	9 18	20 20.96	-12 54.1	0.798	1.629	28.7	19.6	129 E	32	77
7 15	20 9.51	-38 33.5	0.662	1.658	11.1	19.2	162 W	6 77	9 28	20 31.21	-13 31.3	0.859	1.626	31.7	19.9	122 E	31	78
7 20	20 4.86	-38 20.7	0.655	1.652	10.8	19.1	162 W	7 78	10 8	20 44.84	-13 47.6	0.928	1.626	33.9	20.1	115 E	31	78
7 25	20 0.12	-37 58.2	0.653	1.647	11.4	19.2	161 E	7 78	10 18	21 1.20	-13 42.2	1.005	1.629	35.4	20.3	109 E	31	78
7 30	19 55.63	-37 26.0	0.655	1.643	12.8	19.2	159 E	8 79	10 28	21 19.70	-13 15.1	1.087	1.634	36.2	20.5	103 E	32	77
8 4	19 51.68	-36 44.7	0.661	1.640	14.7	19.3	156 E	8 79	11 7	21 39.73	-12 27.3	1.175	1.643	36.6	20.7	98 E	33	76*
8 9	19 48.53	-35 55.3	0.671	1.637	16.9	19.4	152 E	9 80	11 17	22 0.83	-11 20.7	1.268	1.655	36.6	20.9	94 E	34	73*
8 14	19 46.34	-34 59.2	0.686	1.635	19.1	19.5	148 E	10 81	11 27	22 22.64	-9 57.3	1.366	1.670	36.2	21.1	89 E	35	68*
8 19	19 45.25	-33 57.8	0.704	1.634	21.4	19.6	144 E	11 82	12 7	22 44.86	-8 19.9	1.467	1.687	35.5	21.2	84 E	37	63*
8 24	19 45.33	-32 52.4	0.725	1.634	23.5	19.8	140 E	12 83	12 17	23 7.28	-6 31.0	1.572	1.706	34.6	21.4	80 E	38	57*
8 29	19 46.58	-31 44.3	0.750	1.635	25.4	19.9	136 E	13 84	467496 2006 VM₆₃									
9 3	19 48.94	-30 34.6	0.778	1.636	27.2	20.0	132 E	14 85	5 1	20 1.17	-20 43.4	1.404	1.899	31.2	21.5	103 W	22*	85
9 8	19 52.34	-29 23.9	0.809	1.638	28.8	20.2	128 E	16 87	5 11	20 17.25	-19 57.3	1.272	1.858	31.0	21.2	108 W	24*	84
9 13	19 56.69	-28 12.8	0.842	1.641	30.2	20.3	125 E	17 88	5 21	20 32.00	-19 10.6	1.147	1.818	30.4	20.9	115 W	25*	83
9 18	20 1.90	-27 1.5	0.878	1.644	31.4	20.4	122 E	18 89	5 31	20 45.08	-18 26.2	1.031	1.779	29.2	20.6	121 W	26*	82
9 23	20 7.89	-25 50.3	0.916	1.649	32.4	20.6	118 E	19 90	6 10	20 56.15	-17 46.9	0.924	1.742	27.4	20.3	128 W	27*	82
9 28	20 14.56	-24 39.3	0.956	1.654	33.2	20.7	115 E	20 89	6 20	21 4.80	-17 16.2	0.827	1.706	24.8	19.9	135 W	28	81
10 3	20 21.81	-23 28.3	0.998	1.659	33.9	20.8	112 E	22 87	6 30	21 10.55	-16 57.3	0.742	1.672	21.2	19.5	143 W	28	81
10 8	20 29.56	-22 17.4	1.043	1.666	34.5	20.9	109 E	23 86	7 10	21 13.14	-16 52.5	0.671	1.641	16.7	19.1	152 W	28	81
10 13	20 37.74	-21 6.5	1.088	1.673	34.9	21.0	107 E	24 85	7 20	21 12.46	-17 2.0	0.615	1.612	11.2	18.7	162 W	28	81
10 18	20 46.29	-19 55.4	1.136	1.681	35.1	21.2	104 E	25 84	7 25	21 11.00	-17 11.4	0.593	1.599	8.1	18.5	167 W	28	81
10 23	20 55.16	-18 44.0	1.185	1.689	35.3	21.3	101 E	26 83	7 30	21 8.96	-17 23.0	0.575	1.587	4.8	18.2	172 W	28	81
10 28	21 4.29	-17 32.4	1.236	1.698	35.3	21.4	99 E	27 82	8 4	21 6.53	-17 35.9	0.561	1.575	1.5	17.9	178 W	27	82
11 2	21 13.63	-16 20.3	1.288	1.708	35.3	21.5	96 E	29 80*	8 9	21 3.90	-17 48.9	0.551	1.564	2.3	17.9	176 E	27	82
468821 2012 TC₁₅									8 14	21 1.29	-18 1.2	0.546	1.555	5.8	18.1	171 E	27	82
5 1	19 36.24	-28 58.1	2.107	2.622	21.2	21.3	110 W	15* 87	8 19	20 58.97	-18 11.5	0.545	1.546	9.3	18.2	166 E	27	82
5 11	19 41.86	-29 33.1	1.951	2.583	20.2	21.1	118 W	15* 86	8 24	20 57.18	-18 18.9	0.548	1.538	12.7	18.4	160 E	27	82
5 21	19 44.99	-30 17.8	1.805	2.544	18.6	20.9	127 W	15 86	8 29	20 56.15	-18 22.6	0.554	1.531	15.9	18.5	155 E	27	82
5 31	19 45.23	-31 12.5	1.672	2.505	16.3	20.6	136 W	14 85	9 3	20 56.02	-18 22.0	0.565	1.526	19.0	18.6	151 E	27	82
6 10	19 42.30	-32 15.7	1.557	2.465	13.3	20.3	146 W	13 84	9 8	20 56.91	-18 16.8	0.578	1.521	21.8	18.8	146 E	27	82
6 20	19 36.08	-33 23.6	1.462	2.424	9.9	20.0	156 W	12 83	9 18	21 1.87	-17 52.0	0.614	1.515	26.6	19.0	137 E	27	82
6 25	19 31.79	-33 57.3	1.422	2.404	8.2	19.8	160 W	11 82	9 28	21 11.06	-17 7.3	0.661	1.514	30.3	19.3	130 E	28	81
6 30	19 26.83	-34 29.5	1.389	2.383	6.7	19.7	164 W	11 82	10 8	21 23.93	-16 3.4	0.717	1.517	33.5	19.6	123 E	29	80
7 5	19 21.32	-34 59.2	1.362	2.363	5.7	19.6	167 W	10 81	10 18	21 39.72	-14 41.5	0.782	1.525	35.4	19.8	118 E	30	79
7 10	19 15.42	-35 25.5	1.341	2.342	5.7	19.5	167 E	10 81	10 23	21 48.50	-13 54.2	0.817	1.530	36.2	20.0	115 E	31	78
7 15	19 9.31	-35 47.5	1.327	2.322	6.8	19.5	164 E	9 80	10 28	21 57.75	-13 3.0	0.855	1.537	36.7	20.1	112 E	32	77
7 20	19 3.19	-36 4.5	1.318	2.301	8.5	19.6	160 E	9 80	11 2	22 7.40	-12 8.3	0.894	1.544	37.2	20.2	110 E	33	76
7 25	18 57.31	-36 16.3	1.316	2.281	10.5	19.7	156 E	9 80	11 7	22 17.35	-11 10.3	0.935	1.553	37.5	20.3	107 E	34	75
7 30	18 51.87	-36 22.7	1.319	2.260	12.7	19.7	151 E	9 80	11 17	22 37.99	-9 5.8	1.023	1.573	37.8	20.6	103 E	36	73*
8 4	18 47.07	-36 24.1	1.328	2.239	14.9	19.8	146 E	9 80	11 27	22 59.31	-6 51.9	1.118	1.597	37.7	20.8	98 E	38	70*
8 9	18 43.05	-36 20.9	1.341	2.219	16.9	19.9	140 E	9 80	12 7	23 21.00	-4 31.6	1.220	1.623	37.2	21.0	94 E	40	65*
8 14	18 39.94	-36 13.7	1.359	2.198	18.9	19.9	135 E	9 80	12 17	23 42.89	-2 7.3	1.328	1.653	36.5	21.2	90 E	43	60*
8 19	18 37.82	-36 2.9	1.381	2.177	20.7	20.0	130 E	9 80	12 27	0 4.87	+0 18.6	1.442	1.686	35.6	21.4	86 E	45	55*
8 29	18 36.74	-35 33.3	1.433	2.136	23.9	20.2	121 E	9 80	420591 2012 HF₃₁									
9 8	18 39.82	-34 55.8	1.495	2.096	26.4	20.3	112 E	10 81	5 1	20 4.81	-37 4.6	0.764	1.410	43.7	21.1	105 W	6*	79
9 18	18 46.78	-34 12.4	1.562	2.056	28.3	20.4	104 E	11 82	5 6	20 24.42	-36 49.7	0.708	1.377	44.9	21.0	105 W	6*	79
9 28	18 57.22	-33 23.3	1.633	2.016	29.6	20.5	97 E	12 83	5 11	20 45.33	-36 21.9	0.654	1.344	46.3	20.8	106 W	6*	80
10 8	19 10.65	-32 27.8	1.704	1.978	30.3	20.5	90 E	13 82*	5 16	21 7.69	-35 37.8	0.603	1.310	48.0	20.6	106 W	6*	80
10 18	19 26.61	-31 24.3	1.774	1.941	30.7	20.6	84 E	14* 77*	5 21	21 31.59	-34 32.9	0.555	1.276	49.9	20.4	105 W	7*	81
10 28																		

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

2020	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°	2020	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°
420591 2012 HF₃₁										415841 2001 RS₁₅₀									
<i>(continuation)</i>										<i>(continuation)</i>									
7 2	1 41.01	+ 1 43.7	0.353	1.003	82.1	19.9	78 W	26*	64*	6 15	21 34.43	- 0 34.3	0.858	1.605	34.1	20.3	118 W	44*	65
7 4	1 53.21	+ 0 38.8	0.355	0.992	83.7	20.0	76 W	27*	61*	6 20	21 40.82	+ 0 2.2	0.820	1.597	33.3	20.2	120 W	45*	64
7 6	2 5.25	+ 2 59.1	0.359	0.981	85.3	20.0	74 W	29*	59*	6 25	21 46.62	+ 0 32.8	0.783	1.589	32.2	20.0	124 W	46	63
7 8	2 17.13	+ 5 16.0	0.364	0.971	86.7	20.1	72 W	30*	56*	6 30	21 51.79	+ 0 56.4	0.749	1.583	31.0	19.9	127 W	46	63
7 10	2 28.85	+ 7 28.7	0.370	0.960	87.9	20.1	71 W	31*	54*	7 5	21 56.30	+ 1 12.2	0.716	1.577	29.5	19.7	130 W	46	63
7 15	2 57.38	+12 37.2	0.389	0.937	90.3	20.3	67 W	34*	48*	7 10	22 0.09	+ 1 18.8	0.686	1.572	27.7	19.6	134 W	46	63
7 20	3 24.82	+17 7.1	0.414	0.916	91.7	20.4	64 W	37*	43*	7 15	22 3.11	+ 1 15.4	0.658	1.568	25.8	19.4	138 W	46	63
7 25	3 51.23	+20 56.1	0.444	0.898	92.0	20.6	62 W	40*	39*	7 20	22 5.33	+ 1 0.7	0.633	1.565	23.5	19.3	142 W	46	63
7 30	4 16.68	+24 5.5	0.477	0.884	91.5	20.7	61 W	42*	35*	7 30	22 7.42	- 0 4.7	0.592	1.561	18.2	19.0	151 W	45	64
8 4	4 41.30	+26 38.4	0.512	0.874	90.2	20.7	59 W	44*	32*	8 9	22 6.76	- 1 57.8	0.565	1.560	12.0	18.7	161 W	43	66
8 9	5 5.17	+28 38.5	0.550	0.868	88.3	20.8	59 W	45*	30*	8 19	22 4.21	- 4 29.6	0.555	1.563	5.6	18.3	171 W	41	68
8 14	5 28.32	+30 9.8	0.588	0.866	86.1	20.9	59 W	47*	28*	8 24	22 2.66	- 5 54.4	0.556	1.565	3.7	18.2	174 E	39	70
8 19	5 50.74	+31 15.6	0.627	0.869	83.5	20.9	59 W	48*	26*	8 29	22 1.23	- 7 21.0	0.562	1.569	4.8	18.3	172 E	38	71
8 24	6 12.39	+31 59.3	0.665	0.876	80.8	20.9	59 W	49*	25*	9 3	22 0.12	- 8 46.2	0.572	1.573	7.7	18.5	168 E	36	73
8 29	6 33.23	+32 23.9	0.702	0.887	78.0	21.0	59 W	50*	24*	9 8	21 59.48	- 10 7.1	0.587	1.578	10.9	18.7	163 E	35	74
9 3	6 53.22	+32 32.2	0.737	0.902	75.2	21.0	60 W	52*	23*	9 13	21 59.46	- 11 21.4	0.607	1.584	14.0	18.9	158 E	34	75
9 8	7 12.33	+32 26.8	0.770	0.920	72.6	21.1	61 W	53*	23*	9 18	22 0.16	- 12 27.3	0.630	1.590	16.9	19.1	153 E	33	76
9 13	7 30.50	+32 10.0	0.801	0.941	70.0	21.1	62 W	54*	22*	9 23	22 1.67	- 13 23.4	0.657	1.598	19.6	19.3	148 E	32	77
9 18	7 47.70	+31 44.1	0.828	0.966	67.6	21.2	63 W	55*	22*	9 28	22 4.02	- 14 9.0	0.688	1.606	22.1	19.5	143 E	31	78
9 23	8 3.92	+31 11.0	0.853	0.992	65.4	21.2	64 W	57*	22*	10 8	22 11.10	- 15 8.9	0.760	1.624	26.1	19.8	134 E	30	79
9 28	8 19.16	+30 32.3	0.874	1.021	63.3	21.3	66 W	58*	23*	10 18	22 21.07	- 15 29.4	0.844	1.645	29.1	20.2	127 E	30	79
10 3	8 33.42	+29 49.6	0.892	1.051	61.3	21.3	67 W	60*	23*	10 28	22 33.45	- 15 15.3	0.938	1.668	31.3	20.5	119 E	30	79
10 8	8 46.73	+29 4.3	0.906	1.082	59.5	21.4	69 W	61*	24*	11 7	22 47.68	- 14 32.4	1.040	1.693	32.6	20.8	113 E	30	79
10 13	8 59.10	+28 17.6	0.917	1.115	57.8	21.4	71 W	63*	25*	11 17	23 3.29	- 13 26.3	1.150	1.720	33.4	21.1	107 E	32	77
10 18	9 10.53	+27 30.6	0.925	1.148	56.2	21.5	73 W	64*	26*	11 27	23 19.92	- 12 1.6	1.266	1.748	33.6	21.3	101 E	33	76*
10 23	9 21.01	+26 44.1	0.928	1.181	54.7	21.5	76 W	66*	27*										
2101 Adonis										9162 Kwiila									
5 1	20 11.93	-22 1.6	1.050	1.582	38.8	21.5	100 W	21*	86	5 1	20 27.44	- 7 33.5	1.467	1.829	33.4	21.3	93 W	33*	72
5 6	20 26.00	-21 23.3	0.954	1.526	40.3	21.2	102 W	21*	85	5 11	20 42.28	- 5 35.8	1.298	1.763	34.5	21.0	99 W	36*	70
5 11	20 41.62	-20 35.8	0.861	1.468	42.1	20.9	103 W	22*	85	5 21	20 56.88	- 3 22.6	1.133	1.693	35.5	20.7	104 W	39*	67
5 16	20 59.29	-19 35.5	0.770	1.408	44.2	20.7	104 W	22*	84	5 31	21 11.37	- 0 50.5	0.973	1.618	36.3	20.3	109 W	43*	65
5 21	21 19.72	-18 17.4	0.684	1.347	47.0	20.4	103 W	23*	82	6 5	21 18.68	+ 0 34.4	0.895	1.579	36.7	20.0	111 W	44*	63
5 23	21 28.86	-17 39.5	0.651	1.322	48.2	20.3	103 W	24*	82	6 10	21 26.13	+ 2 6.6	0.820	1.539	37.2	19.8	114 W	46*	62
5 25	21 38.66	-16 56.8	0.618	1.297	49.7	20.2	103 W	24*	81	6 15	21 33.79	+ 3 47.7	0.746	1.498	37.7	19.6	116 W	48*	60
5 27	21 49.21	-16 8.6	0.587	1.271	51.3	20.1	102 W	24*	80	6 20	21 41.81	+ 5 39.7	0.674	1.456	38.3	19.3	118 W	51*	58
5 29	22 0.60	-15 14.1	0.557	1.245	53.1	20.0	101 W	25*	79	6 25	21 50.39	+ 7 45.5	0.604	1.412	39.0	19.0	119 W	53*	56
5 31	22 12.92	-14 12.1	0.528	1.219	55.1	19.8	100 W	25*	78	6 30	21 59.82	+ 10 9.0	0.537	1.367	40.0	18.7	120 W	55	54
6 2	22 26.27	-13 1.7	0.501	1.193	57.3	19.8	98 W	26*	77	7 5	22 10.62	+ 12 56.3	0.472	1.322	41.4	18.4	121 W	58	51
6 4	22 40.77	-11 41.6	0.475	1.166	59.9	19.7	96 W	26*	76	7 10	22 23.55	+ 16 16.3	0.410	1.274	43.5	18.1	120 W	61	48
6 6	22 56.49	-10 10.7	0.452	1.139	62.7	19.6	94 W	26*	74	7 12	22 29.59	+ 17 48.1	0.387	1.255	44.5	17.9	120 W	63	46
6 8	23 13.53	- 8 28.2	0.430	1.112	65.9	19.5	91 W	27*	72	7 14	22 36.28	+ 19 28.1	0.364	1.236	45.8	17.8	119 W	64	45
6 10	23 31.92	- 6 33.4	0.412	1.085	69.4	19.5	88 W	27*	71	7 16	22 43.79	+ 21 17.5	0.341	1.217	47.3	17.7	118 W	66	43
6 15	0 23.59	+ 0 55.7	0.378	1.014	79.5	19.5	79 W	27*	64*	7 18	22 52.31	+ 23 17.5	0.319	1.197	49.0	17.5	117 W	68	41
6 20	1 21.36	+ 5 25.3	0.368	0.943	90.7	19.7	68 W	26*	55*	7 20	23 2.11	+ 25 29.5	0.299	1.177	51.0	17.4	116 W	70	39
6 25	2 20.31	+ 11 25.2	0.385	0.870	101.1	20.1	57 W	24*	45*	7 22	23 13.52	+ 27 54.7	0.279	1.157	53.4	17.3	114 W	73	36
6 30	3 15.05	+ 16 9.1	0.425	0.796	109.0	20.6	48 W	21*	36*	7 24	23 27.01	+ 30 34.0	0.260	1.137	56.2	17.2	111 W	76	33
7 5	4 2.67	+ 19 24.6	0.487	0.721	113.2	20.9	41 W	19*	29*	7 26	23 43.17	+ 33 27.6	0.242	1.117	59.5	17.1	109 W	78	31
7 10	4 43.19	+ 21 28.5	0.566	0.648	113.6	21.0	36 W	18*	24*	7 28	0 2.79	+ 36 33.8	0.227	1.097	63.4	17.0	105 W	82	27
7 15	5 18.26	+ 22 42.2	0.659	0.579	110.2	20.9	32 W	17*	21*	7 30	0 26.87	+ 39 48.1	0.212	1.076	67.9	17.0	101 W	85	24
7 20	5 50.02	+ 23 20.6	0.766	0.518	102.9	20.6	30 W	16*	18*	7 31	0 40.94	+ 41 25.5	0.206	1.066	70.3	17.0	99 W	86	23
7 25	6 20.42	+ 23 30.9	0.885	0.470	91.9	20.2	28 W	15*	15*	8 1	0 56.54	+ 43 1.0	0.201	1.055	73.0	17.0	96 W	88*	21
7 30	6 50.78	+ 23 15.2	1.011	0.445	77.9	19.8	25 W	14*	13*	8 2	1 13.79	+ 44 32.4	0.196	1.045	75.7	17.0	93 W	87*	19
8 1	7 3.00	+ 23 1.6	1.062	0.442	71.8	19.7	24 W	14*	12*	8 3	1 32.77	+ 45 56.9	0.192	1.035	78.7	17.0	91 W	84*	18
8 3	7 15.23	+ 22 43.9	1.112	0.444	65.8	19.6	24 W	13*	11*	8 4	1 53.48	+ 47 11.6	0.188	1.024	81.7	17.1	88 W	82*	17
8 5	7 27.40	+ 22 22.3	1.162	0.451	59.9	19.5	23 W	13*	11*	8 5	2 15.81	+ 48 13.4	0.185	1.014	84.9	17.1	85 W	78*	16
8 7	7 39.44	+ 21 57.0	1.211	0.462	54.4	19.5	22 W	12*	10*	8 6	2 39.51	+ 48 59.3	0.183	1.004	88.1	17.2	81 W	75*	15
8 9	7 51.27	+ 21 28.4	1.258	0.476	49.2	19.5	21 W	12*	9*	8 7	3 4.21	+ 49 26.8	0.182	0.993	91.4	17.3	78 W	72*	15
8 11	8 2.83	+ 20 57.1	1.304	0.494	44.6	19.6	20 W	11*	8*	8 8	3 29.40	+ 49 34.4	0.182	0.983	94.6	17.4	75 W	69*	14*
8 13	8 14.08	+ 20 23.3	1.348	0.515	40.4	19.6	19 W	11*	8*	8 9	3 54.52	+ 49 21.6	0.183	0.972	97.9	17.6	72 W	66*	14*
8 15	8 24.97	+ 19 47.6	1.391	0.538	36.8	19.7	19 W	10*	7*	8 10	4 19.02	+ 48 49.1	0.185	0.962	101.0	17.7	69 W	62*	14*
8 17	8 35.49	+ 19 10.4	1.432	0.563	33.6	19.7	18 W	10*	6*	8 11	4 42.41	+ 47 59.0	0.187	0.952	104.1	17.9	66 W	59*	14*
8 19	8 45.63	+ 18 32.0	1.472	0.589	30.8	19.8	17 W	9*	6*	8 12	5 4.36	+ 46 53.8							

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

20/21	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45° - 26°	2020	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45° - 26°	
9162 Kwiila (continuation)									364566 2007 PM₈ (continuation)									
8 31	8 14.30	+21 41.1	0.363	0.751	126.3	20.3	37 W	28* 17*	8 9	22 13.40	+ 4 33.6	0.664	1.640	15.1	19.1	155 W	50	59
9 2	8 22.84	+19 59.7	0.389	0.733	125.2	20.3	36 W	27* 18*	8 19	22 8.23	+ 3 43.0	0.649	1.644	10.3	18.9	163 W	49	60
9 4	8 30.76	+18 27.7	0.416	0.716	123.7	20.3	36 W	27* 18*	8 29	22 2.51	+ 2 18.1	0.652	1.651	8.3	18.8	166 E	47	62
9 6	8 38.23	+17 3.8	0.444	0.700	121.9	20.3	36 W	26* 19*	9 3	21 59.99	+ 1 27.2	0.660	1.655	9.1	18.9	165 E	46	63
9 8	8 45.37	+15 47.1	0.474	0.684	119.9	20.2	36 W	26* 19*	9 8	21 57.94	+ 0 33.4	0.673	1.660	11.0	19.0	162 E	46	63
9 10	8 52.28	+14 36.3	0.504	0.670	117.5	20.1	36 W	26* 20*	9 13	21 56.53	+ 0 21.2	0.690	1.666	13.2	19.2	158 E	45	64
9 12	8 59.06	+13 30.8	0.535	0.656	114.9	20.0	36 W	26* 20*	9 18	21 55.87	+ 1 14.5	0.712	1.672	15.7	19.3	153 E	44	65
9 14	9 5.76	+12 29.7	0.567	0.644	112.2	19.9	36 W	25* 21*	9 23	21 56.06	+ 2 4.8	0.738	1.679	18.0	19.5	149	43	66
9 16	9 12.44	+11 32.4	0.599	0.634	109.2	19.8	37 W	25* 21*	9 28	21 57.14	+ 2 50.5	0.767	1.686	20.3	19.7	144 E	42	67
9 18	9 19.14	+10 38.3	0.633	0.625	106.1	19.7	37 W	25* 21*	10 3	21 59.10	+ 3 30.7	0.801	1.694	22.3	19.8	140 E	41	68
9 23	9 36.13	+ 8 33.9	0.718	0.609	97.9	19.5	37 W	25* 22*	10 8	22 1.91	+ 4 4.8	0.838	1.702	24.2	20.0	136 E	41	68
9 28	9 53.58	+ 6 40.6	0.805	0.606	89.3	19.4	37 W	26* 22*	10 18	22 9.89	+ 4 53.1	0.921	1.721	27.3	20.3	128 E	40	69
10 3	10 11.46	+ 4 54.6	0.892	0.614	81.0	19.3	37 W	26* 22*	10 28	22 20.64	+ 5 14.6	1.015	1.741	29.5	20.6	120 E	40	69
10 8	10 29.52	+ 3 13.6	0.976	0.634	73.3	19.3	37 W	26* 22*	11 7	22 33.61	+ 5 11.0	1.118	1.763	31.1	20.9	113 E	40	69
10 18	11 5.14	+ 0 4.2	1.130	0.699	60.7	19.5	38 W	26* 22*	11 17	22 48.27	+ 4 45.1	1.230	1.787	32.0	21.2	107 E	40	69
10 28	11 38.77	+ 2 48.1	1.260	0.789	52.0	19.7	39 W	26* 23*	11 27	23 4.25	+ 4 0.0	1.348	1.812	32.3	21.4	101 E	41	67*
11 7	12 9.78	+ 5 22.0	1.366	0.889	46.4	20.0	41 W	27* 24*	464633 1999 TB₄₆									
11 17	12 38.17	+ 7 36.9	1.449	0.993	42.9	20.3	43 W	28* 27*	5 1	20 56.09	+ 7 20.1	1.566	1.810	33.8	21.5	87 W	31*	71*
11 27	13 4.11	+ 9 32.8	1.509	1.096	40.8	20.5	47 W	29* 30*	5 11	21 14.89	+ 5 0.4	1.456	1.785	34.5	21.3	91 W	34*	69
12 7	13 27.82	+ 11 10.6	1.548	1.197	39.5	20.7	51 W	30* 34*	5 21	21 32.71	+ 2 34.8	1.351	1.762	34.9	21.1	95 W	37*	67
12 17	13 49.43	+ 12 30.6	1.568	1.293	38.8	20.9	55 W	30* 39*	5 31	21 49.35	+ 0 6.3	1.250	1.741	35.0	20.9	100 W	40*	64
12 27	14 8.95	+ 13 33.3	1.569	1.385	38.3	21.0	61 W	31* 45*	6 10	22 4.63	+ 2 21.7	1.156	1.722	34.7	20.7	105 W	44*	62
1 6	14 26.37	+ 14 19.0	1.553	1.473	37.8	21.1	67 W	31* 52*	6 20	22 18.30	+ 4 45.3	1.067	1.706	34.0	20.5	110 W	48*	59
1 16	14 41.53	+ 14 47.7	1.522	1.555	37.3	21.2	73 W	30 59*	6 30	22 30.00	+ 6 59.1	0.984	1.692	32.8	20.3	116 W	52*	57
509981 2009 TH₂₃									7 5	22 35.01	+ 8 0.5	0.945	1.686	32.0	20.2	118 W	53	56
5 1	20 29.26	+ 12 24.2	1.629	1.978	30.5	21.5	94 W	29* 76	7 10	22 39.40	+ 8 57.2	0.909	1.681	31.0	20.0	122 W	54	55
5 11	20 44.59	+ 10 38.9	1.494	1.940	30.9	21.2	100 W	31* 75	7 15	22 43.12	+ 9 48.1	0.874	1.677	29.8	19.9	125 W	55	54
5 21	20 58.70	+ 8 47.8	1.365	1.903	30.8	21.0	105 W	34* 73	7 20	22 46.10	+ 10 32.4	0.841	1.673	28.5	19.8	128 W	56	53
5 31	21 11.32	+ 6 53.2	1.243	1.868	30.4	20.7	111 W	37* 71	7 25	22 48.33	+ 11 8.7	0.811	1.670	26.9	19.7	132 W	56	53
6 10	21 22.19	+ 4 57.7	1.128	1.833	29.4	20.5	118 W	40* 69	7 30	22 49.77	+ 11 36.0	0.783	1.668	25.2	19.5	136 W	57	52
6 20	21 30.98	+ 3 4.8	1.022	1.800	27.9	20.2	124 W	42* 67	8 4	22 50.45	+ 11 53.4	0.758	1.666	23.3	19.4	140 W	57	52
6 30	21 37.33	+ 1 19.2	0.927	1.769	25.7	19.8	131 W	44 65	8 9	22 50.37	+ 12 0.0	0.736	1.665	21.1	19.3	144 W	57	52
7 5	21 39.48	+ 0 30.9	0.883	1.754	24.3	19.7	135 W	44 65	8 19	22 48.18	+ 11 37.8	0.703	1.666	16.5	19.0	152 W	57	52
7 10	21 40.93	+ 0 13.3	0.843	1.740	22.8	19.5	139 W	45 64	8 29	22 44.08	+ 10 27.7	0.684	1.669	12.0	18.8	160 W	55	54
7 15	21 41.62	+ 0 52.5	0.805	1.726	21.0	19.3	142 W	46 63	9 8	22 39.49	+ 8 37.4	0.684	1.676	9.5	18.7	164 E	54	55
7 20	21 41.56	+ 1 25.6	0.771	1.713	19.2	19.2	146 W	46 63	9 13	22 37.49	+ 7 31.7	0.691	1.680	9.7	18.8	164 E	53	56
7 25	21 40.77	+ 1 51.7	0.741	1.700	17.2	19.0	150 W	47 62	9 18	22 35.92	+ 6 22.1	0.702	1.685	10.9	18.8	161 E	51	58
7 30	21 39.33	+ 2 10.0	0.715	1.688	15.1	18.8	154 W	47 62	9 23	22 34.95	+ 5 11.3	0.718	1.691	12.8	19.0	158 E	50	59
8 9	21 34.89	+ 2 20.6	0.675	1.667	11.3	18.6	161 W	47 62	9 28	22 34.71	+ 4 1.9	0.739	1.697	15.0	19.1	154 E	49	60
8 19	21 29.37	+ 1 55.6	0.651	1.648	9.7	18.4	164 E	47 62	10 3	22 35.25	+ 2 55.9	0.764	1.705	17.2	19.3	150 E	48	61
8 29	21 24.43	+ 0 59.2	0.645	1.633	11.9	18.4	161 E	46 63	10 8	22 36.61	+ 1 55.2	0.794	1.712	19.4	19.4	145 E	47	62
9 3	21 22.70	+ 0 22.7	0.649	1.626	13.9	18.5	157 E	45 64	10 13	22 38.78	+ 1 0.8	0.827	1.721	21.4	19.6	141 E	46	63
9 8	21 21.71	+ 0 17.2	0.656	1.621	16.2	18.6	153 E	45 64	10 18	22 41.75	+ 0 13.6	0.864	1.730	23.3	19.8	137 E	45	64
9 13	21 21.56	+ 0 58.7	0.668	1.616	18.6	18.7	149 E	44 65	10 28	22 49.95	+ 0 56.9	0.948	1.749	26.4	20.1	128 E	44	65
9 18	21 22.37	+ 1 40.1	0.683	1.612	21.0	18.8	145 E	43 66	11 7	23 0.73	+ 1 36.1	1.045	1.771	28.7	20.4	121 E	43	66
9 23	21 24.18	+ 2 19.8	0.701	1.609	23.2	19.0	141 E	43 66	11 17	23 13.58	+ 1 46.5	1.151	1.795	30.3	20.7	114 E	43	66
9 28	21 27.03	+ 2 56.3	0.723	1.608	25.2	19.1	137 E	42 67	11 27	23 28.08	+ 1 31.5	1.266	1.820	31.2	20.9	107 E	43	66
10 3	21 30.86	+ 3 28.6	0.748	1.607	27.1	19.2	133 E	42 67	12 7	23 43.82	+ 0 55.6	1.388	1.847	31.6	21.2	101 E	44	64*
10 8	21 35.62	+ 3 55.9	0.776	1.607	28.8	19.3	129 E	41 68	12 17	0 0.48	+ 0 2.6	1.515	1.875	31.5	21.4	95 E	45	61*
10 18	21 47.71	+ 4 33.6	0.839	1.610	31.5	19.6	122 E	40 69	361754 2007 YV₂₉									
10 28	22 2.73	+ 4 46.7	0.911	1.617	33.5	19.8	116 E	40 69	5 1	20 56.82	+ 31 9.6	0.967	1.431	44.7	21.4	93 W	9*	83*
11 7	22 20.00	+ 4 35.4	0.991	1.627	34.8	20.1	110 E	40 69	5 6	21 15.95	+ 31 57.5	0.913	1.406	45.7	21.3	94 W	8*	83*
11 17	22 38.94	+ 4 1.5	1.080	1.641	35.6	20.3	105 E	41 68	5 11	21 36.41	+ 32 44.3	0.862	1.380	46.8	21.1	95 W	6*	82*
11 27	22 59.09	+ 3 7.4	1.175	1.658	35.9	20.5	100 E	42 66*	5 16	21 58.35	+ 33 28.4	0.814	1.354	48.1	21.0	95 W	5*	82*
12 7	23 20.02	+ 1 56.4	1.276	1.679	35.8	20.7	95 E	43 63*	5 21	22 21.86	+ 34 7.7	0.770	1.327	49.4	20.9	95 W	3*	81*
12 17	23 41.47	+ 0 31.9	1.383	1.702	35.3	20.9	90 E	44 54*	5 26	22 47.01	+ 34 39.3	0.730	1.300	50.9	20.8	95 W	2*	80*
12 27	0 3.24	+ 1 3.0	1.495	1.728	34.6	21.1	86 E	46 54*	5 31	23 13.78	+ 34 59.7	0.695	1.273	52.6	20.7	94 W	—	79*
1 6	0 25.17	+ 2 44.9	1.612	1.756	33.6	21.3	81 E	48 49*	6 5	23 42.04	+ 35 5.0	0.						

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

20/21	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°-26°	20/21	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°-26°
467309 1996 AW₁									462811 2010 RY₇₁ (continuation)								
5 1	21 7.39	-10 30.7	0.645	1.145	61.2	21.4	85 W	27* 73*	7 20	0 9.60	+ 2 45.3	0.992	1.686	33.4	20.4	114 W	48* 61
5 6	21 37.76	- 8 29.6	0.614	1.103	64.8	21.3	82 W	27* 70*	7 30	0 17.58	+ 3 25.0	0.934	1.702	30.5	20.2	122 W	48 61
5 11	22 9.99	- 6 10.5	0.590	1.061	68.7	21.3	78 W	26* 67*	8 9	0 22.01	+ 3 38.8	0.884	1.722	26.8	20.0	130 W	49 60
5 16	22 43.66	- 3 36.5	0.576	1.020	72.7	21.3	74 W	25* 63*	8 19	0 22.58	+ 3 24.7	0.843	1.743	22.1	19.8	140 W	48 61
5 21	23 18.13	- 0 53.1	0.572	0.979	76.5	21.3	70 W	24* 59*	8 29	0 19.34	+ 2 43.2	0.816	1.766	16.5	19.6	150 W	48 61
5 26	23 52.70	+ 1 52.6	0.578	0.939	79.9	21.4	66 W	23* 55*	9 3	0 16.48	+ 2 13.6	0.808	1.778	13.3	19.5	156 W	47 62
5 31	0 26.68	+ 4 33.3	0.594	0.901	82.6	21.4	62 W	22* 51*	9 8	0 12.96	+ 1 39.4	0.805	1.790	10.1	19.3	162 W	47 62
293553 2007 HJ₃₆									65803 Didymos								
5 1	21 19.34	-20 18.2	1.528	1.753	34.9	21.5	85 W	17* 79*	5 1	21 46.60	-15 28.8	1.464	1.582	38.4	21.4	77 W	18* 70*
5 11	21 41.30	-19 1.6	1.425	1.735	35.6	21.3	89 W	18* 81*	5 11	22 14.37	-13 24.9	1.339	1.528	40.6	21.2	80 W	19* 72*
5 21	22 2.24	-17 43.0	1.325	1.718	36.0	21.2	94 W	20* 82	5 21	22 43.45	-11 3.9	1.221	1.473	42.9	20.9	82 W	21* 72*
5 31	22 21.95	-16 25.5	1.230	1.704	36.1	21.0	98 W	22* 80	5 31	23 14.19	- 8 24.8	1.111	1.418	45.3	20.7	84 W	23* 71*
6 10	22 40.21	-15 11.9	1.138	1.691	35.7	20.8	103 W	25* 79	6 10	23 47.01	- 5 26.6	1.011	1.362	47.9	20.5	84 W	26* 69*
6 20	22 56.74	-14 5.5	1.052	1.681	34.9	20.6	109 W	28* 78	6 20	0 22.34	- 2 9.2	0.923	1.307	50.7	20.3	85 W	29* 66*
6 30	23 11.11	-13 9.6	0.971	1.673	33.6	20.4	115 W	30* 77	6 30	1 0.57	+ 1 25.1	0.848	1.253	53.8	20.1	84 W	33* 63*
7 10	23 22.91	-12 27.3	0.897	1.667	31.5	20.1	121 W	32* 76	7 5	1 20.86	+ 3 17.0	0.816	1.227	55.4	20.0	83 W	35* 61*
7 20	23 31.59	-12 1.2	0.830	1.663	28.7	19.9	128 W	33 76	7 10	1 41.97	+ 5 10.7	0.788	1.201	57.0	19.9	82 W	37* 59*
7 30	23 36.61	-11 52.7	0.772	1.662	24.9	19.6	136 W	33 76	7 15	2 3.89	+ 7 4.8	0.764	1.177	58.7	19.9	81 W	39* 57*
8 9	23 37.61	-12 0.6	0.725	1.663	20.2	19.3	146 W	33 76	7 20	2 26.56	+ 8 57.4	0.744	1.153	60.3	19.8	80 W	40* 55*
8 14	23 36.56	-12 9.6	0.707	1.665	17.5	19.2	150 W	33 76	7 25	2 49.92	+10 46.5	0.728	1.131	61.9	19.8	79 W	42* 53*
8 19	23 34.52	-12 21.0	0.693	1.667	14.6	19.0	155 W	33 76	7 30	3 13.85	+12 30.0	0.716	1.110	63.3	19.7	78 W	44* 51*
8 24	23 31.60	-12 33.4	0.682	1.670	11.6	18.9	161 W	32 77	8 4	3 38.24	+14 6.0	0.708	1.090	64.7	19.7	76 W	45* 49*
8 29	23 27.97	-12 45.6	0.676	1.673	8.7	18.8	166 W	32 77	8 9	4 2.95	+15 32.6	0.704	1.073	65.8	19.7	75 W	47* 47*
9 3	23 23.81	-12 56.1	0.675	1.677	6.1	18.6	170 W	32 77	8 14	4 27.79	+16 48.2	0.703	1.057	66.8	19.7	74 W	48* 45*
9 8	23 19.36	-13 3.7	0.678	1.681	4.8	18.6	172 W	32 77	8 19	4 52.57	+17 51.7	0.706	1.044	67.5	19.7	72 W	49* 44*
9 13	23 14.87	-13 7.3	0.686	1.686	5.7	18.7	170 E	32 77	8 24	5 17.12	+18 42.5	0.711	1.032	68.0	19.7	71 W	50* 42*
9 18	23 10.58	-13 6.1	0.699	1.692	8.1	18.8	166 E	32 77	8 29	5 41.27	+19 20.5	0.719	1.024	68.3	19.7	70 W	51* 41*
9 23	23 6.75	-12 59.2	0.717	1.698	10.9	19.0	161 E	32 77	9 3	6 4.89	+19 45.9	0.729	1.018	68.2	19.8	70 W	51* 39*
9 28	23 3.57	-12 46.6	0.739	1.705	13.7	19.2	156 E	32 77	9 8	6 27.87	+19 59.5	0.741	1.014	68.0	19.8	69 W	52* 38*
10 8	22 59.67	-12 4.4	0.797	1.719	18.8	19.5	146 E	33 76	9 13	6 50.12	+20 2.1	0.753	1.014	67.6	19.8	69 W	53* 37*
10 18	22 59.41	-11 2.1	0.870	1.736	23.1	19.9	137 E	34 75	9 18	7 11.56	+19 54.7	0.766	1.016	67.0	19.8	68 W	53* 37*
10 28	23 2.79	- 9 42.9	0.956	1.754	26.4	20.2	128 E	35 74	9 23	7 32.14	+19 38.6	0.780	1.021	66.2	19.8	69 W	54* 36*
11 7	23 9.37	- 8 10.3	1.053	1.774	28.8	20.5	120 E	37 72	9 28	7 51.84	+19 15.0	0.793	1.028	65.3	19.9	69 W	54* 36*
11 17	23 18.62	- 6 27.4	1.159	1.795	30.4	20.8	113 E	39 70	10 3	8 10.66	+18 45.2	0.805	1.038	64.3	19.9	69 W	55* 35*
11 27	23 30.05	- 4 36.2	1.273	1.818	31.4	21.1	106 E	40 69	10 8	8 28.60	+18 10.2	0.817	1.051	63.2	19.9	70 W	55* 35*
12 7	23 43.20	- 2 38.9	1.393	1.841	31.8	21.3	100 E	42 66*	10 13	8 45.66	+17 31.2	0.828	1.065	62.1	19.9	71 W	56* 36*
366599 2002 XL₈									360247 2000 GH₁₄								
5 1	21 22.67	-16 25.8	2.008	2.132	28.0	21.4	83 W	20* 76*	5 1	22 7.64	-14 44.9	1.733	1.717	33.9	21.5	72 W	16* 66*
5 11	21 38.39	-14 55.1	1.860	2.093	28.8	21.2	89 W	22* 78*	5 11	22 27.88	-13 5.3	1.668	1.739	34.4	21.4	77 W	18* 70*
5 21	21 53.20	-13 21.4	1.714	2.054	29.4	21.0	94 W	25* 77	5 21	22 46.44	-11 30.2	1.601	1.763	34.6	21.4	81 W	20* 72*
5 31	22 6.93	-11 46.0	1.572	2.016	29.7	20.8	100 W	28* 76	5 31	23 3.19	-10 2.5	1.532	1.788	34.5	21.3	87 W	23* 74*
6 10	22 19.40	-10 10.3	1.435	1.977	29.5	20.6	106 W	31* 74	6 10	23 17.94	- 8 45.0	1.462	1.814	34.0	21.2	92 W	27* 73
6 20	22 30.34	- 8 35.7	1.305	1.939	28.9	20.3	113 W	35* 73	6 20	23 30.48	- 7 40.3	1.391	1.842	33.1	21.1	99 W	31* 72
6 30	22 39.40	- 7 4.3	1.182	1.902	27.7	20.0	120 W	38* 71	6 30	23 40.48	- 6 51.2	1.321	1.870	31.6	21.0	106 W	34* 71
7 10	22 46.24	- 5 38.1	1.068	1.866	25.8	19.7	127 W	39 70	7 10	23 47.63	- 6 19.9	1.254	1.900	29.5	20.9	113 W	38* 70
7 20	22 50.40	- 4 19.6	0.965	1.831	23.1	19.3	135 W	41 68	7 20	23 51.54	- 6 8.5	1.191	1.930	26.6	20.7	122 W	39* 70
7 30	22 51.47	- 3 11.9	0.874	1.797	19.5	19.0	144 W	42 67	7 30	23 51.90	- 6 18.0	1.137	1.960	22.9	20.5	131 W	39 70
8 9	22 49.27	- 2 17.4	0.799	1.765	14.9	18.6	153 W	43 66	8 9	23 48.61	- 6 47.2	1.094	1.991	18.4	20.3	142 W	38 71
8 19	22 43.91	- 1 38.9	0.740	1.734	9.6	18.2	163 W	43 66	8 19	23 41.89	- 7 32.8	1.068	2.022	13.2	20.1	153 W	37 72
8 29	22 36.19	- 1 16.9	0.700	1.706	4.9	17.8	172 W	44 65	8 24	23 37.45	- 7 59.7	1.062	2.038	10.4	20.0	159 W	37 72
9 8	22 27.62	- 1 8.9	0.680	1.680	6.4	17.8	169 E	44 65	8 29	23 32.49	- 8 27.8	1.062	2.053	7.5	19.9	165 W	37 72
9 13	22 23.59	- 1 8.8	0.677	1.668	9.3	17.9	165 E	44 65	9 3	23 27.18	- 8 55.9	1.067	2.069	4.7	19.8	170 W	36 73
9 18	22 20.05	- 1 10.0	0.678	1.657	12.3	18.0	159 E	44 65	9 8	23 21.72	- 9 22.9	1.079	2.084	2.5	19.7	175 W	36 73
9 23	22 17.22	- 1 11.7	0.684	1.646	15.4	18.1	154 E	44 65									
9 28	22 15.29	- 1 12.6	0.694	1.637	18.4	18.2	149 E	44 65									
10 3	22 14.36	- 1 12.0	0.708	1.628	21.1	18.3	144 E	44 65									
10 8	22 14.51	- 1 9.2	0.725	1.619	23.7	18.5	139 E	44 65									
10 18	22 18.10	- 0 54.3	0.768	1.606	28.1	18.7	131 E	44 65									
10 28	22 25.96	- 0 24.3	0.821	1.596	31.5	18.9	123 E	45 64									
11 7	22 37.57	+ 0 22.3	0.881	1.589	34.1	19.1	116 E	45 64									
11 17	22 52.29	+ 1 25.3	0.949	1.587	35.9	19.4	110 E	46 63									
11 27	23 9.58	+ 2 43.7	1.022	1.588	37.0	19.6	104 E	48 61*									
12 7	23 28.84	+ 4 15.3	1.101	1.593	37.6	19.7	99 E	49 58*									
12 17	23 49.65	+ 5 57.5	1.185	1.602	37.7	19.9	95 E	51 54*									
12 27	0 11.69	+ 7 47.8	1.274	1.615	37.5	20.1	90 E	53 50*									
1 6	0 34.63	+ 9 42.7	1.368	1.631	37.0	20.2	86 E	55 45*									
1 16	0 58.30	+11 39.5	1.466	1.650	36.2	20.4	82 E	57* 42*									
462811 2010 RY₇₁																	
5 1	21 45.18	-11 22.9	1.568	1.648	36.4	21.4	76 W	22* 68*									
5 11	22 8.34	- 9 17.7	1.488	1.643	37.2	21.3	80 W	24* 70*									
5 21	22 30.44	- 7 11.1	1.410	1.640	37.8	21.2	84 W	26* 70*									
5 31	22 51.30	- 5 6.7	1.334	1.641	38.1	21.1	88 W	29* 69*									
6 10	23 10.79	- 3 7.7	1.261	1.644	38.1	21.0	92 W	33* 67									
6 20	23 28.69	- 1 17.4	1.189	1.650	37.7	20.9	97 W	37* 65									
6 30	23 4																

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

2020	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°	20/21	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°
360247 2000 GH₁₄										511075 2013 TD₄₈									
<i>(continuation)</i>										<i>(continuation)</i>									
9 13	23 16.29	-9 47.5	1.097	2.100	3.0	19.8	174 E	35	74	12 27	1 31.03	+16 41.5	1.428	2.011	27.0	21.1	112 E	62	47*
9 18	23 11.10	-10 8.9	1.121	2.115	5.4	20.0	169 E	35	74	1 6	1 43.05	+16 46.0	1.566	2.044	27.8	21.4	104 E	62	46*
9 23	23 6.32	-10 26.2	1.151	2.131	8.0	20.2	163 E	35	74	508453 2016 NF₁									
9 28	23 2.11	-10 39.0	1.187	2.146	10.4	20.4	157 E	34	75	5 1	22 23.22	-10 1.9	2.197	2.026	27.2	21.5	67 W	18*	60*
10 8	22 55.79	-10 49.8	1.275	2.177	14.9	20.7	146 E	34	75	5 11	22 43.29	-9 34.1	2.065	1.995	28.7	21.3	72 W	19*	64*
10 18	22 52.57	-10 41.4	1.383	2.207	18.4	21.1	136 E	34	75	5 21	23 3.41	-9 14.0	1.932	1.965	30.1	21.2	77 W	20*	68*
10 28	22 52.50	-10 15.5	1.506	2.236	21.1	21.4	126 E	35	74	5 31	23 23.57	-9 4.9	1.800	1.935	31.2	21.0	82 W	21*	71*
11 7	22 55.30	-9 34.4	1.641	2.265	23.0	21.6	117 E	35	74	6 10	23 43.77	-9 10.2	1.672	1.905	32.1	20.9	87 W	23*	73*
424355 2007 VU₁₄₅										511075 2013 TD₄₈									
5 1	22 15.65	-11 1.6	1.730	1.661	34.5	21.4	69 W	18*	62*	6 20	0 3.99	-9 33.7	1.547	1.877	32.8	20.7	92 W	25*	74*
5 11	22 39.49	-8 26.0	1.644	1.646	35.7	21.3	72 W	20*	64*	6 30	0 24.12	-10 19.5	1.428	1.850	33.1	20.5	97 W	27*	74*
5 21	23 2.68	-5 45.3	1.561	1.635	36.8	21.2	76 W	23*	65*	7 10	0 44.04	-11 31.8	1.317	1.823	33.0	20.3	102 W	29*	76*
5 31	23 25.12	-3 2.3	1.480	1.626	37.7	21.1	79 W	26*	65*	7 20	1 3.55	-13 14.4	1.214	1.799	32.7	20.1	107 W	29*	77*
6 10	23 46.76	-0 19.4	1.402	1.620	38.4	21.0	82 W	30*	64*	7 30	1 22.31	-15 30.3	1.121	1.775	31.9	19.8	112 W	29*	80*
6 20	0 7.50	+2 20.6	1.326	1.617	38.8	20.9	86 W	35*	62	8 9	1 39.91	-18 19.9	1.040	1.754	30.9	19.6	117 W	27*	82
6 30	0 27.15	+4 55.1	1.253	1.617	39.0	20.8	90 W	40*	59	8 14	1 48.10	-19 56.8	1.004	1.744	30.3	19.5	120 W	25	84
7 10	0 45.50	+7 21.6	1.182	1.620	38.7	20.7	95 W	46*	57	8 19	1 55.78	-21 40.9	0.972	1.734	29.7	19.4	122 W	23	86
7 20	1 2.26	+9 37.7	1.114	1.626	38.1	20.5	99 W	51*	54	8 24	2 2.86	-23 31.1	0.943	1.725	29.1	19.3	124 W	21	88
7 30	1 17.00	+11 40.9	1.048	1.635	36.9	20.4	105 W	56*	52	8 29	2 9.24	-25 25.9	0.918	1.717	28.5	19.2	126 W	20	89
8 9	1 29.27	+13 29.0	0.986	1.647	35.1	20.2	111 W	58	51	9 3	2 14.85	-27 23.4	0.896	1.709	28.0	19.2	127 W	18	89
8 19	1 38.48	+14 59.4	0.927	1.662	32.6	20.0	118 W	60	49	9 8	2 19.59	-29 21.8	0.878	1.702	27.5	19.1	129 W	16	87
8 29	1 44.04	+16 9.0	0.875	1.679	29.2	19.8	126 W	61	48	9 13	2 23.37	-31 18.7	0.864	1.695	27.1	19.0	130 W	14	85
9 8	1 45.52	+16 54.7	0.831	1.698	24.9	19.6	135 W	62	47	9 18	2 26.11	-33 11.6	0.853	1.689	26.9	19.0	131 W	12	83
9 18	1 42.74	+17 13.3	0.799	1.720	19.7	19.4	145 W	62	47	9 23	2 27.77	-34 57.7	0.845	1.683	26.8	19.0	131 W	10	81
9 28	1 36.18	+17 2.9	0.781	1.743	13.7	19.2	156 W	62	47	9 28	2 28.35	-36 34.2	0.841	1.679	26.8	19.0	131 W	8	79
10 3	1 31.86	+16 47.3	0.779	1.756	10.5	19.0	161 W	62	47	10 3	2 27.90	-37 58.7	0.840	1.674	26.9	18.9	131 W	7	78
10 8	1 27.11	+16 25.8	0.781	1.769	7.4	18.9	167 W	61	48	10 8	2 26.48	-39 9.1	0.841	1.671	27.2	19.0	130 W	6	77
10 13	1 22.18	+15 59.4	0.789	1.782	4.8	18.8	171 W	61	48	10 13	2 24.23	-40 3.4	0.846	1.668	27.5	19.0	129 W	5	76
10 18	1 17.33	+15 29.4	0.802	1.796	3.8	18.8	173 E	60	49	10 18	2 21.32	-40 40.1	0.853	1.666	27.9	19.0	128 W	4	75
10 23	1 12.81	+14 57.5	0.821	1.809	5.4	19.0	170 E	60	49	10 23	2 17.99	-40 58.0	0.862	1.665	28.4	19.0	127 W	4	75
10 28	1 8.83	+14 25.6	0.846	1.824	8.0	19.2	165 E	59	50	10 28	2 14.50	-40 56.8	0.874	1.664	28.9	19.1	126 W	4	75
11 2	1 5.55	+13 55.1	0.875	1.838	10.8	19.4	160 E	59	50	11 2	2 11.10	-40 36.8	0.888	1.664	29.4	19.1	124 E	4	75
11 7	1 3.07	+13 27.4	0.910	1.853	13.4	19.6	154 E	58	51	11 7	2 8.01	-39 58.8	0.904	1.665	30.0	19.2	123 E	5	76
11 12	1 1.47	+13 3.3	0.949	1.868	15.9	19.9	149 E	58	51	11 12	2 5.41	-39 3.8	0.922	1.667	30.5	19.2	121 E	6	77
11 17	1 0.77	+12 43.8	0.993	1.883	18.1	20.0	144 E	58	51	11 17	2 3.47	-37 53.1	0.942	1.669	31.0	19.3	120 E	7	78
11 27	1 2.05	+12 19.8	1.093	1.914	21.8	20.4	134 E	57	52	11 22	2 3.40	-36 28.2	0.964	1.672	31.5	19.4	118 E	9	80
12 7	1 6.60	+12 16.2	1.207	1.946	24.6	20.7	125 E	57	52	11 27	2 1.96	-34 51.1	0.988	1.675	31.9	19.4	116 E	10	81
12 17	1 13.94	+12 31.0	1.332	1.978	26.4	21.0	116 E	58	51	12 2	2 2.47	-33 3.6	1.013	1.679	32.4	19.5	114 E	12	83
12 27	1 23.62	+13 1.6	1.465	2.010	27.6	21.3	109 E	58	51*	12 7	2 3.81	-31 7.3	1.041	1.684	32.7	19.6	112 E	14	85
511075 2013 TD₄₈										313181 2001 OD₇₄									
5 1	22 15.84	-7 6.9	1.829	1.719	32.8	21.5	68 W	21*	60*	12 12	2 5.95	-29 4.0	1.071	1.690	33.1	19.7	110 E	16	87
5 11	22 38.20	-4 10.6	1.737	1.701	34.1	21.4	71 W	24*	61*	12 17	2 8.87	-26 55.1	1.103	1.696	33.4	19.8	109 E	18	89
5 21	23 0.04	-1 8.1	1.647	1.686	35.3	21.3	74 W	27*	62*	12 22	2 12.51	-24 42.1	1.138	1.703	33.6	19.8	107 E	20	89
5 31	23 21.31	+1 58.3	1.560	1.673	36.3	21.2	78 W	31*	61*	12 27	2 16.83	-22 26.4	1.174	1.710	33.8	19.9	105 E	23	86
6 10	23 41.96	+5 6.0	1.476	1.663	37.1	21.1	81 W	35*	59*	1 1	2 21.75	-20 9.3	1.212	1.718	34.0	20.0	103 E	25	84
6 20	0 1.92	+8 12.7	1.396	1.656	37.7	20.9	85 W	41*	56	1 6	2 27.23	-17 51.7	1.252	1.727	34.0	20.1	100 E	27	82
6 30	0 21.03	+11 15.7	1.318	1.652	38.0	20.8	89 W	46*	53	1 11	2 33.22	-15 34.8	1.295	1.736	34.1	20.2	98 E	29	79*
7 10	0 39.10	+14 12.2	1.244	1.651	37.9	20.7	93 W	53*	50	1 16	2 39.69	-13 19.1	1.339	1.746	34.1	20.3	96 E	32	76*
7 20	0 55.86	+16 59.7	1.172	1.653	37.5	20.5	98 W	59*	47	5 1	22 28.47	-12 26.5	1.744	1.632	34.5	21.5	67 W	15*	60*
7 30	1 10.90	+19 35.3	1.104	1.659	36.6	20.4	103 W	64*	44	5 11	22 53.01	-9 25.2	1.654	1.609	36.0	21.4	70 W	17*	62*
8 4	1 17.65	+20 47.7	1.071	1.663	36.0	20.3	106 W	66*	43	5 21	23 17.08	-6 14.5	1.568	1.589	37.4	21.3	72 W	20*	64*
8 9	1 23.79	+21 56.0	1.040	1.667	35.2	20.2	109 W	67	42	5 31	23 40.66	-2 56.7	1.485	1.572	38.6	21.2	75 W	24*	64*
8 14	1 29.24	+22 59.7	1.009	1.672	34.3	20.2	112 W	68	41	6 10	0 3.75	+0 25.9	1.406	1.558	39.6	21.1	78 W	28*	62*
8 19	1 33.93	+23 58.4	0.979	1.678	33.2	20.1	115 W	69	40	6 20	0 26.33	+3 50.9	1.331	1.548	40.5	21.0	81 W	34*	60*
8 24	1 37.76	+24 51.4	0.951	1.685	31.9	20.0	118 W	70	39	6 30	0 48.30	+7 15.7	1.259	1.540	41.1	20.9	84 W	39*	57
8 29	1 40.69	+25 38.0	0.924	1.692	30.4	19.9	122 W	71	38	7 10	1 9.58	+10 37.9	1.191	1.537	41.4	20.7	88 W	46*	53
9 3	1 42.65	+26 17.7	0.900	1.700	28.7	19.8	126 W	71	38	7 20	1 29.97	+13 55.4	1.126	1.536	41.4	20.6	92 W	52*	50
9 8	1 43.60	+26 49.7	0.877	1.709	26.8	19.7	130 W	72	37	7 30									

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

20/21	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°	20/21	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°
313181 2001 OD₇₄										423162 2004 FD₁									
<i>(continuation)</i>										<i>(continuation)</i>									
11 27	1 59.54	+29 12.2	0.883	1.803	16.3	19.7	149 E	74	35	10 8	23 19.85	+13 1.6	0.650	1.613	14.9	18.7	156 E	58	51
12 2	1 58.72	+28 29.7	0.924	1.819	18.3	19.9	145 E	73	36	10 13	23 10.12	+14 14.4	0.674	1.614	18.5	18.9	149 E	59	50
12 7	1 58.96	+27 50.6	0.968	1.836	20.2	20.1	140 E	73	36	10 18	23 2.00	+15 18.2	0.704	1.615	21.8	19.1	143 E	60	49
12 12	2 0.22	+27 15.6	1.017	1.853	21.8	20.2	136 E	72	37	10 23	22 55.63	+16 14.4	0.737	1.616	24.7	19.3	137 E	61	48
12 17	2 2.44	+26 45.3	1.069	1.870	23.3	20.4	131 E	72	37	10 28	22 50.99	+17 4.9	0.774	1.617	27.2	19.5	132 E	62	47
12 22	2 5.53	+26 20.0	1.125	1.887	24.6	20.6	127 E	71	38	11 2	22 48.02	+17 51.2	0.814	1.618	29.3	19.7	127 E	63	46
12 27	2 9.43	+25 59.7	1.183	1.904	25.7	20.7	123 E	71	38	11 7	22 46.60	+18 34.7	0.856	1.620	31.1	19.8	122 E	64	45
1 1	2 14.04	+25 44.1	1.244	1.922	26.6	20.9	119 E	71	38	11 12	22 46.61	+19 16.4	0.900	1.621	32.6	20.0	118 E	64	45
1 6	2 19.28	+25 32.9	1.308	1.939	27.4	21.0	115 E	71	38*	11 17	22 47.93	+19 57.5	0.945	1.623	33.8	20.1	114 E	65	44
1 11	2 25.10	+25 25.6	1.373	1.957	27.9	21.2	111 E	70	38*	11 22	22 50.43	+20 38.8	0.991	1.625	34.7	20.3	110 E	66	43*
1 16	2 31.44	+25 22.0	1.441	1.974	28.4	21.3	108 E	70	38*	11 27	22 54.00	+21 20.8	1.038	1.627	35.5	20.4	107 E	66	42*
374907 2006 XE₁										16912 Rhiannon									
5 1	22 38.17	-27 41.1	1.813	1.769	32.6	21.4	71 W	1*	63*	5 1	22 59.12	+ 5 48.9	1.899	1.530	31.9	21.5	53 W	24*	43*
5 11	23 4.23	-26 55.5	1.715	1.750	33.9	21.3	75 W	2*	67*	5 11	23 27.26	+ 7 24.2	1.809	1.494	33.9	21.4	56 W	25*	45*
5 21	23 29.94	-26 9.3	1.619	1.731	35.0	21.2	79 W	2*	71*	5 21	23 56.40	+ 8 52.7	1.721	1.460	35.9	21.3	58 W	25*	46*
5 31	23 55.18	-25 24.6	1.525	1.712	35.9	21.1	82 W	4*	75*	5 31	0 26.66	+10 10.7	1.636	1.427	37.9	21.0	60 W	26*	47*
6 10	0 19.85	-24 43.4	1.434	1.694	36.7	20.9	86 W	6*	79*	6 10	0 58.16	+11 13.8	1.554	1.396	39.8	21.1	62 W	28*	47*
6 20	0 43.81	-24 7.6	1.346	1.675	37.3	20.8	89 W	8*	83*	6 20	1 30.98	+11 57.8	1.477	1.368	41.6	21.0	63 W	29*	48*
6 30	1 6.85	-23 39.5	1.262	1.657	37.8	20.6	93 W	11*	87*	6 30	2 5.05	+12 17.9	1.405	1.342	43.4	20.9	65 W	31*	48*
7 10	1 28.72	-23 20.3	1.180	1.640	38.0	20.5	96 W	14*	87	7 10	2 40.22	+12 10.0	1.340	1.320	44.9	20.8	67 W	33*	49*
7 20	1 49.13	-23 11.8	1.102	1.623	38.1	20.3	100 W	16*	87	7 20	3 16.19	+11 31.2	1.283	1.302	46.3	20.7	68 W	35*	49*
7 30	2 7.66	-23 14.7	1.026	1.607	37.8	20.1	104 W	19*	87	7 30	3 52.51	+10 19.6	1.233	1.288	47.4	20.6	69 W	36*	50*
8 4	2 16.08	-23 20.4	0.990	1.599	37.6	20.0	106 W	20*	87	8 9	4 28.65	+ 8 36.1	1.192	1.279	48.3	20.5	70 W	37*	52*
8 9	2 23.85	-23 28.8	0.954	1.592	37.3	19.9	108 W	21*	87	8 19	5 4.08	+ 6 23.6	1.160	1.275	48.9	20.5	71 W	38*	53*
8 14	2 30.88	-23 39.9	0.918	1.585	36.9	19.8	110 W	21*	88	8 29	5 38.22	+ 3 47.2	1.135	1.275	49.1	20.4	73 W	39*	55*
8 19	2 37.08	-23 53.3	0.884	1.578	36.3	19.7	112 W	21*	88	9 3	5 54.67	+ 2 22.0	1.124	1.277	49.2	20.4	73 W	39*	56*
8 24	2 42.34	-24 8.4	0.850	1.571	35.7	19.6	115 W	21*	88	9 8	6 10.67	+ 0 53.3	1.115	1.280	49.1	20.4	74 W	38*	57*
8 29	2 46.58	-24 24.7	0.818	1.565	34.9	19.5	117 W	21	88	9 13	6 26.15	- 0 38.2	1.107	1.285	49.1	20.4	75 W	38*	58*
9 3	2 49.68	-24 41.1	0.786	1.559	34.0	19.4	120 W	20	89	9 18	6 41.09	- 2 11.6	1.100	1.291	48.9	20.4	75 W	38*	59*
9 8	2 51.53	-24 56.6	0.756	1.554	33.0	19.2	123 W	20	89	9 23	6 55.45	- 3 46.1	1.094	1.297	48.7	20.4	76 W	37*	60*
9 13	2 52.01	-25 9.9	0.727	1.548	31.8	19.1	126 W	20	89	9 28	7 9.22	- 5 21.0	1.088	1.305	48.5	20.4	77 W	37*	62*
9 18	2 51.01	-25 19.1	0.699	1.544	30.4	19.0	129 W	20	89	10 3	7 22.38	- 6 55.7	1.081	1.314	48.2	20.4	78 W	36*	63*
9 23	2 48.47	-25 21.7	0.674	1.539	28.9	18.8	132 W	20	89	10 8	7 34.93	- 8 29.6	1.075	1.324	47.8	20.4	79 W	35*	64*
9 28	2 44.36	-25 15.2	0.651	1.535	27.3	18.7	135 W	20	89	10 13	7 46.82	-10 2.2	1.068	1.335	47.5	20.4	80 W	34*	66*
10 3	2 38.73	-24 56.7	0.631	1.532	25.6	18.6	139 W	20	89	10 18	7 58.06	-11 33.1	1.061	1.347	47.1	20.4	82 W	33*	68*
10 8	2 31.70	-24 23.4	0.614	1.528	23.9	18.5	142 W	21	88	10 23	8 8.60	-13 1.8	1.053	1.360	46.6	20.3	83 W	32*	69*
10 13	2 23.47	-23 32.8	0.600	1.526	22.4	18.4	144 W	21	88	10 28	8 18.44	-14 27.7	1.043	1.373	46.1	20.3	85 W	31	71*
10 18	2 14.36	-22 22.8	0.590	1.523	21.2	18.3	146 W	23	86	11 2	8 27.55	-15 50.5	1.033	1.387	45.6	20.3	86 W	29	74*
10 23	2 4.79	-20 52.3	0.585	1.522	20.5	18.3	148 W	24	85	11 7	8 35.91	-17 9.9	1.022	1.402	45.0	20.3	88 W	28	76*
10 28	1 55.22	-19 2.0	0.585	1.520	20.5	18.3	148 E	26	83	11 12	8 43.47	-18 25.3	1.009	1.417	44.3	20.3	90 W	27	78*
11 2	1 46.08	-16 54.0	0.589	1.519	21.1	18.3	147 E	28	81	11 17	8 50.19	-19 36.3	0.995	1.433	43.6	20.3	93 W	25	81*
11 7	1 37.75	-14 31.5	0.599	1.519	22.3	18.4	145 E	30	79	11 22	8 56.02	-20 42.0	0.980	1.450	42.8	20.2	95 W	24	84*
11 12	1 30.51	-11 58.4	0.613	1.519	23.9	18.5	142 E	33	76	11 27	9 0.91	-21 41.8	0.963	1.466	41.8	20.2	98 W	23	86*
11 17	1 24.58	-9 18.7	0.632	1.519	25.7	18.6	138 E	36	73	12 2	9 4.82	-22 34.8	0.946	1.483	40.8	20.1	100 W	22	87
11 22	1 20.08	-6 36.0	0.656	1.520	27.7	18.7	134 E	38	71	12 7	9 7.69	-23 20.1	0.928	1.501	39.7	20.1	103 W	22	87
11 27	1 17.03	-3 53.5	0.683	1.521	29.6	18.9	130 E	41	68	12 12	9 9.47	-23 56.4	0.909	1.519	39.4	20.0	107 W	21	88
12 2	1 15.39	-1 13.7	0.715	1.523	31.4	19.0	126 W	44	65	12 17	9 10.10	-24 22.3	0.890	1.537	37.0	20.0	110 W	21	88
12 7	1 15.09	+ 1 21.7	0.749	1.526	33.0	19.2	123 E	46	63	12 22	9 9.57	-24 36.2	0.871	1.555	35.4	19.9	114 W	20	89
12 12	1 16.04	+ 3 51.9	0.787	1.528	34.4	19.3	119 W	49	60	12 27	9 7.88	-24 36.2	0.853	1.573	33.6	19.8	118 W	20	89
12 17	1 18.15	+ 6 16.3	0.827	1.531	35.6	19.5	115 E	51	58	1 1	9 5.10	-24 20.7	0.836	1.591	31.7	19.8	122 W	21	88
12 22	1 21.33	+ 8 34.8	0.870	1.535	36.5	19.6	112 E	54	55	1 6	9 1.28	-23 48.2	0.821	1.610	29.6	19.7	126 W	21	88
12 27	1 25.48	+10 47.4	0.914	1.539	37.3	19.7	108 E	56	53*	1 11	8 56.57	-22 57.0	0.808	1.628	27.4	19.6	130 W	22	87
1 1	1 30.52	+12 54.2	0.960	1.543	37.9	19.9	105 E	58	50*	1 16	8 51.15	-21 46.3	0.798	1.646	25.1	19.5	135 W	23	86
1 6	1 36.37	+14 55.5	1.007	1.548	38.4	20.0	102 E	60	47*	330233 2006 KV₈₆									
1 11	1 42.97	+16 51.4	1.055	1.553	38.7	20.1	99 E	62	45*	5 1	23 24.37	+23 52.6	1.559	1.111	40.1	21.5	45 W	32*	26*
1 16	1 50.28	+18 42.4	1.104	1.559	38.8	20.2	96 E	64	42*	5 6	23 46.24	+25 27.7	1.552	1.088	40.3	21.4	44 W	31*	24*
423162 2004 FD₁										5 11	0 8.63	+26 51.0	1.549	1.066	40.4	21.4	43 W	30*	23*
5 1	22 54.99	-31 57.8	1.697	1.656	34.9	21.5	70 W	-	59*	5 16	0 31.50	+28 1.1	1.547	1.046	40.4	21.3	42 W	30*	22*
5 11	23 17.94	-29 38.8	1.618	1.651	36.0	21.4	74 W	-	64*	5 21	0 54.74	+28 56.9	1.548	1.027	40.2	21.3	41 W	29*	22*
5 21	23 39.10	-27 16.4	1.537	1.645	36.9	21.3	77 W	-	69*	5 26	1 18.24	+29 37.5	1.551	1.011	40.0	21.3	40 W	27*	21*
5 31	23 58.44	-24 52.5	1.452	1.640	37.7	21.2	81 W	4*	74*	5 31	1 41.89	+30 2.3	1.555	0.997	39.7	21.2	39 W	26*	20*
6 10	0 15.94	-22 28.0	1.365	1.635	38.2	21.1	85 W	8*	79*	6 5	2 5.57	+30 11.0	1.561	0.985	39.4	21.2	38 W	25*	20*
6 20	0 31.49	-20 3																	

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

2020	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°	20/21	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°
330233 2006 KV₈₆										474225 2001 DB₄									
<i>(continuation)</i>										<i>(continuation)</i>									
7 15	5 2.85	+22 47.4	1.620	0.994	36.8	21.2	36 W	19*	23*	12 29	5 50.12	+72 16.0	0.874	1.688	26.2	18.8	131 E	63	—
7 20	5 22.49	+21 2.5	1.628	1.007	36.6	21.3	36 W	19*	24*	12 31	5 46.60	+71 33.7	0.878	1.694	26.0	18.8	131 E	63	—
7 25	5 41.49	+19 10.5	1.635	1.023	36.5	21.3	37 W	19*	25*	1 2	5 43.53	+70 48.9	0.883	1.700	25.8	18.9	131 E	64	—
7 30	5 59.86	+17 12.5	1.643	1.041	36.4	21.3	37 W	19*	26*	1 4	5 40.91	+70 1.8	0.888	1.706	25.7	18.9	131 E	65	—
8 4	6 17.62	+15 9.5	1.652	1.061	36.3	21.4	38 W	19*	27*	1 6	5 38.74	+69 12.6	0.894	1.712	25.5	18.9	131 E	66	—
8 9	6 34.77	+13 2.6	1.660	1.083	36.2	21.4	39 W	19*	29*	1 8	5 36.99	+68 21.4	0.901	1.718	25.4	18.9	131 E	67	—
474225 2001 DB₄										435185 2007 RU₃₀									
5 1	23 32.73	- 4 41.0	2.577	2.060	21.6	21.5	49 W	11*	43*	5 1	23 42.52	+ 1 8.1	2.270	1.704	24.5	21.5	44 W	13*	37*
5 11	23 49.94	- 1 30.3	2.449	2.017	23.7	21.4	53 W	14*	46*	5 11	0 7.61	+ 3 53.6	2.197	1.684	26.1	21.4	47 W	15*	40*
5 21	0 7.18	+ 1 50.1	2.319	1.974	25.7	21.3	58 W	18*	49*	5 21	0 32.90	+ 6 37.9	2.126	1.667	27.7	21.4	50 W	17*	41*
5 31	0 24.51	+ 5 21.0	2.187	1.932	27.6	21.2	62 W	23*	51*	5 31	0 58.37	+ 9 18.1	2.058	1.655	29.2	21.3	53 W	20*	43*
6 10	0 42.00	+ 9 3.0	2.057	1.891	29.4	21.0	66 W	29*	51*	6 10	1 24.03	+11 51.4	1.992	1.646	30.6	21.3	56 W	24*	43*
6 20	0 59.76	+12 57.4	1.929	1.851	31.1	20.9	70 W	35*	50*	6 20	1 49.84	+14 15.1	1.928	1.641	31.8	21.3	58 W	27*	44*
6 30	1 17.88	+17 4.6	1.804	1.813	32.7	20.7	74 W	42*	47*	6 30	2 15.69	+16 26.6	1.866	1.640	32.9	21.2	61 W	32*	43*
7 10	1 36.50	+21 25.4	1.684	1.776	34.0	20.6	78 W	50*	43*	7 10	2 41.46	+18 23.6	1.805	1.644	33.9	21.2	64 W	37*	43*
7 20	1 55.77	+26 0.0	1.570	1.742	35.3	20.4	82 W	58*	38	7 20	3 6.97	+20 4.6	1.745	1.651	34.7	21.1	68 W	42*	42*
7 30	2 15.85	+30 47.7	1.465	1.710	36.3	20.3	85 W	67*	33	7 30	3 31.95	+21 28.2	1.685	1.662	35.3	21.1	71 W	44*	41*
8 4	2 26.28	+33 15.9	1.415	1.695	36.7	20.2	87 W	71*	31	8 9	3 56.12	+22 34.0	1.625	1.678	35.7	21.0	75 W	53*	41*
8 9	2 37.00	+35 46.8	1.368	1.680	37.1	20.1	88 W	75*	28	8 19	4 19.14	+23 22.2	1.563	1.696	35.9	21.0	79 W	58*	40*
8 14	2 48.05	+38 19.7	1.323	1.667	37.4	20.0	90 W	79*	26	8 29	4 40.60	+23 53.6	1.501	1.719	35.8	20.9	84 W	63*	40*
8 19	2 59.47	+40 54.2	1.280	1.654	37.7	19.9	92 W	82*	23	9 8	5 0.11	+24 9.9	1.438	1.744	35.3	20.8	89 W	67*	40*
8 24	3 11.28	+43 29.6	1.240	1.642	37.9	19.9	93 W	86*	21	9 18	5 17.19	+24 13.0	1.374	1.772	34.4	20.8	95 W	69*	40*
8 29	3 23.53	+46 4.9	1.203	1.631	38.1	19.8	95 W	88*	18	9 28	5 31.36	+24 5.3	1.311	1.803	33.0	20.7	102 W	69	40
9 3	3 36.27	+48 39.4	1.168	1.621	38.2	19.7	96 W	86	15	10 8	5 42.13	+23 49.4	1.249	1.836	31.0	20.5	109 W	69	40
9 8	3 49.55	+51 12.1	1.136	1.612	38.3	19.6	97 W	84	13	10 18	5 49.02	+23 27.4	1.191	1.871	28.2	20.4	117 W	68	41
9 13	4 3.38	+53 42.0	1.106	1.604	38.3	19.6	99 W	81	10	10 28	5 51.61	+23 1.2	1.139	1.907	24.7	20.2	127 W	68	41
9 18	4 17.78	+56 7.8	1.079	1.597	38.3	19.5	100 W	79	8	11 7	5 49.77	+22 32.2	1.099	1.945	20.3	20.1	137 W	68	41
9 23	4 32.76	+58 28.5	1.054	1.591	38.2	19.5	101 W	77	6	11 17	5 43.73	+22 0.8	1.073	1.985	15.1	19.9	149 W	67	42
9 28	4 48.30	+60 42.9	1.031	1.586	38.1	19.4	103 W	74	3	11 22	5 39.38	+21 44.3	1.068	2.005	12.2	19.8	155 W	67	42
10 3	5 4.37	+62 50.1	1.009	1.582	37.9	19.3	104 W	72	1	11 27	5 34.37	+21 27.5	1.067	2.025	9.2	19.7	161 W	66	43
10 8	5 20.85	+64 49.2	0.990	1.580	37.6	19.3	105 W	70	—	12 2	5 28.91	+21 10.5	1.073	2.046	6.2	19.6	167 W	66	43
10 13	5 37.56	+66 39.7	0.973	1.578	37.3	19.2	106 W	68	—	12 7	5 23.22	+20 53.6	1.085	2.067	3.2	19.5	173 W	66	43
10 18	5 54.23	+68 21.1	0.956	1.578	37.0	19.2	108 W	67	—	12 12	5 17.52	+20 37.2	1.103	2.087	1.2	19.4	178 W	66	43
10 20	6 0.80	+68 59.0	0.950	1.578	36.8	19.2	108 W	66	—	12 17	5 12.06	+20 21.6	1.128	2.108	3.2	19.6	173 E	65	44
10 22	6 7.29	+69 35.4	0.944	1.578	36.6	19.2	109 W	65	—	12 22	5 7.04	+20 7.3	1.160	2.130	6.0	19.8	167 E	65	44
10 24	6 13.66	+70 10.3	0.939	1.579	36.5	19.1	109 W	65	—	12 27	5 2.63	+19 54.7	1.197	2.151	8.6	20.0	161 E	65	44
10 26	6 19.88	+70 43.7	0.933	1.579	36.3	19.1	110 W	64	—	1 1	4 58.95	+19 44.1	1.241	2.172	11.0	20.2	155 E	65	44
10 28	6 25.92	+71 15.7	0.928	1.580	36.1	19.1	111 W	64	—	1 6	4 56.08	+19 35.7	1.290	2.193	13.3	20.4	149 E	65	44
10 30	6 31.75	+71 46.1	0.923	1.581	35.8	19.1	111 W	63	—	1 11	4 54.05	+19 29.6	1.345	2.215	15.3	20.6	144 E	64	45
11 1	6 37.31	+72 15.1	0.918	1.582	35.6	19.1	112 W	63	—	1 16	4 52.90	+19 25.8	1.404	2.236	17.0	20.8	138 E	64	45
11 3	6 42.58	+72 42.7	0.913	1.584	35.4	19.1	112 W	62	—	344147 2000 PK₈									
11 5	6 47.50	+73 8.9	0.908	1.585	35.1	19.0	113 W	62	—	5 1	23 44.49	+ 0 16.3	2.026	1.482	28.3	21.4	44 W	12*	38*
11 7	6 52.03	+73 33.8	0.904	1.587	34.9	19.0	114 W	61	—	5 11	0 12.02	+ 4 39.8	1.953	1.447	30.1	21.4	46 W	15*	38*
11 9	6 56.13	+73 57.2	0.900	1.589	34.6	19.0	114 W	61	—	5 21	0 40.36	+ 9 9.5	1.889	1.416	31.8	21.3	47 W	18*	38*
11 11	6 59.74	+74 19.3	0.896	1.591	34.3	19.0	115 W	61	—	5 31	1 9.69	+13 39.9	1.833	1.392	33.2	21.2	49 W	21*	38*
11 13	7 2.81	+74 40.0	0.892	1.593	34.1	19.0	116 W	60	—	6 10	1 40.18	+18 4.2	1.786	1.374	34.4	21.2	50 W	25*	36*
11 15	7 5.31	+74 59.3	0.888	1.596	33.8	19.0	116 W	60	—	6 20	2 11.99	+22 15.7	1.748	1.362	35.5	21.1	51 W	29*	34*
11 17	7 7.18	+75 17.1	0.884	1.598	33.4	18.9	117 W	60	—	6 30	2 45.12	+26 6.8	1.717	1.358	36.3	21.1	52 W	33*	32*
11 19	7 8.40	+75 33.4	0.881	1.601	33.1	18.9	118 W	59	—	7 10	3 19.49	+29 30.8	1.693	1.362	36.9	21.1	54 W	37*	29*
11 21	7 8.93	+75 48.0	0.878	1.604	32.8	18.9	118 W	59	—	7 20	3 54.83	+32 22.2	1.674	1.372	37.3	21.1	55 W	42*	27*
11 23	7 8.75	+76 0.9	0.875	1.607	32.5	18.9	119 W	59	—	7 30	4 30.63	+34 37.4	1.659	1.389	37.6	21.1	57 W	46*	25*
11 25	7 7.85	+76 12.0	0.872	1.610	32.1	18.9	120 W	59	—	8 9	5 6.29	+36 15.3	1.644	1.413	37.8	21.2	59 W	49*	23*
11 27	7 6.23	+76 21.1	0.869	1.614	31.7	18.9	121 W	59	—	8 19	5 41.09	+37 17.4	1.630	1.443	37.8	21.2	61 W	53*	22*
11 29	7 3.89	+76 28.1	0.867	1.617	31.4	18.9	121 W	59	—	8 29	6 14.30	+37 47.4	1.613	1.478	37.8	21.2	64 W	56*	21*
12 1	7 0.86	+76 32.7	0.865	1.621	31.0	18.9	122 W	58	—	9 8	6 45.33	+37 50.6	1.593	1.518	37.7	21.2	67 W	60*	21*
12 3	6 57.18	+76 34.9	0.863	1.625	30.6	18.9	123 W	58	—	9 18	7 13.72	+37 33.3	1.568	1.561	37.5	21.3	71 W	64*	21*
12 5	6 52.90	+76 34.4	0.862	1.629	30.3	18.8	124 W	58	—	9 28	7 39.08	+37 2.2	1.537	1.608	37.1	21.3	75 W	69*	22*
12 7																			

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

2020	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°	2020	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°
6239 Minos (continuation)										363027 1998 ST₂₇									
11 12	0 37.77	+11 35.7	0.707	1.611	21.8	19.8	143 E	57	52	5 11	2 26.83	+12 55.3	1.895	0.931	13.0	21.5	12 W	—	6*
11 17	0 33.27	+10 55.2	0.747	1.616	24.8	20.1	137 E	56	53	5 16	2 46.94	+13 43.9	1.850	0.886	13.8	21.4	12 W	—	6*
11 27	0 29.05	+10 1.1	0.838	1.624	29.7	20.5	125 E	55	54	5 21	3 8.30	+14 29.0	1.803	0.839	14.3	21.2	12 W	—	6*
12 7	0 30.18	+9 40.7	0.937	1.626	33.1	20.8	116 E	55	54	5 26	3 31.09	+15 9.7	1.755	0.788	14.7	21.0	11 W	—	5*
12 17	0 35.55	+9 48.6	1.040	1.624	35.5	21.1	107 E	55	54*	5 31	3 55.50	+15 45.0	1.706	0.734	14.8	20.8	11 W	—	5*
12 27	0 44.27	+10 19.7	1.143	1.618	36.9	21.3	99 E	55	51*	6 5	4 21.76	+16 13.9	1.656	0.678	14.5	20.6	10 W	—	3*
487580 2015 BA₉₂										105140 2000 NL₁₀									
5 11	1 21.18	+7 49.0	0.964	0.493	80.7	21.2	29 W	5*	22*	5 11	2 28.11	+19 5.0	0.718	146.1	20.4	11 W	2*	3*	
5 16	1 46.70	+7 47.3	1.069	0.505	69.7	21.1	28 W	3*	22*	5 12	2 21.07	+20 8.6	0.712	139.7	19.6	13 W	4*	5*	
5 21	2 11.95	+8 11.7	1.170	0.531	59.7	21.1	27 W	1*	21*	5 13	2 14.34	+21 11.4	0.708	134.1	19.1	16 W	6*	6*	
5 26	2 36.42	+8 52.4	1.265	0.570	51.4	21.2	26 W	—	20*	5 14	2 7.92	+22 13.0	0.705	129.0	18.7	18 W	9*	8*	
5 31	2 59.83	+9 41.1	1.354	0.616	44.7	21.3	25 W	—	19*	5 15	2 1.85	+23 13.0	0.704	124.3	18.4	21 W	11*	9*	
6 5	3 22.04	+10 32.2	1.436	0.668	39.6	21.5	25 W	—	19*	5 16	1 56.11	+24 11.5	0.705	120.1	18.2	23 W	13*	11*	
280491 2004 MO₇										325102 2008 EY₅									
5 11	1 43.10	+0 37.4	1.756	0.984	28.7	21.4	28 W	—	21*	5 11	2 8.82	+14 17.1	0.954	0.273	93.9	20.5	16 W	1*	9*
5 21	2 21.10	+6 28.9	1.689	0.896	29.6	21.2	26 W	—	20*	5 13	2 22.62	+15 26.2	1.026	0.249	79.5	19.9	14 W	1*	8*
5 31	3 3.67	+12 40.8	1.634	0.805	29.5	20.9	23 W	1*	17*	5 15	2 38.58	+16 36.6	1.097	0.236	62.6	19.4	12 W	—	5*
6 10	3 52.65	+18 55.3	1.593	0.718	27.9	20.5	19 W	3*	12*	5 17	2 56.51	+17 45.5	1.164	0.235	44.9	19.0	9 W	—	3*
6 20	4 50.19	+24 36.8	1.568	0.648	24.0	20.1	15 W	4*	6*	5 19	3 15.68	+18 49.1	1.222	0.247	28.5	18.8	7 W	—	—
6 25	5 22.64	+26 57.6	1.561	0.610	21.2	19.9	13 W	4*	3*	5 21	3 35.18	+19 44.2	1.270	0.270	14.9	18.6	4 W	—	—
6 30	5 57.44	+28 46.2	1.557	0.587	18.3	19.7	10 W	4*	—	5 23	3 54.36	+20 29.5	1.310	0.299	4.3	18.5	1 W	—	—
7 5	6 34.10	+29 53.8	1.557	0.573	15.7	19.6	9 W	3*	—	5 25	4 12.86	+21 5.1	1.344	0.332	3.6	18.7	1 E	—	—
7 10	7 11.78	+30 13.4	1.559	0.570	14.5	19.6	8 W	1*	—	5 27	4 30.53	+21 31.9	1.373	0.366	9.4	19.2	3 E	—	—
7 15	7 49.37	+29 42.6	1.563	0.578	15.2	19.6	9 E	2*	—	5 29	4 47.37	+21 50.9	1.399	0.401	13.8	19.6	5 E	—	—
7 20	8 25.77	+28 23.7	1.571	0.596	17.1	19.8	10 E	4*	—	5 31	5 3.40	+22 3.2	1.423	0.436	17.0	20.0	7 E	—	—
7 25	9 0.13	+26 23.6	1.582	0.623	19.5	20.0	12 E	5*	—	6 2	5 18.67	+22 9.6	1.445	0.470	19.4	20.2	9 E	—	2*
7 30	9 31.98	+23 51.5	1.597	0.657	21.5	20.2	14 E	6*	3*	6 4	5 33.22	+22 10.9	1.467	0.503	21.2	20.5	10 E	—	3*
8 4	10 1.21	+20 56.9	1.617	0.695	23.1	20.4	16 E	7*	6*	6 6	5 47.10	+22 7.9	1.488	0.534	22.5	20.7	12 E	1*	4*
8 9	10 27.94	+17 48.4	1.641	0.737	24.1	20.5	17 E	7*	8*	6 8	6 0.37	+22 1.0	1.508	0.565	23.4	20.9	13 E	1*	6*
8 14	10 52.44	+14 33.1	1.670	0.781	24.6	20.7	19 E	7*	10*	6 10	6 13.07	+21 50.9	1.528	0.594	24.1	21.0	14 E	2*	7*
8 19	11 14.98	+11 16.3	1.702	0.826	24.7	20.9	20 E	7*	12*	6 15	6 42.57	+21 13.7	1.577	0.662	24.9	21.3	16 E	2*	9*
8 24	11 35.88	+8 1.8	1.739	0.871	24.4	21.0	21 E	6*	14*	6 20	7 9.29	+20 23.9	1.624	0.722	25.0	21.6	17 E	2*	10*
8 29	11 55.39	+4 52.5	1.778	0.916	23.8	21.2	22 E	5*	15*	6 25	7 33.69	+19 25.1	1.670	0.776	24.6	21.8	19 E	2*	12*
9 3	12 13.74	+1 50.1	1.819	0.961	23.1	21.3	22 E	5*	16*	6 30	7 56.13	+18 20.0	1.713	0.824	23.9	22.0	19 E	2*	13*
9 8	12 31.14	-1 4.5	1.863	1.004	22.2	21.4	22 E	4*	16*										
5 11	1 46.93	+8 11.9	1.229	0.493	52.7	21.3	23 W	1*	17*	5 23	1 24.38	+30 14.8	0.727	0.605	98.5	17.6	36 W	25*	18*
5 16	2 16.79	+10 55.5	1.322	0.506	42.8	21.2	20 W	—	14*	5 25	1 17.52	+31 46.0	0.736	0.645	94.1	17.5	39 W	28*	19*
5 21	2 45.80	+13 26.7	1.411	0.535	33.9	21.2	17 W	—	11*	5 27	1 11.37	+33 12.8	0.745	0.683	90.3	17.5	42 W	31*	20*
5 26	3 13.74	+15 41.2	1.496	0.578	26.7	21.3	15 W	—	9*	5 29	1 5.83	+34 35.8	0.754	0.720	86.8	17.5	45 W	34*	20*
5 31	3 40.44	+17 37.0	1.575	0.629	21.1	21.4	13 W	—	7*	5 31	1 0.78	+35 55.7	0.763	0.755	83.8	17.5	48 W	37*	21*
5 11	1 54.78	+9 7.1	1.397	0.577	38.3	21.3	21 W	—	15*	6 2	0 56.13	+37 12.8	0.772	0.789	81.0	17.6	50 W	39*	21*
5 16	2 26.89	+9 59.7	1.433	0.568	33.7	21.2	18 W	—	12*	6 4	0 51.80	+38 27.5	0.780	0.822	78.5	17.6	53 W	42*	21*
5 21	2 58.97	+10 51.4	1.470	0.567	29.0	21.1	16 W	—	10*	6 6	0 47.72	+39 40.2	0.788	0.854	76.2	17.6	55 W	44*	21*
5 26	3 30.74	+11 41.2	1.509	0.576	24.5	21.0	14 W	—	7*	6 8	0 43.81	+40 51.1	0.795	0.885	74.1	17.6	57 W	47*	21*
5 31	4 1.91	+12 27.8	1.547	0.593	20.6	21.0	12 W	—	5*	6 10	0 40.03	+42 0.5	0.801	0.915	72.2	17.7	59 W	49*	20*
6 5	4 32.24	+13 9.7	1.586	0.618	17.5	21.1	11 W	—	3*	6 12	0 36.30	+43 8.4	0.807	0.944	70.4	17.7	61 W	51*	20*
6 10	5 1.58	+13 45.4	1.625	0.647	15.3	21.2	10 W	—	1*	6 14	0 32.60	+44 15.1	0.812	0.972	68.7	17.7	63 W	54*	19*
6 15	5 29.80	+14 14.2	1.665	0.681	13.7	21.3	9 W	—	—	6 16	0 28.85	+45 20.7	0.817	0.999	67.2	17.7	65 W	56*	18*
6 20	5 56.87	+14 35.2	1.704	0.717	12.6	21.4	9 E	—	—	6 18	0 25.02	+46 25.0	0.821	1.025	65.7	17.7	67 W	58*	17*
5 11	2 8.82	+14 17.1	0.954	0.273	93.9	20.5	16 W	1*	9*	6 20	0 21.07	+47 28.3	0.825	1.051	64.3	17.8	69 W	61*	17*
5 13	2 22.62	+15 26.2	1.026	0.249	79.5	19.9	14 W	1*	8*	6 22	0 16.94	+48 30.4	0.828	1.076	63.0	17.8	70 W	63*	15
5 15	2 38.58	+16 36.6	1.097	0.236	62.6	19.4	12 W	—	5*	6 24	0 12.61	+49 31.4	0.831	1.100	61.7	17.8	72 W	65*	14
5 17	2 56.51	+17 45.5	1.164	0.235	44.9	19.0	9 W	—	3*	6 26	0 8.02	+50 31.0	0.833	1.123	60.5	17.8	74 W	67*	13
5 19	3 15.68	+18 49.1	1.222	0.247	28.5	18.8	7 W	—	—	6 28	0 3.14	+51 29.3	0.835	1.146	59.3	17.8	76 W	69*	13
5 21	3 35.18	+19 44.2	1.270	0.270	14.9	18.6	4 W	—	—	6 30	23 57.93	+52 26.0	0.837	1.168	58.2	17.8	77 W	71*	12
5 23	3 54.36	+20 29.5	1.310	0.299	4.3	18.5	1 W	—	—	7 2	23 52.35	+53 21.0	0.838	1.189	57.1	17.9	79 W	73*	11
5 25	4 12.86	+21 5.1	1.344	0.332	3.6	18.7	1 E	—	—	7 4	23 46.37	+54 14.2	0.839	1.210	56.1	17.9	81 W	75*	10
5 27	4 30.53	+21 31.9	1.373	0.366	9.4	19.2	3 E	—	—	7 6	23 39.96	+55 5.1	0.840	1.230	55.0	17.9	82 W	76*	9
5 29	4 47.37	+21 50.9	1.399	0.401	13.8	19.6	5 E	—	—	7 8	23 33.08	+55 53.7	0.840	1.249	54.0	17.9	84 W	77*	8
5 31	5 3.40	+22																	

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

2020	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°	2020	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°		
255071 2005 UH₆ (continuation)										162215 1999 TL₁₂ (continuation)											
9 26	15 20.92	-21 22.2	0.542	0.778	97.2	19.8	50	E	10*	44*	6 20	7 4.15	+15 18.9	1.606	0.715	26.3	20.6	18	E	—	12*
9 28	15 40.49	-22 32.0	0.533	0.804	94.9	19.7	53	E	11*	47*	6 30	7 56.49	+14 42.1	1.498	0.654	33.3	20.5	21	E	—	15*
9 30	16 0.59	-23 33.2	0.526	0.830	92.5	19.7	56	E	11*	50*	7 10	8 52.50	+13 39.9	1.385	0.617	42.3	20.4	24	E	2*	18*
10 2	16 21.03	-24 24.6	0.522	0.855	89.9	19.6	59	E	12*	53*	7 15	9 21.56	+13 0.7	1.328	0.610	47.2	20.4	26	E	4*	20*
10 4	16 41.60	-25 5.1	0.522	0.879	87.2	19.6	61	E	13*	55*	7 20	9 51.11	+12 17.0	1.271	0.611	52.0	20.5	28	E	6*	22*
10 6	17 2.07	-25 34.5	0.524	0.903	84.5	19.5	64	E	14*	58*	7 25	10 20.99	+11 29.0	1.217	0.622	56.5	20.5	31	E	8*	24*
10 8	17 22.22	-25 52.7	0.529	0.927	81.8	19.5	67	E	15*	61*	7 30	10 51.06	+10 36.6	1.167	0.639	60.3	20.6	33	E	10*	26*
10 10	17 41.84	-26 0.3	0.536	0.950	79.1	19.5	69	E	16*	63*	8 4	11 21.19	+9 39.6	1.121	0.664	63.4	20.7	36	E	13*	28*
10 12	18 0.78	-25 58.2	0.546	0.972	76.5	19.5	71	E	17*	65*	8 9	11 51.32	+8 37.3	1.081	0.694	65.5	20.8	39	E	15*	30*
10 14	18 18.89	-25 47.5	0.558	0.995	74.0	19.5	73	E	18*	67*	8 14	12 21.35	+7 29.5	1.047	0.728	66.8	20.9	41	E	18*	33*
10 16	18 36.10	-25 29.5	0.572	1.016	71.6	19.5	75	E	19*	69*	8 19	12 51.21	+6 16.2	1.021	0.764	67.3	20.9	44	E	20*	35*
10 18	18 52.37	-25 5.4	0.588	1.037	69.4	19.6	77	E	19*	71*	8 24	13 20.78	+4 57.8	1.002	0.803	67.1	21.0	47	E	22*	37*
10 20	19 7.68	-24 36.5	0.606	1.058	67.3	19.6	79	E	20*	72*	8 29	13 49.93	+3 35.5	0.990	0.843	66.3	21.0	50	E	24*	40*
10 22	19 22.05	-24 4.0	0.625	1.078	65.3	19.7	80	E	21*	73*	9 3	14 18.53	+2 10.8	0.986	0.883	65.1	21.1	53	E	26*	42*
10 24	19 35.51	-23 28.6	0.645	1.098	63.5	19.7	81	E	22*	74*	9 8	14 46.45	+0 45.3	0.989	0.923	63.5	21.2	55	E	28*	44*
10 26	19 48.12	-22 51.3	0.667	1.118	61.8	19.8	82	E	22*	75*	9 13	15 13.57	+0 39.0	0.999	0.962	61.7	21.2	57	E	29*	46*
10 28	19 59.94	-22 12.8	0.690	1.136	60.2	19.8	83	E	23*	75*	9 18	15 39.82	-2 0.4	1.015	1.001	59.8	21.3	59	E	31*	48*
11 2	20 26.37	-20 33.9	0.750	1.182	56.6	20.0	84	E	24*	75*	9 23	16 5.11	-3 17.3	1.037	1.039	57.8	21.3	61	E	31*	49*
11 7	20 49.10	-18 55.5	0.816	1.225	53.7	20.2	85	E	26*	74*	9 28	16 29.42	-4 28.3	1.065	1.076	55.8	21.4	63	E	32*	50*
11 12	21 8.93	-17 19.9	0.884	1.265	51.2	20.3	85	E	28*	73*	312473 2008 SX₂₄₅										
11 17	21 26.52	-15 48.3	0.955	1.303	49.0	20.5	84	E	29*	71*	5 11	4 27.95	+16 12.5	2.198	1.278	14.3	21.5	18	E	5*	11*
11 22	21 42.36	-14 20.5	1.028	1.339	47.1	20.7	83	E	31	68*	5 21	5 2.58	+16 53.9	2.157	1.226	14.0	21.3	17	E	2*	10*
11 27	21 56.82	-12 56.5	1.102	1.372	45.4	20.8	82	E	32	66*	5 31	5 39.14	+17 12.0	2.117	1.180	14.1	21.2	16	E	—	10*
12 2	22 10.20	-11 35.8	1.176	1.403	43.9	21.0	80	E	33	63*	6 10	6 17.40	+17 2.7	2.081	1.141	14.3	21.1	16	E	—	10*
12 7	22 22.72	-10 18.0	1.251	1.432	42.4	21.1	79	E	35	60*	6 20	6 57.02	+16 23.4	2.050	1.110	14.8	21.0	16	E	—	10*
12 12	22 34.57	-9 2.6	1.325	1.459	41.1	21.2	77	E	36	57*	6 30	7 37.53	+15 12.6	2.026	1.090	15.3	21.0	16	E	—	10*
12 17	22 45.88	-7 49.3	1.399	1.483	39.8	21.4	75	E	37	54*	7 10	8 18.38	+13 31.6	2.012	1.080	15.8	20.9	17	E	—	11*
12 22	22 56.76	-6 37.6	1.472	1.506	38.5	21.5	73	E	38*	51*	7 20	8 59.08	+11 23.7	2.009	1.082	16.2	21.0	17	E	—	11*
225900 2002 AF₃										439854 1998 XA₅											
5 11	3 55.15	+26 48.6	2.525	1.560	8.6	21.4	13	E	7*	—	5 11	4 34.38	+24 2.8	2.031	1.137	17.8	21.4	20	E	11*	8*
5 21	4 23.63	+27 54.3	2.451	1.468	7.3	21.1	11	E	5*	—	5 21	5 12.48	+22 18.9	2.020	1.112	17.1	21.4	19	E	8*	9*
5 31	4 54.81	+28 43.1	2.368	1.374	6.3	20.8	8	E	2*	—	5 31	5 50.18	+20 1.0	2.010	1.094	16.9	21.3	18	E	4*	11*
6 10	5 28.93	+29 8.2	2.279	1.277	5.6	20.6	7	E	1*	—	6 10	6 27.26	+17 11.6	2.000	1.083	17.1	21.3	18	E	—	12*
6 20	6 6.15	+29 0.9	2.185	1.179	5.3	20.3	6	E	—	—	6 20	7 3.68	+13 54.5	1.991	1.080	17.7	21.3	19	E	—	13*
6 25	6 25.93	+28 41.9	2.137	1.130	5.2	20.1	6	E	—	—	6 30	7 39.46	+10 14.5	1.984	1.084	18.5	21.3	20	E	—	13*
6 30	6 46.45	+28 11.0	2.089	1.082	5.2	20.0	5	E	—	—	7 10	8 14.69	+6 17.0	1.982	1.096	19.5	21.4	21	E	—	14*
7 5	7 6.99	+27 26.6	2.042	1.033	5.1	19.8	5	E	—	—	7 20	8 49.52	+2 8.2	1.986	1.115	20.3	21.4	22	E	—	14*
7 10	7 29.59	+26 27.4	1.995	0.986	5.2	19.7	5	E	—	—											
7 15	7 52.10	+25 12.1	1.949	0.940	5.3	19.6	5	E	—	—											
7 20	8 15.12	+23 39.7	1.905	0.897	5.6	19.4	5	E	—	—											
7 25	8 38.57	+21 49.4	1.862	0.856	6.3	19.3	5	E	—	—											
7 30	9 2.37	+19 40.8	1.822	0.819	7.4	19.2	6	E	—	—											
8 9	9 50.64	+14 30.8	1.749	0.761	11.3	19.1	8	E	—	2*											
8 19	10 39.41	+8 19.9	1.688	0.730	16.9	19.2	12	E	—	6*											
8 29	11 28.36	+1 30.2	1.644	0.733	22.9	19.3	16	E	—	10*											
9 3	11 52.88	+1 59.7	1.629	0.747	25.6	19.4	19	E	—	13*											
9 8	12 17.45	-5 27.6	1.620	0.768	27.9	19.5	21	E	—	15*											
9 13	12 42.09	+8 49.5	1.618	0.797	29.7	19.6	23	E	—	17*											
9 18	13 6.78	-12 1.9	1.623	0.831	30.9	19.8	25	E	—	19*											
9 23	13 31.52	-15 1.7	1.634	0.869	31.6	19.9	27	E	—	21*											
9 28	13 56.24	-17 46.4	1.652	0.911	31.9	20.0	29	E	—	22*											
10 3	14 20.87	-20 14.1	1.677	0.955	31.8	20.2	30	E	—	24*											
10 8	14 45.34	-22 23.8	1.709	1.001	31.3	20.3	31	E	—	25*											
10 13	15 9.52	-24 15.1	1.746	1.049	30.6	20.4	32	E	1*	26*											
10 18	15 33.32	-25 48.0	1.789	1.098	29.7	20.6	33	E	1*	27*											
10 23	15 56.62	-27 3.3	1.837	1.146	28.6	20.7	33	E	2*	27*											
10 28	16 19.30	-28 2.0	1.889	1.195	27.4	20.8	34	E	2*	28*											
11 2	16 41.29	-28 45.2	1.944	1.244	26.1	20.9	34	E	3*	28*											
11 7	17 2.52	-29 14.6	2.003	1.293	24.8	21.0	33	E	4*	27*											
11 12	17 22.96	-29 31.5	2.064	1.341	23.5	21.1	33	E	4*	27*											
11 17	17 42.58	-29 37.4	2.126	1.389	22.1	21.2	32	E	4*	26*											
11 22	18 1.37	-29 33.8	2.190	1.437	20.7	21.3	31	E	5*	25*											
11 27	18 19.34	-29 21.8	2.255	1.483	19.4	21.4	30	E	5*	24*											
12 2	18 36.52	-29 2.8	2.320	1.529	18.0	21.5	29	E	5*	22*											
37638 1993 VB										154991 Vinciguerra											
5 11	4 14.70	+18 52.9	1.895	0.954	15.7	21.4	15	E	5*	7*											
5 16	4 37.60	+19 53.9	1.873	0.939	16.7	21.4	16	E	5*	7*											
5 21	5 1.22	+20 44.9	1.854	0.927	17.8	21.4	16	E	5*	8*											
5 26	5 25.46	+21 24.3	1.838	0.919	18.9	21.4	17	E	5*	9*											
5 31	5 50.17	+21 51.0	1.825	0.916	20.1	21.4	18	E	6*	10*											
6 5	6 15.20	+22 4.0	1.815	0.918	21.1	21.4	19	E	6*	11*											
6 10	6 40.37	+22 2.9	1.809	0.924	22.2	21.5	20	E	6*	12*											
162215 1999 TL₁₂										459046 2012 AS₁₀											
5 11	4 14.86	+13 35.8	1.961	1.026	15.4	21.5	16	E	1*	9*											
5 21	4 51.71	+14 32.9	1.886	0.948	16.4	21.2	15	E	—	9*											
5 31	5 31.94	+15 11.8	1.801	0.868	18.3	21.0	16	E	—	10*											
6 10	6 15.97	+15 28.3	1.707	0.789	21.5	20.8	17	E	—	11*											
5 11	5 58.01	+31 21.4	2.525	1.864	20.3	21.5	40	E	30*	17*											
5 21	6 24.58	+31 14.1	2.541	1.809	18.8	21.4	35	E	25*	16*											
5 31	6 40.30	+30 54.5	2.544	1.751	17.2	21.3	31	E	21*	14*											
6 10	7 9.09	+30 20.2	2.534	1.691	15.7	21.1	27	E	16*	12*											

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

20/21	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45° - 26°	2020	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45° - 26°
459046 2012 AS₁₀ (continuation)									314212 2005 NJ₁								
6 20	7 34.89	+29 29.3	2.512	1.627	14.2	21.0	23 E	13* 10*	5 11	16 9.74	-30 20.4	2.117	3.093	5.8	23.0	162 W	15 86
6 30	8 1.64	+28 19.5	2.479	1.561	12.8	20.8	20 E	10* 8*	5 16	16 3.39	-30 9.2	2.081	3.074	4.3	22.9	167 W	15 86
7 10	8 29.28	+26 48.8	2.435	1.492	11.4	20.6	17 E	8* 6*	5 21	15 56.75	-29 54.1	2.052	3.054	3.2	22.8	170 W	15 86
7 20	8 57.79	+24 54.8	2.382	1.420	10.2	20.4	14 E	6* 4*	5 26	15 49.97	-29 35.4	2.031	3.034	3.3	22.8	170 E	15 86
7 30	9 27.18	+22 35.4	2.321	1.347	9.2	20.2	12 E	5* 2*	5 31	15 43.20	-29 13.4	2.018	3.013	4.4	22.8	167 E	16 87
8 9	9 57.45	+19 48.5	2.254	1.272	8.4	20.0	11 E	3* 1*	6 5	15 36.60	-28 48.5	2.012	2.992	6.1	22.9	162 E	16 87
8 19	10 28.72	+16 32.2	2.184	1.196	7.8	19.7	9 E	2* —	6 10	15 30.30	-28 21.4	2.013	2.971	7.9	22.9	156 E	17 88
8 29	11 1.13	+12 44.9	2.111	1.120	7.4	19.5	8 E	2* —	455157 1997 YM₃								
9 8	11 34.88	+ 8 26.3	2.038	1.047	7.2	19.3	8 E	1* —	5 11	16 18.64	-25 57.3	2.533	3.510	4.9	22.3	163 W	19 90
9 18	12 10.32	+ 3 37.5	1.968	0.978	7.3	19.1	7 E	— —	5 21	16 8.98	-25 35.4	2.444	3.451	2.0	22.0	173 W	19 90
9 23	12 28.80	+ 1 2.8	1.934	0.947	7.6	19.0	7 E	— —	5 31	15 58.57	-25 5.6	2.385	3.391	2.5	21.9	172 E	20 89
9 28	12 47.85	- 1 37.6	1.902	0.917	8.0	18.9	7 E	— —	6 10	15 48.28	-24 29.9	2.356	3.330	5.9	22.0	160 E	21 88
10 3	13 7.55	+ 4 22.6	1.872	0.891	8.7	18.8	8 E	— 1*	6 20	15 38.95	-23 51.4	2.355	3.267	9.2	22.1	149 E	21 88
10 8	13 27.97	+ 7 10.7	1.844	0.868	9.6	18.8	8 E	— 2*	497504 2006 BG₉								
10 13	13 49.18	-10 0.0	1.819	0.849	10.8	18.7	9 E	— 3*	5 11	16 18.83	-57 22.0	2.812	3.632	10.6	22.7	139 W	— 59
10 18	14 11.26	-12 48.3	1.796	0.834	12.2	18.7	10 E	— 4*	5 16	16 11.75	-57 26.7	2.787	3.629	10.1	22.7	141 W	— 59
10 23	14 34.25	-15 32.8	1.776	0.825	13.8	18.7	11 E	— 5*	5 21	16 4.36	-57 24.6	2.768	3.626	9.7	22.6	143 W	— 59
10 28	14 58.18	-18 10.5	1.760	0.820	15.4	18.7	13 E	— 7*	5 26	15 56.87	-57 15.4	2.755	3.622	9.5	22.6	144 E	— 59
11 2	15 23.08	-20 38.3	1.747	0.821	17.1	18.8	14 E	— 8*	5 31	15 49.47	-56 59.3	2.748	3.618	9.5	22.6	144 E	— 59
11 7	15 48.89	-22 52.9	1.738	0.827	18.7	18.8	16 E	— 10*	6 5	15 42.38	-56 36.7	2.748	3.614	9.6	22.6	144 E	— 59
11 12	16 15.53	-24 51.3	1.733	0.838	20.2	18.9	17 E	— 11*	6 10	15 35.74	-56 8.1	2.753	3.610	9.9	22.6	142 E	— 60
11 17	16 42.86	-26 30.8	1.733	0.854	21.5	19.0	18 E	— 12*	365246 2009 NE								
11 22	17 10.65	-27 49.4	1.737	0.874	22.5	19.1	20 E	— 14*	5 11	16 21.56	-11 2.9	3.926	4.896	3.7	22.7	162 W	34 75
11 27	17 38.63	-28 45.7	1.746	0.899	23.2	19.2	21 E	— 15*	5 21	16 13.34	-10 22.9	3.912	4.909	2.3	22.6	169 W	35 74
12 2	18 6.52	-29 19.4	1.760	0.926	23.7	19.3	22 E	— 16*	5 31	16 5.02	- 9 46.3	3.931	4.922	2.8	22.6	166 E	35 74
12 7	18 34.01	-29 30.9	1.779	0.956	24.0	19.4	23 E	— 17*	6 10	15 57.05	- 9 14.9	3.982	4.933	4.6	22.8	157 E	36 73
12 12	19 0.83	-29 21.6	1.802	0.988	24.0	19.5	24 E	— 18*	6 20	15 49.85	- 8 49.9	4.062	4.943	6.5	22.9	147 E	36 73
12 17	19 26.75	-28 53.4	1.830	1.023	23.7	19.6	25 E	— 18*	450795 2007 TE₃₀₀								
12 22	19 51.60	-28 8.6	1.862	1.058	23.3	19.7	25 E	— 18*	5 11	16 26.68	-24 51.7	3.645	4.614	4.0	22.8	161 W	20 89
12 27	20 15.28	-27 9.8	1.897	1.095	22.8	19.8	26 E	— 18*	5 21	16 20.18	-24 45.6	3.600	4.604	1.8	22.6	172 W	20 89
1 1	20 37.73	-25 59.4	1.935	1.132	22.1	19.9	26 E	— 18*	5 31	16 13.35	-24 36.2	3.584	4.594	1.1	22.5	175 E	20 89
1 6	20 58.96	-24 39.8	1.977	1.169	21.3	20.0	26 E	— 18*	6 10	16 6.69	-24 24.4	3.597	4.584	3.4	22.7	165 E	21 88
1 11	21 19.01	-23 13.2	2.021	1.207	20.4	20.0	25 E	— 17*	6 20	16 0.67	-24 11.5	3.640	4.574	5.6	22.9	154 E	21 88
1 16	21 37.95	-21 41.4	2.067	1.245	19.4	20.1	25 E	— 17*	523641 2010 RO₈₂								
5 11	8 13.31	+34 59.7	1.113	1.190	51.9	21.4	68 E	56* 28*	5 11	16 26.80	-39 15.7	2.732	3.661	7.1	22.4	153 W	6 77
5 16	8 18.69	+34 8.2	1.098	1.129	54.0	21.3	65 E	52* 28*	5 16	16 20.87	-39 20.2	2.723	3.676	6.1	22.4	157 W	6 77
5 21	8 24.61	+33 13.2	1.077	1.066	56.4	21.2	61 E	48* 28*	5 21	16 14.77	-39 20.5	2.722	3.690	5.3	22.3	160 W	6 77
5 26	8 30.90	+32 14.3	1.050	1.002	59.1	21.1	58 E	44* 28*	5 26	16 8.60	-39 16.7	2.728	3.705	4.9	22.3	162 E	6 77
5 31	8 37.36	+31 10.7	1.016	0.936	62.4	21.0	55 E	40* 28*	5 31	16 2.51	-39 8.9	2.742	3.718	4.9	22.4	162 E	6 77
6 5	8 43.70	+30 1.7	0.975	0.869	66.4	20.9	52 E	36* 28*	6 5	15 56.62	-38 57.6	2.764	3.732	5.4	22.4	160 E	6 77
6 10	8 49.53	+28 46.3	0.927	0.802	71.5	20.8	49 E	32* 27*	6 10	15 51.04	-38 43.2	2.792	3.745	6.2	22.5	156 E	6 77
6 15	8 54.26	+27 23.5	0.872	0.736	77.9	20.7	45 E	28* 27*	338176 2002 RC₁₁₈								
6 20	8 56.94	+25 52.1	0.809	0.671	86.2	20.6	41 E	24* 26*	5 11	16 27.30	- 1 4.4	3.654	4.590	5.3	23.4	155 W	44 65
6 25	8 56.07	+24 10.7	0.741	0.610	97.2	20.7	37 E	19* 24*	5 21	16 20.27	+ 0 17.5	3.638	4.597	4.5	23.3	159 W	45 64
6 30	8 49.40	+22 17.8	0.670	0.556	111.7	21.0	31 E	14* 20*	5 31	16 13.02	+ 0 20.4	3.651	4.603	4.9	23.3	157 E	45 64
5 11	16 6.97	-28 20.7	2.638	3.619	4.5	24.2	164 W	17 88	6 10	16 6.03	+ 0 47.6	3.693	4.608	6.1	23.4	151 E	46 63
5 16	16 1.79	-28 18.8	2.610	3.606	3.2	24.1	169 W	17 88	6 20	15 59.69	+ 1 3.5	3.762	4.612	7.7	23.5	143 E	46 63
5 21	15 56.42	-28 14.6	2.589	3.593	2.3	24.0	172 W	17 88	513776 2013 AA₂								
5 26	15 50.98	-28 8.3	2.575	3.581	2.4	24.0	172 E	17 88	5 11	16 28.03	-12 50.1	3.402	4.370	4.3	24.4	161 W	32 77
5 31	15 45.57	-28 0.0	2.570	3.567	3.4	24.0	168 E	17 88	5 21	16 20.54	-12 26.2	3.361	4.360	2.4	24.3	170 W	33 76
6 5	15 40.30	-27 50.0	2.572	3.554	4.8	24.1	163 E	17 88	5 31	16 12.72	-12 5.2	3.350	4.349	2.5	24.3	169 E	33 76
6 10	15 35.28	-27 38.6	2.581	3.540	6.3	24.2	157 E	17 88	6 10	16 5.10	-11 48.4	3.369	4.338	4.5	24.4	160 E	33 76
6 20	15 29.54	-13 15.6	2.249	3.130	11.0	24.3	144 E	32 77	6 20	15 58.16	-11 36.9	3.417	4.326	6.8	24.6	150 E	33 76
5 11	16 7.51	-34 49.4	1.715	2.682	7.7	22.5	159 W	10 81	387648 2002 RT₂₅								
5 16	16 1.60	-34 48.5	1.686	2.669	6.4	22.4	163 W	10 81	5 11	16 29.92	+20 12.1	1.942	2.771	14.3	23.9	137 W	65 44
5 21	15 55.37	-34 42.6	1.663	2.655	5.5	22.3	165 W	10 81	5 16	16 24.58	+20 49.5	1.938	2.773	14.1	23.9	138 W	66 43
5 26	15 49.00	-34 31.8	1.648	2.641	5.4	22.2	166 E	10 81	5 21	16 18.99	+21 18.6	1.940	2.776	14.1	23.9	138 W	66 43
5 31	15 42.68	-34 16.2	1.639	2.627	6.3	22.3	164 E	11 82	5 26	16 13.31	+21 38.9	1.947	2.777	14.3	23.9	137 W	67 42
6 5	15 36.60	-33 56.6	1.637	2.612	7.7	22.3	160 E	11 82	5 31	16 7.66	+21 50.0	1.960	2.778	14.7	23.9	136 E	67 42
6 10	15 30.92	-33 33.6	1.641	2.598	9.4	22.4	155 E	11 82	6 5	16 2.18	+21 52.0	1.978	2.779	15.2	23.9	134 E	67 42
6 15	15 25.77	-33 8.0	1.651	2.583	11.3	22.4	150 E	12 83	6 10	15 56.98	+21 45.3	2.001	2.780	15.9	24.0	132 E	67 42
6 20	15 20.00	-32 43.2	1.662	2.572	13.8	22.5	145 E	12 83	6 15	1							

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

2020	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°	2020	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°
418416 2008 LV₁₆										370178 2002 CO₁₂									
5 11	16 34.27	-21 27.8	0.843	1.826	10.7	21.9	160 W	24	85	5 11	16 58.32	+12 22.4	2.747	3.580	10.4	22.4	140 W	57	52
5 21	16 20.39	-20 12.6	0.732	1.741	3.9	21.2	173 W	25	84	5 21	16 50.46	+12 54.5	2.719	3.587	9.6	22.4	144 W	58	51
5 31	16 1.51	-18 27.8	0.644	1.654	4.9	20.9	172 E	27	82	5 31	16 41.91	+13 6.7	2.715	3.592	9.3	22.4	145 W	58	51
6 10	15 39.32	-16 14.4	0.579	1.564	14.8	20.9	157 E	29	80	6 10	16 33.32	+12 57.5	2.736	3.597	9.8	22.4	143 E	58	51
6 20	15 16.55	-13 42.3	0.534	1.472	25.5	20.9	141 E	31	78	6 20	16 25.34	+12 27.3	2.782	3.601	10.9	22.5	138 E	57	52
6 30	14 56.25	-11 9.3	0.506	1.378	36.5	21.0	126 E	34*	75	335071 2004 RB₂₉₀									
7 10	14 40.42	-8 50.9	0.486	1.283	47.1	21.1	112 E	35*	73	5 11	16 59.56	-28 10.9	2.371	3.305	7.9	21.3	153 W	17	88
7 20	14 29.53	-6 52.7	0.467	1.188	57.5	21.1	100 E	34*	71	5 21	16 50.74	-28 14.2	2.293	3.279	4.8	21.1	164 W	17	88
7 30	14 22.81	-5 10.3	0.442	1.094	68.0	21.1	88 E	32*	69*	5 31	16 40.63	-28 9.8	2.243	3.252	2.0	20.9	173 W	17	88
8 9	14 18.14	-3 28.4	0.409	1.005	79.6	21.1	77 E	30*	64*	6 10	16 30.14	-27 57.6	2.222	3.225	3.4	20.9	169 E	17	88
8 19	14 11.93	-1 22.4	0.364	0.923	93.4	21.3	66 E	27*	55*	6 20	16 20.18	-27 39.2	2.230	3.196	6.8	21.1	158 E	17	88
523604 2004 QB₁₇										6 30	16 11.64	-27 17.2	2.265	3.167	10.0	21.2	147 E	18	89
5 11	16 34.87	-26 45.8	2.396	3.359	6.2	23.4	159 W	18	89	7 10	16 5.15	-26 55.1	2.323	3.137	13.0	21.4	136 E	18	89
5 16	16 29.76	-26 35.1	2.380	3.366	4.5	23.3	165 W	18	89	496890 2000 VR₂₃									
5 21	16 24.42	-26 22.4	2.371	3.373	2.9	23.2	170 W	19	90	5 11	16 59.64	-20 43.7	1.624	2.573	9.7	21.3	155 W	24	85
5 26	16 18.98	-26 7.8	2.370	3.380	1.6	23.1	175 W	19	90	5 21	16 50.68	-20 6.1	1.554	2.548	5.4	21.0	166 W	25	84
5 31	16 13.56	-25 51.5	2.376	3.386	1.7	23.1	174 E	19	90	5 31	16 40.07	-19 24.3	1.510	2.523	1.2	20.7	177 W	26	83
6 5	16 8.27	-25 34.1	2.390	3.392	3.2	23.3	169 E	19	90	6 10	16 29.00	-18 41.1	1.493	2.496	4.5	20.9	169 E	26	83
6 10	16 3.21	-25 15.7	2.411	3.398	4.8	23.4	164 E	20	89	6 20	16 18.72	-18 0.3	1.502	2.469	9.3	21.1	157 E	27	82
6 15	15 58.47	-24 56.9	2.439	3.403	6.4	23.5	158 E	20	89	6 30	16 10.35	-17 26.2	1.536	2.442	13.7	21.3	145 E	28	81
467372 2004 LG										7 10	16 4.69	-17 1.8	1.590	2.413	17.5	21.4	134 E	28	81
5 11	16 38.36	-54 20.1	2.640	3.475	10.8	23.5	140 W	-	62	503874 2000 SH₂₇₂									
5 16	16 27.28	-54 2.7	2.631	3.495	9.9	23.5	143 W	-	62	5 11	17 1.79	-24 59.7	1.168	2.121	12.2	21.3	154 W	20	89
5 21	16 16.09	-53 36.3	2.628	3.515	9.2	23.4	146 W	-	62	5 21	16 53.64	-24 48.9	1.092	2.086	7.2	20.9	165 W	20	89
5 26	16 5.09	-53 1.0	2.634	3.534	8.7	23.4	148 E	-	63	5 31	16 42.95	-24 28.7	1.039	2.051	1.8	20.5	176 W	21	88
5 31	15 54.53	-52 17.4	2.647	3.553	8.5	23.5	149 E	-	64	6 10	16 31.21	-23 59.8	1.009	2.017	4.9	20.6	170 E	21	88
6 5	15 44.62	-51 26.7	2.669	3.571	8.6	23.5	148 E	-	65	6 20	16 20.16	-23 25.7	1.002	1.982	10.9	20.8	158 E	22	87
6 10	15 35.52	-50 30.1	2.698	3.589	9.0	23.5	147 E	-	65	6 30	16 11.54	-22 52.0	1.017	1.948	16.6	21.0	147 E	22	87
385538 2004 RJ₆₃										7 10	16 6.51	-22 24.8	1.048	1.914	21.7	21.2	136 E	23	86
5 11	16 41.26	-11 53.3	2.711	3.665	6.0	23.2	158 W	33	76	7 20	16 5.61	-22 7.7	1.093	1.881	25.8	21.3	126 E	23*	86
5 21	16 33.29	-11 23.5	2.663	3.656	3.6	23.0	167 W	34	75	427639 2003 UU₂₅₇									
5 31	16 24.72	-10 57.8	2.645	3.645	3.1	22.9	169 E	34	75	5 11	17 6.97	-23 31.7	1.546	2.486	10.8	21.5	153 W	21	88
6 10	16 16.24	-10 38.1	2.656	3.634	5.1	23.0	162 E	34	75	5 21	16 57.87	-23 54.4	1.468	2.457	6.4	21.2	164 W	21	88
6 20	16 8.48	-10 25.9	2.696	3.622	7.7	23.2	151 E	35	74	5 31	16 46.60	-24 13.3	1.415	2.428	1.7	20.8	176 W	21	88
496896 2001 AT₄₇										6 10	16 34.39	-24 27.3	1.390	2.397	3.8	20.9	171 E	21	88
5 11	16 44.27	-54 3.1	3.099	3.924	9.6	22.7	140 W	-	62	6 20	16 22.65	-24 36.6	1.390	2.367	8.9	21.1	159 E	20	89
5 16	16 38.19	-54 8.3	3.069	3.921	9.0	22.6	143 W	-	62	6 30	16 12.78	-24 43.5	1.415	2.335	13.6	21.3	147 E	20	89
5 21	16 31.74	-54 7.9	3.045	3.918	8.5	22.6	145 W	-	62	7 10	16 5.83	-24 51.2	1.460	2.304	17.8	21.5	136 E	20	89
5 26	16 25.08	-54 1.7	3.027	3.915	8.1	22.5	147 W	-	62	368949 2006 YN									
5 31	16 18.35	-53 49.7	3.015	3.912	7.9	22.5	148 E	-	62	5 11	17 7.96	+0 0.5	0.876	1.806	18.0	21.4	146 W	45	64
6 5	16 11.71	-53 32.0	3.011	3.909	7.9	22.5	148 E	-	62	5 16	17 1.51	+0 3.0	0.852	1.804	15.8	21.3	151 W	45	64
6 10	16 5.33	-53 8.9	3.013	3.905	8.1	22.5	147 E	-	63	5 21	16 54.13	+0 2.5	0.833	1.801	13.9	21.2	155 W	45	64
6 15	15 59.33	-52 41.0	3.021	3.901	8.5	22.5	146 E	-	63	5 26	16 46.03	+0 16.7	0.820	1.798	12.4	21.1	158 W	45	64
458418 2011 AM₁₂										5 31	16 37.48	+0 40.3	0.812	1.795	11.8	21.0	159 W	44	65
5 11	16 46.85	+40 55.7	1.404	2.071	25.7	23.0	117 W	86	23	6 5	16 28.80	-1 13.2	0.809	1.790	12.3	21.0	158 E	44	65
5 16	16 39.62	+41 43.0	1.370	2.041	26.1	22.9	117 W	87	22	6 10	16 20.29	-1 55.0	0.812	1.786	13.8	21.1	155 E	43	66
5 21	16 31.46	+42 16.7	1.339	2.010	26.7	22.9	117 W	87	22	6 15	16 12.22	-2 44.9	0.821	1.781	15.8	21.2	151 E	42	67
5 26	16 22.56	+42 35.0	1.310	1.979	27.3	22.8	116 W	88	21	6 20	16 4.87	-3 41.7	0.835	1.775	18.2	21.3	147 E	41	68
5 31	16 13.18	+42 36.3	1.284	1.947	28.1	22.7	115 E	88	21	6 25	15 58.45	-4 44.2	0.853	1.769	20.7	21.4	142 E	40	69
6 5	16 3.60	+42 19.5	1.261	1.915	28.9	22.7	114 E	87	22	6 30	15 53.12	-5 51.3	0.876	1.762	23.2	21.5	137 E	39	70
6 10	15 54.11	+41 44.1	1.240	1.881	29.9	22.6	113 E	87	22	439931 2001 RT₄₆									
6 15	15 45.00	+40 49.9	1.221	1.848	30.9	22.6	111 E	86	23	5 11	17 9.31	+12 40.7	1.784	2.623	14.9	21.8	138 W	58	51
496834 1996 TQ₆										5 16	17 4.87	+13 15.3	1.761	2.621	14.2	21.7	140 W	58	51
5 11	16 48.28	-13 37.1	1.878	2.833	8.2	24.5	157 W	31	78	5 21	16 59.96	+13 43.4	1.744	2.619	13.7	21.7	142 W	59	50
5 21	16 38.89	-12 59.3	1.807	2.801	4.8	24.2	167 W	32	77	5 26	16 54.69	+14 4.2	1.733	2.616	13.4	21.7	143 W	59	50
5 31	16 28.23	-12 24.5	1.763	2.768	3.5	24.1	170 E	33	76	5 31	16 49.20	+14 17.0	1.727	2.613	13.3	21.6	144 W	59	50
6 10	16 17.32	-11 55.8	1.748	2.733	6.4	24.2	163 E	33	76	6 5	16 43.63	+14 21.4	1.727	2.610	13.5	21.7	143 E	59	50
6 20	16 7.22	-11 36.0	1.759	2.698	10.3	24.3	152 E	33	76	6 10	16 38.11	+14 17.2	1.733	2.607	14.0	21.7	142 E	59	50
422631 4165 P-L										6 15	16 32.77	+14 4.7	1.744	2.603	14.6	21.7	140 E	59	50
5 11	16 53.51	-17 23.9	1.504	2.460	9.7	21.6	156 W	28	81	6 20	16 27.74	+13 44.0	1.760	2.598	15.4	21.7	137 E	59	50
5 21	16 44.46	-16 38.6	1.438	2.435	5.4	21.3	167 W	28	81	6 25	16 23.15	+13 15.8	1.781	2.594	16.3	21.8	134 E	58	51
5 31	16 33.83	-15 52.6	1.398	2.408	2.5	21.0	174 W	29	80	6 30	16 19.07	+12 40.7	1.807	2.589	17.3	21.9	131 E	58	51
6 10	16 22.85	-15 9.8	1.384	2.381	6.0	21.2	166 E	30	79	269690 1996 RG₃									
6 20	16 12.82	-14 34.3	1.396	2.354	10.8	21.4	154 E	30	79	5 11	17 10.31	-17 24.6	1.718	2.652	10.3	22.4	152 W	28	81
6 30	16 4.89	-14 9.9	1.431	2.326	15.2	21.6	143 E	31	78	5 21	16 57.52	-16 59.5	1.710	2.698	5.9	22.2	164 W	28	81
523685 2014 DN₁₁₂										5 31	16 43.88	-16 35.0	1.731	2.741	2.2	22.0	174 W	28	81
5 11	16 53.78	-24																	

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

2020	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°	2020	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°
382582 2002 CX₁₅₂										363223 2001 VO₁₁₂ (continuation)									
5 11	17 11.52	-54 57.9	2.517	3.323	12.1	22.3	136 W	—	61	7 20	16 16.33	-24 4.8	1.246	2.043	22.8	21.2	129 E	21	88
5 16	17 5.58	-55 11.3	2.478	3.315	11.4	22.3	140 W	—	61	7 25	16 15.92	-23 52.9	1.273	2.025	24.6	21.3	124 E	21*	88
5 21	16 58.96	-55 18.7	2.444	3.306	10.7	22.2	143 W	—	61	7 30	16 16.53	-23 43.5	1.303	2.006	26.2	21.4	119 E	21*	88
5 26	16 51.84	-55 19.3	2.416	3.298	10.2	22.2	145 W	—	61	8 4	16 18.12	-23 36.6	1.334	1.988	27.6	21.4	115 E	21*	88
5 31	16 44.40	-55 12.8	2.395	3.289	9.8	22.1	147 W	—	61	497032 2003 SG									
6 5	16 36.86	-54 58.9	2.379	3.280	9.6	22.1	147 E	—	61	5 11	17 25.99	-14 53.5	1.453	2.370	13.1	22.1	148 W	30	79
6 10	16 29.43	-54 37.7	2.370	3.271	9.6	22.1	147 E	—	61	5 21	17 19.01	-13 57.4	1.365	2.335	9.2	21.7	158 W	31	78
6 15	16 22.30	-54 9.7	2.367	3.261	9.9	22.1	146 E	—	62	5 31	17 9.59	-13 2.3	1.301	2.301	5.5	21.4	167 W	32	77
6 20	16 15.67	-53 35.3	2.370	3.252	10.5	22.1	145 E	—	62	6 10	16 58.75	-12 12.5	1.261	2.266	5.1	21.3	169 E	33	76
6 25	16 9.69	-52 55.5	2.379	3.242	11.1	22.1	142 E	—	63	6 20	16 47.79	-11 32.3	1.247	2.230	8.9	21.4	160 E	33	76
6 30	16 4.48	-52 11.3	2.395	3.232	11.9	22.2	139 E	—	64	6 30	16 38.12	-11 5.8	1.257	2.194	13.7	21.6	149 E	34	75
48603 1995 BC₂										189008 1996 FR₃									
5 11	17 13.32	-30 38.3	1.713	2.635	11.1	21.7	150 W	14	85	5 11	17 26.58	-31 2.5	2.762	3.649	8.7	21.9	147 W	14	85
5 16	17 7.97	-30 40.6	1.672	2.625	9.2	21.5	155 W	14	85	5 21	17 16.05	-31 12.5	2.662	3.620	6.0	21.7	158 W	14	85
5 21	17 1.94	-30 39.7	1.637	2.615	7.2	21.4	161 W	14	85	5 31	17 8.82	-31 13.2	2.591	3.590	3.3	21.5	168 W	14	85
5 26	16 55.36	-30 35.3	1.608	2.604	5.2	21.2	166 W	14	85	6 10	16 50.72	-31 3.3	2.552	3.557	2.7	21.4	170 E	14	85
5 31	16 48.39	-30 27.1	1.587	2.593	3.6	21.1	171 W	15	86	6 20	16 37.72	-30 43.1	2.545	3.523	5.3	21.5	161 E	14	85
6 5	16 41.22	-30 15.1	1.573	2.581	3.2	21.1	172 E	15	86	6 30	16 25.78	-30 14.7	2.569	3.487	8.4	21.6	150 E	15	86
6 10	16 34.04	-29 59.5	1.566	2.569	4.4	21.1	169 E	15	86	490684 2010 LL₃₄									
6 15	16 27.04	-29 40.7	1.566	2.557	6.4	21.2	164 E	15	86	5 11	17 26.78	+17 49.2	0.884	1.726	26.1	21.5	131 W	63	46
6 20	16 20.42	-29 19.3	1.573	2.544	8.6	21.3	158 E	16	87	5 16	17 19.80	+19 3.6	0.839	1.701	25.5	21.3	134 W	64	45
6 25	16 14.34	-28 56.2	1.587	2.531	10.8	21.4	152 E	16	87	5 21	17 11.19	+20 10.4	0.797	1.675	25.2	21.2	135 W	65	44
6 30	16 8.93	-28 32.1	1.606	2.517	12.9	21.5	146 E	16	87	5 26	17 0.99	+21 6.0	0.760	1.648	25.2	21.0	136 W	66	43
306819 2001 QM₂₃₇										5 31	16 49.32	+21 46.8	0.728	1.619	25.7	20.9	136 W	67	42
5 11	17 16.93	-29 36.4	1.685	2.605	11.4	21.6	149 W	15	86	6 5	16 36.43	+22 9.1	0.700	1.589	26.8	20.8	135 E	67	42
5 21	17 7.59	-29 46.7	1.606	2.582	7.6	21.3	160 W	15	86	6 10	16 22.64	+22 10.1	0.676	1.558	28.4	20.8	133 E	67	42
5 31	16 56.03	-29 46.1	1.553	2.559	3.7	21.0	171 W	15	86	6 15	16 8.38	+21 47.6	0.657	1.525	30.5	20.7	130 E	67	42
6 10	16 43.47	-29 33.2	1.527	2.534	3.7	21.0	171 E	15	86	6 20	15 54.12	+21 0.6	0.642	1.492	33.1	20.7	127 E	66	43
6 20	16 31.32	-29 9.1	1.528	2.509	7.8	21.2	160 E	16	87	6 25	15 40.34	+19 49.7	0.631	1.456	36.1	20.7	123 E	65	44
6 30	16 20.96	-28 37.7	1.554	2.482	12.1	21.4	149 E	16	87	7 5	15 27.44	+18 16.7	0.623	1.420	39.2	20.7	118 E	63	46
502579 2015 BJ₅₁₂										7 10	15 15.72	+16 24.5	0.618	1.382	42.6	20.7	113 E	61*	48
5 11	17 18.09	+8 34.2	2.137	2.976	12.8	21.8	139 W	54	55	7 15	15 5.32	+14 16.2	0.615	1.342	46.0	20.7	108 E	59*	50
5 16	17 14.39	+8 57.4	2.104	2.968	12.0	21.7	142 W	54	55	7 20	14 48.66	+9 22.7	0.612	1.260	53.0	20.8	98 E	51*	55
5 21	17 10.24	+9 15.9	2.076	2.961	11.4	21.6	145 W	54	55	7 25	14 42.29	+6 42.3	0.611	1.216	56.5	20.8	93 E	46*	57
5 26	17 5.74	+9 29.1	2.054	2.953	10.9	21.6	147 W	54	55	7 30	14 37.02	+3 55.1	0.609	1.171	60.1	20.8	89 E	41*	60
5 31	17 0.98	+9 36.3	2.038	2.945	10.6	21.6	148 W	55	54	8 4	14 32.64	+1 2.3	0.607	1.125	63.7	20.8	84 E	37*	63*
6 5	16 56.08	+9 37.3	2.028	2.937	10.6	21.5	148 W	55	54	8 9	14 28.89	+1 55.7	0.602	1.078	67.5	20.8	79 E	32*	64*
6 10	16 51.13	+9 31.8	2.025	2.929	10.9	21.5	147 E	55	54	8 14	14 25.49	-4 58.7	0.596	1.029	71.6	20.8	75 E	28*	63*
6 15	16 46.25	+9 19.8	2.027	2.920	11.4	21.6	145 E	54	55	8 19	14 22.10	-8 6.8	0.588	0.980	75.9	20.9	70 E	23*	61*
6 20	16 41.55	+9 1.4	2.035	2.911	12.2	21.6	143 E	54	55	8 24	14 18.28	-11 19.9	0.577	0.929	80.6	20.9	65 E	19*	58*
6 25	16 37.14	+8 36.9	2.050	2.902	13.0	21.6	140 E	54	55	8 29	14 13.44	-14 37.3	0.564	0.879	85.9	20.9	60 E	14*	54*
6 30	16 33.10	+8 6.7	2.069	2.893	14.0	21.7	137 E	53	56	9 3	14 6.83	-17 57.4	0.548	0.828	91.9	20.9	55 E	9*	49*
7 5	16 29.52	+7 31.4	2.094	2.883	15.0	21.7	133 E	53	56	9 8	13 57.50	-21 15.7	0.532	0.779	98.8	21.1	50 E	3*	43*
508776 1999 RF₁₀₈										9 13	13 44.33	-24 23.4	0.515	0.731	106.5	21.2	44 E	—	36*
5 11	17 18.34	-28 56.3	2.419	3.327	9.0	22.0	149 W	16	87	501606 2014 QC₃₆₉									
5 21	17 10.32	-28 47.2	2.331	3.302	6.0	21.8	160 W	16	87	5 11	17 30.91	-13 51.8	1.279	2.193	14.7	21.7	146 W	31	78
5 31	17 0.80	-28 30.0	2.271	3.276	2.8	21.6	171 W	17	88	5 21	17 24.34	-13 27.1	1.198	2.166	10.6	21.3	157 W	32	77
6 10	16 50.59	-28 4.6	2.239	3.249	2.3	21.5	173 E	17	88	5 31	17 14.99	-13 8.8	1.139	2.139	6.3	21.0	167 W	32	77
6 20	16 40.61	-27 32.4	2.237	3.222	5.4	21.6	163 E	17	88	6 10	17 3.95	-12 59.9	1.104	2.111	4.9	20.9	170 E	32	77
6 30	16 31.75	-26 56.0	2.263	3.193	8.7	21.8	152 E	18	89	6 20	16 52.63	-13 2.7	1.092	2.083	8.7	21.0	162 E	32	77
413821 2006 QY₁₀₄										6 30	16 42.63	-13 18.6	1.104	2.054	13.8	21.2	151 E	32	77
5 11	17 20.81	-49 54.7	2.478	3.306	11.6	22.4	139 W	—	66	7 10	16 35.27	-13 47.8	1.135	2.026	18.6	21.4	141 E	31	78
5 16	17 15.35	-50 10.5	2.444	3.306	10.7	22.3	143 W	—	66	497084 2003 WC₈₃									
5 21	17 9.28	-50 21.2	2.417	3.306	9.8	22.3	146 W	—	66	5 11	17 31.24	-18 46.5	1.508	2.419	13.1	21.3	147 W	26	83
5 26	17 2.71	-50 26.2	2.395	3.305	9.1	22.2	149 W	—	66	5 21	17 22.41	-20 5.0	1.416	2.388	8.8	20.9	159 W	25	84
5 31	16 55.82	-50 25.0	2.380	3.304	8.5	22.2	151 W	—	66	5 31	17 10.58	-21 32.2	1.349	2.356	3.8	20.6	171 W	23	86
6 5	16 48.78	-50 17.4	2.371	3.303	8.2	22.1	152 E	—	66	6 10	16 56.77	-23 3.4	1.310	2.324	1.7	20.3	176 E	22	87
6 10	16 41.79	-50 3.5	2.369	3.302	8.2	22.1	152 E	—	66	6 15	16 49.56	-23 48.9	1.301	2.308	4.5	20.5	170 E	21	88
6 15	16 35.01	-49 43.6	2.374	3.300	8.5	22.2	151 E	—	66	6 20	16 42.43	-24 33.4	1.299	2.291	7.3	20.6	163 E	20	89
6 20	16 28.61	-49 18.2	2.385	3.298	9.1	22.2	149 E	—	67	6 25	16 35.59	-25 16.6	1.304	2.275	10.0	20.7	157 E	20	89
6 25	16 22.75	-48 48.0	2.402	3.296	9.9	22.2	146 E	—	67	6 30	16 29.25	-25 58.3	1.315	2.258	12.6	20.8	151 E	19	90
6 30	16 17.55	-48 13.9	2.426	3.293	10.8	22.3	143 E	—	68	7 5	16 23.58	-26 38.4	1.331	2.242	15.1	20.9	145 E	18	89
363223 2001 VO₁₁₂										7 10	16 18.71	-27 17.1	1.353	2.225	17.3	21.0	139 E	18	89
5 11	17 22.44	-26 59.4	1.367	2.291	13.3	21.4	149 W	18	89	7 15	16 14.75	-27 54.4	1.380	2.208	19.4	21.1	134 E	17	88
5 21	17 14.39	-26 57.0	1.280	2.257	8.9	21.0	160 W	18	89	7 20									

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

2020	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°	20/21	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°
496214 2011 US ₂₄₆										482467 2012 LK ₉									
<i>(continuation)</i>										<i>(continuation)</i>									
6 20	16 53.23	-23 43.6	1.102	2.102	6.8	20.8	166 E	21	88	9 23	16 46.74	-32 25.5	1.169	1.321	47.0	20.6	74 E	9*	67*
6 30	16 42.38	-23 33.5	1.111	2.073	12.5	21.1	154 E	21	88	9 28	16 58.33	-32 47.5	1.162	1.280	48.1	20.6	72 E	9*	65*
7 10	16 34.36	-23 24.5	1.141	2.043	17.6	21.3	142 E	22	87	10 3	17 11.02	-33 7.2	1.152	1.241	49.3	20.5	70 E	8*	63*
7 20	16 30.04	-23 20.2	1.187	2.014	22.0	21.5	132 E	22	87	10 8	17 24.83	-33 23.4	1.139	1.202	50.4	20.5	68 E	8*	61*
469308 1999 RU ₁₀₃										297235 1981 EN ₁₁									
5 11	17 34.19	-27 48.4	1.815	2.711	12.0	21.8	146 W	17	88	10 13	17 39.78	-33 34.9	1.124	1.165	51.7	20.4	66 E	8*	60*
5 21	17 27.17	-27 44.3	1.709	2.671	8.5	21.5	157 W	17	88	10 18	17 55.88	-33 40.2	1.105	1.129	52.9	20.3	65 E	9*	58*
5 31	17 17.71	-27 32.2	1.628	2.629	4.5	21.2	168 W	17	88	10 23	18 13.11	-33 37.9	1.084	1.096	54.3	20.3	63 E	9*	57*
6 10	17 6.69	-27 10.9	1.573	2.587	1.7	20.9	176 E	18	89	10 28	18 31.45	-33 26.1	1.061	1.066	55.7	20.2	62 E	9*	56*
6 20	16 55.28	-26 40.6	1.546	2.544	5.5	21.0	166 E	18	89	11 2	18 50.86	-33 2.9	1.035	1.038	57.2	20.1	62 E	10*	56*
6 30	16 44.81	-26 4.1	1.545	2.501	10.1	21.2	154 E	19	90	11 7	19 11.28	-32 26.3	1.008	1.014	58.7	20.1	61 E	11*	55*
7 10	16 36.47	-25 25.5	1.567	2.457	14.4	21.3	143 E	20	89	11 12	19 32.63	-31 34.3	0.979	0.993	60.2	20.0	61 E	12*	54*
7 20	16 31.01	-24 49.5	1.608	2.413	18.1	21.5	132 E	20	89	11 17	19 54.83	-30 24.8	0.950	0.977	61.7	19.9	60	14*	54*
219778 2002 AQ ₈										431704 2008 EF ₆₉									
5 11	17 34.58	-57 43.7	2.789	3.548	12.2	21.6	132 W	-	58	5 11	17 44.48	-58 52.9	1.113	1.929	23.5	22.4	131 W	-	57
5 16	17 28.69	-58 2.8	2.760	3.553	11.5	21.6	136 W	-	58	5 16	17 36.73	-60 26.8	1.101	1.938	22.4	22.3	133 W	-	56
5 21	17 22.07	-58 16.3	2.736	3.558	10.9	21.5	139 W	-	58	5 21	17 26.71	-61 49.7	1.093	1.946	21.5	22.3	135 W	-	54
5 26	17 14.86	-58 23.7	2.718	3.563	10.3	21.5	141 W	-	58	5 26	17 14.62	-62 58.4	1.089	1.955	20.8	22.3	137 W	-	53
5 31	17 7.26	-58 24.4	2.705	3.567	9.9	21.5	143 W	-	58	5 31	17 0.91	-63 50.3	1.090	1.963	20.3	22.3	138 W	-	52
6 5	16 59.47	-58 18.1	2.698	3.571	9.6	21.4	144 W	-	58	6 5	16 46.25	-64 23.9	1.095	1.971	20.1	22.3	138 E	-	52
6 10	16 51.70	-58 4.8	2.698	3.575	9.4	21.4	145 E	-	58	6 10	16 31.44	-64 38.7	1.105	1.979	20.2	22.3	138 E	-	51
6 15	16 44.16	-57 44.7	2.704	3.579	9.5	21.5	144 E	-	58	6 15	16 17.33	-64 35.5	1.119	1.986	20.5	22.3	137 E	-	51
6 20	16 37.04	-57 18.3	2.715	3.582	9.8	21.5	143 E	-	59	6 20	16 4.67	-64 16.3	1.138	1.993	21.0	22.4	135 E	-	52
6 25	16 30.51	-56 46.3	2.733	3.585	10.2	21.5	142 E	-	59	6 25	15 54.01	-63 44.0	1.160	2.000	21.7	22.5	133 E	-	52
6 30	16 24.71	-56 9.6	2.757	3.588	10.7	21.6	139 E	-	60	277127 2005 GW ₁₁₉									
7 5	16 19.71	-55 29.0	2.787	3.591	11.3	21.6	136 E	-	61	5 11	17 47.64	-18 15.8	1.099	2.001	17.6	21.3	143 W	27	82
385245 2000 WK ₂										505728 2015 AN ₂₆₆									
5 11	17 34.71	-52 47.3	2.697	3.489	11.7	22.2	135 W	-	63	5 11	17 53.42	-13 23.4	1.380	2.256	16.4	21.2	141 W	32	77
5 16	17 29.51	-52 56.8	2.654	3.482	10.9	22.1	139 W	-	63	5 21	17 48.37	-13 22.1	1.281	2.223	12.6	20.9	151 W	32	77
5 21	17 23.64	-53 1.4	2.616	3.476	10.2	22.0	143 W	-	63	5 31	17 40.22	-13 30.7	1.203	2.189	8.3	20.6	162 W	31	78
5 26	17 17.21	-53 0.4	2.584	3.469	9.5	22.0	146 W	-	63	6 10	17 29.69	-13 51.0	1.148	2.155	4.7	20.3	170 W	31	78
5 31	17 10.40	-52 53.3	2.558	3.461	8.9	21.9	148 W	-	63	6 20	17 17.93	-14 23.5	1.117	2.121	6.0	20.2	167 E	31	78
6 5	17 3.36	-52 39.7	2.539	3.454	8.5	21.9	150 W	-	63	6 25	17 12.08	-14 44.2	1.111	2.103	8.3	20.3	163 E	30	79
6 10	16 56.28	-52 19.6	2.526	3.446	8.3	21.9	150 E	-	64	6 30	17 6.52	-15 7.6	1.111	2.086	10.8	20.4	157 E	30	79
6 15	16 49.34	-51 53.1	2.520	3.438	8.5	21.9	150 E	-	64	7 5	17 1.45	-15 33.5	1.116	2.069	13.4	20.5	152 E	29	80
6 20	16 42.71	-51 20.7	2.520	3.430	8.8	21.9	149 E	-	65	7 10	16 57.01	-16 1.7	1.127	2.051	16.0	20.6	146 E	29	80
6 25	16 36.55	-50 42.9	2.527	3.422	9.4	21.9	147 E	-	65	7 15	16 53.35	-16 31.8	1.142	2.034	18.4	20.7	141 E	28	81
6 30	16 30.99	-50 0.7	2.541	3.413	10.2	21.9	144 E	-	66	7 20	16 50.57	-17 3.7	1.161	2.017	20.6	20.8	136 E	28	81
7 5	16 26.13	-49 14.8	2.560	3.405	11.0	22.0	140 E	-	67	7 25	16 48.74	-17 37.1	1.184	1.999	22.7	20.9	131 E	27	82
337119 1999 TK ₁₂										482467 2012 LK ₉									
5 11	17 36.92	-63 17.8	1.227	2.016	23.2	21.7	128 W	-	53	5 11	17 37.04	-25 57.9	1.503	2.405	13.7	21.5	146 W	19	90
5 16	17 24.83	-64 16.9	1.222	2.034	22.0	21.6	131 W	-	52	5 21	17 28.58	-26 41.7	1.369	2.334	9.8	21.1	157 W	18	89
5 21	17 10.62	-65 1.0	1.221	2.052	21.0	21.6	133 W	-	51	5 31	17 16.25	-27 25.4	1.258	2.261	5.1	20.6	169 W	18	89
5 26	16 54.88	-65 27.6	1.224	2.070	20.2	21.6	135 W	-	51	6 10	17 0.69	-28 3.9	1.174	2.186	2.7	20.2	174 E	17	88
5 31	16 38.46	-65 35.3	1.232	2.086	19.6	21.6	136 W	-	50	6 15	16 52.09	-28 19.7	1.142	2.148	5.0	20.3	169 E	17	88
6 5	16 22.28	-65 24.3	1.245	2.103	19.3	21.7	137 E	-	51	6 20	16 43.25	-28 32.6	1.117	2.110	8.0	20.3	163 E	16	87
6 10	16 7.21	-64 56.0	1.262	2.119	19.2	21.7	137 E	-	51	6 25	16 34.46	-28 42.4	1.098	2.071	11.2	20.4	157 E	16	87
6 15	15 53.91	-64 12.7	1.284	2.134	19.3	21.8	136 E	-	52	6 30	16 26.00	-28 49.4	1.086	2.032	14.4	20.4	150 E	16	87
6 20	15 42.80	-63 17.5	1.311	2.149	19.7	21.8	134 E	-	53	7 5	16 18.12	-28 54.2	1.079	1.992	17.5	20.5	144 E	16	87
6 25	15 34.05	-62 13.7	1.342	2.163	20.2	21.9	133 E	-	54	7 10	16 11.06	-28 57.4	1.076	1.952	20.5	20.5	138 E	16	87
6 30	15 27.64	-61 4.6	1.377	2.177	20.9	22.0	130 E	-	55	7 15	16 4.98	-28 59.8	1.078	1.911	23.4	20.6	132 E	16	87
482467 2012 LK ₉										505728 2015 AN ₂₆₆									
5 11	17 37.04	-25 57.9	1.503	2.405	13.7	21.5	146 W	19	90	5 11	17 53.42	-13 23.4	1.380	2.256	16.4	21.2	141 W	32	77
5 21	17 28.58	-26 41.7	1.369	2.334	9.8	21.1	157 W	18	89	5 21	17 48.37	-13 22.1	1.281	2.223	12.6	20.9	151 W	32	77
5 31	17 16.25	-27 25.4	1.258	2.261	5.1	20.6	169 W	18	89	5 31	17 40.22	-13 30.7	1.203	2.189	8.3	20.6	162 W	31	78
6 10	17 0.69	-28 3.9	1.174	2.186	2.7	20.2	174 E	17	88	6 10	17 29.69	-13 51.0	1.148	2.155	4.7	20.3	170 W	31	78
6 15	16 52.09	-28 19.7	1.142	2.148	5.0	20.3	169 E	17	88	6 20	17 17.93	-14 23.5	1.117	2.121	6.0	20.2	167 E	31	78
6 20	16 43.25	-28 32.6	1.117	2.110	8.0	20.3	163 E	16	87	6 25	17 12.08	-14 44.2	1.111	2.103	8.3	20.3	163 E	30	79
6 25	16 34.46	-28 42.4	1.098	2.071	11.2	20.4	157 E	16	87	6 30	17 6.52	-15 7.6	1.111	2.086	10.8	20.4	157 E	30	79
6 30	16 26.00	-28 49.4	1.086	2.032	14.4	20.4	150 E	16	87	7 5	17 1.45	-15 33.5	1.116	2.069	13.4	20.5	152 E	29	80
7 5	16 18.12	-28 54.2	1.079	1.992	17.5	20.5	144 E	16	87	7 10	16 57.01	-16 1.7	1.127	2.051	16.0	20.6	146 E	29	80
7 10	16 11.06	-28 57.4	1.076	1.952	20.5	20.5	138 E	16	87	7 15	16 53.35	-16 31.8	1.142	2.034	18.4	20.7	141 E	28	81
7 15	16 4.98	-28 59.8	1.078	1.911	23.4	20.6	132 E	16	87	7 20	16 50.57	-17 3.7	1.161	2.017	20.6	20.8	136 E	28	81
7 20	16 0.03	-29 2.3	1.084	1.870	26.1	20.6	126 E	16*	87	7 25	16 48.74	-17 37.1	1.184	1.999	22.7	20.9	131 E	27	82
7 25	15 56.31	-29 5.7	1.092																

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

2020	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45° - 26°	20/21	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45° - 26°
505728 2015 AN₂₆₆ (continuation)									523799 2017 DO₃₆ (continuation)								
8 4	16 48.07	-18 47.3	1.239	1.965	26.2	21.0	121 E	26 83	6 20	16 48.09	+62 46.2	1.523	1.871	32.8	21.4	93 E	72 1
8 9	16 49.23	-19 23.4	1.269	1.948	27.7	21.1	117 E	26* 83	6 25	16 37.56	+61 37.6	1.497	1.849	33.3	21.3	93 E	73 2
8 14	16 51.36	-19 59.9	1.302	1.931	29.0	21.2	112 E	25* 84	6 30	16 28.26	+60 11.0	1.471	1.827	33.8	21.3	93 E	75 4
8 19	16 54.43	-20 36.4	1.336	1.914	30.1	21.2	108 E	24* 85	7 5	16 20.40	+58 26.9	1.446	1.804	34.3	21.2	93 E	77 6
8 24	16 58.42	-21 12.6	1.370	1.898	31.0	21.3	105 E	23* 85	7 10	16 14.06	+56 26.1	1.421	1.780	34.8	21.2	92 E	79 8
8 29	17 3.28	-21 48.3	1.406	1.881	31.8	21.4	101 E	23* 86	7 15	16 9.28	+54 9.4	1.396	1.756	35.3	21.1	92 E	81 10
9 3	17 8.96	-22 23.0	1.442	1.865	32.4	21.4	98 E	22* 86	7 20	16 6.00	+51 37.4	1.372	1.732	35.9	21.0	92 E	83* 12
9 8	17 15.42	-22 56.4	1.478	1.849	32.9	21.5	94 E	21* 87*	7 25	16 4.16	+48 51.1	1.350	1.708	36.5	21.0	91 E	85* 15
456946 2008 AF₃₂									523799 2017 DO₃₆ (continuation)								
5 11	18 1.63	+64 38.2	0.425	1.105	66.0	21.9	91 W	70 -	8 4	16 4.37	+42 39.3	1.310	1.659	37.1	20.9	91 E	84* 18
5 16	17 48.29	+63 21.9	0.406	1.111	65.3	21.8	93 W	72 1	8 9	16 6.18	+39 16.0	1.293	1.633	38.4	20.9	89 E	79* 25
5 21	17 33.77	+61 38.9	0.385	1.118	64.3	21.6	96 W	73 2	8 14	16 8.99	+35 42.4	1.279	1.608	39.0	20.8	88 E	75* 28
5 26	17 18.55	+59 21.0	0.363	1.125	63.0	21.5	98 W	76 5	8 19	16 12.71	+31 59.9	1.267	1.583	39.7	20.8	87 E	71* 32
5 31	17 3.21	+56 19.1	0.341	1.132	61.3	21.3	102 W	79 8	8 24	16 17.27	+28 10.0	1.259	1.557	40.4	20.8	86 E	67* 36*
6 5	16 48.38	+52 23.4	0.319	1.140	59.3	21.1	105 E	83 12	8 29	16 22.59	+24 14.6	1.254	1.531	41.0	20.7	84 E	63* 40*
6 10	16 34.55	+47 23.9	0.299	1.148	56.7	20.9	109 E	88 17	9 3	16 28.60	+20 15.5	1.253	1.506	41.6	20.7	83 E	60* 43*
6 15	16 22.14	+41 12.0	0.281	1.156	53.8	20.7	113 E	86 23	9 8	16 35.25	+16 14.4	1.256	1.480	42.2	20.7	81 E	56* 46*
6 20	16 11.48	+33 44.3	0.267	1.165	50.6	20.5	118 E	79 30	9 13	16 42.50	+12 13.2	1.262	1.454	42.8	20.7	79 E	52* 49*
6 25	16 2.79	+25 8.6	0.258	1.173	47.5	20.4	122 E	70 39	9 18	16 50.33	+ 8 13.8	1.271	1.429	43.2	20.7	77 E	48* 51*
6 30	15 56.19	+15 47.1	0.256	1.182	45.0	20.3	125 E	61 48	9 23	16 58.70	+ 4 18.0	1.284	1.404	43.6	20.7	75 E	44* 53*
7 2	15 54.13	+11 57.3	0.258	1.185	44.3	20.3	126 E	57 52	9 28	17 7.60	+ 0 27.3	1.300	1.379	43.8	20.7	72 E	41* 54*
7 4	15 52.39	+ 8 8.0	0.260	1.189	43.8	20.3	126 E	53 56	10 3	17 17.01	- 3 16.9	1.318	1.354	43.9	20.7	70 E	37* 54*
7 6	15 50.97	+ 4 21.8	0.264	1.192	43.5	20.4	126 E	49 60	10 8	17 26.91	- 6 53.6	1.339	1.330	44.0	20.6	68 E	34* 54*
7 8	15 49.86	+ 0 40.6	0.269	1.196	43.3	20.4	126 E	46 63	10 13	17 37.31	-10 21.9	1.362	1.307	43.8	20.6	65	30* 54*
7 10	15 49.04	+ 2 53.6	0.275	1.199	43.4	20.5	126 E	42 67	10 18	17 48.22	-13 41.3	1.386	1.284	43.6	20.6	63	27* 53*
7 12	15 48.53	+ 6 19.5	0.283	1.203	43.6	20.5	125 E	39 70	10 23	17 59.64	-16 51.2	1.411	1.262	43.2	20.6	60	24* 52*
7 14	15 48.30	+ 9 36.0	0.291	1.206	43.9	20.6	125 E	35* 74	10 28	18 11.58	-19 51.5	1.437	1.241	42.8	20.6	58	21* 50*
7 16	15 48.36	-12 42.4	0.300	1.210	44.3	20.7	124 E	32* 77	11 2	18 24.07	-22 42.1	1.462	1.221	42.2	20.6	56	19* 48*
7 18	15 48.70	-15 38.3	0.311	1.213	44.8	20.8	123 E	29* 80	11 7	18 37.11	-25 22.8	1.487	1.203	41.6	20.6	54	16* 47*
7 20	15 49.32	-18 23.7	0.322	1.216	45.3	20.9	122 E	26* 82	11 12	18 50.75	-27 53.8	1.510	1.185	40.9	20.6	52	14* 45*
7 25	15 52.03	-24 32.7	0.352	1.225	46.6	21.1	119 E	20* 89	11 17	19 5.03	-30 14.9	1.532	1.169	40.2	20.6	50	11* 43*
7 30	15 56.33	-29 43.4	0.387	1.233	47.8	21.4	116 E	15* 86	11 22	19 19.98	-32 26.3	1.552	1.155	39.5	20.5	48	9* 42*
8 4	16 2.11	+34 4.3	0.424	1.242	48.9	21.6	113 E	10* 82	11 27	19 35.64	-34 27.7	1.570	1.143	38.8	20.5	46	7* 40*
8 9	16 9.27	-37 43.5	0.462	1.250	49.7	21.9	110 E	6* 78	12 2	19 52.05	-36 19.0	1.585	1.132	38.2	20.5	45	5* 39*
422977 2003 MV₇									523799 2017 DO₃₆ (continuation)								
5 11	18 4.32	+ 0 36.4	0.688	1.570	27.4	21.3	134 W	44 65	12 7	20 9.26	-38 0.0	1.597	1.123	37.6	20.5	44	4* 38*
5 16	18 5.35	+ 0 10.9	0.648	1.553	26.0	21.1	138 W	45 64	12 17	20 46.25	-40 49.1	1.613	1.112	36.9	20.5	43	1* 37*
5 21	18 5.35	+ 0 54.5	0.611	1.537	24.4	20.9	141 W	46 63	12 27	21 26.80	-42 50.0	1.616	1.109	36.7	20.5	42	- 36*
5 26	18 4.28	+ 1 32.3	0.577	1.520	22.8	20.7	144 W	47 62	1 6	22 10.76	-43 55.5	1.608	1.116	37.1	20.5	43	- 36*
5 31	18 2.15	+ 2 2.4	0.547	1.504	21.2	20.5	148 W	47 62	1 16	22 57.55	-43 57.2	1.592	1.130	37.8	20.5	45	- 38*
6 5	17 59.02	+ 2 22.4	0.519	1.488	19.7	20.3	150 W	47 62	222389 2001 DA₇₇								
6 10	17 54.96	+ 2 30.4	0.494	1.472	18.5	20.2	153 W	48 61	5 11	18 16.85	+13 6.6	1.350	2.098	23.2	21.4	125 W	58 51
6 15	17 50.11	+ 2 24.0	0.473	1.456	17.8	20.0	154 W	47 62	5 16	18 14.39	+14 12.3	1.320	2.099	22.3	21.3	128 W	59 50
6 20	17 44.68	+ 2 1.6	0.455	1.440	17.7	19.9	154 E	47 62	5 21	18 11.07	+15 12.3	1.294	2.100	21.4	21.2	131 W	60 49
6 25	17 38.95	+ 1 21.8	0.441	1.425	18.4	19.8	154 E	46 63	5 26	18 6.94	+16 5.0	1.272	2.101	20.5	21.2	133 W	61 48
6 30	17 33.25	+ 0 24.2	0.430	1.410	19.9	19.8	152 E	45 64	5 31	18 2.10	+16 48.9	1.254	2.101	19.8	21.1	135 W	62 47
7 5	17 27.93	+ 0 50.5	0.422	1.396	21.9	19.8	149 W	44 65	6 5	17 56.67	+17 22.8	1.241	2.101	19.2	21.1	137 W	62 47
7 10	17 23.28	+ 2 20.9	0.417	1.382	24.4	19.8	146 E	43 66	6 10	17 50.81	+17 45.5	1.232	2.101	18.8	21.0	138 W	63 46
7 15	17 19.57	+ 4 5.1	0.415	1.368	27.1	19.9	142 E	41 68	6 15	17 44.66	+17 56.2	1.227	2.100	18.6	21.0	139 W	63 46
7 20	17 17.06	+ 6 0.4	0.416	1.355	29.9	20.0	138 E	39 70	6 20	17 38.43	+17 54.5	1.227	2.099	18.7	21.0	138 E	63 46
7 25	17 15.95	+ 8 4.1	0.419	1.343	32.7	20.0	134 E	37 72	6 25	17 32.31	+17 40.4	1.232	2.097	19.1	21.0	138 E	63 46
7 30	17 16.37	-10 13.4	0.424	1.331	35.3	20.1	131 E	35 74	6 30	17 26.50	+17 14.2	1.241	2.096	19.7	21.1	136 E	62 47
8 4	17 18.37	-12 25.5	0.431	1.320	37.8	20.2	127 E	33 76	7 5	17 21.17	+16 36.9	1.254	2.093	20.4	21.1	134 E	62 47
8 9	17 21.97	-14 37.8	0.440	1.310	40.1	20.3	124 W	30 79	7 10	17 16.45	+15 49.7	1.272	2.091	21.3	21.2	132 E	61 48
8 14	17 27.14	-16 48.3	0.450	1.301	42.2	20.4	120 E	28 81	7 15	17 12.44	+14 53.8	1.293	2.088	22.2	21.2	129 E	60 49
8 19	17 33.89	-18 54.9	0.462	1.292	44.0	20.5	118 E	26 83	7 20	17 9.24	+13 50.5	1.318	2.085	23.2	21.3	126 E	59 50
8 24	17 42.18	-20 56.1	0.475	1.285	45.6	20.6	115 E	24 85	7 25	17 6.89	+12 41.4	1.347	2.081	24.2	21.4	123 E	58 51
8 29	17 51.95	-22 50.0	0.489	1.278	47.0	20.7	112 E	22 87	7 30	17 5.42	+11 27.9	1.378	2.078	25.1	21.4	120 E	56 53
9 3	18 1.11	-24 35.3	0.503	1.272	48.1	20.7	110 W	20 89	154807 2004 PP₉₇								
9 8	18 15.56	-26 10.7	0.519	1.268	49.1	20.8	108 E	19 90	5 11	18 20.12	-46 43.0	1.111	1.938	22.8	21.4	132 W	- 69
9 13	18 29.20	-27 35.0	0.536	1.264	49.9	20.9	106 E	17 88	5 16	18 15.02	-47 53.9	1.082	1.942	21.1	21.2	136 W	- 68
9 18	18 43.94	-28 47.2	0.554	1.262	50.5	21.0	104 E	16 87	5 21	18 8.12	-49 1.0	1.056	1.946	19.4	21.1	140 W	- 67
9 23	18 59.66	-29 46.4	0.573	1.261	50.9	21.1	103 E	15 86	5 26	17 59.46	-50 1.7	1.035	1.948	17.7	21.0	144 W	- 66
9 28	19 16.20	-30 31.9	0.593	1.260	51.2	21.2	101 E	14 85	5 31	17 49.20	-50 53.1	1.019	1.951	16.3	21.0	147 W	- 65
10 3	19 33.40	-31 3.4	0.613	1.261	51.4	21.2	100 E	14 85	6 5	17 37.64	-51 32.7	1.008	1.952	15.2	20.9	150 W	- 64
10																	

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

2020	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°	2020	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°
416261 2003 FD₅ (continuation)										488509 2000 UW₁₃ (continuation)									
5 31	18 0.23	-35 48.4	1.595	2.556	9.2	21.2	156 W	9	80	7 5	13 47.63	-75 19.2	0.677	1.441	39.7	22.1	115 E	-	41
6 5	17 53.30	-36 42.5	1.597	2.576	7.5	21.1	161 W	8	79	7 6	13 45.67	-75 6.6	0.680	1.440	39.9	22.1	115 E	-	41
6 10	17 45.97	-37 31.4	1.606	2.597	6.2	21.1	164 W	7	78	405189 2003 BO₁									
6 15	17 38.45	-38 14.3	1.622	2.617	5.8	21.1	165 W	7	78	5 11	18 38.81	+14 6.0	0.511	1.340	40.8	21.4	120 W	59	50
6 20	17 30.95	-38 50.8	1.646	2.637	6.2	21.2	164 E	6	77	5 16	18 38.85	+14 58.2	0.496	1.346	39.2	21.3	123 W	60	49
6 25	17 23.70	-39 20.7	1.676	2.657	7.3	21.3	161 E	6	77	5 21	18 37.46	+15 39.2	0.482	1.352	37.4	21.2	126 W	61	48
6 30	17 16.88	-39 44.3	1.714	2.676	8.8	21.4	156 E	5	76	5 26	18 34.64	+16 6.5	0.469	1.357	35.5	21.1	129 W	61	48
7 5	17 10.69	-40 2.3	1.757	2.696	10.3	21.5	152 E	5	76	5 31	18 30.47	+16 17.2	0.457	1.363	33.5	21.0	132 W	61	48
7 10	17 5.23	-40 15.2	1.807	2.715	11.9	21.7	147 E	5	76	6 5	18 25.08	+16 9.0	0.447	1.368	31.5	20.9	135 W	61	48
7 15	17 0.60	-40 24.0	1.862	2.734	13.3	21.8	142 E	5	76	6 10	18 18.66	+15 39.8	0.439	1.374	29.5	20.8	138 W	61	48
357414 2003 XE										6 15	18 11.46	+14 48.1	0.433	1.379	27.7	20.7	141 W	60	49
5 11	18 24.92	-11 30.6	1.303	2.125	20.3	21.4	133 W	33	76	6 20	18 3.82	+13 33.4	0.430	1.384	26.3	20.7	143 W	59	50
5 21	18 15.04	-12 54.0	1.243	2.152	15.7	21.2	145 W	32	77	6 25	17 56.13	+11 56.3	0.430	1.389	25.3	20.6	144 E	57	52
5 31	18 1.41	-14 34.6	1.204	2.176	10.2	20.9	158 W	30	79	6 30	17 48.80	+9 59.2	0.433	1.393	24.8	20.7	145 E	55	54
6 10	17 45.16	-16 26.6	1.192	2.199	4.6	20.7	170 W	29	80	7 5	17 42.18	+7 45.6	0.440	1.398	25.1	20.7	144 E	53	56
6 20	17 27.98	-18 21.8	1.209	2.219	3.7	20.7	172 E	27	82	7 10	17 36.53	+5 19.8	0.450	1.402	25.9	20.8	143 E	50	59
6 30	17 11.85	-20 12.3	1.255	2.238	8.9	21.0	160 E	25	84	7 15	17 32.06	+2 46.4	0.463	1.406	27.2	20.9	141 E	48	61
7 10	16 58.45	-21 53.4	1.328	2.255	13.9	21.4	148 E	23	86	7 20	17 28.91	+0 9.5	0.480	1.410	28.8	21.0	138 E	45	64
505655 2014 SZ₃₀₇										7 25	17 27.16	-2 26.9	0.500	1.413	30.6	21.2	135 E	43	66
5 11	18 26.19	-14 54.4	1.075	1.916	22.5	21.3	134 W	30	79	7 30	17 26.84	-4 59.7	0.522	1.417	32.4	21.3	132 E	40	69
5 21	18 27.03	-13 41.6	0.978	1.885	19.1	21.0	142 W	31	78	8 4	17 27.89	-7 26.4	0.548	1.420	34.2	21.5	128 E	38	71
5 31	18 24.24	-12 29.4	0.897	1.853	15.0	20.6	152 W	33	76	247779 2003 RU									
6 10	18 18.10	-11 22.9	0.833	1.823	10.6	20.3	161 W	34	75	5 11	18 42.55	-42 35.6	1.863	2.622	17.3	21.4	129 W	2	73
6 15	18 13.98	-10 53.6	0.809	1.808	8.7	20.1	164 W	34	75	5 16	18 40.43	-42 44.6	1.803	2.609	16.2	21.2	134 W	2	73
6 20	18 9.36	-10 28.0	0.789	1.793	7.6	20.0	167 W	35	74	5 21	18 37.31	-42 51.4	1.747	2.595	14.9	21.1	139 W	2	73
6 25	18 4.43	-10 6.9	0.774	1.779	7.7	19.9	166 E	35	74	5 26	18 33.20	-42 55.1	1.696	2.581	13.5	21.0	143 W	2	73
6 30	17 59.46	-9 50.8	0.765	1.765	9.1	20.0	164 E	35	74	5 31	18 28.16	-42 54.6	1.650	2.567	12.1	20.9	148 W	2	73
7 5	17 54.66	-9 40.3	0.760	1.751	11.4	20.0	160 E	35	74	6 5	18 22.27	-42 49.1	1.610	2.553	10.6	20.7	153 W	2	73
7 10	17 50.28	-9 35.5	0.760	1.737	14.0	20.1	156 E	35	74	6 10	18 15.67	-42 37.6	1.575	2.539	9.2	20.6	157 W	2	73
7 20	17 43.54	-9 42.9	0.773	1.711	19.5	20.3	146 E	35	74	6 15	18 8.51	-42 19.5	1.547	2.524	8.0	20.5	160 W	3	74
7 30	17 40.54	-10 10.7	0.800	1.687	24.5	20.5	136 E	35	74	6 20	18 1.01	-41 54.1	1.525	2.510	7.4	20.5	161 W	3	74
8 9	17 41.91	-10 54.0	0.839	1.665	28.8	20.7	128 E	34	75	6 25	17 53.41	-41 21.4	1.510	2.495	7.5	20.4	161 E	4	75
8 19	17 47.67	-11 46.6	0.886	1.645	32.2	20.9	120 E	33	76	6 30	17 45.96	-40 41.7	1.501	2.479	8.3	20.4	160 E	4	75
8 29	17 57.61	-12 42.6	0.940	1.628	34.8	21.1	113 E	32	77	7 5	17 38.89	-39 55.6	1.500	2.464	9.6	20.5	156 E	5	76
9 8	18 11.25	-13 36.3	0.999	1.613	36.7	21.2	107 E	31	78	7 10	17 32.40	-39 4.2	1.504	2.448	11.3	20.5	152 E	6	77
9 18	18 28.09	-14 22.8	1.061	1.600	38.0	21.4	101 E	31	78	7 15	17 26.65	-38 8.6	1.515	2.433	13.1	20.6	147 E	7	78
488509 2000 UW₁₃										7 20	17 21.77	-37 10.2	1.531	2.417	14.9	20.7	142 E	8	79
5 11	18 26.77	-59 21.3	0.616	1.459	34.2	21.8	126 W	-	57	7 25	17 17.85	-36 10.3	1.553	2.401	16.7	20.7	137 E	9	80
5 13	18 25.64	-60 50.8	0.611	1.459	33.9	21.8	126 W	-	55	7 30	17 14.94	-35 10.2	1.579	2.384	18.3	20.8	132 E	10	81
5 15	18 23.96	-62 19.9	0.607	1.460	33.6	21.7	127 W	-	54	8 4	17 13.04	-34 10.7	1.610	2.368	19.9	20.9	127 E	11	82
5 17	18 21.64	-63 48.0	0.604	1.460	33.3	21.7	128 W	-	52	8 9	17 12.12	-33 12.9	1.644	2.351	21.3	21.0	123 E	12	83
5 19	18 18.59	-65 14.7	0.601	1.460	33.1	21.7	128 W	-	51	8 14	17 12.16	-32 17.0	1.681	2.335	22.5	21.0	118 E	13	84
5 21	18 14.72	-66 39.6	0.598	1.460	33.0	21.7	128 W	-	49	8 19	17 13.10	-31 23.7	1.721	2.318	23.6	21.1	113 E	14*	85
5 23	18 9.92	-68 2.0	0.597	1.460	32.9	21.7	128 W	-	48	8 24	17 14.90	-30 32.9	1.763	2.301	24.5	21.2	109 E	14*	85
5 25	18 4.07	-69 21.5	0.596	1.460	32.9	21.7	128 W	-	47	8 29	17 17.51	-29 44.8	1.807	2.284	25.3	21.2	105 E	15*	86
5 27	17 57.05	-70 37.5	0.595	1.460	32.9	21.7	128 W	-	45	9 3	17 20.86	-28 59.3	1.851	2.266	25.9	21.3	101 E	16*	87
5 29	17 48.75	-71 49.3	0.595	1.460	33.0	21.7	128 W	-	44	9 8	17 24.89	-28 16.2	1.897	2.249	26.4	21.3	97 E	16*	88
5 31	17 39.05	-72 56.2	0.596	1.459	33.1	21.7	128 W	-	43	9 13	17 29.55	-27 35.1	1.943	2.232	26.8	21.4	93 E	17*	86*
6 2	17 27.85	-73 57.7	0.597	1.459	33.3	21.7	128 W	-	42	9 18	17 34.81	-26 55.8	1.988	2.214	27.0	21.4	89 E	17*	83*
6 4	17 15.12	-74 53.0	0.599	1.459	33.5	21.7	127 W	-	41	9 23	17 40.61	-26 18.0	2.034	2.196	27.1	21.5	86 E	18*	80*
6 6	17 0.87	-75 41.5	0.602	1.458	33.8	21.7	127 W	-	40	9 28	17 46.91	-25 41.4	2.079	2.179	27.1	21.5	82 E	18*	76*
6 8	16 45.19	-76 22.7	0.604	1.457	34.1	21.7	126 E	-	40	513135 2001 BF₂₁									
6 10	16 28.33	-76 56.1	0.608	1.457	34.4	21.8	126 E	-	39	5 11	18 48.54	-52 21.4	2.048	2.762	17.3	21.5	126 W	-	64
6 11	16 19.55	-77 9.7	0.610	1.456	34.6	21.8	125 E	-	39	5 16	18 46.29	-52 43.3	1.985	2.744	16.5	21.4	130 W	-	63
6 12	16 10.61	-77 21.4	0.612	1.456	34.8	21.8	125 E	-	39	5 21	18 42.89	-53 2.7	1.927	2.725	15.6	21.3	134 W	-	63
6 13	16 1.57	-77 31.0	0.614	1.455	35.0	21.8	125 E	-	38	5 26	18 38.34	-53 18.4	1.872	2.706	14.7	21.1	137 W	-	63
6 14	15 52.50	-77 38.7	0.616	1.455	35.2	21.8	124 E	-	38	5 31	18 32.67	-53 29.1	1.822	2.687	13.7	21.0	141 W	-	63
6 15	15 43.44	-77 44.4	0.618	1.455	35.4	21.8	124 E	-	38	6 5	18 25.99	-53 33.6	1.778	2.668	12.8	20.9	144 W	-	62
6 16	15 34.48	-77 48.2	0.620	1.454	35.6	21.8	124 E	-	38	6 10	18 18.44	-53 30.7	1.738	2.649	12.0	20.8	147 W	-	62
6 17	15 25.68	-77 50.1	0.623	1.454	35.8	21.8	123 E	-	38	6 15	18 10.21	-53 19.1	1.705	2.629	11.4	20.8	149 W	-	63
6 18	15 17.08	-77 50.4	0.625	1.453	36.0	21.9	123 E	-	38	6 20	18 1.55	-52 58.0	1.677	2.610	11.1	20.7	150 W	-	63
6 19	15 8.75	-77 49.0	0.628	1.452	36.2	21.9	122 E	-	38	6 25	17 52.78	-52 26.9	1.656	2.590	11.1	20.7	151 E	-	64
6 20	15 0.72	-77 46.2	0.630	1.452	36.4	21.9	122 E	-	38	6 30	17 44.20	-51 45.9	1.640	2.570	11.5	20.6	150 E	-	64

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

20/21	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45° - 26°	2020	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45° - 26°	
513135 2001 BF₂₁ (continuation)									501827 2014 WY₁₀₄									
9 23	17 37.60	-32 27.9	2.060	2.213	26.9	21.3	85 E	11* 77*	5 11	19 9.37	-27 28.4	1.163	1.928	25.4	21.4	125 W	18	89
9 28	17 44.23	-31 31.8	2.101	2.192	26.9	21.3	82 E	12* 75*	5 21	19 14.89	-28 13.2	1.058	1.901	22.8	21.1	133 W	17	88
10 3	17 51.29	-30 37.0	2.141	2.171	26.8	21.3	78 E	13* 72*	5 31	19 16.78	-29 8.6	0.966	1.874	19.3	20.8	142 W	16	87
10 8	17 58.75	-29 43.1	2.180	2.149	26.7	21.4	75 E	14* 69*	6 10	19 14.70	-30 13.0	0.889	1.848	14.9	20.4	152 W	15	86
10 13	18 6.59	-28 49.8	2.219	2.128	26.4	21.4	72 E	14* 66*	6 15	19 12.14	-30 47.2	0.857	1.835	12.5	20.2	157 W	14	85
10 18	18 14.76	-27 56.8	2.256	2.107	26.1	21.4	69 E	15* 63*	6 20	19 8.62	-31 21.4	0.830	1.823	10.0	20.0	162 W	14	85
10 23	18 23.24	-27 3.7	2.292	2.086	25.7	21.4	65 E	16* 59*	6 25	19 4.26	-31 54.3	0.807	1.811	7.6	19.9	166 W	13	84
10 28	18 32.00	-26 10.1	2.327	2.065	25.3	21.4	62 E	17* 56*	6 30	18 59.24	-32 24.7	0.790	1.799	5.9	19.7	169 W	13	84
11 2	18 41.01	-25 15.8	2.359	2.044	24.7	21.4	60 E	17* 53*	7 5	18 53.80	-32 51.3	0.777	1.787	5.7	19.7	170 E	12	83
11 7	18 50.25	-24 20.5	2.390	2.024	24.2	21.4	57 E	18* 49*	7 10	18 48.20	-33 13.1	0.770	1.776	7.3	19.7	167 E	12	83
11 12	18 59.70	-23 23.8	2.420	2.003	23.5	21.3	54 E	18* 46*	7 15	18 42.73	-33 29.5	0.768	1.765	9.7	19.8	163 E	12	83
11 17	19 9.35	-22 25.7	2.447	1.983	22.9	21.3	51 E	19* 43*	7 20	18 37.68	-33 40.0	0.770	1.754	12.6	19.9	158 E	11	82
11 22	19 19.17	-21 25.7	2.472	1.963	22.1	21.3	49 E	20* 39*	7 25	18 33.33	-33 44.8	0.777	1.744	15.4	20.0	153 E	11	82
11 27	19 29.14	-20 23.7	2.496	1.943	21.4	21.3	46 E	20* 36*	7 30	18 29.94	-33 44.2	0.789	1.734	18.2	20.1	148 E	11	82
12 2	19 39.25	-19 19.6	2.517	1.924	20.6	21.2	43 E	20* 33*	8 4	18 27.65	-33 39.0	0.804	1.725	20.8	20.2	143 E	11	82
12 7	19 49.49	-18 13.2	2.536	1.905	19.8	21.2	41 E	21* 29*	8 9	18 26.56	-33 29.8	0.822	1.716	23.3	20.3	138 E	12	83
12 12	19 59.85	-17 4.2	2.553	1.886	19.0	21.2	39 E	21* 26*	8 19	18 28.13	-33 1.6	0.868	1.699	27.5	20.6	129 E	12	83
12 17	20 10.32	-15 52.7	2.568	1.868	18.2	21.1	36 E	21* 23*	8 29	18 34.63	-32 23.4	0.923	1.684	30.9	20.8	121 E	13	84
12 22	20 20.89	-14 38.4	2.581	1.850	17.3	21.1	34 E	21* 20*	9 8	18 45.51	-31 36.9	0.986	1.671	33.4	20.1	114 E	13	84
12 27	20 31.55	-13 21.4	2.592	1.832	16.5	21.1	32 E	20* 17*	9 18	19 0.05	-30 41.6	1.054	1.661	35.2	21.2	108 E	14	85
1 1	20 42.29	-12 1.5	2.601	1.815	15.6	21.0	30 E	20* 14*	9 28	19 17.57	-29 36.3	1.126	1.653	36.4	21.3	102 E	15	86
1 6	20 53.11	-10 38.8	2.609	1.799	14.8	21.0	28 E	19* 11*	10 8	19 37.36	-28 19.5	1.202	1.647	37.1	21.5	96 E	17	88
1 11	21 4.02	-9 13.2	2.614	1.783	14.0	20.9	26 E	18* 8*	66253 1999 GT₃									
1 16	21 15.02	-7 44.7	2.618	1.768	13.2	20.9	24 E	17* 6*	5 11	19 11.63	+9 0.8	1.150	1.824	30.1	21.2	115 W	54	55
247062 2000 QN₁₁₅									5 16	19 10.82	+10 49.0	1.065	1.783	30.0	21.0	118 W	56	53
5 11	18 57.52	-23 42.2	1.464	2.227	21.1	21.4	127 W	21 88	5 21	19 8.76	+12 47.0	0.982	1.739	29.8	20.8	121 W	58	51
5 21	18 58.20	-23 36.3	1.345	2.195	18.4	21.1	137 W	21 88	5 26	19 5.20	+14 55.7	0.901	1.693	29.6	20.5	124 W	60	49
5 31	18 55.41	-23 33.4	1.242	2.164	14.8	20.8	147 W	21 88	5 31	18 59.82	+17 16.1	0.825	1.646	29.6	20.3	127 W	62	47
6 10	18 49.17	-23 32.7	1.156	2.132	10.3	20.4	158 W	21 88	6 5	18 52.22	+19 49.0	0.752	1.596	29.8	20.0	129 W	65	44
6 20	18 39.88	-23 32.1	1.092	2.100	5.0	20.0	170 W	21 88	6 10	18 41.86	+22 34.5	0.684	1.544	30.4	19.7	130 W	68	41
6 25	18 34.39	-23 31.1	1.069	2.084	2.1	19.8	176 W	21 88	6 15	18 28.06	+25 31.7	0.622	1.490	31.8	19.5	129 W	71	38
6 30	18 28.58	-23 29.2	1.052	2.068	0.9	19.6	178 E	22 87	6 20	18 9.95	+28 37.3	0.565	1.434	34.0	19.3	128 W	74	35
7 5	18 22.68	-23 26.3	1.041	2.052	3.9	19.8	172 E	22 87	6 22	18 1.28	+29 52.4	0.544	1.410	35.3	19.2	127 E	75	34
7 10	18 16.89	-23 22.4	1.035	2.036	7.0	19.9	166 E	22 87	6 24	17 51.71	+31 7.2	0.524	1.387	36.8	19.1	125 E	76	33
7 15	18 11.44	-23 17.6	1.035	2.021	9.9	20.0	160 E	22 87	6 26	17 41.17	+32 20.8	0.505	1.362	38.5	19.0	124 E	77	32
7 20	18 6.54	-23 12.1	1.041	2.005	12.8	20.2	154 E	22 87	6 28	17 29.60	+33 32.2	0.488	1.338	40.4	19.0	121 E	79	30
7 25	18 2.36	-23 6.1	1.052	1.989	15.6	20.3	148 E	22 87	6 30	17 16.96	+34 40.2	0.472	1.313	42.6	18.9	119 E	80	29
7 30	17 59.07	-23 0.1	1.067	1.973	18.1	20.4	143 E	22 87	7 2	17 3.21	+35 43.7	0.457	1.287	45.0	18.9	117 E	81	28
8 9	17 55.45	-22 48.6	1.109	1.942	22.7	20.6	132 E	22 87	7 4	16 48.35	+36 41.2	0.443	1.261	47.6	18.8	114 E	82	27
8 19	17 56.00	-22 38.8	1.163	1.912	26.4	20.7	123 E	22 87	7 6	16 32.40	+37 31.1	0.431	1.234	50.6	18.8	110 E	83	26
8 29	18 0.68	-22 30.6	1.226	1.883	29.3	20.9	114 E	22 87	7 8	16 15.41	+38 11.9	0.420	1.207	53.7	18.8	107 E	83	26
9 8	18 9.15	-22 22.6	1.295	1.854	31.4	21.0	107 E	23 86	7 10	15 57.49	+38 42.0	0.410	1.180	57.1	18.8	103 E	84	25
9 18	18 20.95	-22 12.4	1.367	1.826	32.9	21.2	100 E	23 86	7 12	15 38.78	+39 0.2	0.402	1.151	60.7	18.8	99 E	84	25
9 28	18 35.68	-21 57.5	1.440	1.800	33.8	21.3	93 E	23 85*	7 14	15 19.47	+39 5.3	0.396	1.123	64.4	18.8	95 E	82*	25
10 8	18 52.87	-21 35.1	1.513	1.775	34.2	21.4	87 E	23 80*	7 16	14 59.78	+38 56.8	0.390	1.093	68.4	18.9	91 E	78*	25
10 18	19 12.11	-21 2.7	1.586	1.752	34.3	21.4	82 E	24* 74*	7 18	14 39.91	+38 34.3	0.387	1.063	72.5	18.9	86 E	74*	25
6037 1988 EG									7 20	14 20.10	+37 58.3	0.384	1.032	76.8	19.0	82 E	69*	26
5 11	19 2.51	-16 46.0	1.074	1.851	26.5	21.4	125 W	28 81	7 22	14 0.54	+37 9.4	0.383	1.001	81.3	19.1	77 E	64*	27
5 21	18 58.36	-16 11.3	0.961	1.828	22.8	21.0	136 W	29 80	7 24	13 41.38	+36 8.8	0.384	0.969	85.8	19.2	72 E	59*	28*
5 31	18 48.69	-15 41.5	0.862	1.800	17.8	20.6	147 W	29 80	7 26	13 22.75	+34 57.7	0.385	0.936	90.6	19.3	67 E	54*	28*
6 10	18 33.12	-15 17.5	0.780	1.768	11.5	20.1	160 W	30 79	7 28	13 4.70	+33 37.6	0.389	0.902	95.4	19.4	62 E	49*	28*
6 20	18 12.14	-14 59.2	0.721	1.732	5.5	19.6	171 W	30 79	7 30	12 47.29	+32 10.2	0.393	0.868	100.4	19.6	57 E	45*	27*
6 25	18 0.19	-14 52.0	0.701	1.712	5.5	19.5	171 E	30 79	8 1	12 30.50	+30 36.9	0.399	0.833	105.5	19.8	52 E	40*	26*
6 30	17 47.80	-14 46.3	0.687	1.691	8.5	19.6	166 E	30 79	8 3	12 14.34	+28 59.1	0.407	0.796	110.7	20.1	47 E	35*	24*
7 5	17 35.41	-14 42.2	0.679	1.669	12.6	19.7	159 E	30 79	8 5	11 58.77	+27 18.2	0.417	0.759	116.1	20.4	42 E	31*	22*
7 10	17 23.47	-14 39.9	0.677	1.646	16.9	19.8	152 E	30 79	8 7	11 43.77	+25 35.4	0.428	0.721	121.8	20.7	37 E	26*	19*
7 15	17 12.40	-14 40.0	0.681	1.621	21.2	20.0	145 E	30 79	8 9	11 29.32	+23 52.0	0.442	0.682	127.6	21.2	32 E	22*	17*
7 20	17 2.53	-14 42.7	0.689	1.596	25.3	20.1	138 E	30 79	468909 2014 KZ₄₄									
7 25	16 54.11	-14 48.5	0.701	1.569	29.1	20.2	131 E	30 79	5 11	19 12.79	+22 5.1	0.540	1.290	47.8	21.4	109 W	67	42
7 30	16 47.27	-14 57.5	0.716	1.541	32.7	20.3	125 E	30 79	5 16	19 12.28	+28 39.7	0.527	1.280	48.5	21.4	109 W	74	35
8 9	16 38.40	-15 25.2	0.750	1.482	38.9	20.5	113 E	29* 79	5 21	19 10.14	+35 15.7	0.521	1.269	49.6	21.3	107 W	80	29
8 19	16 35.58	-16 4.4	0.786	1.418	44.0	20.6	103 E	28* 80	5 26	19 6.07	+41 41.5	0.520	1.256	51.1	21.4	105 W	87	22
8 29	16 38.13	-16 52.9	0.818	1.349	48.3	20.7	95 E	26* 81*	5 31	18 59.75	+47 46.8	0.525	1.241	52.8	21.4	103 W	87	16
9 8																		

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

2020	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45° - 26°	20/21	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45° - 26°
252050 2000 SZ₁₀									303946 2005 XR₂₈								
<i>(continuation)</i>									<i>(continuation)</i>								
5 31	19 19.17	+15 2.6	1.242	2.003	24.5	20.9	125 W	60 49	7 5	19 13.11	-23 11.5	1.729	2.744	1.4	20.1	176 W	22 87
6 5	19 18.42	+16 30.4	1.201	1.986	24.0	20.8	127 W	62 47	7 10	19 7.09	-24 0.4	1.726	2.742	1.1	20.0	177 E	21 88
6 10	19 16.91	+17 53.5	1.163	1.969	23.6	20.7	129 W	63 46	7 15	19 1.04	-24 48.0	1.731	2.739	3.4	20.2	171 E	20 89
6 15	19 14.65	+19 10.4	1.129	1.952	23.1	20.6	131 W	64 45	7 20	18 55.12	-25 33.6	1.743	2.737	5.6	20.3	165 E	19 90
6 20	19 11.67	+20 19.2	1.098	1.935	22.8	20.5	132 W	65 44	7 25	18 49.48	-26 16.5	1.763	2.734	7.8	20.5	159 E	19 90
6 25	19 8.07	+21 18.1	1.071	1.918	22.6	20.4	134 W	66 43	7 30	18 44.27	-26 56.5	1.789	2.730	9.9	20.6	153 E	18 89
6 30	19 3.94	+22 5.7	1.047	1.901	22.5	20.4	134 W	67 42	8 4	18 39.61	-27 33.4	1.821	2.727	11.8	20.7	147 E	17 88
7 5	18 59.45	+22 40.5	1.027	1.885	22.6	20.3	135 W	68 41	8 9	18 35.59	-28 7.1	1.859	2.723	13.5	20.8	141 E	17 88
7 10	18 54.76	+23 1.5	1.010	1.869	22.9	20.3	134 E	68 41	8 14	18 32.28	-28 37.7	1.903	2.719	15.1	20.9	135 E	16 87
7 15	18 50.04	+23 8.0	0.997	1.853	23.3	20.2	134 E	68 41	8 19	18 29.73	-29 5.3	1.950	2.715	16.6	21.0	130 E	16 87
7 20	18 45.49	+22 59.6	0.988	1.837	23.9	20.2	133 E	68 41	8 24	18 27.98	-29 30.2	2.002	2.710	17.8	21.1	125 E	15 86
7 25	18 41.33	+22 36.5	0.981	1.821	24.7	20.2	132 E	68 41	8 29	18 27.02	-29 52.6	2.057	2.706	18.9	21.2	120 E	15 86
7 30	18 37.74	+21 59.5	0.977	1.806	25.5	20.2	130 E	67 42	9 3	18 26.85	-30 12.6	2.115	2.701	19.8	21.3	115 E	15 86
8 4	18 34.88	+21 9.6	0.977	1.791	26.5	20.2	128 E	66 43	9 8	18 27.44	-30 30.6	2.175	2.695	20.5	21.4	110 E	14 85
8 9	18 32.87	+20 8.3	0.979	1.776	27.5	20.2	126 E	65 44	9 13	18 28.77	-30 46.6	2.237	2.690	21.1	21.4	106 E	14 85
8 14	18 31.80	+18 57.0	0.984	1.762	28.5	20.3	124 E	64 45	275677 2000 RS₁₁								
8 19	18 31.74	+17 37.2	0.991	1.748	29.5	20.3	122 E	63 46	5 11	19 48.49	+ 8 32.1	0.954	1.578	37.8	21.4	107 W	53* 55
8 24	18 32.73	+16 10.7	1.000	1.735	30.6	20.3	119 E	61 48	5 16	19 49.28	+ 9 48.6	0.927	1.591	36.6	21.3	110 W	55* 54
8 29	18 34.78	+14 39.2	1.012	1.722	31.6	20.3	117 E	60 49	5 21	19 48.94	+11 1.5	0.900	1.604	35.3	21.2	114 W	56* 53
9 3	18 37.88	+13 4.3	1.025	1.710	32.5	20.4	114 E	58 51	5 26	19 47.39	+12 9.7	0.874	1.615	33.8	21.2	118 W	57 52
9 8	18 41.99	+11 27.5	1.041	1.698	33.4	20.4	112 E	56 53	5 31	19 44.61	+13 11.4	0.850	1.626	32.2	21.1	121 W	58 51
9 13	18 47.08	+ 9 50.1	1.058	1.686	34.2	20.5	110 E	55 54	6 5	19 40.58	+14 5.0	0.827	1.636	30.5	21.0	125 W	59 50
9 18	18 53.10	+ 8 13.3	1.077	1.675	35.0	20.5	107 E	53 56	6 10	19 35.32	+14 48.7	0.807	1.645	28.8	20.9	129 W	60 49
9 23	19 0.02	+ 6 38.2	1.098	1.665	35.6	20.6	105 E	52 57	6 15	19 28.90	+15 20.3	0.789	1.653	27.0	20.8	132 W	60 49
9 28	19 7.77	+ 5 5.9	1.120	1.656	36.2	20.6	102 E	50 59	6 20	19 21.42	+15 37.9	0.775	1.661	25.4	20.7	136 W	61 48
10 3	19 16.29	+ 3 37.2	1.144	1.647	36.7	20.7	100 E	49 60	6 25	19 13.10	+15 39.7	0.764	1.667	23.8	20.6	139 W	61 48
10 8	19 25.53	+ 2 13.0	1.169	1.638	37.2	20.7	98 E	47 62*	6 30	19 4.20	+15 24.5	0.757	1.673	22.6	20.6	141 W	60 49
10 13	19 35.42	+ 0 53.8	1.196	1.631	37.5	20.8	96 E	46 63*	7 5	18 55.03	+14 52.1	0.754	1.678	21.7	20.6	142 E	60 49
10 18	19 45.92	+ 0 19.9	1.225	1.624	37.8	20.8	93 E	45 63*	7 10	18 45.93	+14 2.9	0.756	1.682	21.4	20.6	143 E	59 50
10 23	19 56.98	+ 1 27.4	1.255	1.618	37.9	20.9	91 E	44 63*	7 15	18 37.21	+12 58.2	0.762	1.686	21.6	20.6	142 E	58 51
10 28	20 8.51	+ 2 28.4	1.286	1.613	38.0	20.9	89 E	43 63*	7 20	18 29.16	+11 40.0	0.773	1.688	22.3	20.6	141 E	57 52
11 2	20 20.47	+ 3 22.6	1.319	1.608	38.0	21.0	87 E	42 62*	7 25	18 22.04	+10 10.9	0.788	1.690	23.4	20.7	139 E	55 54
11 7	20 32.80	+ 4 10.0	1.353	1.604	38.0	21.0	85 E	41 61*	7 30	18 16.04	+ 8 33.7	0.807	1.691	24.7	20.8	136 E	54 55
11 12	20 45.45	+ 4 50.4	1.388	1.602	37.8	21.1	83 E	40 60*	8 4	18 11.27	+ 6 51.3	0.831	1.691	26.3	20.9	132 E	52 57
11 17	20 58.37	+ 5 23.8	1.425	1.599	37.6	21.1	81 E	40 59*	8 9	18 7.75	+ 5 6.3	0.858	1.690	27.8	21.0	129 E	50 59
11 22	21 11.51	+ 5 50.3	1.462	1.598	37.3	21.2	79 E	39 57*	8 14	18 5.50	+ 3 20.7	0.888	1.688	29.4	21.2	125 E	48 61
11 27	21 24.81	+ 6 9.9	1.501	1.598	37.0	21.2	77 E	39 55*	8 19	18 4.49	+ 1 36.4	0.921	1.686	30.8	21.3	121 E	47 62
12 2	21 38.24	+ 6 22.9	1.541	1.598	36.5	21.2	75 E	39 53*	8 24	18 4.67	- 0 5.4	0.956	1.682	32.2	21.4	118 E	45 64
12 7	21 51.75	+ 6 29.7	1.582	1.599	36.1	21.3	73 E	38* 51*	259601 2003 UF₂₇₄								
12 12	22 5.32	+ 6 30.4	1.624	1.601	35.5	21.3	71 E	38* 49*	5 11	19 52.93	-20 43.6	1.623	2.236	24.3	21.4	114 W	24* 85
12 17	22 18.91	+ 6 25.4	1.667	1.604	35.0	21.4	69 E	38* 47*	5 21	19 58.50	-20 12.3	1.485	2.201	22.8	21.2	122 W	25* 84
12 22	22 32.50	+ 6 15.1	1.710	1.608	34.3	21.4	67 E	38* 45*	5 31	20 1.24	-19 45.6	1.359	2.167	20.6	20.9	131 W	25 84
12 27	22 46.06	+ 5 59.9	1.754	1.612	33.6	21.5	65 E	38* 43*	6 10	20 0.82	-19 25.1	1.245	2.132	17.5	20.5	141 W	26 83
31318 1998 GQ₁₀									6 20	20 57.00	-19 11.3	1.148	2.097	13.4	20.2	151 W	26 83
5 11	19 32.31	-14 24.7	3.009	3.592	14.4	21.4	118 W	31* 78	6 30	19 49.88	-19 4.1	1.070	2.062	8.6	19.8	162 W	26 83
5 21	19 30.18	-14 8.3	2.889	3.598	12.9	21.2	128 W	31 78	7 10	19 40.11	-19 1.7	1.013	2.027	3.1	19.4	174 W	26 83
5 31	19 26.05	-13 57.5	2.785	3.604	10.8	21.1	138 W	31 78	7 15	19 34.57	-19 1.7	0.994	2.010	1.3	19.2	177 E	26 83
6 10	19 20.07	-13 52.6	2.702	3.608	8.4	20.9	149 W	31 78	7 20	19 28.86	-19 1.9	0.980	1.992	3.6	19.3	173 E	26 83
6 20	19 12.57	-13 53.7	2.643	3.612	5.7	20.8	159 W	31 78	7 25	19 23.21	-19 2.1	0.972	1.975	6.6	19.4	167 E	26 83
6 30	19 4.03	-14 0.5	2.612	3.614	3.1	20.6	169 W	31 78	7 30	19 17.85	-19 2.2	0.970	1.958	9.7	19.5	161 E	26 83
7 10	18 55.10	-14 12.0	2.610	3.616	2.7	20.6	170 E	31 78	8 4	19 13.00	-19 2.0	0.973	1.941	12.6	19.6	155 E	26 83
7 20	18 46.46	-14 27.4	2.637	3.617	5.0	20.7	162 E	31 78	8 9	19 8.84	-19 1.3	0.981	1.924	15.5	19.7	150 E	26 83
7 30	18 38.77	-14 45.6	2.693	3.617	7.7	20.9	151 E	30 79	8 14	19 5.51	-19 0.2	0.993	1.908	18.2	19.8	144 E	26 83
8 9	18 32.58	-15 5.4	2.774	3.616	10.2	21.1	141 E	30 79	8 19	19 3.14	-18 58.6	1.010	1.891	20.7	19.9	139 E	26 83
8 19	18 28.22	-15 26.0	2.877	3.614	12.3	21.2	130 E	30 79	8 29	19 1.57	-18 53.9	1.053	1.859	25.1	20.1	129 E	26 83
8 29	18 25.89	-15 46.6	2.997	3.611	14.0	21.4	120 E	29 80	9 8	19 4.29	-18 46.4	1.106	1.828	28.6	20.3	120 E	26 83
252192 2001 FJ₁									9 18	19 11.06	-18 34.6	1.167	1.798	31.3	20.4	112 E	26 83
5 11	19 36.57	+ 3 35.0	2.652	3.164	17.3	21.4	111 W	48* 60	9 28	19 21.52	-18 16.5	1.232	1.770	33.3	20.6	104 E	27 82
5 21	19 35.37	+ 4 44.0	2.530	3.157	16.2	21.3	120 W	50 59	10 8	19 35.15	-17 50.0	1.300	1.743	34.6	20.7	98 E	27 82
5 31	19 31.97	+ 5 44.1	2.422	3.150	14.7	21.1	128 W	51 58	10 18	19 51.47	-17 12.9	1.369	1.718	35.4	20.8	92 E	28 79*
6 10	19 26.48	+ 6 31.4	2.329	3.141	13.0	21.0	136 W	52 57	10 28	20 10.03	-16 23.5	1.438	1.696	35.8	20.9	86 E	29 74*
6 20	19 19.14	+ 7 1.8	2.257	3.131	11.2	20.8	143 W	52 57	11 7	20 30.38	-15 20.2	1.507	1.675	35.8	21.0	81 E	30 69*
6 30	19 10.43	+ 7 11.9	2.207	3.120	9.8	20.7	149 W	52 57	11 17	20 52.18	-14 2.5	1.576	1.658	35.5	21.0	77 E	31 63*
7 10	19 1.04	+ 6 59.7	2.182	3.108	9.3	20.7	150 E	52 57	11 27	21 15.11	-12 29.9	1.644	1.643	34.9	21.1	72 E	32* 57*
7 20	18 51.74	+ 6 25.															

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

2020	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45° - 26°	2020	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45° - 26°		
467488 2006 TR₄₈ (continuation)									228587 2002 AP₇ (continuation)										
6 25	20 35.95	-34 25.1	0.816	1.761	18.0	20.0	148 W	11 82	8 21	19 55.80	-71 29.4	0.464	1.294	43.8	20.1	118 E	-	45	
6 30	20 35.67	-35 11.0	0.788	1.750	16.1	19.9	152 W	10 81	8 23	19 53.52	-71 54.6	0.473	1.292	44.6	20.1	116 E	-	44	
7 5	20 34.40	-35 56.4	0.764	1.740	14.2	19.7	155 W	9 80	8 25	19 51.76	-72 15.8	0.482	1.289	45.4	20.2	115 E	-	44	
7 10	20 32.20	-36 39.7	0.744	1.730	12.5	19.6	158 W	8 79	8 27	19 50.54	-72 33.3	0.490	1.287	46.0	20.3	114 E	-	43	
7 15	20 29.18	-37 18.9	0.729	1.721	11.2	19.5	161 W	8 79	8 29	19 49.91	-72 47.3	0.499	1.285	46.7	20.3	112 E	-	43	
7 20	20 25.52	-37 52.3	0.718	1.713	10.7	19.4	162 W	7 78	8 31	19 49.87	-72 58.2	0.508	1.283	47.3	20.4	111 E	-	43	
7 25	20 21.44	-38 18.0	0.711	1.705	11.0	19.4	161 W	7 78	9 2	19 50.43	-73 6.1	0.516	1.280	47.8	20.4	110 E	-	43	
7 30	20 17.26	-38 34.6	0.709	1.698	12.1	19.4	159 E	6 77	9 4	19 51.59	-73 11.2	0.525	1.278	48.3	20.4	109 E	-	43	
8 4	20 13.27	-38 41.4	0.712	1.691	13.8	19.5	157 E	6 77	9 6	19 53.33	-73 13.8	0.533	1.276	48.8	20.5	108 E	-	43	
8 9	20 9.74	-38 38.1	0.718	1.685	15.9	19.6	153 E	6 77	9 8	19 55.63	-73 13.8	0.542	1.274	49.2	20.5	107 E	-	43	
8 14	20 6.91	-38 25.1	0.729	1.680	18.1	19.7	149 E	7 78	9 10	19 58.48	-73 11.5	0.550	1.272	49.6	20.6	106 E	-	43	
8 19	20 4.99	-38 2.8	0.743	1.676	20.2	19.8	145 E	7 78	9 12	20 1.85	-73 6.9	0.558	1.270	50.0	20.6	105 E	-	43	
8 24	20 4.13	-37 32.1	0.761	1.672	22.4	19.9	141 E	7 78	9 14	20 5.71	-73 0.0	0.566	1.268	50.3	20.6	104 E	-	43	
8 29	20 4.42	-36 54.2	0.782	1.669	24.3	20.0	137 E	8 79	9 16	20 10.01	-72 50.9	0.573	1.266	50.6	20.7	103 E	-	43	
9 3	20 5.86	-36 10.1	0.806	1.667	26.2	20.1	133 E	9 80	9 18	20 14.73	-72 39.7	0.581	1.264	50.9	20.7	102 E	-	43	
9 8	20 8.40	-35 20.7	0.833	1.666	27.8	20.2	129 E	10 81	9 20	20 19.83	-72 26.2	0.588	1.262	51.2	20.7	102 E	-	44	
9 13	20 12.00	-34 26.8	0.862	1.665	29.3	20.4	126 E	11 82	9 22	20 25.27	-72 10.7	0.595	1.261	51.4	20.8	101 E	-	44	
9 18	20 16.58	-33 29.0	0.894	1.666	30.6	20.5	122 E	12 83	9 24	20 31.00	-71 53.0	0.602	1.259	51.6	20.8	100 E	-	44	
9 23	20 22.05	-32 27.9	0.928	1.667	31.7	20.6	119 E	13 84	9 26	20 36.97	-71 33.3	0.609	1.257	51.8	20.8	100 E	-	44	
9 28	20 28.32	-31 23.9	0.964	1.668	32.7	20.7	116 E	14 85	9 28	20 43.14	-71 11.4	0.616	1.256	52.0	20.9	99 E	-	45	
10 3	20 35.28	-30 17.2	1.002	1.671	33.4	20.8	113 E	15 86	9 30	20 49.48	-70 47.4	0.622	1.254	52.2	20.9	98 E	-	45	
10 8	20 42.83	-29 8.2	1.042	1.674	34.1	20.9	110 E	16 87	10 2	20 55.94	-70 21.2	0.628	1.253	52.3	20.9	98 E	-	46	
10 13	20 50.89	-27 57.0	1.084	1.678	34.6	21.0	107 E	17 88	10 4	21 2.50	-69 53.0	0.634	1.251	52.4	20.9	97 E	-	46	
10 18	20 59.39	-26 43.8	1.127	1.683	34.9	21.1	105 E	18 89	10 6	21 9.11	-69 22.5	0.640	1.250	52.6	20.9	97 E	-	47	
10 23	21 8.25	-25 28.7	1.172	1.688	35.2	21.2	102 E	20 89	10 8	21 15.75	-68 49.9	0.645	1.249	52.7	21.0	96 E	-	47	
10 28	21 17.42	-24 12.0	1.218	1.694	35.3	21.3	100 E	21 88	10 10	21 22.40	-68 15.1	0.651	1.247	52.8	21.0	96 E	-	48	
11 2	21 26.83	-22 53.6	1.266	1.701	35.4	21.4	97 E	22 87*	10 12	21 29.05	-67 38.2	0.656	1.246	52.8	21.0	96 E	-	48	
405776 2006 AP									228587 2002 AP₇ (continuation)										
5 11	20 0.11	-11 57.1	2.117	2.647	20.9	21.5	111 W	32* 76	10 18	21 48.75	-65 34.1	0.670	1.243	53.0	21.1	94 E	-	50	
5 21	20 0.72	-12 27.1	2.009	2.664	19.2	21.3	120 W	32* 76	10 23	22 4.75	-63 36.0	0.681	1.241	53.1	21.1	94 E	-	52	
5 31	19 58.61	-13 12.2	1.911	2.680	16.8	21.1	130 W	32* 77	10 28	22 20.23	-61 24.9	0.691	1.239	53.2	21.1	93 E	-	55	
6 10	19 53.72	-14 13.3	1.829	2.696	13.7	21.0	141 W	31 78	11 2	22 35.12	-59 1.1	0.700	1.238	53.2	21.1	92 E	-	57	
6 20	19 46.22	-15 29.7	1.767	2.710	9.9	20.7	153 W	30 79	11 7	22 49.41	-56 25.0	0.709	1.237	53.2	21.2	92 E	-	60	
6 30	19 36.56	-16 58.1	1.730	2.723	5.7	20.5	165 W	28 81	11 12	23 3.14	-53 37.0	0.718	1.237	53.1	21.2	91 E	-	62	
7 10	19 25.60	-18 33.3	1.720	2.735	1.5	20.3	176 W	26 83	11 17	23 16.37	-50 37.7	0.726	1.237	53.0	21.2	91 E	-	65	
7 15	19 19.94	-19 21.4	1.727	2.741	1.8	20.3	175 E	26 83	11 22	23 29.16	-47 28.0	0.735	1.238	52.9	21.2	91 E	-	69	
7 20	19 14.36	-20 8.9	1.741	2.747	3.8	20.5	170 E	25 84	11 27	23 41.56	-44 9.0	0.745	1.239	52.8	21.3	90 E	1	72	
7 25	19 9.01	-20 54.9	1.762	2.752	5.9	20.6	164 E	24 85	12 2	23 53.62	-40 41.7	0.755	1.240	52.6	21.3	90 E	4	75	
7 30	19 4.01	-21 39.1	1.790	2.757	8.0	20.7	158 E	23 86	12 7	0 5.40	-37 7.3	0.766	1.242	52.5	21.3	89 E	8	79*	
8 4	18 59.50	-22 20.8	1.825	2.762	10.0	20.9	152 E	23 86	12 12	0 16.96	-33 27.2	0.779	1.244	52.3	21.4	89 E	12	82*	
8 9	18 55.55	-23 0.0	1.866	2.767	11.8	21.0	146 E	22 87	12 17	0 28.35	-29 42.9	0.793	1.247	52.1	21.4	88 E	15	82*	
8 14	18 52.24	-23 36.3	1.913	2.771	13.4	21.1	141 E	21 88	12 22	0 39.64	-25 56.1	0.809	1.250	51.8	21.4	88 E	19	81*	
8 19	18 49.61	-24 9.8	1.965	2.775	14.9	21.2	135 E	21 88	12 27	0 50.86	-22 8.4	0.826	1.254	51.6	21.5	87 E	23	78*	
8 24	18 47.71	-24 40.6	2.021	2.779	16.2	21.3	130 E	20 89	275558 1999 RH₃₃										
8 29	18 46.55	-25 8.6	2.081	2.782	17.4	21.4	125 E	20 89	5 11	20 3.03	-1 35.8	0.945	1.572	37.9	21.4	107 W	42*	66	
228587 2002 AP₇									5 16	20 6.81	-0 44.0	0.917	1.583	36.8	21.3	110 W	44*	65	
5 11	20 2.87	-4 4.4	0.747	1.428	42.4	21.3	108 W	40* 68	5 21	20 9.60	+0 4.3	0.889	1.595	35.5	21.2	114 W	45*	64	
5 16	20 10.59	-4 58.6	0.703	1.422	41.7	21.1	111 W	39* 69	5 26	20 11.36	+0 48.4	0.862	1.606	34.0	21.1	118 W	46*	63	
5 21	20 17.93	-6 6.7	0.659	1.416	40.7	21.0	114 W	38* 70	5 31	20 12.03	+1 27.0	0.836	1.617	32.3	21.0	122 W	46	63	
5 26	20 24.84	-7 31.8	0.617	1.410	39.5	20.8	118 W	37* 72	6 5	20 11.59	+1 59.2	0.811	1.628	30.4	20.9	126 W	47	62	
5 31	20 31.28	-9 16.9	0.576	1.403	38.1	20.6	121 W	36* 73	6 10	20 10.02	+2 23.7	0.789	1.638	28.3	20.8	130 W	47	62	
6 5	20 37.21	-11 25.7	0.537	1.397	36.2	20.4	126 W	34* 75	6 15	20 7.32	+2 39.4	0.769	1.649	26.0	20.7	135 W	48	61	
6 10	20 42.56	-14 1.7	0.501	1.390	34.1	20.1	130 W	31 78	6 20	20 3.51	+2 45.1	0.751	1.659	23.6	20.6	139 W	48	61	
6 15	20 47.25	-17 8.6	0.467	1.384	31.6	19.9	134 W	28 81	6 25	19 58.69	+2 39.8	0.737	1.669	21.1	20.5	144 W	48	61	
6 20	20 51.13	-20 49.3	0.437	1.377	28.8	19.7	139 W	24 85	6 30	19 53.02	+2 22.7	0.726	1.679	18.5	20.4	148 W	47	62	
6 25	20 54.10	-25 4.9	0.411	1.370	25.8	19.4	144 W	20 89	7 10	19 39.94	+1 13.3	0.718	1.697	14.1	20.2	156 W	46	63	
6 30	20 56.00	-29 53.6	0.390	1.363	23.1	19.2	148 W	15 86	7 20	19 26.25	-0 38.3	0.728	1.715	12.5	20.2	159 E	44	65	
7 5	20 56.70	-35 9.2	0.374	1.357	21.1	19.1	151 W	10 81	7 30	19 14.20	-2 58.9	0.759	1.731	14.7	20.4	154 E	42	67	
7 10	20 55.99	-40 41.4	0.364	1.350	20.5	19.0	152 W	4 75	8 4	19 9.36	-4 14.7	0.782	1.738	16.7	20.6	151 E	41	68	
7 12	20 55.26	-42 55.8	0.362	1.347	20.8	19.0	152 W	2 73	8 9	19 5.51	-5 31.3	0.809	1.746	18.8	20.7	146 E	39	70	
7 14	20 54.26	-45 9.6	0.361	1.344	21.3	19.0	151 W	-	71	8 14	19 2.73	-6 47.2	0.841	1.753	20.9	20.9	142 E	38	71
7 16	20 52.97	-47 21.7	0.360	1.341	22.0	19.0	150 W	-	69	8 19	19 1.07	-8 0.7	0.876	1.759	23.0	21.0	137 E	37	72
7 18	20 51.39	-49 31.2	0.361	1.339	23.0	19.0	149 W	-	66	8 24	19 0.52	-9 11.0	0.915	1.766	24.8	21.2	133 E	36	73
7 20	20 49.50	-51 37.1	0.362	1.336	24.2	19.1	147 W	-	64	8 29	19 1.0								

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

20/21	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°-26°	20/21	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°-26°
424214 2007 RF₃₆									475987 2007 PC₃₆								
<i>(continuation)</i>									<i>(continuation)</i>								
7 25	19 52.14	-26 44.4	0.889	1.899	4.9	19.3	171 E	18 89	11 27	21 40.58	-17 28.7	1.682	1.744	33.4	20.4	77 E	28 64*
7 30	19 46.33	-26 42.6	0.884	1.884	7.7	19.4	166 E	18 89	12 7	22 2.42	-16 13.8	1.750	1.722	33.0	20.5	72 E	29 58*
8 4	19 40.87	-26 36.8	0.884	1.870	10.7	19.5	160 E	18 89	12 17	22 25.27	-14 41.5	1.816	1.704	32.3	20.5	68 E	30* 53*
8 9	19 36.00	-26 27.1	0.889	1.855	13.6	19.6	154 E	19 90	12 27	22 48.90	-12 53.3	1.882	1.689	31.4	20.5	63 E	32* 47*
8 14	19 31.90	-26 13.8	0.898	1.841	16.5	19.7	149 E	19 90	1 6	23 13.08	-10 51.3	1.946	1.677	30.4	20.6	60 E	33* 42*
8 19	19 28.76	-25 57.2	0.912	1.828	19.2	19.8	144 E	19 90	1 16	23 37.70	-8 37.8	2.009	1.669	29.2	20.6	56 E	33* 38*
8 24	19 26.69	-25 37.7	0.930	1.814	21.7	19.9	138 E	19 90	241673 2000 QG₇₀								
8 29	19 25.76	-25 15.8	0.951	1.801	24.0	19.9	133 E	20 89	5 11	20 41.24	-0 37.2	2.812	3.110	18.8	21.4	98 W	41* 64
9 8	19 27.33	-24 26.3	1.002	1.776	28.0	20.2	124 E	21 88	5 21	20 44.56	-0 8.7	2.647	3.081	18.4	21.2	106 W	43* 65
9 18	19 33.25	-23 30.2	1.061	1.753	31.0	20.4	116 E	21 88	5 31	20 45.99	+0 10.3	2.488	3.051	17.6	21.0	114 W	45* 64
9 28	19 43.08	-22 27.5	1.127	1.731	33.3	20.5	109 E	23 86	6 10	20 45.38	+0 16.6	2.338	3.020	16.3	20.8	124 W	45 64
10 8	19 56.20	-21 17.3	1.196	1.711	34.8	20.7	102 E	24 85	6 20	20 42.57	+0 6.7	2.200	2.988	14.4	20.6	133 W	45 64
10 18	20 12.01	-19 58.4	1.269	1.693	35.8	20.8	96 E	25 84*	6 30	20 37.55	+0 22.5	2.080	2.955	12.0	20.4	143 W	45 64
10 28	20 30.02	-18 29.1	1.343	1.678	36.3	20.9	91 E	27 79*	7 10	20 30.52	-1 13.4	1.981	2.921	9.2	20.1	153 W	44 65
11 7	20 49.72	-16 48.7	1.418	1.664	36.4	21.0	85 E	28 73*	7 20	20 21.88	-2 26.5	1.907	2.886	6.6	19.9	161 W	43 66
11 17	21 10.72	-14 56.6	1.493	1.654	36.2	21.1	81 E	30 67*	7 30	20 12.33	-4 0.0	1.861	2.851	5.6	19.8	164 E	41 68
11 27	21 32.72	-12 52.8	1.570	1.646	35.6	21.2	76 E	32 61*	8 4	20 7.50	-4 52.9	1.848	2.833	6.1	19.8	163 E	40 69
12 7	21 55.43	-10 38.1	1.646	1.641	34.9	21.3	72 E	34* 54*	8 9	20 2.78	-5 49.0	1.843	2.815	7.3	19.8	159 E	39 70
12 17	22 18.66	-8 13.6	1.723	1.639	33.9	21.4	68 E	37* 48*	8 14	19 58.29	-6 47.4	1.845	2.796	8.8	19.9	155 E	38 71
12 27	22 42.28	-5 40.7	1.801	1.639	32.8	21.4	65 E	39* 43*	8 19	19 54.15	-7 47.1	1.853	2.777	10.4	19.9	150 E	37 72
1 6	23 6.17	-3 1.6	1.879	1.643	31.5	21.5	61 E	40* 37*	8 24	19 50.45	-8 47.3	1.868	2.759	12.1	20.0	145 E	36 73
506428 2000 SJ₁₀₀									8 29	19 47.30	-9 47.0	1.889	2.739	13.8	20.1	140 E	35 74
5 11	20 20.71	-21 42.9	1.554	2.100	27.2	21.4	108 W	22* 86	9 3	19 44.74	-10 45.6	1.916	2.720	15.3	20.1	135 E	34 75
5 21	20 29.79	-20 48.2	1.420	2.068	26.2	21.1	115 W	23* 85	9 8	19 42.83	-11 42.4	1.947	2.701	16.8	20.2	129 E	33 76
5 31	20 36.33	-19 54.9	1.294	2.036	24.6	20.8	123 W	25* 84	9 18	19 41.08	-13 28.7	2.022	2.661	19.2	20.3	119 E	32 77
6 10	20 39.94	-19 4.5	1.179	2.005	22.1	20.5	132 W	26 83	9 28	19 42.16	-15 3.1	2.109	2.621	21.1	20.4	110 E	30 79
6 20	20 40.20	-18 18.3	1.076	1.973	18.8	20.2	141 W	27 82	10 8	19 45.96	-16 24.0	2.203	2.579	22.4	20.5	101 E	29 80
6 30	20 36.85	-17 36.9	0.988	1.942	14.5	19.8	151 W	27 82	10 18	19 52.31	-17 31.2	2.301	2.538	23.1	20.6	92 E	27 80*
7 10	20 30.04	-17 0.1	0.919	1.912	9.4	19.4	162 W	28 81	10 28	20 0.98	-18 24.3	2.398	2.495	23.3	20.7	84 E	27 74*
7 20	20 20.42	-16 27.0	0.870	1.883	3.6	19.0	173 W	29 80	11 7	20 11.70	-19 3.7	2.492	2.452	23.2	20.7	76 E	26 66*
7 25	20 14.95	-16 11.5	0.853	1.868	1.9	18.8	176 E	29 80	11 17	20 24.23	-19 29.7	2.581	2.409	22.5	20.7	69 E	25 59*
7 30	20 9.36	-15 56.4	0.842	1.854	4.0	18.9	173 E	29 80	11 27	20 38.36	-19 42.5	2.662	2.364	21.6	20.7	62 E	25 51*
8 4	20 3.87	-15 41.6	0.837	1.840	7.0	19.1	167 E	29 80	12 7	20 53.85	-19 42.7	2.733	2.320	20.5	20.7	55 E	24 44*
8 9	19 58.73	-15 27.0	0.837	1.826	10.2	19.2	161 E	30 79	12 17	21 10.53	-19 30.4	2.795	2.275	19.1	20.7	49 E	23 38*
8 14	19 54.16	-15 12.6	0.841	1.813	13.3	19.3	156 E	30 79	12 27	21 28.27	-19 6.3	2.845	2.230	17.5	20.6	43 E	21 31*
8 19	19 50.36	-14 58.5	0.851	1.800	16.3	19.4	150 E	30 79	1 6	21 46.90	-18 30.8	2.883	2.185	15.9	20.6	37 E	19 26*
8 29	19 45.64	-14 30.5	0.882	1.775	21.7	19.6	139 E	30 79	1 16	22 6.34	-17 44.5	2.909	2.139	14.1	20.5	32 E	16 21*
9 8	19 45.25	-14 2.2	0.927	1.752	26.2	19.8	130 E	31 78	136839 1997 WT₂₂								
9 18	19 49.21	-13 31.9	0.982	1.731	29.8	20.0	121 E	31 78	5 11	20 48.78	-22 1.7	1.090	1.631	37.3	21.5	102 W	20* 86
9 28	19 57.24	-12 57.4	1.044	1.711	32.5	20.2	114 E	32 77	5 21	20 57.42	-22 45.6	1.027	1.667	34.9	21.3	110 W	20* 87
10 8	20 8.79	-12 16.2	1.112	1.694	34.4	20.4	107 E	33 76	5 31	21 1.99	-23 52.6	0.966	1.701	31.6	21.1	118 W	20* 88
10 18	20 23.30	-11 26.3	1.183	1.680	35.7	20.6	100 E	34 75	6 10	21 1.87	-25 24.6	0.910	1.733	27.4	20.9	128 W	20* 89
10 28	20 40.27	-10 25.8	1.257	1.668	36.4	20.7	95 E	35 73*	6 20	20 56.46	-27 19.6	0.865	1.763	22.2	20.7	139 W	18 89
11 7	20 59.18	-9 13.6	1.333	1.658	36.7	20.8	90 E	36 69*	6 30	20 45.55	-29 28.5	0.835	1.791	16.2	20.4	151 W	16 87
11 17	21 19.64	-7 49.1	1.410	1.651	36.6	20.9	85 E	37 64*	7 5	20 38.22	-30 33.2	0.826	1.804	13.1	20.3	156 W	14 85
11 27	21 41.30	-6 12.4	1.489	1.648	36.2	21.0	81 E	39 58*	7 10	20 29.89	-31 34.7	0.823	1.816	10.3	20.2	161 W	13 84
12 7	22 3.86	-4 24.4	1.570	1.647	35.6	21.1	76 E	41 53*	7 15	20 20.81	-32 30.7	0.826	1.828	8.0	20.2	165 W	12 83
12 17	22 27.10	-2 26.1	1.651	1.649	34.7	21.2	73 E	43* 47*	7 20	20 11.33	-33 19.0	0.835	1.839	7.1	20.2	167 W	12 83
12 27	22 50.85	-0 19.3	1.734	1.654	33.6	21.3	69 E	44* 41*	7 25	20 1.85	-33 58.0	0.850	1.850	8.0	20.2	165 E	11 82
1 6	23 14.97	+1 53.9	1.819	1.661	32.4	21.4	65 E	45* 36*	7 30	19 52.77	-34 27.1	0.870	1.860	10.1	20.4	161 E	11 82
1 16	23 39.38	+4 11.3	1.904	1.672	31.1	21.4	61 E	46* 32*	8 4	19 44.44	-34 46.3	0.896	1.869	12.7	20.6	156 E	10 81
475987 2007 PC₃₆									8 9	19 37.11	-34 56.4	0.927	1.878	15.3	20.7	151 E	10 81
5 11	20 36.90	-9 27.8	2.115	2.515	23.2	21.4	101 W	33* 73	8 14	19 30.97	-34 58.4	0.963	1.887	17.8	20.9	145 E	10 81
5 21	20 44.24	-8 44.0	1.954	2.473	22.8	21.2	109 W	35* 73	8 19	19 26.15	-34 53.8	1.004	1.894	20.1	21.1	140 E	10 81
5 31	20 49.72	-8 7.5	1.799	2.430	21.9	21.0	117 W	36* 72	8 24	19 22.69	-34 43.6	1.048	1.901	22.1	21.3	135 E	10 81
6 10	20 53.07	-7 41.4	1.654	2.388	20.3	20.7	125 W	37* 72	8 29	19 20.58	-34 29.2	1.096	1.908	23.9	21.4	130 E	11 82
6 20	20 54.01	-7 29.3	1.520	2.345	18.1	20.4	134 W	38 71	309319 2007 SO								
6 30	20 52.30	-7 35.1	1.401	2.302	15.1	20.1	144 W	37 72	5 11	20 52.72	-19 26.5	3.008	3.339	17.3	21.4	100 W	22* 83
7 10	20 47.93	-8 1.6	1.301	2.259	11.4	19.7	154 W	37 72	5 21	20 55.90	-19 6.7	2.833	3.306	16.8	21.3	109 W	24* 83
7 20	20 41.14	-8 50.4	1.221	2.216	7.1	19.4	164 W	36 73	5 31	20 57.14	-18 53.4	2.666	3.271	15.8	21.1	118 W	25* 83
7 30	20 32.61	-10 0.2	1.165	2.174	4.0	19.1	171 E	35 74	6 10	20 56.26	-18 47.1	2.510	3.236	14.3	20.9	128 W	26* 83
8 4	20 28.03	-10 41.6	1.146	2.153	4.5	19.1	170 E	34 75	6 20	20 53.12	-18 48.2	2.369	3.200	12.2	20.6	138 W	26 83
8 9	20 23.47	-11 26.0	1.133	2.132	6.4	19.1	166 E	34 75	6 30	20 47.68	-18 56.0	2.247	3.163	9.5	20.4	149 W	26 83
8 14	20 19.08	-12 12.7	1.126	2.111	8.8	19.2	161 E	33 76	7 10	20 40.13	-19 9.0	2.149	3.125	6.2	20.1	160 W	26 83
8 19	20 15.05	-13 0.4	1.125	2.090	11.4	19.3	156 E	32 77	7 20	20 30.87	-19 25						

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

20/21	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°	20/21	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°
309319 2007 SO										381783 2009 TS₂									
<i>(continuation)</i>																			
10 18	19 52.84	-18 55.3	2.477	2.698	21.7	20.7	92 E	26	81*	5 11	20 59.81	-19 40.4	1.889	2.274	26.0	21.4	99 W	21*	84
10 28	20 0.19	-18 24.1	2.570	2.651	21.9	20.7	84 E	27	73*	5 21	21 11.02	-19 20.5	1.738	2.236	25.8	21.2	106 W	23*	83
11 7	20 9.47	-17 46.4	2.660	2.603	21.7	20.8	76 E	27*	65*	5 31	21 20.60	-19 9.7	1.592	2.198	25.1	21.0	113 W	24*	83
11 17	20 20.45	-17 1.5	2.744	2.555	21.1	20.8	69 E	28*	57*	6 10	21 28.21	-19 10.9	1.455	2.160	23.8	20.7	121 W	25*	83
11 27	20 32.90	-16 8.7	2.819	2.505	20.3	20.8	62 E	28*	49*	6 20	21 33.50	-19 26.9	1.327	2.122	21.8	20.4	129 W	26*	83
12 7	20 46.60	-15 7.5	2.885	2.455	19.2	20.7	55 E	28*	41*	6 30	21 36.02	-20 0.2	1.211	2.084	18.9	20.1	138 W	25	84
12 17	21 1.40	-13 57.5	2.940	2.405	17.9	20.7	49 E	27*	34*	7 10	21 35.47	-20 51.1	1.111	2.046	15.3	19.7	148 W	24	85
12 27	21 17.14	-12 38.2	2.984	2.354	16.4	20.6	42 E	26*	27*	7 20	21 31.65	-21 57.9	1.029	2.008	10.8	19.4	158 W	23	86
1 6	21 33.70	-11 9.7	3.016	2.303	14.8	20.5	37 E	24*	20*	7 25	21 28.56	-22 35.5	0.995	1.990	8.4	19.2	163 W	22	87
1 16	21 51.00	-9 31.7	3.036	2.251	13.0	20.4	31 E	21*	15*	7 30	21 24.79	-23 14.5	0.967	1.972	6.1	19.0	168 W	22	87
329261 1998 SW₁₂₃																			
5 11	20 55.86	-13 55.4	1.765	2.152	27.7	21.3	98 W	27*	78	8 4	21 20.47	-23 53.4	0.944	1.953	4.5	18.8	171 W	21	88
5 21	21 7.72	-12 54.5	1.622	2.117	27.6	21.1	105 W	29*	77	8 9	21 15.75	-24 31.0	0.927	1.935	4.5	18.8	171 E	20	89
5 31	21 17.95	-11 57.7	1.484	2.082	26.9	20.9	112 W	31*	76	8 14	21 10.83	-25 5.7	0.915	1.918	6.4	18.8	168 W	20	89
6 10	21 26.28	-11 8.1	1.354	2.047	25.7	20.6	119 W	33*	75	8 19	21 5.94	-25 36.2	0.909	1.900	9.0	18.9	163 E	19	90
6 20	21 32.36	-10 28.7	1.233	2.013	23.9	20.3	127 W	35*	74	8 24	21 1.33	-26 1.4	0.908	1.883	11.8	19.0	158 E	19	90
6 30	21 35.79	-10 3.5	1.123	1.979	21.2	20.0	135 W	35*	74	8 29	20 57.22	-26 20.5	0.912	1.866	14.6	19.1	152 E	19	90
7 10	21 36.30	-9 55.6	1.026	1.946	17.6	19.6	145 W	35	74	9 3	20 53.82	-26 33.2	0.921	1.849	17.4	19.2	147 E	18	89
7 20	21 33.73	-10 7.7	0.945	1.914	13.1	19.3	155 W	35	74	9 8	20 51.27	-26 39.3	0.934	1.833	20.0	19.3	142 E	18	89
7 30	21 28.28	-10 40.3	0.883	1.883	7.8	18.9	165 W	34	75	9 13	20 49.71	-26 39.0	0.950	1.817	22.4	19.4	137 E	18	89
8 4	21 24.71	-11 3.4	0.859	1.868	4.9	18.6	171 W	34	75	9 18	20 49.20	-26 32.4	0.970	1.802	24.6	19.5	132 E	18	89
8 9	21 20.76	-11 30.2	0.841	1.853	2.5	18.4	176 W	33	76	9 28	20 51.47	-26 1.7	1.017	1.772	28.4	19.6	123 E	19	90
8 14	21 16.60	-11 59.7	0.828	1.839	2.8	18.4	175 E	33	76	10 8	20 57.97	-25 10.0	1.073	1.745	31.4	19.8	115 E	20	89
8 19	21 12.44	-12 30.8	0.820	1.825	5.6	18.5	170	32	77	10 18	21 8.22	-23 59.4	1.134	1.720	33.6	20.0	107 E	21	88
8 24	21 8.52	-13 2.3	0.817	1.811	8.7	18.6	164 E	32	77	10 23	21 14.59	-23 17.4	1.166	1.708	34.4	20.0	104 E	22	87
8 29	21 5.05	-13 32.9	0.820	1.798	11.8	18.8	159 E	31	78	10 28	21 21.69	-22 31.1	1.199	1.697	35.1	20.1	101 E	22	87
9 3	21 2.23	-14 1.6	0.827	1.786	14.8	18.9	153 E	31	78	11 2	21 29.43	-21 40.7	1.233	1.687	35.6	20.1	98 E	23	86
9 8	21 0.20	-14 27.5	0.838	1.774	17.7	19.0	148 E	31	78	11 7	21 37.75	-20 46.2	1.267	1.677	36.1	20.2	95 E	24	84*
9 13	20 59.08	-14 49.8	0.854	1.762	20.3	19.1	143 E	30	79	11 17	21 55.86	-18 45.6	1.337	1.660	36.6	20.3	90 E	26	78*
9 18	20 58.96	-15 7.9	0.873	1.751	22.8	19.2	138 E	30	79	11 27	22 15.58	-16 30.1	1.407	1.646	36.7	20.4	85 E	28	71*
9 28	21 1.85	-15 29.8	0.920	1.731	27.0	19.4	128 E	30	79	12 7	22 36.50	-14 1.5	1.480	1.636	36.4	20.5	80 E	31	65*
10 8	21 8.79	-15 31.6	0.978	1.713	30.3	19.6	120	29	80	12 17	22 58.35	-11 21.4	1.553	1.629	35.9	20.6	76	34	58*
10 18	21 19.37	-15 12.8	1.043	1.698	32.8	19.8	113	30	79	12 27	23 20.90	-8 32.0	1.628	1.626	35.2	20.7	72	36	52*
10 28	21 33.08	-14 33.5	1.113	1.686	34.5	20.0	106	30	79	1 6	23 43.98	-5 35.8	1.704	1.626	34.3	20.7	69 E	39*	47*
11 7	21 49.31	-13 34.5	1.189	1.676	35.6	20.2	100 E	31	78*	1 16	0 7.50	-2 35.6	1.782	1.630	33.1	20.8	65 E	41*	42*
11 17	22 7.52	-12 17.2	1.268	1.670	36.2	20.3	95 E	33	75*	422707 2000 SX₁₂₈									
11 27	22 27.27	-10 43.0	1.350	1.667	36.3	20.4	90	34	70*	5 11	21 4.22	+ 0 50.9	2.335	2.571	23.1	21.4	92 W	40*	63
12 7	22 48.14	-8 54.1	1.434	1.668	36.0	20.6	85 E	36	64*	5 21	21 10.24	+ 3 6.3	2.189	2.546	23.1	21.2	99 W	44*	61
12 17	23 9.84	-6 52.8	1.522	1.671	35.5	20.7	81 E	38	58*	5 31	21 14.32	+ 5 24.7	2.047	2.520	22.8	21.0	106 W	48*	59
12 27	23 32.17	-4 41.5	1.611	1.678	34.7	20.8	76 E	40	52*	6 10	21 16.19	+ 7 43.7	1.912	2.493	22.0	20.9	113 W	52*	56
1 6	23 54.92	-2 23.1	1.703	1.688	33.7	20.9	72 E	43*	47*	6 20	21 15.57	+ 9 59.9	1.787	2.466	20.8	20.6	121 W	55	54
1 16	0 18.01	-0 0.2	1.796	1.700	32.5	21.0	68 E	44*	42*	6 30	21 12.22	+12 8.2	1.675	2.438	19.2	20.4	128 W	57	52
495987 2007 TP₄₂₆																			
5 11	20 58.83	- 8 57.9	1.313	1.737	35.3	21.3	96 W	31*	73	7 5	21 9.50	+13 7.4	1.625	2.423	18.3	20.3	132 W	58	51
5 21	21 15.54	- 6 16.9	1.215	1.720	35.3	21.2	101 W	35*	70	7 10	21 6.10	+14 2.2	1.579	2.408	17.4	20.2	135 W	59	50
5 31	21 30.49	- 3 29.8	1.123	1.704	35.0	21.0	106 W	39*	67	7 15	21 2.05	+14 51.5	1.538	2.394	16.4	20.1	138 W	60	49
6 10	21 43.44	- 0 40.0	1.037	1.691	34.1	20.7	111 W	43*	65	7 20	20 57.40	+15 34.3	1.502	2.379	15.6	20.0	141 W	61	48
6 20	21 54.04	+ 2 8.2	0.958	1.680	32.8	20.5	117 W	47*	62	7 25	20 52.24	+16 9.6	1.470	2.364	14.9	19.9	143 W	61	48
6 30	22 1.87	+ 4 48.6	0.887	1.672	30.8	20.3	123 W	50	59	7 30	20 46.71	+16 36.6	1.445	2.348	14.4	19.9	145 W	62	47
7 5	22 4.64	+ 6 3.7	0.855	1.668	29.6	20.2	126 W	51	58	8 4	20 40.94	+16 54.8	1.424	2.333	14.2	19.8	146 E	62	47
7 10	22 6.61	+ 7 14.1	0.825	1.666	28.2	20.0	129 W	52	57	8 9	20 35.08	+17 3.9	1.409	2.317	14.3	19.8	146 E	62	47
7 15	22 7.72	+ 8 18.6	0.798	1.664	26.7	19.9	133 W	53	56	8 14	20 29.30	+17 3.7	1.399	2.301	14.8	19.8	145 E	62	47
7 20	22 7.97	+ 9 15.8	0.773	1.663	25.0	19.8	136 W	54	55	8 19	20 23.78	+16 54.7	1.395	2.285	15.5	19.8	143 E	62	47
7 25	22 7.36	+10 4.5	0.751	1.662	23.2	19.7	140 W	55	54	8 24	20 18.67	+16 37.3	1.396	2.269	16.4	19.8	141 E	62	47
7 30	22 5.97	+10 43.4	0.733	1.662	21.3	19.6	144 W	56	53	8 29	20 14.15	+16 12.7	1.402	2.253	17.6	19.8	138 E	61	48
8 4	22 3.87	+11 11.5	0.717	1.663	19.3	19.5	147 W	56	53	9 3	20 10.31	+15 41.9	1.412	2.237	18.8	19.9	134 E	61	48
8 9	22 1.19	+11 28.1	0.706	1.665	17.5	19.4	150 W	56	53	9 8	20 7.24	+15 6.2	1.426	2.221	20.0	19.9	131 E	60	49
8 19	21 54.70	+11 24.8	0.694	1.670	14.4	19.2	156 W	56	53	9 13	20 5.02	+14 26.7	1.444	2.204	21.3	20.0	127 E	59	50
8 29	21 48.14	+10 35.5	0.699	1.677	13.4	19.2	157 E	56	53	9 18	20 3.68	+13 44.7	1.465	2.187	22.5	20.0	124 E	59	50
9 8	21 43.23	+ 9 11.6	0.722	1.687	14.9	19.4	154 E	54	55	9 23	20 3.25	+13 1.4	1.489	2.171	23.6	20.1	120 E	58	51
9 13	21 41.79	+ 8 21.4	0.739	1.693	16.4	19.5	152 E	53	56	9 28	20 3.71	+12 17.8	1.516	2.154	24.7	20.1	116 E	57	52
9 18	21 41.19	+ 7 28.7	0.761	1.700	18.1	19.6	148 E	52	57	10 3	20 5.06	+11 35.0	1.545	2.137	25.6	20.2	112 E	57	52
9 23	21 41.49	+ 6 35.4	0.787	1.707	19.9	19.7	145 E	52	57	10									

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

2020	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45° - 26°	20/21	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45° - 26°
503985 2004 TU₁₀₈									376833 2001 OM₂₅								
<i>(continuation)</i>									<i>(continuation)</i>								
6 20	22 21.41	-0 56.1	0.906	1.592	36.3	20.7	112 W	43* 65	10 8	22 53.87	-13 34.2	0.790	1.704	20.0	19.8	144 E	31 78
6 30	22 34.12	+0 46.8	0.841	1.591	34.5	20.5	118 W	46* 63	10 18	22 56.49	-13 29.3	0.868	1.723	24.1	20.2	135 E	32 77
7 5	22 39.43	+1 30.8	0.811	1.592	33.3	20.3	121 W	47* 62	10 28	23 2.32	-12 55.4	0.958	1.744	27.2	20.5	127 E	32 77
7 10	22 43.97	+2 8.8	0.782	1.593	31.9	20.2	124 W	47 62	11 7	23 10.90	-11 57.6	1.058	1.767	29.3	20.8	119 E	33 76
7 15	22 47.67	+2 40.0	0.756	1.595	30.3	20.1	128 W	48 61	11 17	23 21.74	-10 40.8	1.167	1.791	30.8	21.1	112 E	34 75
7 20	22 50.49	+3 3.3	0.731	1.598	28.4	20.0	132 W	48 61	11 27	23 34.40	-9 8.8	1.284	1.816	31.6	21.4	106 E	36 73
7 25	22 52.39	+3 18.1	0.709	1.602	26.3	19.9	136 W	48 61	318572 2005 GL₁₄₁								
7 30	22 53.36	+3 23.7	0.689	1.606	23.9	19.7	140 W	48 61	5 11	21 34.77	-11 26.5	1.353	1.663	37.4	21.5	88 W	26* 75*
8 9	22 52.63	+3 5.9	0.659	1.617	18.5	19.5	150 W	48 61	5 21	21 52.97	-9 48.1	1.288	1.680	37.0	21.4	93 W	28* 74
8 19	22 48.81	+2 9.7	0.643	1.631	12.4	19.2	160 W	47 62	5 31	22 8.88	-8 17.6	1.224	1.700	36.1	21.3	98 W	31* 72
8 29	22 43.08	+0 41.9	0.644	1.647	6.4	19.0	169 W	46 63	6 10	22 22.23	-6 58.9	1.161	1.723	34.8	21.1	104 W	34* 71
9 3	22 40.04	-0 9.5	0.651	1.657	4.7	19.0	172 E	45 64	6 20	22 32.73	-5 56.0	1.102	1.748	32.8	21.0	111 W	37* 70
9 8	22 37.15	-1 3.1	0.664	1.666	5.3	19.1	171 E	44 65	6 30	22 39.97	-5 13.0	1.046	1.776	30.1	20.8	119 W	39* 69
9 13	22 34.62	-1 56.9	0.680	1.677	7.5	19.2	167 E	43 66	7 10	22 43.68	-4 53.3	0.997	1.805	26.6	20.7	127 W	40 69
9 18	22 32.62	-2 48.6	0.702	1.688	10.3	19.4	163 E	42 67	7 20	22 43.66	-4 59.3	0.957	1.836	22.2	20.5	137 W	40 69
9 23	22 31.31	-3 36.6	0.728	1.699	13.1	19.6	157 E	41 68	7 30	22 39.98	-5 31.3	0.931	1.868	17.0	20.3	147 W	39 70
9 28	22 30.77	-4 19.3	0.759	1.711	15.8	19.8	152 E	41 68	8 4	22 36.95	-5 56.0	0.923	1.885	14.1	20.2	153 W	39 70
10 3	22 31.05	-4 55.9	0.794	1.723	18.2	20.0	147 E	40 69	8 9	22 33.26	-6 25.6	0.920	1.902	11.1	20.1	159 W	39 70
10 8	22 32.15	-5 25.8	0.833	1.736	20.4	20.2	143 E	40 69	8 14	22 29.08	-6 58.9	0.923	1.919	7.9	20.0	165 W	38 71
10 18	22 36.74	-6 4.7	0.921	1.763	24.1	20.6	134 E	39 70	8 19	22 24.58	-7 34.8	0.931	1.936	4.8	19.9	171 W	37 72
10 28	22 44.26	-6 16.3	1.022	1.791	26.9	20.9	125 E	39 70	8 24	22 19.97	-8 11.8	0.944	1.954	1.8	19.8	177 W	37 72
11 7	22 54.21	-6 3.3	1.134	1.820	28.8	21.2	118 E	39 70	8 29	22 15.46	-8 48.4	0.963	1.972	1.9	19.8	176 E	36 73
11 17	23 6.09	-5 29.1	1.254	1.851	30.0	21.5	111 E	40 69	9 3	22 11.24	-9 23.4	0.988	1.990	4.8	20.1	171 E	36 73
511006 2013 OZ₇									9 8	22 7.47	-9 55.7	1.018	2.008	7.6	20.3	165 E	35 74
5 11	21 12.76	-11 45.1	1.314	1.705	36.2	21.4	93 W	28* 76	9 13	22 4.27	-10 24.4	1.055	2.026	10.2	20.5	159 E	35 74
5 21	21 32.06	-9 38.7	1.219	1.688	36.4	21.2	98 W	30* 74	9 18	22 1.76	-10 49.0	1.096	2.045	12.7	20.7	153 E	34 75
5 31	21 49.90	-7 30.0	1.129	1.673	36.2	21.1	103 W	33* 71	9 23	21 59.99	-11 9.0	1.142	2.063	14.9	20.9	148 E	34 75
6 10	22 6.04	-5 22.6	1.044	1.662	35.6	20.9	108 W	37* 69	9 28	21 59.02	-11 24.1	1.193	2.082	16.9	21.1	143 E	34 75
6 20	22 20.15	-3 20.7	0.965	1.653	34.5	20.6	113 W	40* 67	10 3	21 58.83	-11 34.3	1.248	2.100	18.7	21.2	138 E	33 76
6 30	22 31.83	-1 29.3	0.892	1.647	32.7	20.4	119 W	43* 65	10 8	21 59.39	-11 39.9	1.308	2.119	20.2	21.4	133 E	33 76
7 5	22 36.64	-0 39.1	0.859	1.645	31.5	20.3	122 W	44* 65	23187 2000 PN₉								
7 10	22 40.68	+0 6.3	0.828	1.644	30.1	20.2	126 W	45 64	5 11	22 2.02	+19 57.5	2.708	2.593	21.8	21.4	73 W	48* 43*
7 15	22 43.91	+0 46.4	0.798	1.644	28.5	20.0	129 W	46 63	5 21	22 10.03	+21 13.2	2.549	2.553	22.9	21.3	79 W	52* 43*
7 20	22 46.28	+1 20.2	0.771	1.644	26.7	19.9	133 W	46 63	5 31	22 16.66	+22 26.4	2.384	2.511	23.7	21.1	85 W	57* 42
7 25	22 47.75	+1 46.9	0.747	1.645	24.7	19.8	137 W	47 62	6 10	22 21.61	+23 34.3	2.215	2.467	24.3	20.9	92 W	62* 40
7 30	22 48.32	+2 6.0	0.725	1.648	22.4	19.7	142 W	47 62	6 20	22 24.53	+24 33.6	2.043	2.419	24.5	20.7	99 W	67* 39
8 9	22 46.91	+2 19.4	0.692	1.654	17.2	19.4	151 W	47 62	6 30	22 25.00	+25 18.7	1.872	2.370	24.3	20.5	106 W	70* 39
8 19	22 42.58	+1 59.0	0.674	1.663	11.5	19.2	161 W	47 62	7 5	22 24.16	+25 33.8	1.788	2.344	24.0	20.3	110 W	71 38
8 29	22 36.55	+1 8.8	0.672	1.675	6.4	18.9	169 W	46 63	7 10	22 22.54	+25 42.5	1.704	2.317	23.6	20.2	114 W	71 38
9 3	22 33.43	+0 35.7	0.679	1.683	5.4	18.9	171 E	46 63	7 15	22 20.06	+25 43.4	1.623	2.290	22.9	20.0	119 W	71 38
9 8	22 30.50	-0 0.6	0.690	1.690	6.3	19.0	169 E	45 64	7 20	22 16.68	+25 34.9	1.544	2.262	22.2	19.9	123 W	71 38
9 13	22 27.98	-0 38.3	0.706	1.699	8.5	19.2	165 E	44 65	7 25	22 12.34	+25 15.2	1.468	2.234	21.2	19.7	127 W	70 39
9 18	22 26.01	-1 15.7	0.726	1.708	11.1	19.4	161 E	44 65	7 30	22 7.06	+24 42.1	1.396	2.205	20.1	19.5	132 W	70 39
9 23	22 24.76	-1 51.2	0.752	1.717	13.8	19.5	156 E	43 66	8 4	22 0.85	+23 53.8	1.328	2.175	18.9	19.4	136 W	69 40
9 28	22 24.30	-2 23.3	0.781	1.728	16.3	19.7	151 E	43 66	8 9	21 53.76	+22 48.1	1.264	2.144	17.6	19.2	140 W	68 41
10 3	22 24.68	-2 51.1	0.815	1.738	18.6	19.9	146 E	42 67	8 14	21 45.89	+21 23.1	1.207	2.113	16.3	19.0	144 W	66 43
10 8	22 25.89	-3 13.9	0.852	1.750	20.7	20.1	142 E	42 67	8 19	21 37.39	+19 37.4	1.156	2.081	15.2	18.8	147 E	65 44
10 18	22 30.74	-3 43.2	0.938	1.774	24.3	20.4	133 E	41 68	8 24	21 28.49	+17 30.5	1.112	2.048	14.5	18.7	149 E	63 46
10 28	22 38.56	-3 49.9	1.036	1.799	26.9	20.8	125 E	41 68	8 29	21 19.44	+15 3.0	1.077	2.015	14.6	18.6	150 E	60 49
11 7	22 48.83	-3 35.2	1.145	1.827	28.8	21.1	117 E	41 68	9 3	21 10.50	+12 16.9	1.049	1.981	15.4	18.5	149 E	57 52
11 17	23 1.06	-3 1.5	1.263	1.855	30.0	21.3	110 E	42 67	9 8	21 1.94	+9 15.6	1.030	1.946	17.1	18.5	146 E	54 55
376833 2001 OM₂₅									9 13	20 54.01	+6 3.3	1.020	1.910	19.3	18.5	141 E	51 58
5 11	21 21.36	-11 6.2	1.345	1.700	36.4	21.5	91 W	27* 75*	9 18	20 46.93	+2 45.0	1.017	1.874	21.9	18.6	136 E	48 61
5 21	21 41.59	-9 36.1	1.248	1.683	36.8	21.3	96 W	29* 74	9 23	20 40.88	+0 34.3	1.023	1.837	24.7	18.6	130 E	44 65
5 31	22 0.69	-8 9.0	1.155	1.668	36.7	21.1	100 W	32* 72	9 28	20 35.98	-3 50.1	1.035	1.799	27.5	18.7	124 E	41 68
6 10	22 18.44	-6 49.0	1.067	1.655	36.3	20.9	105 W	35* 71	10 3	20 32.28	-6 58.8	1.052	1.760	30.1	18.7	118 E	38 71
6 20	22 34.56	-5 40.4	0.984	1.645	35.3	20.7	111 W	37* 70	10 8	20 29.80	-9 57.9	1.074	1.721	32.5	18.8	112 E	35 74
6 30	22 48.67	-4 48.4	0.906	1.637	33.7	20.5	117 W	40* 69	10 13	20 28.54	-12 46.1	1.100	1.681	34.7	18.9	106 E	32 77
7 10	23 0.36	-4 17.9	0.836	1.632	31.4	20.2	123 W	41* 68	10 18	20 28.48	-15 22.6	1.128	1.640	36.6	18.9	101 E	30 79
7 20	23 9.12	-4 14.2	0.773	1.630	28.2	19.9	131 W	41 68	10 28	20 31.77	-20 0.8	1.188	1.556	39.7	19.0	91 E	25 81*
7 30	23 14.48	-4 41.4	0.720	1.630	24.0	19.7	139 W	40 69	11 7	20 39.21	-23 57.2	1.246	1.469	41.8	19.0	81 E	21 74*
8 9	23 16.22	-5 40.2	0.679	1.633	18.7	19.4	149 W	39 70	11 17	20 50.39	-27 18.6	1.296	1.380	43.2	19.0	73 E	18 66*
8 14	23 15.73	-6 20.6	0.664	1.636	15.7	19.2	154 W	39 70	11 22	20 57.28	-28 48.3	1.316	1.335	43.7	19.0	69 E	16* 62*
8 19	23 14.40	-7 7.0	0.653	1.639	12.6	19.1	159 W	38 71	11 27	21 4.99	-30 11.8	1.332	1.289	44.2	19.0	66 E	15* 59*
8 24	23 12.37	-7 57.9	0.646	1.643	9.3	18.9											