

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°		
471034 2009 TG₈										369406 2009 WO₂₅ <i>(continuation)</i>											
4	21	15 45.94	-16 41.6	0.985	1.935	13.7	21.4	153 W	28	81	5	31	15 14.36	-31 19.8	2.804	3.773	5.2	22.2	160 E	14	85
4	26	15 40.01	-15 18.2	0.980	1.954	10.5	21.3	159 W	30	79	6	10	15 6.25	-30 40.7	2.867	3.785	7.5	22.3	151 E	14	85
5	1	15 33.60	-13 53.6	0.981	1.972	7.4	21.2	165 W	31	78	400542 2008 UX₂₂₆										
5	6	15 26.96	-12 29.6	0.989	1.991	4.6	21.1	171 W	33	76	4	21	15 51.97	-23 21.9	1.290	2.219	13.1	21.6	150 W	22	87
5	11	15 20.32	-11 8.5	1.003	2.009	3.5	21.1	173 W	34	75	5	1	15 43.59	-23 5.2	1.202	2.181	8.4	21.3	162 W	22	87
5	16	15 13.92	-9 52.2	1.024	2.027	5.1	21.2	170 E	35	74	5	11	15 32.49	-22 34.3	1.137	2.143	3.1	20.8	173 W	22	87
5	21	15 7.95	-8 42.2	1.051	2.044	7.7	21.4	164 E	36	73	5	21	15 19.93	-21 50.5	1.097	2.104	3.7	20.8	172 E	23	86
5	26	15 2.59	-7 39.9	1.085	2.061	10.4	21.6	159 E	37	72	5	31	15 7.62	-20 58.7	1.082	2.065	9.5	21.0	160 E	24	85
5	31	14 57.97	-6 46.1	1.124	2.078	12.9	21.8	153 E	38	71	6	10	14 57.30	-20 6.9	1.089	2.025	15.3	21.2	148 E	25	84
6	5	14 54.17	-6 1.1	1.169	2.094	15.3	22.0	147 E	39	70	6	20	14 50.17	-19 23.1	1.116	1.984	20.5	21.3	137 E	26	83
6	10	14 51.22	-5 24.9	1.219	2.110	17.4	22.2	141 E	40	69	257581 1999 FE₈										
363403 2003 OY₇										4	21	15 54.48	+9 7.6	2.207	3.075	11.1	21.6	144 W	54	55	
4	21	15 46.01	-16 3.8	1.427	2.366	11.1	21.2	153 W	29	80	4	26	15 50.77	+9 58.4	2.200	3.090	10.4	21.6	147 W	55	54
5	1	15 38.24	-15 12.3	1.349	2.335	6.7	20.9	164 W	30	79	5	1	15 46.73	+10 45.0	2.200	3.103	9.8	21.6	148 W	56	53
5	11	15 28.45	-14 14.9	1.296	2.304	2.3	20.5	175 W	31	78	5	6	15 42.46	+11 26.5	2.206	3.117	9.5	21.6	149 W	56	53
5	21	15 17.81	-13 16.8	1.270	2.272	4.7	20.6	169 E	32	77	5	11	15 38.06	+12 2.4	2.218	3.130	9.4	21.6	149 W	57	52
5	31	15 7.67	-12 24.4	1.268	2.240	9.9	20.8	158 E	33	76	5	16	15 33.62	+12 32.2	2.238	3.144	9.7	21.7	148 W	58	51
6	10	14 59.36	-11 44.2	1.290	2.207	14.8	21.0	146 E	33	76	5	21	15 29.25	+12 55.6	2.263	3.157	10.2	21.7	146 E	58	51
6	20	14 53.77	-11 20.3	1.331	2.174	19.2	21.2	135 E	34	75	5	26	15 25.04	+13 12.4	2.295	3.169	10.9	21.8	144 E	58	51
6	30	14 51.40	-11 14.7	1.387	2.141	22.8	21.4	125 E	34*	75	5	31	15 21.08	+13 22.8	2.332	3.182	11.7	21.9	141 E	58	51
496874 2000 SN₂₁										6	5	15 17.45	+13 26.8	2.375	3.194	12.5	21.9	137 E	58	51	
4	21	15 46.25	-31 59.3	1.571	2.479	12.6	21.9	148 W	13	84	6	10	15 14.21	+13 25.0	2.423	3.206	13.3	22.0	133 E	58	51
4	26	15 41.79	-32 13.9	1.527	2.464	10.8	21.8	153 W	13	84	6	15	15 11.40	+13 17.6	2.476	3.218	14.1	22.1	129 E	58	51
5	1	15 36.61	-32 24.1	1.488	2.449	9.1	21.6	158 W	13	84	335758 2007 EM₈₈										
5	6	15 30.84	-32 29.5	1.455	2.434	7.4	21.5	162 W	13	84	4	21	15 56.88	-16 58.9	1.151	2.084	13.8	22.3	150 W	28	81
5	11	15 24.63	-32 29.7	1.429	2.419	6.2	21.4	165 W	13	84	5	1	15 45.00	-16 30.2	1.105	2.089	8.2	22.0	163 W	28	81
5	16	15 18.14	-32 24.6	1.410	2.404	5.7	21.3	166 E	13	84	5	11	15 30.78	-15 55.8	1.084	2.092	2.3	21.6	175 W	29	80
5	21	15 11.59	-32 14.2	1.396	2.388	6.3	21.3	165 E	13	84	5	21	15 15.97	-15 19.8	1.088	2.093	4.7	21.8	170 E	30	79
5	26	15 5.20	-31 59.2	1.390	2.373	7.8	21.3	162 E	13	84	5	31	15 2.49	-14 48.6	1.118	2.092	10.7	22.1	158 E	30	79
5	31	14 59.16	-31 40.1	1.390	2.357	9.6	21.4	157 E	13	84	6	10	14 51.87	-14 27.9	1.172	2.089	16.0	22.4	146 E	31	78
6	5	14 53.66	-31 18.1	1.395	2.341	11.7	21.5	152 E	14	85	409267 2004 RL₁₇										
6	10	14 48.84	-30 54.2	1.407	2.325	13.8	21.6	147 E	14	85	4	21	15 57.71	-25 56.3	1.784	2.689	11.4	22.0	148 W	19	90
417462 2006 QH₅₅										5	1	15 48.75	-26 3.2	1.708	2.674	7.7	21.7	159 W	19	90	
4	21	15 47.46	-36 37.4	2.499	3.370	9.9	22.4	145 W	8	79	5	11	15 37.79	-25 58.4	1.658	2.658	3.8	21.5	170 W	19	90
4	26	15 42.89	-36 41.3	2.460	3.367	8.7	22.3	150 W	8	79	5	21	15 25.92	-25 42.1	1.635	2.641	3.1	21.4	172 E	19	90
5	1	15 37.87	-36 41.1	2.428	3.363	7.5	22.2	154 W	8	79	5	31	15 14.43	-25 16.6	1.640	2.623	6.9	21.6	162 E	20	89
5	6	15 32.52	-36 36.5	2.402	3.359	6.4	22.1	158 W	8	79	6	10	15 4.56	-24 46.9	1.672	2.604	11.1	21.8	151 E	20	89
5	11	15 26.94	-36 27.5	2.383	3.355	5.6	22.1	161 W	9	80	380223 2001 RZ₆₃										
5	16	15 21.27	-36 14.1	2.372	3.350	5.2	22.0	163 E	9	80	4	21	15 57.79	-21 17.1	1.635	2.551	11.6	21.9	149 W	24	85
5	21	15 15.63	-35 56.6	2.367	3.346	5.3	22.0	162 E	9	80	5	1	15 50.69	-20 34.5	1.543	2.516	7.5	21.6	161 W	24	85
5	26	15 10.15	-35 35.5	2.370	3.341	5.9	22.1	160 E	9	80	5	11	15 41.49	-19 40.9	1.475	2.481	2.9	21.2	173 W	25	84
5	31	15 4.96	-35 11.2	2.380	3.336	6.9	22.1	157 E	10	81	5	21	15 31.14	-18 39.4	1.435	2.444	2.1	21.1	175 E	26	83
6	5	15 0.16	-34 44.6	2.397	3.330	8.1	22.2	153 E	10	81	5	31	15 20.92	-17 35.1	1.421	2.408	7.2	21.3	163 E	27	82
6	10	14 55.85	-34 16.2	2.420	3.324	9.3	22.2	148 E	11	82	6	10	15 12.07	-16 34.7	1.432	2.371	12.1	21.5	151 E	28	81
523630 2009 OG										504848 2010 SG₃											
4	21	15 50.68	-74 59.2	4.298	4.808	10.9	23.5	115 W	-	41	4	21	15 58.36	-24 39.6	1.465	2.380	12.8	22.4	148 W	20	89
4	23	15 45.74	-75 5.6	4.288	4.812	10.8	23.5	116 W	-	41	5	1	15 50.65	-24 29.6	1.374	2.345	8.6	22.0	160 W	21	88
4	25	15 40.61	-75 11.0	4.279	4.816	10.7	23.4	117 W	-	41	5	11	15 40.41	-24 6.4	1.306	2.309	4.0	21.7	171 W	21	88
4	27	15 35.31	-75 15.1	4.270	4.820	10.7	23.4	118 W	-	41	5	21	15 28.74	-23 30.4	1.263	2.272	2.8	21.5	174 E	21	88
4	29	15 29.86	-75 18.1	4.262	4.825	10.6	23.4	119 W	-	41	5	31	15 17.13	-22 45.3	1.247	2.235	7.8	21.7	163 E	22	87
5	1	15 24.31	-75 19.7	4.254	4.829	10.5	23.4	119 W	-	41	6	10	15 7.12	-21 57.5	1.255	2.198	13.0	21.9	151 E	23	86
5	3	15 18.68	-75 20.1	4.248	4.833	10.4	23.4	120 W	-	41	508951 2004 TC₂₀										
5	5	15 12.99	-75 19.2	4.242	4.837	10.3	23.4	121 W	-	41	4	21	15 59.19	+11 14.3	2.297	3.148	11.4	22.5	142 W	56	53
5	7	15 7.29	-75 17.0	4.236	4.841	10.2	23.4	122 W	-	41	4	26	15 55.24	+11 34.5	2.257	3.132	10.7	22.4	145 W	57	52
5	9	15 1.59	-75 13.4	4.232	4.845	10.2	23.4	122 E	-	41	5	1	15 50.84	+11 50.7	2.222	3.116	10.1	22.4	147 W	57	52
5	11	14 55.95	-75 8.5	4.228	4.848	10.1	23.4	123 E	-	41	5	6	15 46.07	+12 2.2	2.194	3.100	9.8	22.3	149 W	57	52
5	13	14 50.37	-75 2.3	4.225	4.852	10.0	23.4	123 E	-	41	5	11	15 41.02	+12 8.4	2.172	3.083	9.7	22.3	149 W	57	52
5	15	14 44.90	-74 54.9	4.222	4.856	10.0	23.4	124 E	-	41	5	16	15 35.78	+12 8.8	2.157	3.066	9.8	22.2	149 W	57	52
5	17	14 39.56	-74 46.2	4.221	4.860	9.9	23.4	124 E	-	41	5	21	15 30.47	+12 3.1	2.148	3.049	10.3	22.2	147 E	57	52
5	19	14 34.37	-74 36.3	4.220	4.863	9.9	23.4	124 E	-	41	5	26	15 25.21	+11 51.0	2.146	3.032	11.0	22.3	145 E	57	52
5	21	14 29.37	-74 25.2	4.220	4.867	9.9	23.4	125 E	-	42	5	31	15 20.10	+11 32.5	2.149	3.015	11.9	22.3	142 E	57	52
5	23	14 24.55	-74 13.0	4.221	4.871	9.8	23.4	125 E	-	42	6	5	15 15.26	+11 7.9	2.159	2.997	12.9	22.3	139 E	56	53
5	25	14 19.96	-73 59.7	4.223	4.874	9.															

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°
450185 2001 WJ₂										411280 2010 SL₁₃ <i>(continuation)</i>									
4 21	16 0.30	-1 51.9	0.705	1.644	19.1	21.2	148 W	43	66	5 16	15 34.51	-15 43.9	1.297	2.307	1.5	21.9	177 W	29	80
4 26	15 51.75	-2 55.6	0.666	1.631	15.8	20.9	154 W	42	67	5 21	15 28.09	-15 17.5	1.320	2.327	3.2	22.1	173 E	30	79
5 1	15 41.40	-4 12.0	0.633	1.617	12.3	20.7	160 W	41	68	5 26	15 22.07	-14 52.9	1.350	2.347	5.7	22.3	167 E	30	79
5 6	15 29.40	-5 41.5	0.606	1.604	8.8	20.4	166 W	39	70	5 31	15 16.59	-14 31.0	1.386	2.366	8.2	22.5	161 E	30	79
5 11	15 16.02	-7 23.2	0.585	1.589	6.7	20.2	169 W	38	71	6 5	15 11.76	-14 12.1	1.429	2.385	10.5	22.6	155 E	31	78
5 16	15 1.68	-9 15.2	0.572	1.575	7.8	20.2	168 E	36	73	468117 2014 ED									
5 21	14 46.92	-11 14.5	0.565	1.559	11.6	20.3	162 E	34	75	4 21	16 6.28	-1 55.3	1.264	2.172	14.9	22.1	146 W	43	66
5 26	14 32.34	-13 17.7	0.565	1.544	16.1	20.5	155 E	32	77	4 26	15 57.69	-1 44.0	1.256	2.196	12.5	22.0	152 W	43	66
5 31	14 18.54	-15 21.4	0.572	1.528	20.8	20.6	148 E	30	79	5 1	15 48.53	-1 36.3	1.256	2.219	10.2	22.0	157 W	43	66
6 5	14 6.01	-17 23.1	0.584	1.512	25.2	20.8	141 E	28	81	5 6	15 39.06	-1 32.7	1.262	2.241	8.4	21.9	161 W	43	66
6 10	13 55.05	-19 21.0	0.601	1.495	29.3	20.9	134 E	26	83	5 11	15 29.51	-1 33.6	1.276	2.262	7.4	21.9	163 W	43	66
6 15	13 45.86	-21 14.3	0.621	1.478	33.0	21.1	127 E	24*	85	5 16	15 20.14	-1 39.2	1.298	2.282	7.7	22.0	162 E	43	66
6 20	13 38.52	-23 3.2	0.645	1.461	36.3	21.2	122 E	21*	87	5 21	15 11.18	-1 49.5	1.328	2.302	9.0	22.1	159 E	43	66
6 25	13 33.02	-24 48.2	0.670	1.444	39.2	21.4	116 E	18*	89	5 26	15 2.84	-2 4.5	1.364	2.321	10.8	22.3	155 E	43	66
416404 2003 US₁₃₁										5 31	14 55.28	-2 23.7	1.408	2.338	12.8	22.4	149 E	43	66
4 21	16 0.60	-24 38.3	1.776	2.681	11.5	21.7	148 W	20	89	276049 2002 CE₂₆									
5 1	15 52.65	-24 5.9	1.684	2.651	7.7	21.4	159 W	21	88	4 21	16 7.18	+38 7.0	2.618	3.256	15.3	22.3	121 W	83	26
5 11	15 42.64	-23 20.6	1.617	2.619	3.4	21.1	171 W	22	87	4 26	16 2.92	+39 7.3	2.600	3.243	15.3	22.3	122 W	84	25
5 21	15 31.53	-22 23.9	1.577	2.587	2.0	20.9	175 E	23	86	5 1	15 58.13	+40 0.8	2.586	3.229	15.4	22.3	122 W	85	24
5 31	15 20.58	-21 20.3	1.566	2.554	6.5	21.1	163 E	24	85	5 6	15 52.90	+40 46.5	2.577	3.216	15.6	22.2	121 W	86	23
6 10	15 11.01	-20 16.1	1.581	2.520	11.1	21.3	151 E	25	84	5 11	15 47.31	+41 23.9	2.573	3.202	15.8	22.2	120 W	86	23
6 20	15 3.74	-19 17.6	1.618	2.485	15.2	21.5	140 E	26	83	5 16	15 41.50	+41 52.4	2.572	3.187	16.1	22.2	119 W	87	22
450779 2007 SE₁₁										5 21	15 35.59	+42 11.5	2.575	3.172	16.4	22.2	118 E	87	22
4 21	16 2.95	-23 21.5	1.733	2.638	11.8	21.8	148 W	22	87	5 26	15 29.70	+42 21.2	2.582	3.157	16.8	22.3	116 E	87	22
4 26	15 55.46	-24 10.0	1.693	2.634	9.7	21.7	154 W	21	88	5 31	15 23.99	+42 21.5	2.592	3.141	17.2	22.3	114 E	87	22
5 1	15 47.12	-24 57.0	1.660	2.630	7.5	21.5	160 W	20	89	6 5	15 18.56	+42 12.8	2.605	3.125	17.6	22.3	112 E	87	22
5 6	15 38.05	-25 41.7	1.635	2.625	5.3	21.4	166 W	19	90	6 10	15 13.54	+41 55.6	2.621	3.109	17.9	22.3	109 E	87	22
5 11	15 28.43	-26 23.0	1.618	2.620	3.6	21.3	171 W	19	90	6 15	15 9.00	+41 30.5	2.639	3.092	18.3	22.3	107 E	87	22
5 16	15 18.48	-27 0.2	1.610	2.615	3.3	21.2	172 E	18	89	3496 Arieso									
5 21	15 8.44	-27 33.0	1.611	2.609	4.8	21.3	168 E	17	88	4 21	16 7.27	+17 44.6	3.152	3.938	10.2	21.4	136 W	63	46
5 26	14 58.56	-28 1.1	1.621	2.603	6.9	21.4	162 E	17	88	5 1	16 0.39	+18 37.6	3.117	3.943	9.4	21.4	140 W	64	45
5 31	14 49.09	-28 24.9	1.638	2.596	9.2	21.6	156 E	17	88	5 11	15 52.54	+19 13.4	3.106	3.947	9.1	21.4	142 W	64	45
6 5	14 40.23	-28 44.9	1.663	2.590	11.4	21.7	150 E	16	87	5 21	15 44.29	+19 29.1	3.119	3.951	9.4	21.4	140 E	64	45
6 10	14 32.14	-29 1.7	1.695	2.582	13.5	21.8	143 E	16	87	5 31	15 36.23	+19 23.6	3.156	3.953	10.2	21.4	136 E	64	45
306839 2001 SG₃₅										6 10	15 28.92	+18 57.3	3.215	3.955	11.2	21.5	131 E	64	45
4 21	16 5.04	-17 34.4	1.843	2.749	11.1	22.1	148 W	27	82	168881 2000 WN₄₈									
5 1	15 57.01	-17 6.1	1.766	2.734	7.3	21.9	160 W	28	81	4 21	16 8.90	-15 18.2	2.046	2.944	10.6	21.4	147 W	30	79
5 11	15 47.12	-16 33.3	1.716	2.719	3.1	21.6	172 W	28	81	5 1	16 0.91	-14 49.9	1.996	2.958	7.0	21.2	159 W	30	79
5 21	15 36.29	-15 58.5	1.693	2.702	2.1	21.4	174 E	29	80	5 11	15 51.47	-14 20.5	1.972	2.972	3.4	21.0	170 W	31	78
5 31	15 25.66	-15 25.5	1.699	2.685	6.4	21.7	163 E	30	79	5 21	15 41.43	-13 52.4	1.977	2.984	2.3	20.9	173 E	31	78
6 10	15 16.32	-14 58.2	1.731	2.666	10.6	21.9	151 E	30	79	5 31	15 31.75	-13 28.5	2.010	2.996	5.6	21.1	163 E	32	77
405508 2005 BG₂										6 10	15 23.32	-13 11.7	2.071	3.006	9.1	21.4	152 E	32	77
4 21	16 5.26	-51 46.6	2.303	3.071	14.0	21.4	132 W	-	64	456025 2005 YQ₉₄									
4 26	15 59.62	-52 16.3	2.265	3.069	13.2	21.4	136 W	-	64	4 21	16 10.72	+12 12.8	1.794	2.635	14.6	21.7	139 W	57	52
5 1	15 53.18	-52 39.7	2.233	3.067	12.4	21.3	139 W	-	63	4 26	16 6.13	+12 27.5	1.776	2.643	13.5	21.6	142 W	57	52
5 6	15 46.07	-52 56.1	2.206	3.065	11.7	21.3	142 W	-	63	5 1	16 1.04	+12 36.6	1.763	2.652	12.6	21.6	145 W	58	51
5 11	15 38.46	-53 4.9	2.184	3.063	11.1	21.2	144 W	-	63	5 6	15 55.56	+12 39.2	1.756	2.660	11.9	21.6	147 W	58	51
5 16	15 30.56	-53 5.7	2.169	3.060	10.7	21.2	146 E	-	63	5 11	15 49.82	+12 35.1	1.756	2.667	11.5	21.6	148 W	58	51
5 21	15 22.59	-52 58.2	2.160	3.057	10.5	21.2	147 E	-	63	5 16	15 43.95	+12 23.7	1.761	2.675	11.4	21.6	148 W	57	52
5 26	15 14.79	-52 42.7	2.157	3.054	10.5	21.2	147 E	-	63	5 21	15 38.10	+12 5.1	1.772	2.682	11.7	21.6	148 E	57	52
5 31	15 7.39	-52 19.9	2.160	3.050	10.9	21.2	145 E	-	64	5 26	15 32.42	+11 39.3	1.790	2.689	12.2	21.6	146 E	57	52
6 5	15 0.58	-51 50.7	2.170	3.047	11.4	21.2	144 E	-	64	5 31	15 27.03	+11 6.7	1.814	2.696	13.0	21.7	143 E	56	53
6 10	14 54.51	-51 16.0	2.185	3.043	12.1	21.2	141 E	-	65	6 5	15 22.04	+10 27.9	1.844	2.703	13.9	21.8	140 E	55	54
6 15	14 49.28	-50 37.2	2.206	3.038	12.9	21.3	138 E	-	65	6 10	15 17.55	+9 43.7	1.880	2.709	14.9	21.9	137 E	55	54
6 20	14 44.96	-49 55.5	2.232	3.034	13.8	21.3	135 E	-	66	6 15	15 13.62	+8 54.6	1.920	2.715	15.9	22.0	133 E	54	55
6 25	14 41.61	-49 12.0	2.263	3.029	14.7	21.4	131 E	-	67	405216 2003 QL₅₉									
6 30	14 39.21	-48 28.0	2.298	3.024	15.5	21.5	127 E	-	68	4 21	16 11.19	-34 17.3	2.336	3.188	11.2	21.5	142 W	11	82
483432 2001 DF₄₇										4 26	16 6.92	-34 26.7	2.302	3.194	9.9	21.4	147 W	11	82
4 21	16 5.62	+19 51.3	0.789	1.660	25.4	22.1	135 W	65	44	5 1	16 2.12	-34 32.5	2.273	3.199	8.5	21.3	152 W	10	81
4 26	15 58.09	+21 27.8	0.780	1.663	24.5	22.0	137 W	66	43	5 6	15 56.90	-34 34.5	2.251	3.204	7.1	21.2	157 W	10	81
5 1	15 49.48	+22 51.0	0.774	1.665	24.0	22.0	138 W	68	41	5 11	15 51.36	-34 32.6	2.236	3.209	5.8	21.1	161 W	10	81
5 6	15 40.08	+23 57.9	0.774	1.666	24.0	22.0	138 W	69	40	5 16	15 45.63	-34 26.6	2.228	3.214	4.9	21.1	164 W	11	82
5 11	15 30.21	+24 46.3	0.777	1.666	24.4	22.0	137 W	70	39	5 21	15 39.84	-34 16.8	2.228	3.218	4.5	21.1	166 E	11	82
5 16	15 20.24	+25 15.1	0.785	1.665	25.2	22.0	136 E	70	39	5 26	15 34.13	-34 3.3	2.234	3.222	4.8	21.1	165 E	11	82
5 21	15 10.53	+25 23.9	0.796	1.663	26.3	22.1	133 E	70	39										

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°
498047 2007 PR₃₀									463671 2014 OJ₂								
4 21	16 12.06	-22 43.3	1.443	2.343	14.0	21.6	146 W	22 87	4 21	16 15.01	-10 11.2	1.409	2.311	14.1	21.8	146 W	35 74
5 1	16 5.47	-22 10.2	1.353	2.314	9.7	21.3	157 W	23 86	5 1	16 8.60	-9 16.0	1.326	2.284	10.3	21.5	156 W	36 73
5 11	15 56.23	-21 24.8	1.286	2.285	4.8	21.0	169 W	24 85	5 11	15 59.63	-8 22.2	1.266	2.257	6.6	21.2	165 W	37 72
5 21	15 45.33	-20 29.1	1.244	2.256	0.7	20.6	178 E	25 84	5 21	15 49.03	-7 35.6	1.231	2.230	5.7	21.0	167 E	37 72
5 31	15 34.20	-19 27.6	1.228	2.226	6.2	20.9	166 E	26 83	5 31	15 38.11	-7 2.3	1.221	2.202	9.0	21.2	160 E	38 71
6 10	15 24.35	-18 27.3	1.237	2.195	11.6	21.1	154 E	27 82	6 10	15 28.31	-6 47.1	1.234	2.173	13.5	21.3	150 E	38 71
6 20	15 16.95	-17 35.2	1.267	2.164	16.6	21.3	143 E	27 82	505370 2013 HN₃₇								
6 30	15 12.79	-16 56.7	1.315	2.133	20.7	21.5	132 E	28 81	4 21	16 18.10	-48 46.1	1.513	2.316	18.6	21.4	133 W	— 67
310616 2002 AX									4 26	16 13.18	-50 8.8	1.467	2.300	17.7	21.3	136 W	— 66
4 21	16 12.39	-16 40.2	2.077	2.968	10.7	22.3	147 W	28 81	5 1	16 6.82	-51 27.6	1.425	2.284	16.8	21.2	139 W	— 65
5 1	16 4.23	-16 27.2	1.991	2.951	7.3	22.1	158 W	29 80	5 6	15 59.04	-52 40.4	1.389	2.267	16.1	21.1	142 W	— 63
5 11	15 54.21	-16 11.5	1.932	2.932	3.5	21.8	170 W	29 80	5 11	15 49.93	-53 45.1	1.358	2.251	15.5	21.0	143 W	— 62
5 21	15 43.13	-15 54.7	1.902	2.911	1.6	21.6	175 E	29 80	5 16	15 39.66	-54 39.8	1.333	2.234	15.3	20.9	144 W	— 61
5 31	15 32.01	-15 39.3	1.901	2.890	5.4	21.8	164 E	29 80	5 21	15 28.54	-55 22.8	1.313	2.217	15.4	20.9	145 E	— 61
6 10	15 21.90	-15 27.9	1.927	2.867	9.4	22.0	153 E	30 79	5 26	15 16.97	-55 52.9	1.300	2.200	15.8	20.8	144 E	— 60
495323 2014 JG₇₈									5 31	15 5.43	-56 9.9	1.291	2.183	16.6	20.8	142 E	— 60
4 21	16 12.41	+5 48.6	0.896	1.796	20.3	21.6	142 W	51 58	6 5	14 54.40	-56 14.4	1.288	2.165	17.6	20.8	140 E	— 60
4 26	16 6.97	+7 56.8	0.851	1.771	19.1	21.5	145 W	53 56	6 10	14 44.31	-56 7.9	1.290	2.148	18.8	20.9	137 E	— 60
5 1	16 0.12	+10 8.8	0.812	1.746	18.4	21.3	147 W	55 54	6 15	14 35.49	-55 51.9	1.296	2.130	20.1	20.9	134 E	— 60
5 5	15 51.92	+12 21.6	0.780	1.719	18.3	21.2	148 W	57 52	6 20	14 28.20	-55 28.8	1.306	2.113	21.4	20.9	131 E	— 61
5 11	15 42.48	+14 31.2	0.753	1.691	19.1	21.1	147 W	60 49	6 25	14 22.58	-55 0.8	1.320	2.095	22.8	21.0	127 E	— 61
5 16	15 31.98	+16 33.5	0.732	1.661	20.8	21.0	144 W	62 47	6 30	14 18.70	-54 30.0	1.337	2.078	24.1	21.0	123 E	— 61
5 21	15 20.72	+18 24.2	0.716	1.631	23.2	21.0	141 E	63 46	7 5	14 16.53	-53 58.3	1.356	2.060	25.4	21.1	120 E	— 62
5 26	15 9.06	+19 59.5	0.706	1.599	26.1	21.0	136 E	65 44	7 10	14 15.98	-53 27.0	1.377	2.042	26.5	21.1	116 E	— 63
5 31	14 57.41	+21 16.9	0.701	1.566	29.3	21.1	131 E	66 43	7 15	14 16.99	-52 57.3	1.400	2.024	27.6	21.2	113 E	— 63
6 5	14 46.18	+22 15.2	0.700	1.532	32.6	21.1	126 E	67 42	7 20	14 19.46	-52 29.8	1.425	2.007	28.5	21.2	109 E	— 63
6 10	14 35.69	+22 54.7	0.701	1.496	35.9	21.2	120 E	68 41	7 25	14 23.29	-52 5.2	1.450	1.989	29.4	21.3	106 E	— 64
6 15	14 26.21	+23 16.2	0.705	1.459	39.2	21.2	115 E	68 41	7 30	14 28.40	-51 43.5	1.476	1.971	30.1	21.3	103 E	— 64
6 20	14 17.94	+23 21.6	0.710	1.421	42.4	21.3	110 E	68* 41	8 4	14 34.69	-51 24.8	1.502	1.954	30.8	21.4	100 E	— 64*
6 25	14 10.97	+23 12.7	0.715	1.381	45.4	21.3	104 E	67* 41	8 9	14 42.09	-51 8.8	1.529	1.936	31.3	21.4	97 E	— 64*
6 30	14 5.33	+22 52.0	0.720	1.340	48.4	21.3	100 E	65* 41	8 14	14 50.52	-50 55.2	1.555	1.919	31.8	21.4	94 E	— 64*
7 5	14 0.97	+22 21.5	0.724	1.298	51.3	21.4	95 E	62* 42	8 19	14 59.94	-50 43.5	1.582	1.901	32.2	21.5	92 E	— 63*
7 10	13 57.78	+21 42.9	0.726	1.255	54.1	21.4	91 E	59* 42	8 24	15 10.29	-50 33.3	1.608	1.884	32.5	21.5	89 E	— 62*
7 15	13 55.65	+20 57.7	0.725	1.210	57.0	21.4	86 E	56* 43	8 29	15 21.53	-50 23.9	1.633	1.867	32.7	21.5	87 E	— 61*
7 20	13 54.45	+20 7.0	0.721	1.164	59.9	21.4	82 E	53* 44	283470 2001 QM₁₅₃								
7 25	13 54.01	+19 11.6	0.714	1.116	63.0	21.3	78 E	50* 45*	4 21	16 19.51	-51 32.8	2.337	3.089	14.3	21.4	131 W	— 64
7 30	13 54.13	+18 12.4	0.703	1.068	66.3	21.3	74 E	47* 45*	4 26	16 14.39	-51 56.3	2.294	3.086	13.4	21.3	135 W	— 64
8 4	13 54.57	+17 9.7	0.687	1.018	70.0	21.3	71 E	44* 45*	5 1	16 8.43	-52 14.1	2.256	3.083	12.6	21.3	138 W	— 64
8 9	13 55.04	+16 3.6	0.667	0.968	74.1	21.2	67 E	42* 44*	5 6	16 1.76	-52 25.2	2.224	3.079	11.7	21.2	142 W	— 64
8 14	13 55.17	+14 53.7	0.642	0.917	78.9	21.2	63 E	39* 43*	5 11	15 54.54	-52 29.1	2.197	3.075	11.0	21.1	144 W	— 64
8 19	13 54.47	+13 39.5	0.613	0.866	84.5	21.2	58 E	36* 41*	5 16	15 46.94	-52 25.2	2.176	3.070	10.5	21.1	147 W	— 64
8 24	13 52.23	+12 19.5	0.579	0.816	91.3	21.2	54 E	33* 38*	5 21	15 39.18	-52 13.3	2.161	3.065	10.1	21.1	148 E	— 64
8 29	13 47.46	+10 51.7	0.541	0.767	99.7	21.3	48 E	29* 34*	5 26	15 31.49	-51 53.4	2.152	3.060	10.0	21.0	148 E	— 64
402159 2004 RM₂₁₆									6 5	15 24.09	-51 26.0	2.150	3.055	10.2	21.0	148 E	— 65
4 21	16 12.83	-49 59.7	2.143	2.919	14.7	21.9	133 W	— 66	6 10	15 17.19	-50 51.9	2.154	3.049	10.7	21.1	146 E	— 65
4 26	16 7.34	-50 26.8	2.114	2.927	13.7	21.8	137 W	— 66	6 15	15 10.94	-50 12.2	2.164	3.043	11.4	21.1	144 E	— 66
5 1	16 1.06	-50 47.5	2.090	2.936	12.7	21.8	140 W	— 65	6 20	15 5.46	-49 27.9	2.180	3.037	12.2	21.1	141 E	— 67
5 5	15 54.14	-51 1.2	2.072	2.944	11.8	21.7	143 W	— 65	6 25	15 0.84	-48 40.4	2.202	3.030	13.1	21.2	138 E	— 67
5 11	15 46.76	-51 7.1	2.060	2.952	11.0	21.7	146 W	— 65	6 30	14 57.13	-47 50.8	2.229	3.024	14.0	21.2	134 E	— 68
5 16	15 39.11	-51 5.0	2.053	2.959	10.4	21.7	148 W	— 65	7 5	14 52.50	-46 10.0	2.297	3.009	15.9	21.4	126 E	— 70
5 21	15 31.44	-50 54.8	2.053	2.967	10.1	21.7	149 E	— 65	7 10	14 51.53	-45 20.8	2.337	3.001	16.7	21.4	122 E	— 71
5 26	15 23.96	-50 36.9	2.059	2.974	10.1	21.7	149 E	— 65	7 15	14 51.41	-44 33.3	2.381	2.993	17.5	21.5	118 E	— 71
5 31	15 16.90	-50 12.0	2.072	2.981	10.4	21.7	148 E	— 66	4401 Aditi								
6 5	15 10.44	-49 41.1	2.090	2.987	10.9	21.8	146 E	— 66	4 21	16 19.76	-43 35.3	2.708	3.498	11.6	21.6	136 W	1 72
6 10	15 4.70	-49 5.3	2.115	2.994	11.6	21.8	144 E	— 67	4 26	16 14.50	-44 0.5	2.683	3.515	10.6	21.5	140 W	1 72
6 15	14 59.79	-48 25.8	2.145	3.000	12.4	21.9	141 E	— 68	5 1	16 8.67	-44 21.2	2.663	3.532	9.5	21.5	144 W	1 72
400554 2008 VA₅₈									5 6	16 2.37	-44 37.0	2.650	3.548	8.6	21.5	148 W	— 71
4 21	16 13.87	-12 35.9	1.700	2.597	12.4	22.1	146 W	32 77	5 11	15 55.73	-44 47.4	2.644	3.565	7.7	21.4	152 W	— 71
5 1	16 6.48	-11 56.1	1.625	2.584	8.7	21.8	157 W	33 76	5 16	15 48.88	-44 52.4	2.645	3.581	7.1	21.4	154 W	— 71
5 11	15 57.01	-11 16.4	1.575	2.569	5.0	21.6	167 W	34 75	5 21	15 41.99	-44 51.8	2.652	3.596	6.8	21.4	155 E	— 71
5 21	15 46.36	-10 40.6	1.551	2.554	3.8	21.4	170 E	34 75	5 26	15 35.20	-44 45.9	2.667	3.612	6.8	21.4	155 E	— 71
5 31	15 35.70	-10 12.9	1.554	2.538	7.1	21.6	162 E	35 74	5 31	15 28.67	-44 35.0	2.689	3.627	7.1	21.5	154 E	— 71
6 10	15 26.20	-9 56.7	1.584	2.522	11.2	21.8	151 E	35 74	6 5	15 22.52	-44 19.9	2.718	3.642	7.7	21.5	151 E	1 72
467923 2011 YU₂₈									6 10	15 16.86	-44 1.2	2.754	3.656	8.4	21.6	148 E	1 72
4 21	16 14.56	+11 4.2	2.164	2.992	12.8	22.2	139 W	56 53	6 15	15 11.77	-43 39.7	2.796	3.670	9.3	21.7	144 E	1 72
4 26	16 10.83	+11 31.8	2.136	2.992	12.0	22.2	142 W	57 52	316857 2000 NH₁₀								
5 1	16 6.64	+11 55.3	2.113	2.991	11.3	22.1	145 W	57									

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°
316857 2000 NH₁₀ (continuation)									454078 2012 VV₉₃								
6 25	15 19.29	-17 57.4	1.542	2.400	16.3	20.9	139 E	27 82	4 21	16 35.39	-56 33.0	1.958	2.673	17.7	21.9	126 W	- 59
6 30	15 16.42	-17 42.8	1.566	2.379	18.2	21.0	133 E	27 82	4 26	16 28.64	-56 56.1	1.939	2.695	16.7	21.9	130 W	- 59
7 5	15 14.35	-17 31.4	1.594	2.357	19.9	21.1	128 E	27* 82	5 1	16 20.83	-57 11.0	1.924	2.716	15.7	21.8	133 W	- 59
7 10	15 13.09	-17 23.2	1.625	2.335	21.5	21.1	123 E	27* 81	5 6	16 12.18	-57 16.9	1.915	2.737	14.7	21.8	137 W	- 59
7 15	15 12.65	-17 18.5	1.658	2.313	22.9	21.2	118 E	27* 81	5 11	16 2.98	-57 13.0	1.910	2.757	13.8	21.8	140 W	- 59
7 20	15 13.03	-17 17.1	1.694	2.291	24.1	21.3	113 E	26* 81	5 16	15 53.50	-56 58.8	1.911	2.777	13.0	21.8	142 W	- 59
7 25	15 14.19	-17 19.0	1.731	2.269	25.1	21.3	109 E	26* 81	5 21	15 44.08	-56 34.5	1.917	2.797	12.4	21.8	144 E	- 59
7 30	15 16.11	-17 24.0	1.769	2.246	26.0	21.4	104 E	25* 81	5 26	15 35.04	-56 0.6	1.930	2.816	12.1	21.8	144 E	- 60
8 4	15 18.77	-17 31.9	1.808	2.223	26.7	21.4	100 E	24* 82	5 31	15 26.65	-55 18.1	1.948	2.835	12.0	21.8	144 E	- 61
8 9	15 22.12	-17 42.3	1.847	2.200	27.3	21.5	96 E	23* 82	6 5	15 19.11	-54 28.4	1.973	2.854	12.2	21.9	144 E	- 62
8 14	15 26.13	-17 55.0	1.886	2.176	27.7	21.5	92 E	23* 82*	6 10	15 12.58	-53 33.1	2.004	2.872	12.6	21.9	142 E	- 62
									6 15	15 7.12	-52 33.9	2.040	2.890	13.2	22.0	140 E	- 63
409263 2004 PN₈₇									497616 2006 QF₁₃								
4 21	16 23.35	-26 56.0	1.490	2.366	15.1	21.4	142 W	18 89	4 21	16 36.39	-16 5.4	1.385	2.255	16.3	21.3	141 W	29 80
5 1	16 16.69	-27 16.5	1.395	2.338	11.2	21.1	153 W	18 89	5 1	16 32.09	-15 56.0	1.283	2.221	12.5	20.9	151 W	29 80
5 11	16 6.96	-27 26.2	1.322	2.310	6.8	20.7	164 W	18 89	5 11	16 24.67	-15 46.2	1.202	2.187	8.0	20.6	163 W	29 80
5 21	15 55.07	-27 22.4	1.273	2.281	3.2	20.4	173 W	18 89	5 21	16 14.75	-15 37.5	1.145	2.153	3.3	20.2	173 W	29 80
5 26	15 48.75	-27 15.3	1.259	2.266	3.6	20.4	172 E	18 89	5 26	16 9.20	-15 34.5	1.125	2.136	2.6	20.1	174 E	29 80
5 31	15 42.47	-27 5.2	1.251	2.251	5.6	20.5	168 E	18 89	5 31	16 3.51	-15 32.7	1.112	2.118	4.4	20.2	171 E	29 80
6 5	15 36.44	-26 52.6	1.249	2.236	8.0	20.6	162 E	18 89	6 5	15 57.87	-15 32.6	1.104	2.101	7.1	20.2	165 E	29 80
6 10	15 30.84	-26 38.1	1.253	2.221	10.5	20.7	156 E	18 89	6 10	15 52.49	-15 34.5	1.103	2.084	9.8	20.3	160 E	29 80
6 15	15 25.85	-26 22.7	1.263	2.206	13.0	20.8	151 E	19 90	6 15	15 47.55	-15 38.9	1.107	2.067	12.5	20.4	154 E	29 80
6 20	15 21.60	-26 7.1	1.278	2.191	15.4	20.9	145 E	19 90	6 20	15 43.21	-15 45.8	1.116	2.050	15.2	20.5	148 E	29 80
6 25	15 18.21	-25 52.3	1.298	2.176	17.6	21.0	140 E	19 90	6 25	15 39.62	-15 55.8	1.130	2.033	17.7	20.6	143 E	29 80
6 30	15 15.74	-25 39.0	1.322	2.160	19.6	21.1	134 E	19 90	6 30	15 36.89	-16 8.7	1.148	2.016	20.0	20.7	137 E	29 80
7 5	15 14.23	-25 27.7	1.350	2.145	21.5	21.2	129 E	20* 89	7 5	15 35.07	-16 24.8	1.170	2.000	22.1	20.8	132 E	29 80
7 10	15 13.68	-25 18.9	1.381	2.129	23.2	21.2	125 E	19* 89	7 10	15 34.19	-16 43.9	1.194	1.983	24.1	20.9	127 E	29 80
7 15	15 14.07	-25 12.7	1.414	2.113	24.6	21.3	120 E	19* 89	7 15	15 34.28	-17 5.8	1.222	1.967	25.8	21.0	123 E	28* 81
7 20	15 15.39	-25 9.4	1.449	2.098	25.9	21.4	115 E	19* 89	7 20	15 35.32	-17 30.4	1.252	1.950	27.3	21.1	118 E	27* 82
7 25	15 17.60	-25 9.0	1.487	2.082	27.1	21.5	111 E	18* 89	7 25	15 37.31	-17 57.4	1.283	1.934	28.7	21.1	114 E	26* 82
									7 30	15 40.21	-18 26.5	1.316	1.918	29.8	21.2	110 E	25* 82
									8 4	15 43.99	-18 57.5	1.350	1.903	30.8	21.3	106 E	24* 83
									8 9	15 48.59	-19 29.7	1.385	1.887	31.6	21.3	103 E	23* 83
									8 14	15 53.99	-20 3.0	1.421	1.872	32.3	21.4	99 E	23* 84
									8 19	16 0.14	-20 37.0	1.456	1.857	32.8	21.4	96 E	22* 85
									8 24	16 7.03	-21 11.1	1.492	1.843	33.2	21.5	93 E	21* 85*
									266084 2006 SN₆								
									4 21	16 46.27	-21 35.6	1.950	2.781	13.9	21.4	138 W	23 86
									5 1	16 40.87	-21 30.1	1.841	2.755	10.8	21.1	149 W	23 86
									5 11	16 32.92	-21 19.9	1.755	2.729	7.0	20.8	161 W	24 85
									5 21	16 22.98	-21 4.7	1.694	2.701	2.7	20.5	173 W	24 85
									5 26	16 17.56	-20 55.4	1.675	2.687	0.5	20.3	179 W	24 85
									5 31	16 12.02	-20 45.4	1.662	2.673	1.8	20.4	175 E	24 85
									6 5	16 6.51	-20 34.9	1.656	2.659	4.2	20.5	169 E	24 85
									6 10	16 1.19	-20 24.4	1.657	2.644	6.4	20.6	163 E	25 84
									6 15	15 56.19	-20 14.1	1.664	2.630	8.7	20.7	157 E	25 84
									6 20	15 51.63	-20 4.7	1.678	2.615	10.8	20.8	151 E	25 84
									6 25	15 47.22	-19 56.4	1.697	2.600	12.8	20.9	145 E	25 84
									6 30	15 44.65	-19 49.7	1.722	2.584	14.7	21.0	140 E	25 84
									7 5	15 41.59	-19 45.0	1.751	2.569	16.4	21.0	135 E	25 84
									7 10	15 39.65	-19 42.3	1.785	2.553	17.9	21.1	129 E	25 84
									7 15	15 38.45	-19 41.9	1.822	2.537	19.3	21.2	124 E	25* 84
									7 20	15 38.01	-19 43.8	1.862	2.521	20.6	21.3	119 E	25* 84
									7 25	15 38.32	-19 48.1	1.904	2.505	21.6	21.3	115 E	24* 84
									7 30	15 39.36	-19 54.6	1.948	2.488	22.5	21.4	110 E	24* 84
									8 4	15 41.10	-20 3.2	1.994	2.472	23.3	21.5	106 E	23* 84
									409296 2004 SV₅₁								
									4 21	16 47.98	-22 56.6	1.568	2.408	16.3	21.3	138 W	22 87
									5 1	16 43.08	-23 13.7	1.460	2.378	12.8	21.0	148 W	22 87
									5 11	16 34.94	-23 26.5	1.373	2.347	8.5	20.6	160 W	22 87
									5 21	16 24.13	-23 33.5	1.310	2.316	3.6	20.3	172 W	21 88
									5 26	16 18.04	-23 34.4	1.288	2.300	1.2	20.0	177 W	21 88
									5 31	16 11.75	-23 33.7	1.272	2.284	2.2	20.1	175 E	21 88
									6 5	16 5.45	-23 31.5	1.263	2.268	4.9	20.2	169 E	21 88
									6 10	15 59.35	-23 28.3	1.261	2.251	7.6	20.3	163 E	22 87
									6 15	15 53.63	-23 24.3	1.264	2.235	10.3	20.4	157 E	22 87
									6 20	15 48.46	-23 20.3	1.274	2.218	12.8	20.5	151 E	22 87
									6 25	15 44.00	-23 16.7	1.288	2.201	15.3	20.6	145 E	22 87
									6 30	15 40.36	-23 14.2	1.308	2.184	17.5	20.7	140 E	22 87
									7 5	15 37.61	-23 13.3	1.331	2.167	19.6	20.8	134 E	22 87
									7 10	15 35.79	-23 14.2	1.358	2.150	21.5	20.9	129 E	22* 87
									7 15	15 34.92	-23 17.2	1.389	2.133	23.2	21.0	124 E	22* 87
									7 20	15 34.99	-23 22.5	1.421	2.115	24.7	21.0	119 E	21* 87
									7 25	15 36.00	-23 30.1	1.456	2.098	26.0	21.1	115 E	21* 88
									7 30	15 37.91	-23 40.1	1.493	2.081	27.2	21.2	111 E	20* 88
									8 4	15 40.68	-23 52.1	1.530	2.063	28.1	21.2	107 E	19* 88
									8 9	15 44.28	-24 6.1	1.569	2.046	28.9	21.3	103 E	19* 88

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°		
409296 2004 SV₅₁ (continuation)									474554 2003 YQ₉₄ (continuation)										
8 14	15 48.65	-24 21.7	1.607	2.028	29.6	21.4	99 E	18* 88	6 15	16 29.91	-26 39.5	0.851	1.851	8.1	19.1	165 E	18	89	
8 19	15 53.77	-24 38.7	1.647	2.011	30.1	21.4	95 E	17* 89*	6 20	16 21.59	-25 47.5	0.825	1.810	11.8	19.1	159 E	19	90	
8 24	15 59.61	-24 56.7	1.685	1.993	30.5	21.4	92 E	17* 86*	6 25	16 13.61	-24 50.6	0.805	1.769	15.6	19.1	152 E	20	89	
8 29	16 6.12	-25 15.5	1.724	1.976	30.7	21.5	89 E	16* 83*	6 30	16 6.27	-23 50.4	0.790	1.727	19.4	19.2	146 E	21	88	
501646 2014 SC₂₂₃									495511 2014 UD₂₀₆										
4 21	16 57.01	-26 34.2	1.232	2.069	20.1	21.3	135 W	18	89	5 21	17 50.55	-38 11.7	0.532	1.506	17.9	19.6	153 W	7	78
5 1	16 54.86	-27 40.4	1.128	2.036	16.5	21.0	145 W	17	88	5 31	17 50.89	-39 36.7	0.496	1.480	16.4	19.4	156 W	5	76
5 11	16 48.70	-28 46.7	1.041	2.004	12.1	20.6	155 W	16	87	6 5	17 50.33	-41 4.4	0.463	1.454	15.2	19.2	158 W	4	75
5 21	16 38.77	-29 48.2	0.975	1.972	7.3	20.3	166 W	15	86	6 10	17 48.90	-42 33.4	0.434	1.429	14.7	19.0	159 W	2	73
5 26	16 32.66	-30 15.1	0.951	1.956	5.3	20.1	170 W	15	86	6 15	17 46.66	-44 1.4	0.409	1.406	14.9	18.8	159 W	1	72
5 31	16 26.07	-30 38.5	0.932	1.940	4.6	20.0	171 E	14	85	6 20	17 43.82	-45 26.0	0.387	1.382	16.1	18.7	158 E	—	71
6 5	16 19.26	-30 58.0	0.919	1.924	5.9	20.0	169 E	14	85	6 25	17 40.66	-46 44.3	0.368	1.360	18.0	18.6	156 E	—	69
6 10	16 12.49	-31 13.3	0.911	1.908	8.3	20.1	164 E	14	85	6 30	17 37.64	-47 54.3	0.352	1.339	20.4	18.6	153 E	—	68
6 15	16 6.05	-31 24.6	0.909	1.892	11.2	20.2	159 E	14	85	7 5	17 35.21	-48 53.9	0.339	1.320	23.2	18.6	149 E	—	67
6 20	16 0.20	-31 32.3	0.912	1.877	14.0	20.3	153 E	13	84	7 10	17 33.84	-49 41.8	0.328	1.301	26.1	18.5	146 E	—	66
6 25	15 55.19	-31 37.1	0.920	1.861	16.9	20.4	148 E	13	84	7 15	17 34.02	-50 16.9	0.319	1.284	28.9	18.5	142 E	—	66
6 30	15 51.21	-31 40.1	0.932	1.846	19.6	20.5	143 E	13	84	7 20	17 36.18	-50 38.5	0.312	1.269	31.6	18.5	139 E	—	65
7 5	15 48.37	-31 42.1	0.948	1.831	22.1	20.6	137 E	13	84	7 25	17 40.70	-50 46.2	0.307	1.255	34.1	18.5	136 E	—	65
7 10	15 46.74	-31 43.9	0.968	1.816	24.4	20.7	133 E	13	84	7 30	17 47.82	-50 39.6	0.303	1.243	36.3	18.6	134 E	—	65
7 15	15 46.36	-31 46.1	0.990	1.802	26.5	20.8	128 E	13	84	8 9	18 9.75	-49 39.9	0.298	1.225	39.7	18.6	130 E	—	66
7 20	15 47.22	-31 49.1	1.014	1.787	28.3	20.8	123 E	13	84	8 19	18 40.42	-47 28.7	0.298	1.215	41.7	18.6	127 E	—	69
7 25	15 49.31	-31 53.4	1.040	1.773	30.0	20.9	119 E	13	84	8 29	19 16.76	-43 58.1	0.305	1.214	42.5	18.7	126 E	1	72
7 30	15 52.58	-31 59.0	1.068	1.760	31.5	21.0	115 E	12	84	9 3	19 35.79	-41 43.9	0.312	1.216	42.5	18.7	125 E	3	74
8 4	15 56.97	-32 5.9	1.097	1.747	32.7	21.1	112 E	12	84	9 8	19 54.76	-39 13.1	0.320	1.221	42.3	18.8	125 E	6	77
8 9	16 2.42	-32 13.8	1.128	1.734	33.8	21.2	108 E	12	84	9 13	20 13.33	-36 28.9	0.331	1.228	42.0	18.9	125 E	9	80
8 14	16 8.86	-32 22.4	1.158	1.721	34.7	21.2	105 E	11	84	9 18	20 31.29	-33 35.1	0.345	1.237	41.6	19.0	125 E	11	82
8 19	16 16.23	-32 31.4	1.190	1.709	35.5	21.3	102 E	11	83	9 23	20 48.52	-30 35.9	0.362	1.247	41.1	19.1	125 E	14	85
8 24	16 24.50	-32 40.4	1.222	1.697	36.1	21.4	99 E	11	83	9 28	21 4.95	-27 35.3	0.382	1.260	40.7	19.2	125 E	17	88
8 29	16 33.59	-32 48.8	1.254	1.686	36.6	21.4	96 E	11	83*	10 3	21 20.56	-24 36.9	0.405	1.274	40.3	19.4	124 E	20	89
9 3	16 43.44	-32 56.1	1.286	1.676	37.0	21.5	93 E	10	82*	10 8	21 35.38	-21 43.4	0.431	1.290	40.0	19.5	124 E	23	86
253692 2003 UH₂₆₀									474554 2003 YQ₉₄ (continuation)										
4 21	17 4.84	-13 59.7	2.366	3.148	13.3	21.4	134 W	31	78	10 13	21 49.47	-18 56.7	0.461	1.308	39.7	19.7	123 E	26	83
5 1	16 59.50	-13 52.5	2.269	3.146	10.7	21.2	145 W	31	78	10 18	22 2.92	-16 18.0	0.493	1.327	39.5	19.8	122 E	29	80
5 11	16 52.01	-13 47.1	2.195	3.143	7.6	21.0	156 W	31	78	10 23	22 15.83	-13 47.8	0.529	1.347	39.2	20.0	121 E	31	78
5 21	16 42.86	-13 44.5	2.147	3.139	4.4	20.8	166 W	31	78	10 28	22 28.25	-11 26.3	0.569	1.368	39.1	20.2	120 E	34	75
5 31	16 32.77	-13 45.6	2.127	3.134	2.6	20.7	172 W	31	78	11 7	22 51.88	-7 8.4	0.656	1.414	38.7	20.6	117 E	38	71
6 10	16 22.64	-13 51.5	2.137	3.129	4.9	20.8	165 E	31	78	11 17	23 14.27	-3 20.4	0.756	1.463	38.3	21.0	113 E	42	67
6 20	16 13.31	-14 3.0	2.175	3.122	8.1	21.0	154 E	31	78	11 27	23 35.82	+0 3.1	0.866	1.515	37.9	21.3	110 E	45	64
6 30	16 5.55	-14 20.8	2.239	3.114	11.3	21.2	143 E	31	78	12 7	23 56.77	+3 6.4	0.987	1.569	37.3	21.7	105 E	48	61*
7 10	15 59.85	-14 44.9	2.325	3.105	13.9	21.4	133 E	30	79										
363088 2000 SC₂₆									474554 2003 YQ₉₄ (continuation)										
4 21	17 9.76	-19 34.5	1.449	2.256	19.1	21.4	133 W	25	84	12 12	23 33.80	+6 9.7	0.528	1.138	60.0	18.5	92 E	51	53*
5 1	17 8.21	-18 36.3	1.337	2.225	15.9	21.1	143 W	26	83	12 7	23 3.55	+7 59.3	0.548	1.168	57.2	18.6	95 E	53	52*
5 11	17 3.36	-17 28.7	1.244	2.195	11.8	20.8	154 W	28	81	12 12	23 32.29	+9 39.5	0.574	1.201	54.4	18.7	97 E	55	51*
5 21	16 55.54	-16 13.8	1.172	2.164	7.2	20.4	164 W	29	80	12 17	23 59.64	+11 9.1	0.608	1.235	51.9	18.8	99 E	56	50*
5 26	16 50.74	-15 34.7	1.145	2.148	5.0	20.3	169 W	29	80	12 22	0 25.40	+12 27.9	0.648	1.271	49.6	18.9	100 E	57	49*
5 31	16 45.56	-14 55.6	1.124	2.133	3.6	20.1	172 W	30	79	12 27	0 49.47	+13 36.5	0.693	1.308	47.5	19.1	101 E	59	48*
6 5	16 40.18	-14 17.1	1.109	2.117	4.2	20.1	171 E	31	78	1 1	1 11.85	+14 36.0	0.745	1.347	45.7	19.2	102 E	60	47*
6 10	16 34.79	-13 40.3	1.100	2.101	6.3	20.2	167 E	31	78	1 6	1 32.64	+15 27.5	0.801	1.386	44.0	19.4	101 E	60	47*
6 15	16 29.57	-13 5.9	1.097	2.086	8.8	20.3	162 E	32	77	1 11	1 51.99	+16 12.5	0.862	1.426	42.6	19.6	101 E	61	46*
6 20	16 24.71	-12 34.8	1.100	2.070	11.5	20.4	156 E	32	77	1 16	2 10.06	+16 51.9	0.927	1.467	41.3	19.8	100 E	62	45*
6 25	16 20.40	-12 7.7	1.108	2.055	14.2	20.5	150 E	33	76	495511 2014 UD₂₀₆									
6 30	16 16.77	-11 45.2	1.122	2.039	16.7	20.6	145 E	33	76	4 21	17 25.62	-30 24.0	0.881	1.697	27.7	21.3	128 W	15	84
7 5	16 13.92	-11 27.6	1.139	2.023	19.0	20.7	140 E	34	75	5 1	17 36.07	-32 14.7	0.765	1.641	25.6	20.9	135 W	13	86
7 10	16 11.94	-11 14.9	1.161	2.008	21.2	20.8	134 E	34	75	5 11	17 44.16	-34 22.8	0.661	1.586	22.9	20.4	142 W	11	82
7 15	16 10.84	-11 7.1	1.186	1.993	23.2	20.9	129 E	34	75	5 21	17 49.28	-36 50.7	0.571	1.532	19.6	19.9	149 W	8	79
7 20	16 10.67	-11 4.0	1.214	1.977	25.0	21.0	125 E	34	75	5 26	17 50.55	-38 11.7	0.532	1.506	17.9	19.6	153 W	7	78
7 25	16 11.42	-11 5.3	1.244	1.962	26.6	21.0	120 E	34*	75	6 5	17 50.89	-39 36.7	0.496	1.480	16.4	19.4	156 W	5	76
7 30	16 13.08	-11 10.6	1.276	1.947	28.0	21.1	116 E	34*	75	6 10	17 50.33	-41 4.4	0.463	1.454	15.2	19.2	158 W	4	75
8 4	16 15.61	-11 19.4	1.309	1.932	29.2	21.2	112 E	33*	75	6 15	17 48.90	-42 33.4	0.434	1.429	14.7	19.0	159 W	2	73
8 9	16 18.97	-11 31.3	1.344	1.918	30.2	21.3	108 E	33*	76	6 20	17 46.66	-44 1.4	0.409	1.406	14.9	18.8	159 W	1	72
8 14	16 23.12	-11 45.6	1.380	1.903	31.0	21.3	104 E	32*	76	6 25	17 43.82	-45 26.0	0.387	1.382	16.1	18.7	158 E	—	71
8 19	16 28.03	-12 1.9	1.416	1.889	31.8	21.4	101 E	32*	76	6 30	17 40.66	-46 44.3	0.368	1.360	18.0	18.6	156 E	—	69
8 24	16 33.66	-12 19.																	

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°
285339 1999 JR₆									403227 2008 UH₂₂₉								
4 21	17 42.97	-29 24.8	1.382	2.121	23.0	21.4	125 W	16 87	4 21	18 4.21	-21 20.5	1.372	2.067	24.9	21.3	120 W	24 85
4 26	17 37.54	-30 6.7	1.343	2.138	21.0	21.3	130 W	15 86	5 1	18 9.07	-21 22.4	1.251	2.039	22.7	21.0	129 W	24 85
5 1	17 30.73	-30 47.9	1.309	2.155	18.7	21.2	137 W	14 85	5 11	18 10.63	-21 26.9	1.143	2.010	19.7	20.7	138 W	24 85
5 6	17 22.56	-31 27.2	1.279	2.171	16.3	21.1	143 W	14 85	5 21	18 8.53	-21 35.3	1.048	1.981	15.7	20.3	148 W	23 86
5 11	17 13.11	-32 3.1	1.256	2.186	13.6	21.0	149 W	13 84	5 31	18 2.68	-21 47.9	0.972	1.953	10.7	20.0	159 W	23 86
5 16	17 2.55	-32 34.0	1.239	2.200	10.9	20.9	156 W	12 83	6 10	17 53.61	-22 3.6	0.915	1.924	4.9	19.5	171 W	23 86
5 21	16 51.10	-32 58.4	1.229	2.213	8.3	20.7	162 W	12 83	6 15	17 48.19	-22 12.0	0.895	1.910	1.8	19.3	177 W	23 86
5 26	16 39.10	-33 15.2	1.227	2.224	6.1	20.7	166 W	12 83	6 20	17 42.44	-22 20.5	0.881	1.896	1.7	19.2	177 E	23 86
5 31	16 26.91	-33 23.7	1.233	2.235	5.2	20.6	168 E	12 83	6 25	17 36.61	-22 28.9	0.872	1.882	4.9	19.4	171 E	23 86
6 5	16 14.94	-33 24.2	1.246	2.245	6.1	20.7	166 E	12 83	6 30	17 30.96	-22 37.2	0.868	1.869	8.2	19.5	165 E	22 87
6 10	16 3.53	-33 17.5	1.268	2.254	8.2	20.9	162 E	12 83	7 5	17 25.74	-22 45.4	0.870	1.855	11.4	19.6	159 E	22 87
6 15	15 52.98	-33 4.7	1.297	2.262	10.6	21.0	156 E	12 83	7 10	17 21.17	-22 53.6	0.877	1.842	14.4	19.8	153 E	22 87
6 20	15 43.52	-32 47.6	1.332	2.268	13.1	21.2	150 E	12 83	7 15	17 17.42	-23 2.0	0.888	1.829	17.4	19.9	148 E	22 87
6 25	15 35.29	-32 27.8	1.374	2.274	15.4	21.3	144 E	13 84	7 20	17 14.64	-23 10.7	0.903	1.816	20.1	20.0	142 E	22 87
6 30	15 28.39	-32 7.0	1.422	2.279	17.5	21.5	138 E	13 84	7 30	17 12.39	-23 30.1	0.944	1.791	24.9	20.2	132 E	21 88
413386 2004 PL₁₁₁									361094 2006 CJ₆₀								
4 21	17 56.36	-24 55.0	1.253	1.977	25.6	21.4	122 W	20 89	4 21	18 5.22	-14 56.4	1.055	1.779	29.5	21.5	119 W	30 79
5 1	18 2.33	-25 13.9	1.138	1.947	23.3	21.1	130 W	20 89	5 1	18 7.42	-14 7.8	0.986	1.795	26.1	21.2	128 W	31 78
5 11	18 4.93	-25 34.7	1.034	1.917	20.1	20.8	139 W	19 90	5 11	18 5.22	-13 22.4	0.927	1.810	21.8	21.0	138 W	32 77
5 21	18 3.74	-25 57.5	0.946	1.888	15.9	20.4	149 W	19 90	5 21	17 58.62	-12 44.1	0.882	1.825	16.7	20.7	149 W	32 77
5 31	17 58.66	-26 20.9	0.874	1.859	10.8	20.0	160 W	19 90	5 31	17 48.23	-12 16.9	0.855	1.839	11.1	20.5	159 W	33 76
6 5	17 54.80	-26 31.8	0.845	1.845	8.0	19.8	165 W	18 89	6 5	17 42.04	-12 8.6	0.848	1.846	8.5	20.4	164 W	33 76
6 10	17 50.23	-26 41.6	0.822	1.831	5.0	19.6	171 W	18 89	6 10	17 35.48	-12 4.0	0.847	1.852	6.6	20.3	168 W	33 76
6 15	17 45.12	-26 49.8	0.803	1.818	2.4	19.4	176 W	18 89	6 15	17 28.79	-12 3.5	0.852	1.859	6.2	20.3	169 E	33 76
6 20	17 39.69	-26 55.9	0.790	1.804	2.8	19.4	175 E	18 89	6 20	17 22.25	-12 7.1	0.862	1.865	7.4	20.4	166 E	33 76
6 25	17 34.23	-26 59.9	0.782	1.791	5.7	19.5	170 E	18 89	6 25	17 16.11	-12 14.8	0.878	1.871	9.7	20.5	162 E	33 76
6 30	17 29.01	-27 1.7	0.779	1.779	8.9	19.6	164 E	18 89	6 30	17 10.59	-12 26.2	0.899	1.877	12.2	20.7	157 E	33 76
7 5	17 24.31	-27 1.6	0.781	1.766	12.2	19.7	159 E	18 89	7 5	17 5.86	-12 41.3	0.925	1.883	14.8	20.8	152 E	32 77
7 10	17 20.34	-27 0.1	0.787	1.755	15.3	19.8	153 E	18 89	7 10	17 2.04	-12 59.4	0.956	1.889	17.3	21.0	146 E	32 77
7 15	17 17.29	-26 57.5	0.798	1.743	18.2	20.0	148 E	18 89	7 15	16 59.20	-13 20.3	0.991	1.894	19.6	21.2	141 E	32 77
7 20	17 15.31	-26 54.3	0.812	1.732	21.0	20.1	142 E	18 89	7 20	16 57.37	-13 43.5	1.029	1.899	21.6	21.3	136 E	31 78
7 30	17 14.87	-26 48.1	0.851	1.711	25.8	20.3	133 E	18 89	7 25	16 56.57	-14 8.6	1.071	1.904	23.5	21.5	132 E	31 78
8 9	17 19.23	-26 43.4	0.900	1.692	29.7	20.5	124 E	18 89	100766 1998 FX₂₄								
8 19	17 28.07	-26 39.7	0.957	1.676	32.7	20.7	117 E	18 89	4 21	18 5.99	-30 51.5	2.930	3.535	14.3	21.5	120 W	14 85
8 29	17 40.93	-26 35.2	1.020	1.662	34.9	20.9	110 E	18* 89	5 1	18 3.41	-31 8.0	2.815	3.544	12.6	21.3	130 W	14 85
9 8	17 57.19	-26 26.7	1.088	1.650	36.4	21.0	104 E	19* 90	5 11	17 58.48	-31 22.4	2.717	3.552	10.5	21.2	140 W	14 85
9 18	18 16.26	-26 10.8	1.159	1.641	37.3	21.2	98 E	19* 90	5 21	17 51.38	-31 32.6	2.641	3.559	7.9	21.0	151 W	13 84
9 28	18 37.62	-25 44.6	1.232	1.634	37.7	21.3	93 E	19* 87*	5 31	17 42.53	-31 36.5	2.589	3.566	5.1	20.9	162 W	13 84
10 8	19 0.71	-25 5.4	1.309	1.631	37.8	21.5	89 E	20* 83*	6 10	17 32.61	-31 32.4	2.566	3.572	2.7	20.7	170 W	13 84
190543 2000 RM₈₀									6 20	17 22.43	-31 19.9	2.573	3.576	3.0	20.7	169 E	14 85
4 21	18 2.42	-31 11.5	1.721	2.390	21.3	21.4	120 W	14 85	6 30	17 12.84	-30 59.8	2.609	3.580	5.6	20.9	160 E	14 85
5 1	18 5.54	-31 33.0	1.579	2.349	19.4	21.1	129 W	13 84	7 10	17 4.60	-30 34.5	2.672	3.583	8.4	21.1	149 E	14 85
5 11	18 5.43	-31 53.0	1.451	2.308	16.8	20.8	139 W	13 84	7 20	16 58.23	-30 6.7	2.760	3.585	10.8	21.3	139 E	15 86
5 21	18 1.81	-32 9.3	1.340	2.266	13.4	20.5	149 W	13 84	7 30	16 54.07	-29 39.1	2.868	3.586	12.8	21.4	128 E	15 86
5 31	17 54.69	-32 17.8	1.248	2.224	9.4	20.1	159 W	13 84	422716 2000 WA₁₀₆								
6 5	17 49.97	-32 17.8	1.210	2.203	7.3	20.0	164 W	13 84	4 21	18 7.12	-22 52.0	1.602	2.272	22.7	21.5	119 W	22 87
6 10	17 44.65	-32 14.0	1.178	2.183	5.3	19.8	168 W	13 84	5 1	18 10.51	-22 36.5	1.471	2.241	20.6	21.2	128 W	22 87
6 15	17 38.87	-32 6.1	1.152	2.162	4.1	19.7	171 W	13 84	5 11	18 10.73	-22 19.6	1.353	2.209	17.8	20.9	138 W	23 86
6 20	17 32.85	-31 53.9	1.132	2.141	4.6	19.6	170 E	13 84	5 21	18 7.52	-22 1.4	1.250	2.177	14.1	20.6	148 W	23 86
6 25	17 26.81	-31 37.3	1.119	2.120	6.5	19.7	166 E	13 84	5 31	18 0.93	-21 41.8	1.166	2.145	9.6	20.2	159 W	23 86
6 30	17 21.00	-31 16.8	1.111	2.099	8.9	19.7	161 E	14 85	6 10	17 51.52	-21 20.5	1.104	2.113	4.3	19.8	171 W	24 85
7 5	17 15.64	-30 52.9	1.108	2.079	11.5	19.8	156 E	14 85	6 15	17 46.08	-21 9.1	1.082	2.097	1.7	19.6	177 W	24 85
7 10	17 10.93	-30 26.5	1.111	2.058	14.1	19.9	151 E	15 86	6 20	17 40.37	-20 57.4	1.066	2.081	2.0	19.6	176 E	24 85
7 15	17 7.02	-29 58.4	1.119	2.038	16.6	20.0	145 E	15 86	6 25	17 34.63	-20 45.6	1.056	2.065	4.9	19.7	170 E	24 85
7 20	17 4.05	-29 29.4	1.131	2.017	19.0	20.1	140 E	16 87	6 30	17 29.07	-20 34.0	1.052	2.049	7.8	19.8	164 E	24 85
7 25	17 2.10	-29 0.6	1.148	1.997	21.2	20.1	135 E	16 87	7 5	17 23.91	-20 23.0	1.054	2.033	10.7	19.9	158 E	25 84
7 30	17 1.22	-28 32.4	1.167	1.977	23.2	20.2	130 E	16 87	7 10	17 19.33	-20 12.9	1.060	2.017	13.5	20.0	152 E	25 84
8 9	17 2.69	-27 40.2	1.215	1.938	26.8	20.4	121 E	17 88	7 15	17 15.47	-20 4.2	1.072	2.001	16.2	20.1	147 E	25 84
8 19	17 8.28	-26 54.4	1.271	1.900	29.5	20.5	112 E	18* 89	7 20	17 12.47	-19 57.1	1.088	1.985	18.7	20.2	141 E	25 84
8 29	17 17.67	-26 14.8	1.332	1.864	31.6	20.6	105 E	19* 90	7 30	17 9.37	-19 48.6	1.132	1.954	23.1	20.4	131 E	25 84
9 8	17 30.41	-25 38.9	1.396	1.829	33.1	20.7	98 E	19* 90	8 9	17 10.32	-19 48.0	1.187	1.924	26.7	20.6	122 E	25 84
9 18	17 46.06	-25 3.8	1.461	1.796	34.0	20.8	92 E	19* 85*	8 19	17 15.20	-19 54.0	1.251	1.894	29.4	20.8	113 E	25* 84
9 28	18 4.23	-24 25.9	1.526	1.765	34.5	20.9	86 E	20* 80*	8 29	17 23.74	-20 4.3	1.320	1.865	31.4	20.9	106 E	25* 84
10 8	18 24.52	-23 42.0	1.590	1.736	34.6	20.9	81 E	21* 74*	9 8	17 35.54	-20 15.9	1.391	1.837	32.8	21.0	99 E	24* 84
10 18	18 46.57	-22 49.0	1.653	1.710	34.4	21.0	76 E	22* 69*	9 18	17 50.20	-20 25.6	1.464	1.811	33.7	21.1	92 E	2

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°
422716 2000 WA₁₀₆ (continuation)									517594 2014 WX₁₉₉								
9 28	18 7.36	-20 30.2	1.537	1.786	34.1	21.2	87 E	24* 79*	4 21	18 17.98	-38 49.5	4.026	4.562	11.4	21.4	116 W	6 77
10 8	18 26.64	-20 26.7	1.610	1.762	34.1	21.3	81 E	24* 74*	5 1	18 17.47	-39 33.6	3.893	4.554	10.4	21.3	126 W	5 76
10 18	18 47.72	-20 12.5	1.681	1.741	33.8	21.3	76 E	24* 68*	5 11	18 15.08	-40 16.8	3.776	4.546	9.1	21.2	135 W	5 76
10 28	19 10.29	-19 45.3	1.750	1.721	33.3	21.4	72 E	25* 63*	5 21	18 10.89	-40 56.9	3.680	4.537	7.5	21.1	144 W	4 75
11 7	19 34.04	-19 3.6	1.818	1.704	32.5	21.4	67 E	25* 58*	5 31	18 5.12	-41 31.4	3.606	4.529	6.0	20.9	152 W	3 74
11 17	19 58.71	-18 6.1	1.884	1.689	31.5	21.5	63 E	26* 53*	6 10	17 58.16	-41 57.8	3.559	4.521	4.6	20.8	159 W	3 74
11 27	20 24.03	-16 52.5	1.949	1.677	30.4	21.5	59 E	27* 47*	6 20	17 50.55	-42 14.4	3.539	4.513	4.2	20.8	161 E	3 74
4 21	18 14.18	-19 33.4	2.283	2.890	17.9	21.4	118 W	25 84	6 30	17 42.91	-42 20.3	3.547	4.505	4.9	20.8	158 E	3 74
5 1	18 14.22	-19 12.2	2.141	2.867	16.2	21.2	127 W	26 83	7 10	17 35.89	-42 16.0	3.582	4.497	6.3	20.9	151 E	3 74
5 11	18 11.62	-18 51.1	2.014	2.842	13.9	21.0	138 W	26 83	7 20	17 30.03	-42 2.9	3.641	4.489	8.0	21.0	142 E	3 74
5 21	18 6.35	-18 30.7	1.906	2.817	10.9	20.7	148 W	26 83	7 30	17 25.75	-41 43.2	3.724	4.481	9.5	21.1	133 E	3 74
5 31	17 58.64	-18 11.3	1.819	2.791	7.3	20.5	159 W	27 82	8 9	17 23.32	-41 19.5	3.825	4.473	10.8	21.2	124 E	4 75
6 10	17 49.05	-17 53.3	1.759	2.764	3.6	20.2	170 W	27 82	8 19	17 22.83	-40 53.7	3.940	4.465	11.8	21.3	115 E	4 75
6 20	17 38.42	-17 37.4	1.725	2.737	2.6	20.0	173 E	27 82	8 29	17 24.29	-40 27.6	4.067	4.457	12.6	21.4	106 E	4* 76
6 25	17 33.05	-17 30.4	1.719	2.723	4.3	20.1	168 E	27 82	4 21	18 32.24	-15 10.3	1.012	1.681	33.4	21.2	113 W	30* 79
6 30	17 27.83	-17 24.4	1.720	2.708	6.3	20.2	163 E	28 81	4 26	18 42.08	-13 39.2	0.934	1.639	33.7	20.9	115 W	31 78
7 5	17 22.90	-17 19.5	1.727	2.694	8.4	20.3	157 E	28 81	5 1	18 52.13	-11 53.5	0.860	1.596	34.1	20.7	117 W	33 76
7 10	17 18.38	-17 15.8	1.741	2.679	10.4	20.4	152 E	28 81	5 6	19 2.47	+ 9 50.9	0.789	1.554	34.6	20.5	119 W	35 74
7 20	17 10.94	-17 12.5	1.785	2.649	14.2	20.6	140 E	28 81	5 11	19 13.20	- 7 28.7	0.722	1.511	35.1	20.2	121 W	38 71
7 30	17 6.13	-17 15.3	1.848	2.617	17.3	20.7	130 E	28 81	5 16	19 24.43	- 4 43.8	0.659	1.468	35.9	20.0	122 W	40 69
8 9	17 4.22	-17 24.1	1.926	2.586	19.9	20.9	120 E	28 81	5 21	19 36.31	- 1 32.6	0.601	1.426	36.9	19.8	122 W	43 66
8 19	17 5.20	-17 38.1	2.015	2.553	21.8	21.0	111 E	27* 82	5 26	19 49.07	+ 2 8.3	0.547	1.384	38.4	19.5	122 W	47 62
8 29	17 8.99	-17 56.1	2.109	2.520	23.1	21.1	102 E	27* 82	5 31	20 2.99	+ 6 22.6	0.499	1.342	40.3	19.3	121 W	51 58
9 8	17 15.33	-18 16.3	2.206	2.486	23.9	21.2	94 E	26* 82*	6 5	20 18.47	+11 12.5	0.456	1.301	42.8	19.1	119 W	56 53
9 18	17 23.99	-18 37.2	2.303	2.451	24.1	21.3	86 E	25* 78*	6 10	20 36.03	+16 38.6	0.420	1.260	46.1	19.0	117 W	62 47
9 28	17 34.74	-18 56.7	2.398	2.416	24.0	21.3	79 E	24* 71*	6 15	20 56.30	+22 37.0	0.390	1.221	50.1	18.9	113 W	68 41
10 8	17 47.34	-19 13.2	2.488	2.380	23.6	21.4	72 E	23* 65*	6 20	21 20.11	+28 57.9	0.367	1.183	54.8	18.8	108 W	74 35
10 18	18 1.59	-19 25.0	2.572	2.344	22.8	21.4	66 E	23* 58*	6 22	21 30.85	+31 32.9	0.360	1.168	56.8	18.8	106 W	77 32
10 28	18 17.30	-19 30.5	2.648	2.307	21.8	21.4	59 E	22* 51*	6 24	21 42.38	+34 7.4	0.355	1.153	58.9	18.8	104 W	79 30
11 7	18 34.29	-19 28.2	2.716	2.270	20.5	21.4	53 E	21* 45*	6 26	21 54.77	+36 39.7	0.350	1.139	61.0	18.8	101 W	82* 27
11 17	18 52.41	-19 16.8	2.775	2.233	19.1	21.3	48 E	21* 38*	6 28	22 8.10	+39 8.1	0.347	1.125	63.1	18.8	99 W	84* 25
11 27	19 11.51	-18 55.3	2.825	2.195	17.5	21.3	42 E	20* 33*	6 30	22 22.41	+41 30.8	0.344	1.112	65.2	18.8	97 W	86* 22
12 7	19 31.45	-18 22.7	2.864	2.157	15.9	21.2	37 E	19* 25*	7 2	22 37.76	+43 46.1	0.343	1.098	67.3	18.9	95 W	87* 20
12 17	19 52.10	-17 38.4	2.894	2.119	14.1	21.1	32 E	17* 19*	7 4	22 54.15	+45 52.1	0.343	1.086	69.4	18.9	92 W	86* 18
12 27	20 13.36	-16 41.9	2.914	2.082	12.2	21.0	27 E	15* 14*	7 6	23 11.57	+47 47.3	0.344	1.073	71.3	18.9	90 W	84* 16
1 6	20 35.09	-15 33.1	2.925	2.044	10.3	20.9	22 E	13* 9*	7 8	23 29.96	+49 30.2	0.346	1.061	73.2	19.0	88 W	82* 14
1 16	20 57.25	-14 12.0	2.926	2.007	8.3	20.8	17 E	9* 5*	7 10	23 49.22	+50 59.7	0.349	1.050	74.9	19.0	86 W	80* 13
4 21	18 14.45	-32 22.2	1.090	1.793	29.8	21.2	118 W	13 84	7 12	0 9.17	+52 14.9	0.352	1.039	76.6	19.1	84 W	78* 12
4 26	18 18.85	-32 25.8	1.034	1.780	28.8	21.1	121 W	13 84	7 14	0 29.61	+53 15.2	0.357	1.028	78.1	19.1	82 W	76* 11
5 1	18 22.33	-32 28.2	0.980	1.767	27.6	20.9	126 W	13 84	7 16	0 50.31	+54 0.7	0.362	1.019	79.4	19.2	80 W	74* 10
5 6	18 24.80	-32 29.2	0.928	1.754	26.2	20.7	130 W	13 84	7 18	1 11.00	+54 31.8	0.368	1.009	80.6	19.3	78 W	72* 9
5 11	18 26.18	-32 28.6	0.879	1.741	24.6	20.6	134 W	13 84	7 20	1 31.43	+54 48.9	0.374	1.001	81.7	19.3	77 W	71* 9
5 16	18 26.36	-32 25.9	0.833	1.727	22.7	20.4	139 W	13 84	7 22	1 51.36	+54 53.3	0.381	0.992	82.6	19.4	76 W	70* 9
5 21	18 25.26	-32 20.7	0.789	1.714	20.4	20.2	144 W	13 84	7 24	2 10.61	+54 46.1	0.389	0.985	83.3	19.4	74 W	68* 9
5 26	18 22.82	-32 12.1	0.750	1.700	17.9	20.0	149 W	13 84	7 26	2 29.02	+54 28.5	0.396	0.978	83.9	19.5	73 W	67* 9
5 31	18 19.06	-31 59.1	0.714	1.685	15.1	19.7	154 W	13 84	7 28	2 46.51	+54 2.0	0.405	0.972	84.3	19.5	72 W	66* 10*
6 5	18 14.03	-31 40.8	0.682	1.671	12.1	19.5	160 W	13 84	7 30	3 3.02	+53 28.0	0.413	0.967	84.6	19.6	71 W	65* 10*
6 10	18 7.86	-31 16.2	0.655	1.657	8.9	19.3	165 W	14 85	8 1	3 18.55	+52 47.6	0.422	0.962	84.8	19.6	71 W	65* 11*
6 15	18 0.76	-30 44.3	0.632	1.642	5.9	19.0	171 W	14 85	8 3	3 33.11	+52 2.0	0.431	0.959	84.8	19.7	70 W	64* 12*
6 20	17 53.02	-30 4.8	0.614	1.628	4.2	18.9	173 E	15 86	8 5	3 46.75	+51 12.2	0.440	0.956	84.7	19.7	70 W	64* 12*
6 25	17 45.02	-29 18.0	0.602	1.613	5.7	18.9	171 E	16 87	8 8	3 59.51	+50 19.1	0.450	0.953	84.4	19.7	69 W	63* 13*
6 30	17 37.19	-28 24.6	0.594	1.599	9.1	19.0	166 E	17 88	8 9	4 11.46	+49 23.5	0.459	0.952	84.1	19.8	69 W	63* 14*
7 5	17 29.91	-27 26.4	0.591	1.584	12.8	19.1	160 E	18 89	8 11	4 22.66	+48 25.9	0.469	0.951	83.7	19.8	69 W	63* 15*
7 10	17 23.51	-26 25.2	0.592	1.570	16.7	19.2	154 E	19 90	8 13	4 33.16	+47 26.9	0.479	0.952	83.2	19.8	69 W	63* 15*
7 15	17 18.26	-25 23.1	0.598	1.555	20.4	19.4	148 E	20 89	8 15	4 43.03	+46 27.0	0.488	0.953	82.6	19.8	69 W	62* 16*
7 20	17 14.35	-24 22.1	0.607	1.541	23.9	19.5	142 E	21 88	8 17	4 52.31	+45 26.4	0.498	0.954	81.9	19.8	69 W	62* 17*
7 25	17 11.91	-23 23.7	0.619	1.526	27.1	19.6	137 E	22 87	8 19	5 1.05	+44 25.4	0.508	0.957	81.2	19.9	69 W	63* 18*
7 30	17 10.97	-22 29.2	0.633	1.512	30.1	19.7	132 E	23 86	8 21	5 9.30	+43 24.3	0.517	0.960	80.4	19.9	69 W	63* 19*
8 9	17 13.43	-20 53.6	0.669	1.484	35.2	19.9	123 E	24 85	8 23	5 17.09	+42 23.3	0.526	0.964	79.5	19.9	70 W	63* 20*
8 19	17 21.19	-19 35.8	0.709	1.458	39.1	20.1	115 E	25* 84	8 25	5 24.47	+41 22.5	0.536	0.969	78.6	19.9	70 W	63* 20*
8 29	17 33.58	-18 32.2	0.753	1.432	42.2	20.3	108 E	26* 83	8 27	5 31.45	+40 22.0	0.545	0.975	77.7	19.9	71 W	63* 21*
9 8	17 49.85	-17 37.2	0.797	1.408	44.4	20.5	102 E	27* 82	8 29	5 38.08	+39 21.0	0.554	0.981	76.7	20.0	71 W	64* 22*
9 18	18 9.37	-16 45.1	0.842	1.387	46.0	20.6	97 E	28* 81	9 3	5 53.24	+36 54.0	0.575	1.000	74.2	20.0	73 W	64* 25*
9 28	18 31.64	-15 50.6	0.886	1.367	47.1	20.7	93 E	29* 79*	9 8	6 6.59	+34 29						

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°
467963 2012 JT₁₇										416597 2004 OS₄									
<i>(continuation)</i>										<i>(continuation)</i>									
12 17	5 49.07	+ 2 54.9	0.852	1.807	11.0	20.2	159 W	48	61	6 15	18 55.91	-28 0.5	0.805	1.796	10.6	19.5	161 W	17	88
12 27	5 34.59	+ 2 42.1	0.947	1.889	12.1	20.6	156 E	48	61	6 20	18 51.89	-27 48.5	0.780	1.784	7.7	19.3	166 W	17	88
1 6	5 24.12	+ 3 1.2	1.064	1.970	15.2	21.0	148 E	48	61	6 25	18 47.19	-27 33.6	0.760	1.772	4.7	19.1	172 W	17	88
1 16	5 17.90	+ 3 41.9	1.202	2.049	18.4	21.5	139 E	49	60	6 30	18 42.06	-27 15.4	0.745	1.760	2.5	18.9	176 W	18	89
348073 2003 WN₂₂										422665 1999 TT₃₉									
4 21	18 35.14	-14 49.4	2.017	2.572	21.2	21.3	112 W	30*	79	4 21	18 38.86	-28 28.2	1.760	2.336	23.4	21.5	112 W	17*	88
5 1	18 38.87	-15 7.1	1.858	2.529	20.0	21.1	121 W	30	79	5 1	18 44.95	-29 29.0	1.618	2.303	22.1	21.2	121 W	16	87
5 11	18 40.08	-15 35.0	1.711	2.487	18.0	20.8	130 W	29	80	5 11	18 48.22	-30 40.8	1.487	2.269	20.1	20.9	130 W	14	85
5 21	18 38.45	-16 15.9	1.578	2.444	15.3	20.5	140 W	29	80	5 21	18 48.18	-32 4.0	1.370	2.234	17.3	20.6	139 W	13	84
5 31	18 33.77	-17 11.9	1.463	2.401	11.8	20.1	151 W	28	81	5 31	18 44.42	-33 36.6	1.269	2.200	13.9	20.3	149 W	11	82
6 10	18 26.14	-18 23.8	1.369	2.357	7.5	19.8	162 W	27	82	6 5	18 41.10	-34 24.8	1.227	2.182	12.0	20.2	154 W	11	82
6 20	18 15.99	-19 49.6	1.300	2.313	2.7	19.4	174 W	25	84	6 10	18 36.85	-35 13.1	1.189	2.165	10.1	20.0	158 W	10	81
6 25	18 10.25	-20 36.4	1.276	2.291	1.4	19.2	177 E	24	85	6 15	18 31.74	-36 0.2	1.158	2.147	8.3	19.9	162 W	9	80
6 30	18 4.29	-21 24.9	1.258	2.269	3.4	19.3	172 E	24	85	6 20	18 25.89	-36 44.8	1.132	2.130	7.0	19.7	165 W	8	79
7 5	17 58.30	-22 14.4	1.247	2.247	6.1	19.4	166 E	23	86	6 25	18 19.47	-37 25.6	1.112	2.112	6.7	19.7	166 W	8	79
7 10	17 52.46	-23 4.1	1.242	2.226	8.8	19.5	160 E	22	87	6 30	18 12.73	-38 1.3	1.098	2.095	7.5	19.7	164 E	7	78
7 15	17 46.97	-23 53.3	1.243	2.204	11.5	19.6	154 E	21	88	7 5	18 5.93	-38 31.3	1.090	2.078	9.2	19.7	161 E	6	77
7 20	17 42.00	-24 41.6	1.250	2.182	14.1	19.7	148 E	20	89	7 10	17 59.32	-38 55.0	1.088	2.060	11.4	19.8	156 E	6	77
7 25	17 37.73	-25 28.5	1.263	2.160	16.6	19.8	143 E	20	89	7 15	17 53.17	-39 12.4	1.091	2.043	13.7	19.8	151 E	6	77
7 30	17 34.29	-26 13.8	1.280	2.139	18.8	19.8	137 E	19	90	7 20	17 47.74	-39 23.7	1.099	2.026	16.1	19.9	146 E	6	77
8 9	17 30.23	-27 39.5	1.326	2.096	22.8	20.0	127 E	17	88	7 25	17 43.23	-39 29.5	1.112	2.008	18.4	20.0	141 E	6	77
8 19	17 30.24	-28 58.1	1.384	2.053	26.0	20.2	117 E	16	87	7 30	17 39.81	-39 30.8	1.129	1.991	20.6	20.1	136 E	5	76
8 29	17 34.38	-30 9.9	1.449	2.012	28.4	20.3	108 E	15*	86	8 4	17 37.57	-39 28.4	1.150	1.974	22.6	20.2	132 E	6	77
9 8	17 42.48	-31 14.4	1.519	1.971	30.2	20.4	101 E	14*	85	8 9	17 36.56	-39 23.0	1.173	1.958	24.5	20.2	127 E	6	77
9 18	17 54.22	-32 10.6	1.590	1.932	31.3	20.5	93 E	13*	83*	8 19	17 38.25	-39 5.8	1.227	1.925	27.6	20.4	118 E	6	77
9 28	18 9.31	-32 56.8	1.661	1.894	31.9	20.5	87 E	12*	79*	8 29	17 44.72	-38 43.0	1.288	1.893	30.0	20.5	110 E	6	77
10 8	18 27.37	-33 30.9	1.729	1.858	32.1	20.6	81 E	11*	74*	9 8	17 55.45	-38 15.5	1.353	1.861	31.8	20.7	103 E	7*	78
10 18	18 48.06	-33 50.6	1.794	1.823	32.0	20.6	76 E	11*	69*	9 18	18 9.90	-37 42.5	1.421	1.831	33.0	20.8	97 E	7*	78
10 28	19 11.02	-33 53.3	1.856	1.791	31.6	20.7	71 E	11*	64*	9 28	18 27.52	-37 2.0	1.489	1.803	33.8	20.9	91 E	8*	78*
11 7	19 35.85	-33 36.8	1.914	1.762	30.9	20.7	66 E	11*	60*	10 8	18 47.72	-36 11.3	1.556	1.776	34.1	20.9	85 E	9*	76*
11 17	20 2.16	-32 59.1	1.968	1.735	30.1	20.7	62 E	11*	56*	10 18	19 9.99	-35 7.8	1.622	1.751	34.1	21.0	80 E	10*	73*
11 27	20 29.55	-31 58.9	2.019	1.711	29.2	20.7	58 E	12*	51*	10 28	19 33.86	-33 49.4	1.687	1.728	33.8	21.0	75 E	11*	69*
12 7	20 57.62	-30 35.8	2.067	1.691	28.2	20.7	54 E	13*	47*	11 7	19 58.85	-32 14.4	1.751	1.708	33.3	21.1	71 E	13*	65*
12 17	21 26.03	-28 50.0	2.113	1.674	27.1	20.7	51 E	14*	43*	11 17	20 24.57	-30 21.8	1.813	1.689	32.5	21.1	67 E	14*	61*
12 27	21 54.47	-26 42.7	2.158	1.661	25.9	20.7	48 E	16*	39*	11 27	20 50.67	-28 11.5	1.874	1.674	31.7	21.1	63 E	17*	56*
1 6	22 22.71	-24 16.0	2.202	1.652	24.7	20.6	45 E	17*	36*	12 7	21 16.88	-25 44.4	1.935	1.661	30.6	21.2	59 E	19*	51*
1 16	22 50.59	-21 32.5	2.247	1.648	23.4	20.6	42 E	17*	32*	12 17	21 42.99	-23 1.7	1.995	1.652	29.4	21.2	56 E	21*	46*
247179 2001 DC₉										427624 2003 UN₈₁									
4 21	18 37.98	-51 24.3	2.408	2.927	18.7	21.5	111 W	-	65	4 21	18 39.94	-22 10.0	1.780	2.347	23.4	21.4	112 W	23*	86
4 26	18 39.11	-52 6.6	2.346	2.920	18.2	21.4	115 W	-	64	5 1	18 45.49	-22 31.3	1.637	2.315	22.1	21.2	120 W	22	87
5 1	18 39.29	-52 49.3	2.288	2.914	17.6	21.3	119 W	-	63	5 11	18 48.31	-23 0.4	1.505	2.283	20.0	20.9	129 W	22	87
5 6	18 38.47	-53 31.8	2.232	2.907	16.9	21.3	123 W	-	62	5 21	18 48.00	-23 38.9	1.385	2.250	17.1	20.6	139 W	21	88
5 11	18 36.59	-54 13.6	2.180	2.900	16.2	21.2	127 W	-	62	5 31	18 44.26	-24 27.0	1.282	2.217	13.4	20.2	150 W	21	88
5 16	18 33.60	-54 53.7	2.132	2.893	15.4	21.1	130 W	-	61	6 10	18 37.12	-25 23.1	1.199	2.184	8.8	19.9	161 W	20	89
5 21	18 29.46	-55 31.2	2.088	2.885	14.6	21.0	134 W	-	60	6 15	18 32.40	-25 53.0	1.166	2.167	6.3	19.7	167 W	19	90
5 26	18 24.19	-56 4.8	2.049	2.877	13.8	20.9	137 W	-	60	6 20	18 27.04	-26 23.1	1.139	2.150	3.7	19.5	172 W	19	90
5 31	18 17.85	-56 33.3	2.015	2.869	13.0	20.9	140 W	-	59	6 25	18 21.22	-26 52.7	1.118	2.133	1.8	19.3	176 W	18	89
6 5	18 10.58	-56 55.4	1.986	2.861	12.4	20.8	143 W	-	59	6 30	18 15.12	-27 21.1	1.103	2.117	3.1	19.4	174 E	18	89
6 10	18 2.54	-57 10.2	1.963	2.852	11.9	20.8	145 W	-	59	7 5	18 8.98	-27 47.8	1.095	2.100	5.8	19.5	168 E	17	88
6 15	17 53.96	-57 16.6	1.945	2.844	11.6	20.7	146 W	-	59	7 10	18 3.02	-28 12.1	1.092	2.083	8.6	19.6	162 E	17	88
6 20	17 45.10	-57 14.1	1.933	2.835	11.5	20.7	146 E	-	59	7 15	17 57.46	-28 33.9	1.095	2.066	11.4	19.7	156 E	16	87
6 25	17 36.28	-57 2.4	1.928	2.825	11.7	20.7	146 E	-	59	7 20	17 52.50	-28 53.2	1.103	2.049	14.2	19.8	150 E	16	87
6 30	17 27.80	-56 41.7	1.928	2.816	12.2	20.7	144 E	-	59	7 25	17 48.33	-29 10.0	1.116	2.033	16.7	19.9	145 E	16	87
7 5	17 19.93	-56 12.9	1.934	2.806	12.9	20.7	142 E	-	60	7 30	17 45.10	-29 24.7	1.134	2.016	19.2	20.0	139 E	16	87
7 10	17 12.89	-55 36.9	1.945	2.796	13.7	20.8	139 E	-	60	8 9	17 41.76	-29 48.6	1.180	1.983	23.4	20.2	129 E	15	86
7 15	17 6.82	-54 54.9	1.961	2.786	14.6	20.8	136 E	-	61	8 19	17 42.78	-30 7.2	1.238	1.950	26.8	20.3	120 E	15	86
7 20	17 1.85	-54 8.0	1.983	2.776	15.6	20.9	133 E	-	62										
7 25	16 58.04	-53 17.8	2.009	2.765	16.5	20.9	129 E	-	63										
7 30	16 55.39	-52 25.3	2.040	2.754	17.5	21.0	125 E	-	64										
8 4	16 53.87	-51 31.8	2.074	2.743	18.4	21.0	121 E	-	64										
8 9	16 53.42	-50 38.0	2.111	2.732	19.2	21.1	118 E	-	65										
8 14	16 53.99	-49 44.7	2.152	2.721	19.9	21.1	114 E	-	66										
8 19	16 55.51	-48 52.4	2.194	2.709	20.6	21.2	110 E	-	67										
8 24	16 57.91	-48 1.5	2.239	2.697	21.1	21.2	106 E	-	68										
8 29	17 1.11	-47 12.3	2.286	2.685	21.6	21.3	102 E	-	69										
9 3	17 5.05	-46 24.7	2.334	2.673	21.9	21.3	98 E	-	70										
9 8	17 9.65	-45 38.9	2.382	2.660	22.2	21.4	95 E	-	70*										

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°
427624 2003 UN₈₁										152754 1999 GS₆									
<i>(continuation)</i>										<i>(continuation)</i>									
8 29	17 48.10	-30 21.4	1.304	1.918	29.3	20.5	111 E	15	86	6 20	17 2.46	-26 24.6	0.769	1.775	7.0	20.2	168 E	19	90
9 8	17 57.37	-30 31.2	1.374	1.887	31.2	20.6	104 E	14*	85	6 25	16 50.87	-25 58.1	0.788	1.779	11.0	20.4	161 E	19	90
9 18	18 10.15	-30 35.0	1.446	1.857	32.5	20.7	97 E	14*	85	6 30	16 40.60	-25 29.7	0.813	1.782	14.7	20.6	154 E	20	89
9 28	18 26.00	-30 30.9	1.519	1.828	33.2	20.8	91 E	14*	83*	7 5	16 31.87	-25 1.1	0.844	1.783	18.2	20.8	147 E	20	89
10 8	18 44.45	-30 16.6	1.591	1.801	33.5	20.9	85 E	15*	78*	7 10	16 24.76	-24 34.0	0.879	1.784	21.3	21.0	140 E	20	89
10 18	19 5.07	-29 49.6	1.662	1.775	33.5	20.9	79 E	15*	73*	7 15	16 19.27	-24 9.5	0.917	1.783	24.0	21.2	134 E	21	88
10 28	19 27.47	-29 8.0	1.730	1.750	33.2	21.0	75 E	16*	68*	7 20	16 15.35	-23 48.4	0.960	1.781	26.5	21.4	129 E	21	88
11 7	19 51.24	-28 10.0	1.797	1.728	32.6	21.0	70 E	17*	63*	100017 1989 TN₂									
11 17	20 16.02	-26 54.5	1.861	1.708	31.8	21.1	66 E	18*	58*	4 21	18 54.01	-13 0.6	2.211	2.690	20.9	21.5	107 W	32*	77
11 27	20 41.51	-25 21.1	1.923	1.690	30.8	21.1	61 E	19*	53*	5 1	18 57.45	-12 18.1	2.064	2.666	19.8	21.3	116 W	33*	76
12 7	21 7.40	-23 30.0	1.983	1.675	29.8	21.1	58 E	21*	48*	5 11	18 58.44	-11 37.7	1.927	2.641	18.2	21.1	125 W	33	76
12 17	21 33.47	-21 22.0	2.042	1.663	28.5	21.1	54 E	22*	43*	5 21	18 56.77	-11 1.5	1.802	2.615	16.0	20.8	135 W	34	75
12 27	21 59.55	-18 58.7	2.099	1.653	27.2	21.1	50 E	23*	38*	5 31	18 52.32	-10 32.0	1.694	2.588	13.1	20.6	145 W	34	75
1 6	22 25.52	-16 22.1	2.155	1.647	25.8	21.1	47 E	24*	34*	6 10	18 45.28	-10 11.7	1.606	2.560	9.8	20.3	155 W	35	74
1 16	22 51.30	-13 34.4	2.211	1.644	24.3	21.1	44 E	25*	30*	6 20	18 36.09	-10 2.5	1.541	2.532	6.6	20.1	163 W	35	74
482228 2011 BH₁₀										100017 1989 TN₂									
4 21	18 42.96	-40 0.9	1.458	2.052	27.1	21.5	111 W	5*	76	4 21	18 54.01	-13 0.6	2.211	2.690	20.9	21.5	107 W	32*	77
4 26	18 46.21	-40 31.9	1.393	2.039	26.5	21.4	115 W	4*	75	5 1	18 57.45	-12 18.1	2.064	2.666	19.8	21.3	116 W	33*	76
5 1	18 48.50	-41 4.6	1.330	2.026	25.6	21.2	120 W	4	75	5 11	18 58.44	-11 37.7	1.927	2.641	18.2	21.1	125 W	33	76
5 6	18 49.72	-41 38.8	1.270	2.013	24.6	21.1	124 W	3	74	5 21	18 56.77	-11 1.5	1.802	2.615	16.0	20.8	135 W	34	75
5 11	18 49.76	-42 14.4	1.211	1.999	23.4	20.9	128 W	3	74	5 31	18 52.32	-10 32.0	1.694	2.588	13.1	20.6	145 W	34	75
5 16	18 48.48	-42 50.7	1.156	1.985	22.1	20.8	133 W	2	73	6 10	18 45.28	-10 11.7	1.606	2.560	9.8	20.3	155 W	35	74
5 21	18 45.76	-43 26.9	1.104	1.969	20.5	20.6	137 W	2	73	6 20	18 36.09	-10 2.5	1.541	2.532	6.6	20.1	163 W	35	74
5 26	18 41.50	-44 1.7	1.056	1.954	18.8	20.4	142 W	1	72	6 30	18 25.59	-10 6.0	1.503	2.503	5.4	19.9	167 E	35	74
5 31	18 35.64	-44 33.3	1.012	1.937	17.0	20.3	146 W	—	71	7 10	18 14.91	-10 22.2	1.490	2.473	7.7	20.0	161 E	35	74
6 5	18 28.21	-44 59.7	0.972	1.920	15.2	20.1	150 W	—	71	7 20	18 5.23	-10 50.1	1.503	2.443	11.6	20.1	151 E	34	75
6 10	18 19.31	-45 18.7	0.938	1.903	13.5	19.9	154 W	—	71	7 30	17 57.60	-11 27.6	1.538	2.411	15.4	20.3	141 E	34	75
6 15	18 9.11	-45 27.8	0.908	1.885	12.3	19.8	157 W	—	71	8 9	17 52.75	-12 12.1	1.591	2.379	18.9	20.5	131 E	33	76
6 20	17 57.96	-45 24.9	0.885	1.866	11.8	19.7	158 W	—	71	8 19	17 51.02	-13 0.7	1.659	2.347	21.7	20.6	121 E	32	77
6 25	17 46.31	-45 8.5	0.867	1.847	12.2	19.7	157 E	—	71	8 29	17 52.50	-13 50.9	1.738	2.314	23.9	20.7	112 E	31	78
6 30	17 34.69	-44 38.3	0.854	1.827	13.6	19.6	155 E	—	71	9 8	17 57.04	-14 40.2	1.823	2.280	25.4	20.9	104 E	30*	79
7 5	17 23.60	-43 54.9	0.847	1.807	15.6	19.7	151 E	1	72	9 18	18 4.41	-15 26.4	1.911	2.246	26.4	21.0	96 E	29*	79*
7 10	17 13.50	-43 0.1	0.846	1.786	18.1	19.7	147 E	2	73	9 28	18 14.34	-16 7.6	2.000	2.212	26.9	21.0	88 E	28*	77*
7 15	17 4.73	-41 56.2	0.849	1.764	20.8	19.8	142 E	3	74	10 8	18 26.54	-16 42.0	2.087	2.177	27.0	21.1	82 E	28*	72*
7 20	16 57.54	-40 45.9	0.856	1.742	23.5	19.9	137 E	4	75	10 18	18 40.76	-17 7.9	2.171	2.143	26.7	21.1	75 E	27*	66*
7 25	16 52.07	-39 32.2	0.867	1.720	26.1	20.0	132 E	5	76	10 28	18 56.75	-17 24.0	2.250	2.108	26.1	21.2	69 E	26*	59*
7 30	16 48.34	-38 17.3	0.882	1.697	28.6	20.0	127 E	6	78	11 7	19 14.27	-17 29.0	2.323	2.073	25.2	21.2	63 E	26*	53*
8 4	16 46.31	-37 3.4	0.898	1.673	31.0	20.1	122 E	7	79	11 17	19 33.13	-17 21.9	2.390	2.038	24.2	21.2	58 E	25*	47*
8 9	16 45.86	-35 51.7	0.917	1.649	33.1	20.2	117 E	8*	80	11 27	19 53.14	-17 1.7	2.450	2.003	22.9	21.1	52 E	25*	40*
8 14	16 46.90	-34 43.1	0.937	1.625	35.1	20.3	113 E	10*	81	12 7	20 14.11	-16 28.0	2.503	1.969	21.5	21.1	47 E	24*	34*
8 19	16 49.31	-33 38.0	0.959	1.600	36.9	20.3	109 E	11*	82	12 17	20 35.89	-15 40.5	2.548	1.936	20.0	21.1	42 E	23*	28*
8 24	16 52.99	-32 36.4	0.980	1.574	38.4	20.4	104 E	12*	83	12 27	20 58.34	-14 39.1	2.586	1.903	18.3	21.0	37 E	22*	23*
8 29	16 57.81	-31 38.3	1.002	1.549	39.9	20.4	101 E	13*	84	1 6	21 21.33	-13 24.3	2.617	1.871	16.6	20.9	33 E	20*	18*
9 3	17 3.68	-30 43.1	1.023	1.522	41.1	20.5	97 E	13*	85	1 16	21 44.78	-11 56.5	2.641	1.840	14.9	20.9	29 E	18*	14*
9 8	17 10.48	-29 50.4	1.043	1.496	42.2	20.5	94 E	14*	85*	496457 2014 QN₂₉₇									
9 13	17 18.16	-28 59.4	1.063	1.469	43.2	20.5	90 E	15*	84*	4 21	18 54.47	-26 43.2	1.140	1.746	33.0	21.5	109 W	18*	89
9 18	17 26.64	-28 9.5	1.081	1.442	44.1	20.6	87 E	16*	81*	5 1	19 10.70	-26 10.5	1.033	1.720	32.1	21.2	115 W	19*	90
9 23	17 35.86	-27 20.1	1.098	1.415	44.9	20.6	84 E	16*	78*	5 11	19 24.60	-25 30.9	0.934	1.696	30.6	20.9	121 W	19*	90
9 28	17 45.77	-26 30.5	1.114	1.388	45.6	20.6	82 E	17*	76*	5 21	19 35.62	-24 46.5	0.844	1.673	28.3	20.6	128 W	20	89
10 3	17 56.30	-25 39.8	1.127	1.360	46.3	20.6	79 E	18*	73*	5 31	19 43.17	-23 59.1	0.764	1.652	25.1	20.3	136 W	21	88
10 8	18 7.40	-24 47.6	1.139	1.333	46.9	20.6	77 E	19*	71*	6 10	19 46.83	-23 10.0	0.695	1.634	21.0	19.9	145 W	22	87
10 13	18 19.06	-23 53.0	1.149	1.305	47.4	20.6	75 E	20*	68*	6 20	19 46.31	-22 20.0	0.640	1.617	15.8	19.5	154 W	23	86
10 18	18 31.22	-22 55.4	1.157	1.278	48.0	20.6	72 E	21*	66*	6 30	19 41.92	-21 29.2	0.600	1.603	9.6	19.1	165 W	24	85
10 23	18 43.87	-21 54.4	1.163	1.252	48.5	20.5	70 E	22*	63*	7 5	19 38.60	-21 3.4	0.586	1.597	6.2	18.9	170 W	24	85
10 28	18 56.97	-20 49.2	1.166	1.225	49.0	20.5	69 E	23*	61*	7 10	19 34.79	-20 37.3	0.576	1.592	2.7	18.7	176 W	24	85
11 2	19 10.48	-19 39.5	1.168	1.199	49.5	20.5	67 E	24*	58*	7 15	19 30.75	-20 11.2	0.571	1.587	1.4	18.6	178 E	25	84
11 7	19 24.38	-18 24.6	1.168	1.174	50.1	20.4	65 E	25*	56*	7 20	19 26.73	-19 45.2	0.570	1.583	4.8	18.8	173 E	25	84
11 17	19 53.32	-15 38.3	1.161	1.127	51.2	20.4	63 E	28*	50*	7 25	19 23.04	-19 19.7	0.574	1.580	8.3	19.0	167 E	26	83
11 27	20 23.71	-12 27.7	1.147	1.084	52.4	20.3	61 E	31*	45*	7 30	19 19.95	-18 54.9	0.582	1.578	11.7	19.1	162 E	26	83
12 7	20 55.49	-8 51.9	1.126	1.048	53.7	20.2	59 E	34*	40*	8 4	19 17.66	-18 31.0	0.593	1.576	15.0	19.3	156 E	26	83
12 17	21 28.79	-4 51.6	1.102	1.020	55.1	20.2	58 E	38*	36*	8 9	19 16.31	-18 8.3	0.609	1.575	18.0	19.4	151 E	27	82
12 27	22 3.82	-0 29.6	1.075	1.002	56.4	20.1	58 E	41*	32*	8 19	19 16.78	-17 26.6	0.650	1.575	23.4	19.8</			

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°	
267136 2000 EF₁₀₄ (continuation)									423829 2006 ME₁₀									
6 26	19 0.99	-43 46.8	0.361	1.358	16.4	18.2	158 W	1	4 21	19 53.81	-25 29.5	1.388	1.790	34.0	21.4	96 W	17*	89*
6 28	18 54.02	-45 5.0	0.351	1.348	16.7	18.2	158 W	71	5 1	20 13.52	-24 3.1	1.274	1.763	34.2	21.2	101 W	19*	88
6 30	18 46.24	-46 23.5	0.342	1.337	17.5	18.1	157 W	70	5 11	20 31.59	-22 24.7	1.165	1.737	34.0	20.9	106 W	21*	86
7 2	18 37.62	-47 41.3	0.333	1.327	18.7	18.1	155 E	68	5 21	20 47.71	-20 35.8	1.063	1.714	33.4	20.7	111 W	23*	85
7 4	18 28.13	-48 57.6	0.325	1.316	20.2	18.1	153 E	67	5 31	21 1.44	-18 38.3	0.968	1.693	32.1	20.4	117 W	26*	83
7 6	18 17.76	-50 11.2	0.318	1.305	22.0	18.1	151 E	66	6 10	21 12.39	-16 34.2	0.882	1.675	30.3	20.2	124 W	28*	81
7 8	18 6.52	-51 21.2	0.312	1.293	24.1	18.1	149 E	65	6 20	21 20.07	-14 26.1	0.805	1.659	27.6	19.9	131 W	31	78
7 10	17 54.44	-52 26.5	0.307	1.282	26.4	18.1	146 E	64	6 30	21 24.04	-12 17.3	0.739	1.646	24.0	19.5	139 W	33	76
7 12	17 41.59	-53 25.9	0.302	1.270	28.9	18.1	143 E	63	7 10	21 24.11	-10 12.0	0.685	1.636	19.5	19.2	147 W	35	74
7 14	17 28.06	-54 18.7	0.298	1.258	31.5	18.1	140 E	62	7 15	21 22.70	-9 12.2	0.664	1.632	17.0	19.1	152 W	36	73
7 16	17 13.98	-55 4.1	0.295	1.246	34.2	18.1	136 E	61	7 20	21 20.40	-8 15.5	0.646	1.629	14.4	18.9	157 W	37	72
7 18	16 59.51	-55 41.5	0.292	1.234	37.0	18.2	133 E	60	7 25	21 17.34	-7 22.6	0.633	1.627	11.7	18.8	161 W	38	71
7 20	16 44.83	-56 10.8	0.290	1.222	39.7	18.2	130 E	60	7 30	21 13.71	-6 34.2	0.624	1.626	9.2	18.6	165 W	38	71
7 22	16 30.14	-56 32.0	0.288	1.209	42.6	18.3	126 E	59	8 4	21 9.72	-5 50.8	0.619	1.625	7.3	18.5	168 W	39	70
7 24	16 15.59	-56 45.5	0.287	1.197	45.4	18.3	123 E	59	8 9	21 5.61	-5 12.8	0.619	1.626	6.8	18.5	169 E	40	69
7 26	16 1.37	-56 51.7	0.286	1.184	48.2	18.4	120 E	59	8 19	20 57.97	-4 14.2	0.632	1.629	10.0	18.7	164 E	41	68
7 28	15 47.58	-56 51.2	0.286	1.171	51.0	18.4	116 E	59	8 29	20 52.65	-3 36.4	0.663	1.635	15.1	19.0	155 E	41	68
7 30	15 34.32	-56 45.0	0.286	1.158	53.8	18.5	113 E	59	9 8	20 50.86	-3 13.9	0.710	1.645	20.0	19.3	146 E	42	67
8 1	15 21.66	-56 33.6	0.286	1.144	56.5	18.5	110 E	59	9 13	20 51.43	-3 6.3	0.738	1.651	22.2	19.5	142 E	42	67
8 3	15 9.63	-56 17.9	0.286	1.131	59.2	18.6	107 E	60	9 18	20 53.00	-2 59.9	0.770	1.657	24.1	19.7	138 E	42	67
8 5	14 58.21	-55 58.5	0.286	1.117	62.0	18.6	104 E	60	9 23	20 55.54	-2 53.9	0.805	1.665	25.8	19.8	134 E	42	67
8 7	14 47.41	-55 35.9	0.286	1.103	64.7	18.7	101 E	60*	9 28	20 58.99	-2 47.5	0.843	1.673	27.4	20.0	130 E	42	67
8 9	14 37.18	-55 10.7	0.287	1.089	67.3	18.7	98 E	60*	10 8	21 8.34	-2 31.2	0.926	1.691	29.8	20.3	123 E	42	67
8 11	14 27.49	-54 43.2	0.287	1.075	70.0	18.8	95 E	60*	10 18	21 20.46	-2 7.5	1.018	1.711	31.5	20.5	116 E	43	66
8 13	14 18.27	-54 13.6	0.287	1.061	72.7	18.9	92 E	59*	10 28	21 34.80	-1 33.9	1.119	1.734	32.5	20.8	110 E	43	66
8 15	14 9.48	-53 42.3	0.287	1.047	75.4	18.9	89 E	58*	11 7	21 50.81	0 49.6	1.226	1.759	33.0	21.1	105 E	44	65
8 17	14 1.04	-53 9.2	0.287	1.032	78.1	19.0	86 E	58*	11 17	22 8.08	+0 5.5	1.340	1.786	33.1	21.3	99 E	45	63*
8 19	13 52.90	-52 34.3	0.287	1.018	80.8	19.0	83 E	57*	11 27	22 26.28	+1 11.1	1.460	1.815	32.9	21.5	94 E	46	59*
8 21	13 44.99	-51 57.5	0.286	1.003	83.6	19.1	80 E	57*	90147 2002 YK₁₄									
8 23	13 37.25	-51 18.5	0.286	0.988	86.4	19.2	77 E	57*	4 21	19 54.06	-39 38.2	1.254	1.711	35.6	21.4	98 W	3*	76*
8 25	13 29.62	-50 36.9	0.285	0.974	89.2	19.3	74 E	49*	4 26	20 2.28	-38 58.5	1.185	1.693	35.7	21.3	101 W	4*	77
8 27	13 22.04	-49 52.2	0.284	0.959	92.2	19.3	71 E	47*	5 1	20 9.85	-38 14.4	1.117	1.674	35.8	21.1	104 W	5*	78
8 29	13 14.49	-49 3.8	0.283	0.944	95.2	19.4	69 E	44*	5 6	20 16.71	-37 25.4	1.050	1.655	35.7	21.0	107 W	6*	79
8 31	13 6.91	-48 11.0	0.282	0.929	98.3	19.5	66 E	42*	5 11	20 22.81	-36 30.9	0.983	1.635	35.4	20.8	110 W	7*	79
9 2	12 59.31	-47 13.1	0.281	0.915	101.5	19.7	63 E	39*	5 16	20 28.04	-35 30.1	0.917	1.615	35.0	20.6	114 W	8*	81
9 4	12 51.67	-46 9.4	0.280	0.900	104.8	19.8	60 E	37*	5 21	20 32.29	-34 21.7	0.852	1.594	34.4	20.4	117 W	10*	82
9 6	12 43.99	-44 59.0	0.279	0.885	108.3	19.9	57 E	34*	5 26	20 35.44	-33 4.3	0.789	1.573	33.5	20.2	121 W	12*	83
9 8	12 36.30	-43 41.1	0.278	0.871	111.8	20.1	53 E	31*	5 31	20 37.35	-31 35.6	0.727	1.551	32.3	19.9	125 W	13*	84
9 10	12 28.64	-42 15.2	0.277	0.856	115.5	20.3	50 E	27*	6 5	20 37.87	-29 52.9	0.668	1.529	30.8	19.7	129 W	15*	86
9 12	12 21.06	-40 40.6	0.276	0.842	119.2	20.5	47 E	24*	6 10	20 36.83	-27 52.9	0.611	1.506	28.9	19.4	134 W	17	88
9 14	12 13.60	-38 57.0	0.276	0.828	123.0	20.8	44 E	21*	6 15	20 34.01	-25 31.1	0.557	1.483	26.6	19.1	139 W	19	90
9 16	12 6.34	-37 4.2	0.277	0.815	126.9	21.1	40 E	17*	6 20	20 29.18	-22 42.4	0.507	1.459	23.8	18.8	145 W	22	87
9 18	11 59.34	-35 2.5	0.278	0.801	130.8	21.4	37 E	13*	6 25	20 22.17	-19 20.8	0.461	1.435	20.5	18.4	150 W	26	83
89959 2002 NT₇									6 30	20 12.83	-15 20.6	0.420	1.411	17.0	18.1	156 W	30	79
4 21	19 51.84	+10 18.0	2.373	2.559	23.1	21.4	89 W	51*	7 5	20 1.13	-10 38.0	0.386	1.387	14.2	17.7	160 W	34	75
5 1	19 56.12	+11 23.5	2.227	2.537	23.3	21.3	96 W	54*	7 10	19 47.17	-5 13.9	0.359	1.362	13.7	17.5	162 W	40	69
5 11	19 58.10	+12 25.1	2.081	2.513	23.0	21.1	103 W	56*	7 12	19 41.01	-2 54.2	0.350	1.352	14.5	17.5	161 W	42	67
5 21	19 57.44	+13 18.4	1.937	2.486	22.3	20.9	111 W	58*	7 14	19 34.55	0 30.0	0.343	1.342	15.9	17.5	159 W	45	64
5 31	19 53.75	+13 57.4	1.800	2.457	21.2	20.7	119 W	59	7 16	19 27.84	+1 57.5	0.337	1.332	17.8	17.5	156 E	47	62
6 10	19 46.78	+14 14.3	1.674	2.426	19.5	20.4	127 W	59	7 18	19 20.92	+4 26.9	0.332	1.322	20.0	17.5	154 E	49	60
6 15	19 42.03	+14 11.8	1.616	2.410	18.5	20.3	131 W	59	7 20	19 13.83	+6 56.9	0.329	1.312	22.5	17.6	150 E	52	57
6 20	19 36.45	+14 0.2	1.562	2.392	17.5	20.2	135 W	59	7 22	19 6.63	+9 26.0	0.327	1.302	25.2	17.6	147 E	54	55
6 25	19 30.10	+13 38.4	1.514	2.375	16.4	20.1	139 W	59	7 24	18 59.37	+11 52.5	0.326	1.292	28.0	17.7	143 E	57	52
6 30	19 23.07	+13 5.5	1.470	2.356	15.4	19.9	142 W	58	7 26	18 52.11	+14 15.3	0.327	1.282	30.8	17.7	140 E	59	50
7 5	19 15.50	+12 20.6	1.433	2.337	14.6	19.8	145 W	57	7 28	18 44.89	+16 33.1	0.328	1.273	33.6	17.8	136 E	62	47
7 10	19 7.52	+11 23.5	1.402	2.317	14.1	19.8	146 E	56	7 30	18 37.78	+18 45.1	0.331	1.263	36.3	17.9	133 E	64	45
7 15	18 59.33	+10 14.2	1.378	2.297	14.0	19.7	147 E	55	8 4	18 20.71	+23 45.5	0.341	1.238	42.8	18.1	124 E	69	40
7 20	18 51.12	+8 53.4	1.361	2.276	14.4	19.7	146 E	54	8 9	18 5.07	+28 1.2	0.356	1.214	48.5	18.3	116 E	73	36
7 25	18 43.12	+7 22.1	1.351	2.255	15.3	19.7	144 E	52	8 14	17								

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°
90147 2002 YK₁₄										368282 2002 NH₇									
<i>(continuation)</i>										<i>(continuation)</i>									
11 9	16 14.74	+61 12.6	0.400	0.999	77.3	19.0	80 E	51*	—	9 23	21 2.20	-8 9.3	0.745	1.617	26.1	19.1	135 E	37	72
11 11	16 11.01	+61 59.7	0.390	1.002	77.0	18.9	80 E	50*	—	9 28	21 6.25	-8 35.6	0.772	1.617	27.9	19.2	131 E	36	73
11 13	16 6.90	+62 49.1	0.380	1.006	76.6	18.9	81 E	49*	—	10 8	21 17.06	-9 11.8	0.834	1.618	30.9	19.5	124 E	36	73
11 15	16 2.33	+63 41.4	0.370	1.010	76.2	18.8	83 E	48*	—	10 18	21 30.97	-9 24.7	0.906	1.624	33.1	19.7	117 E	36	73
11 17	15 57.20	+64 36.8	0.359	1.014	75.7	18.7	84 E	47*	—	10 28	21 47.38	-9 13.8	0.985	1.632	34.6	20.0	111 E	36	73
11 19	15 51.36	+65 35.9	0.348	1.019	75.0	18.7	85 E	46*	—	11 7	22 5.66	-8 40.2	1.072	1.644	35.5	20.2	106 E	36	73
11 21	15 44.63	+66 38.9	0.337	1.024	74.3	18.6	87 W	45*	—	11 17	22 25.27	-7 46.2	1.166	1.659	35.9	20.4	100 E	37	72*
11 23	15 36.77	+67 46.4	0.325	1.030	73.4	18.5	88 W	47*	—	11 27	22 45.82	-6 34.3	1.265	1.677	35.8	20.6	95 E	38	68*
11 25	15 27.41	+68 58.5	0.314	1.036	72.4	18.4	90 W	49*	—	12 7	23 6.94	-5 7.5	1.370	1.698	35.5	20.8	91 E	40	64*
11 27	15 16.06	+70 15.6	0.302	1.042	71.2	18.3	92 W	51*	—	12 17	23 28.42	-3 28.9	1.480	1.721	34.8	21.0	86 E	42	59*
11 28	15 9.42	+70 55.9	0.296	1.045	70.6	18.2	93 W	52*	—	12 27	23 50.11	-1 41.4	1.594	1.747	33.8	21.1	82 E	43	54*
11 29	15 2.00	+71 37.4	0.291	1.048	69.9	18.2	94 W	53*	—	1 6	0 11.87	+0 12.2	1.711	1.775	32.7	21.3	77 E	45	49*
11 30	14 53.63	+72 19.9	0.285	1.051	69.1	18.1	95 W	53*	—	1 16	0 33.67	+2 9.1	1.831	1.805	31.4	21.4	73 E	47*	44*
12 1	14 44.15	+73 3.2	0.279	1.054	68.3	18.0	96 W	54*	—	469696 2005 CO₆₂									
12 2	14 33.35	+73 47.1	0.273	1.058	67.4	18.0	98 W	55*	—	4 21	20 16.05	-45 35.9	2.611	2.878	20.4	21.5	95 W	—	70*
12 3	14 20.95	+74 31.1	0.267	1.061	66.5	17.9	99 W	55*	—	4 26	20 20.82	-45 46.4	2.532	2.860	20.4	21.4	99 W	—	70*
12 4	14 6.67	+75 14.6	0.262	1.065	65.5	17.8	100 W	56*	—	5 1	20 25.02	-45 58.6	2.453	2.842	20.3	21.3	102 W	—	70
12 5	13 50.13	+75 56.9	0.256	1.068	64.5	17.8	102 W	56*	—	5 6	20 28.59	-46 12.7	2.375	2.824	20.1	21.2	106 W	—	70
12 6	13 30.97	+76 36.6	0.251	1.072	63.3	17.7	104 W	57*	—	5 11	20 31.49	-46 28.6	2.299	2.806	19.8	21.1	110 W	—	70
12 7	13 8.80	+77 12.4	0.245	1.076	62.1	17.6	105 W	57*	—	5 16	20 33.64	-46 46.4	2.224	2.788	19.4	21.0	114 W	—	69
12 8	12 43.35	+77 42.2	0.240	1.079	60.8	17.5	107 W	57*	—	5 21	20 34.98	-47 5.8	2.151	2.769	18.9	20.9	118 W	—	69
12 9	12 14.59	+78 3.6	0.235	1.083	59.4	17.5	109 W	57*	—	5 26	20 35.43	-47 26.6	2.082	2.751	18.3	20.8	122 W	—	69
12 10	11 42.86	+78 14.0	0.229	1.087	58.0	17.4	111 W	57*	—	5 31	20 34.93	-47 48.4	2.015	2.732	17.6	20.7	126 W	—	68
12 11	11 9.02	+78 10.7	0.225	1.091	56.4	17.3	113 W	57*	—	6 5	20 33.43	-48 10.6	1.951	2.713	16.7	20.6	130 W	—	68
12 12	10 34.40	+77 51.4	0.220	1.095	54.7	17.2	115 W	57*	—	6 10	20 30.86	-48 32.3	1.891	2.694	15.8	20.5	134 W	—	67
12 13	10 5.53	+77 15.0	0.215	1.099	53.0	17.1	117 W	58*	—	6 15	20 27.19	-48 52.7	1.835	2.674	14.9	20.4	138 W	—	67
12 14	9 28.74	+76 21.2	0.211	1.103	51.1	17.0	119 W	59*	—	6 20	20 22.41	-49 10.5	1.784	2.655	13.8	20.3	141 W	—	67
12 15	8 59.94	+75 10.6	0.207	1.107	49.2	16.9	122 W	60*	—	6 25	20 16.55	-49 24.5	1.738	2.635	12.8	20.2	145 W	—	67
12 16	8 34.51	+73 44.5	0.203	1.111	47.1	16.9	124 W	61*	—	6 30	20 9.69	-49 33.0	1.697	2.615	11.9	20.1	148 W	—	66
12 17	8 12.40	+72 4.5	0.200	1.116	45.0	16.8	127 W	63*	—	7 5	20 1.99	-49 34.8	1.662	2.595	11.2	20.0	150 W	—	66
12 18	7 53.37	+70 12.1	0.197	1.120	42.7	16.7	129 W	65*	—	7 10	19 53.63	-49 28.6	1.634	2.575	10.7	19.9	152 W	—	67
12 19	7 37.04	+68 8.9	0.195	1.124	40.4	16.6	132 W	67*	—	7 15	19 44.84	-49 13.3	1.611	2.555	10.7	19.8	152 W	—	67
12 20	7 23.02	+65 56.3	0.192	1.128	38.0	16.5	135 W	69*	—	7 20	19 35.91	-48 48.4	1.594	2.534	11.0	19.8	152 E	—	67
12 21	7 10.95	+63 35.6	0.191	1.133	35.5	16.4	138 W	71*	—	7 25	19 27.14	-48 13.7	1.584	2.514	11.8	19.8	150 E	—	68
12 22	7 0.52	+61 8.3	0.189	1.137	33.0	16.4	141 W	74	3	7 30	19 18.82	-47 29.5	1.580	2.493	12.9	19.8	147 E	—	69
12 23	6 51.47	+58 35.6	0.189	1.142	30.5	16.3	144 W	76	5	8 4	19 11.21	-46 36.8	1.583	2.472	14.2	19.9	143 E	—	69
12 24	6 43.58	+55 58.8	0.188	1.146	28.0	16.2	147 W	79	8	8 9	19 4.48	-45 36.7	1.590	2.451	15.6	19.9	139 E	—	70
12 25	6 36.67	+53 19.3	0.189	1.150	25.5	16.2	150 W	82	11	8 14	18 58.77	-44 30.7	1.604	2.430	17.1	20.0	135 E	—	71
12 26	6 30.59	+50 38.3	0.189	1.155	23.0	16.1	153 W	84	13	8 19	18 54.19	-43 20.0	1.622	2.409	18.5	20.0	131 E	—	72
12 27	6 25.22	+47 57.1	0.191	1.160	20.7	16.0	155 W	87	16	8 24	18 50.76	-42 6.2	1.645	2.388	19.9	20.1	126 E	—	74
12 28	6 20.46	+45 16.8	0.193	1.164	18.5	16.0	158 E	90	19	8 29	18 48.48	-40 50.6	1.672	2.367	21.2	20.1	122 E	—	75
12 29	6 16.22	+42 38.5	0.195	1.169	16.5	16.0	160 E	98	21	9 3	18 47.31	-39 34.1	1.702	2.345	22.4	20.2	118 E	—	76
12 30	6 12.45	+40 3.2	0.198	1.173	14.7	16.0	162 E	85	24	9 8	18 47.05	-38 17.6	1.735	2.324	23.5	20.2	113 E	—	78
12 31	6 9.07	+37 31.7	0.201	1.178	13.3	15.9	164 E	83	26	9 13	18 48.05	-37 1.7	1.771	2.302	24.4	20.3	109 E	—	8
1 1	6 6.04	+35 4.7	0.205	1.183	12.3	16.0	165 E	80	29	9 18	18 49.82	-35 46.8	1.808	2.281	25.2	20.3	105 E	—	9
1 2	6 3.33	+32 42.9	0.209	1.187	11.7	16.0	166 E	78	31	9 23	18 52.44	-34 33.0	1.848	2.259	25.9	20.4	101 E	—	10
1 3	6 0.89	+30 26.5	0.214	1.192	11.6	16.0	166 E	75	34	9 28	18 55.83	-33 20.5	1.888	2.238	26.4	20.4	97 E	—	12
1 4	5 58.70	+28 16.0	0.219	1.197	12.0	16.1	165 E	73	36	10 3	18 59.91	-32 9.2	1.929	2.216	26.8	20.5	93 E	—	13
1 5	5 56.74	+26 11.5	0.225	1.202	12.7	16.2	164 E	71	38	10 8	19 4.62	-30 59.1	1.970	2.195	27.1	20.5	89 E	—	14*
1 6	5 54.97	+24 13.1	0.231	1.206	13.6	16.3	163 E	69	40	10 18	19 15.70	-28 41.3	2.053	2.152	27.3	20.5	82 E	—	16*
1 8	5 51.97	+20 34.6	0.244	1.216	15.8	16.5	160 E	66	43	10 28	19 28.67	-26 25.3	2.133	2.109	27.1	20.6	75 E	—	18*
1 10	5 49.58	+17 19.6	0.259	1.226	18.2	16.7	157 E	62	47	11 7	19 43.17	-24 8.9	2.209	2.067	26.5	20.6	69 E	—	20*
1 12	5 47.72	+14 26.6	0.274	1.236	20.6	17.0	154 E	59	50	11 17	19 58.92	-21 50.0	2.280	2.025	25.7	20.6	63 E	—	22*
1 14	5 46.30	+11 53.9	0.291	1.245	22.8	17.2	151 E	57	52	11 27	20 15.71	-19 26.8	2.344	1.985	24.6	20.6	57 E	—	24*
1 16	5 45.28	+9 39.3	0.308	1.255	24.8	17.4	148 E	55	54	12 7	20 33.34	-16 57.7	2.401	1.945	23.3	20.5	51 E	—	25*
368282 2002 NH₇										329342 2001 OL₁₀₀									
4 21	19 57.81	-14 44.1	1.655	1.974	30.6	21.4	93 W	27*	79*	4 21	20 32.10	-16 57.3	1.684	1.883	32.1	21.4	85 W	22*	77*
5 1	20 14.01	-13 16.7	1.521	1.938	31.0	21.2	98 W	29*	77	5 1	20 52.73	-15 52.6	1.557	1.849	33.0	21.2	90 W	23*	79*
5 11	20 29.00	-11 43.3	1.392	1.903	31.0	20.9	104 W	31*	76	5 11	21 12.80	-14 44.8	1.434	1.816	33.7	21.0	94 W	25*	79
5 21	20 42.55	-10 6.0	1.269	1.870	30.7	20.7	110 W	33*	74	5 21	21 32.20	-13 36.3	1.317	1.784	34.1	20.8	99 W	27*	78
5 31	20 54.35	-8 27.6	1.153	1.837	29.8	20.4	116 W	36*	72	6 10	22 8.24	-11 30.1	1.101	1.728	33.1	20.5	104 W	29*	77
6 10	21 4.11	-6 51.4	1.046	1.806	28.3	20.1	122 W	38*	71	6 20	22 24.43	-10 39.6	1.004	1.703	32.8	20.0</			

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°	
329342 2001 OL₁₀₀									167671 2004 FR₄									
<i>(continuation)</i>									<i>(continuation)</i>									
9 13	23 3.80	-15 31.9	0.626	1.623	7.9	18.1	167 E	29 80	9 28	19 40.86	-24 23.1	1.172	1.760	32.8	20.5	108 E	21 88	
9 18	23 2.03	-15 53.9	0.639	1.627	10.5	18.3	163 E	29 80	10 3	19 44.25	-22 53.1	1.216	1.750	33.7	20.5	104 E	22 87	
9 23	23 0.70	-16 7.8	0.656	1.631	13.3	18.4	158 E	29 80	10 8	19 48.45	-21 26.1	1.260	1.741	34.4	20.6	100 E	24 85	
9 28	22 59.97	-16 13.2	0.678	1.636	15.9	18.6	153 E	29 80	10 13	19 53.37	-20 1.7	1.304	1.732	34.9	20.7	97 E	25 84*	
10 8	23 0.65	-15 58.3	0.732	1.650	20.7	18.9	144 E	29 80	10 18	19 58.94	-18 39.6	1.349	1.722	35.3	20.8	93 E	26 81*	
10 18	23 4.45	-15 12.3	0.800	1.666	24.6	19.3	136 E	30 79	10 23	20 5.09	-17 19.1	1.394	1.713	35.5	20.8	90 E	28 78*	
10 28	23 11.32	-13 59.9	0.880	1.686	27.6	19.6	128 E	31 78	10 28	20 11.75	-16 0.0	1.439	1.703	35.6	20.9	87 E	29 74*	
11 2	23 15.78	-13 15.5	0.925	1.697	28.8	19.7	125 E	32 77	11 2	20 18.86	-14 41.7	1.483	1.693	35.6	21.0	84 E	30 70*	
11 7	23 20.83	-12 26.6	0.971	1.709	29.8	19.9	121 E	33 76	11 7	20 26.37	-13 23.9	1.526	1.683	35.5	21.0	81 E	32 67*	
11 12	23 26.43	-11 33.9	1.021	1.721	30.6	20.0	118 E	33 76	11 12	20 34.25	-12 6.2	1.568	1.674	35.4	21.0	78 E	33 63*	
11 17	23 32.51	-10 37.7	1.072	1.734	31.3	20.2	114 E	34 75	11 17	20 42.47	-10 48.3	1.610	1.664	35.1	21.1	75 E	34* 59*	
11 27	23 45.94	-8 37.1	1.182	1.762	32.1	20.5	108 E	36 73	11 22	20 51.01	-9 29.8	1.650	1.654	34.8	21.1	73 E	35* 55*	
12 7	0 0.69	-6 28.5	1.299	1.791	32.5	20.7	102 E	39 70*	11 27	20 59.82	-8 10.7	1.688	1.644	34.4	21.1	70 E	37* 51*	
12 17	0 16.48	-4 14.9	1.422	1.823	32.4	20.9	97 E	41 66*	12 2	21 8.89	-6 50.5	1.726	1.634	34.0	21.2	68 E	38* 47*	
12 27	0 33.08	-1 58.6	1.551	1.857	32.0	21.2	91 E	43 61*	12 7	21 18.20	-5 29.3	1.762	1.624	33.5	21.2	66 E	39* 44*	
1	6	0 50.30	+ 0 18.0	1.684	1.891	31.2	21.4	86 E	45 55*	12 12	21 27.74	-4 6.7	1.796	1.615	33.0	21.2	63 E	40* 40*
145857 1999 EY₂									301910 1998 YM₈									
4 21	20 44.64	-3 23.9	3.104	3.071	18.7	21.5	79 W	33* 64*	4 21	21 2.01	-39 52.6	3.349	3.416	17.0	21.5	85 W	- 70*	
5 1	20 52.02	-2 37.4	2.944	3.048	19.3	21.3	86 W	36* 66*	5 1	21 9.72	-39 56.4	3.185	3.389	17.3	21.4	93 W	- 74*	
5 11	20 58.02	-1 54.4	2.782	3.024	19.5	21.2	94 W	38* 66	5 11	21 15.62	-40 8.6	3.021	3.360	17.2	21.2	101 W	1* 76	
5 21	21 2.44	-1 17.1	2.620	2.999	19.3	21.1	102 W	41* 65	5 21	21 19.43	-40 29.5	2.862	3.331	16.7	21.1	109 W	2* 76	
5 31	21 5.07	0 48.2	2.463	2.974	18.6	20.9	110 W	43* 65	5 31	21 20.80	-40 58.8	2.709	3.300	15.8	20.9	117 W	3* 75	
6 10	21 5.69	0 30.6	2.313	2.947	17.5	20.7	119 W	44* 65	6 10	21 19.43	-41 35.0	2.568	3.269	14.5	20.7	126 W	3* 74	
6 20	21 4.13	0 27.3	2.173	2.919	15.8	20.5	129 W	45* 64	6 20	21 15.02	-42 14.8	2.441	3.238	12.9	20.5	135 W	3 74	
6 30	21 0.30	0 41.8	2.049	2.890	13.5	20.2	139 W	44 65	6 30	21 7.45	-42 53.1	2.333	3.205	11.0	20.4	143 W	2 73	
7 10	20 54.29	-1 16.4	1.944	2.860	10.7	20.0	149 W	44 65	7 5	21 2.52	-43 9.7	2.287	3.188	10.0	20.3	147 W	2 73	
7 20	20 46.38	-2 12.6	1.861	2.830	7.7	19.8	158 W	43 66	7 10	20 56.89	-43 23.2	2.247	3.172	9.1	20.2	151 W	2 73	
7 30	20 37.18	-3 29.5	1.805	2.798	5.4	19.6	165 E	42 67	7 15	20 50.66	-43 32.8	2.213	3.155	8.3	20.1	153 W	1 72	
8 9	20 27.52	-5 3.3	1.777	2.765	5.8	19.5	164 E	40 69	7 20	20 43.93	-43 37.5	2.186	3.137	7.8	20.0	155 W	1 72	
8 14	20 22.82	-5 54.7	1.773	2.748	7.1	19.6	160 E	39 70	7 25	20 36.86	-43 36.6	2.166	3.120	7.7	20.0	156 W	1 72	
8 19	20 18.37	-6 48.0	1.777	2.732	8.7	19.6	156 E	38 71	7 30	20 29.62	-43 29.6	2.153	3.102	8.0	20.0	155 E	2 73	
8 24	20 14.28	-7 42.3	1.787	2.714	10.5	19.7	151 E	37 72	8 4	20 22.39	-43 16.0	2.146	3.085	8.6	20.0	153 E	2 73	
8 29	20 10.67	-8 36.7	1.803	2.697	12.3	19.8	145 E	36 73	8 9	20 15.35	-42 56.0	2.147	3.067	9.5	20.0	150 E	2 73	
9 3	20 7.62	-9 30.3	1.826	2.679	14.0	19.8	140 E	35 74	8 14	20 8.67	-42 29.8	2.153	3.048	10.6	20.1	146 E	3 74	
9 8	20 5.18	-10 22.4	1.853	2.661	15.6	19.9	135 E	35 74	8 19	20 2.50	-41 57.7	2.167	3.030	11.8	20.1	142 E	3 74	
9 18	20 2.34	-12 0.1	1.922	2.625	18.4	20.1	125 E	33 76	8 24	19 56.98	-41 20.6	2.186	3.011	13.1	20.2	138 E	4 75	
9 28	20 2.35	-13 26.3	2.004	2.588	20.6	20.2	115 E	32 77	8 29	19 52.20	-40 39.0	2.210	2.993	14.3	20.2	133 E	4 75	
10 8	20 5.17	-14 39.0	2.096	2.550	22.2	20.3	105 E	30 79	9 3	19 48.22	-39 53.8	2.240	2.974	15.4	20.3	128 E	5 76	
10 18	20 10.62	-15 37.6	2.193	2.511	23.2	20.4	97 E	29 79*	9 8	19 45.08	-39 5.9	2.274	2.954	16.5	20.3	124 E	6 77	
10 28	20 18.49	-16 21.8	2.291	2.471	23.7	20.5	88 E	29 76*	9 18	19 41.30	-37 24.2	2.353	2.916	18.3	20.4	114 E	8 79	
11 7	20 28.48	-16 51.9	2.388	2.431	23.7	20.5	81 E	28 69*	9 28	19 40.76	-35 38.6	2.443	2.876	19.6	20.5	105 E	9 80	
11 17	20 40.34	-17 8.1	2.480	2.389	23.3	20.6	73 E	28* 61*	10 8	19 43.14	-33 51.8	2.540	2.836	20.5	20.6	97 E	11 82	
11 27	20 53.83	-17 10.9	2.566	2.348	22.6	20.6	66 E	28* 54*	10 18	19 48.07	-32 5.1	2.641	2.795	20.9	20.7	88 E	13 81*	
12 7	21 8.70	-17 0.7	2.643	2.305	21.6	20.6	59 E	27* 47*	10 28	19 55.18	-30 18.8	2.740	2.753	20.8	20.7	80 E	15 74*	
12 17	21 24.79	-16 38.0	2.712	2.262	20.4	20.5	53 E	26* 40*	11 7	20 4.11	-28 32.3	2.836	2.711	20.4	20.7	73 E	16* 66*	
12 27	21 41.91	-16 3.4	2.769	2.219	18.9	20.5	47 E	25* 33*	11 17	20 14.55	-26 44.8	2.926	2.668	19.7	20.8	65 E	18* 58*	
1	6	21 59.94	-15 17.4	2.816	2.175	17.3	20.4	41 E	23* 28*	11 27	20 26.24	-24 55.3	3.008	2.624	18.6	20.7	58 E	19* 50*
1	16	22 18.76	-14 20.7	2.851	2.131	15.6	20.4	36 E	20* 23*	12 7	20 38.96	-23 2.7	3.080	2.580	17.3	20.7	51 E	20* 42*
167671 2004 FR₄									349366 2007 VB₂₇₇									
4 21	20 52.72	-43 30.6	1.696	1.943	31.1	21.4	88 W	- 69*	4 21	21 3.38	-19 58.9	1.983	2.038	28.9	21.4	79 W	16* 73*	
5 1	21 10.35	-43 17.6	1.591	1.939	31.2	21.3	94 W	- 71*	5 1	21 22.50	-19 20.4	1.846	2.006	30.0	21.2	84 W	17* 77*	
5 11	21 25.32	-43 10.2	1.486	1.934	31.0	21.1	100 W	- 73*	5 11	21 41.10	-18 44.0	1.712	1.975	30.8	21.1	89 W	18* 81*	
5 21	21 37.18	-43 11.5	1.382	1.928	30.3	20.9	106 W	- 73	5 21	21 59.07	-18 12.0	1.580	1.943	31.3	20.9	95 W	20* 82	
5 31	21 45.28	-43 23.2	1.281	1.921	29.0	20.7	113 W	- 73	5 31	22 16.25	-17 47.7	1.453	1.913	31.5	20.7	100 W	21* 82	
6 10	21 48.87	-43 45.3	1.184	1.913	27.2	20.5	121 W	- 72	6 10	22 32.51	-17 34.0	1.331	1.882	31.2	20.4	106 W	23* 82	
6 15	21 48.70	-43 59.5	1.138	1.908	26.0	20.4	125 W	1* 72	6 20	22 47.59	-17 34.6	1.215	1.853	30.6	20.2	112 W	25* 82	
6 20	21 47.03	-44 14.9	1.095	1.904	24.6	20.2	129 W	1* 72	6 30	23 1.18	-17 53.3	1.107	1.824	29.4	19.9	118 W	26* 82	
6 25	21 43.77	-44 30.3	1.054	1.899	23.1	20.1	133 W	- 71	7 10	23 12.89	-18 33.2	1.008	1.797	27.6	19.6	125 W	26* 83	
6 30	21 38.84	-44 43.9	1.017	1.893	21.4	20.0	137 W	- 71	7 20	23 22.23	-19 36.8	0.920	1.771	25.1	19.3	132 W	25 84	
7 5	21 32.22	-44 53.6	0.983	1.888	19.6	19.8	142 W	- 71	7 30	23 28.64	-21 4.1	0.844	1.747	22.0	19.0	140 W	24 85	
7 10	21 23.96	-44 57.1	0.953	1.882	17.8	19.7	146 W	- 71	8 4	23 30.60	-21 55.5	0.811	1.735	20.3	18.8	144 W	23 86	
7 15	21 14.19	-44 51.6	0.928	1.876	16.0	19.6	149 W	- 71	8 9	23 31.66	-22 50.8	0.781	1.724	18.5	18.7	147 W	22 87	
7 20	21 3.18	-44 34.5	0.908	1.870	14.5	19.5	153 W	- 71	8 14	23 31.80	-23 48.6	0.756	1.714	16.7	18.6	151 W	21 88	
7 25	20 51.34	-44 3.6	0.894	1.863	13.5	19.4	155 W	1 72	8 19	23 31.01	-24 47.1	0.735	1.703	15.0	18.4	154 W	20 89	
7 30	20 39.17	-43 17.5	0.885	1.856	13.2	19.4	155 W	2 73										

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°
349366 2007 VB₂₂₇ (continuation)									310458 2000 QA₁₈₀ (continuation)								
9 8	23 20.45	-28 0.2	0.693	1.669	13.4	18.2	157 W	17 88	9 3	20 18.85	-43 16.7	1.903	2.680	16.4	20.3	132 E	2 73
9 13	23 16.82	-28 26.7	0.693	1.662	14.7	18.2	155 E	17 88	9 8	20 14.81	-42 29.4	1.936	2.668	17.5	20.4	127 E	3 74
9 18	23 13.25	-28 41.1	0.698	1.655	16.4	18.3	152 E	16 87	9 13	20 11.75	-41 38.4	1.974	2.656	18.6	20.5	123 E	3 74
9 23	23 10.02	-28 42.4	0.707	1.649	18.4	18.4	149 E	16 87	9 18	20 9.65	-40 44.6	2.015	2.644	19.5	20.5	118 E	4 75
9 28	23 7.35	-28 30.6	0.719	1.644	20.4	18.5	145 E	16 87	9 23	20 8.50	-39 48.7	2.059	2.632	20.4	20.6	114 E	5 76
10 3	23 5.42	-28 6.3	0.735	1.640	22.5	18.6	141 E	17 88	9 28	20 8.26	-38 51.3	2.106	2.619	21.1	20.6	110 E	6 77
10 8	23 4.34	-27 30.3	0.755	1.636	24.5	18.7	137 E	17 88	10 3	20 8.87	-37 52.9	2.154	2.606	21.7	20.7	105 E	7 78
10 13	23 4.20	-26 43.6	0.777	1.633	26.3	18.8	133 E	18 89	10 8	20 10.25	-36 54.0	2.205	2.593	22.2	20.8	101 E	8 79
10 18	23 5.02	-25 47.5	0.802	1.630	28.0	18.9	130 E	19 90	10 13	20 12.37	-35 54.7	2.256	2.579	22.6	20.8	97 E	9 80
10 23	23 6.82	-24 43.0	0.830	1.629	29.6	19.0	126 E	20 89	10 18	20 15.15	-34 55.2	2.309	2.566	22.8	20.9	93 E	10 81*
10 28	23 9.55	-23 31.5	0.860	1.628	30.9	19.2	123 E	21 88	10 23	20 18.54	-33 55.5	2.361	2.552	22.9	20.9	89 E	11 81*
11 2	23 13.15	-22 14.1	0.893	1.628	32.1	19.3	119 E	23 86	10 28	20 22.49	-32 55.8	2.414	2.538	23.0	20.9	86 E	12 79*
11 7	23 17.54	-20 51.6	0.927	1.629	33.1	19.4	116 E	24 85	11 2	20 26.93	-31 55.9	2.466	2.523	22.9	21.0	82 E	13 76*
11 12	23 22.65	-19 25.1	0.963	1.630	33.9	19.5	113 E	26 83	11 7	20 31.81	-30 55.9	2.518	2.509	22.7	21.0	78 E	14 72*
11 17	23 28.43	-17 55.0	1.001	1.632	34.6	19.6	110 E	27 82	11 12	20 37.10	-29 55.6	2.569	2.494	22.5	21.0	75 E	15 68*
11 22	23 34.80	-16 22.2	1.041	1.635	35.2	19.7	107 E	29 80	11 17	20 42.76	-28 54.9	2.619	2.479	22.2	21.0	71 E	16 64*
11 27	23 41.69	-14 47.2	1.083	1.639	35.6	19.8	105 E	30 79	11 22	20 48.74	-27 53.8	2.667	2.464	21.7	21.0	68 E	17 61*
12 2	23 49.04	-13 10.6	1.125	1.643	35.9	19.9	102 E	32 77	11 27	20 55.01	-26 52.2	2.713	2.449	21.3	21.1	64 E	18 57*
12 7	23 56.79	-11 32.8	1.170	1.648	36.1	20.0	99 E	33 75*	12 2	21 1.54	-25 49.9	2.757	2.433	20.7	21.1	61 E	19 53*
12 17	0 13.35	-8 15.4	1.262	1.660	36.2	20.2	94 E	37 69*	12 7	21 8.31	-24 46.8	2.800	2.417	20.1	21.1	57 E	19 49*
12 27	0 31.08	-4 57.7	1.360	1.675	36.0	20.4	90 E	40 63*	12 12	21 15.28	-23 43.0	2.840	2.401	19.4	21.1	54 E	20 45*
1 6	0 49.75	-1 42.6	1.461	1.692	35.4	20.5	85 E	43 57*	12 17	21 22.44	-22 38.2	2.878	2.385	18.7	21.0	51 E	20 41*
1 16	1 9.20	+1 27.9	1.567	1.711	34.6	20.7	81 E	46 51*	12 22	21 29.77	-21 32.4	2.913	2.369	18.0	21.0	48 E	20 37*
380729 2005 RX₃₀									238453 2004 QF								
4 21	21 14.80	-14 53.3	2.400	2.341	24.4	21.5	75 W	20* 68*	4 21	21 20.40	+26 6.6	2.015	1.849	29.8	21.4	66 W	51* 34*
5 1	21 29.11	-13 19.1	2.246	2.304	25.5	21.3	80 W	22* 72*	5 1	21 39.77	+28 17.0	1.943	1.833	30.8	21.4	69 W	53* 34*
5 11	21 42.53	-11 41.3	2.091	2.267	26.4	21.2	87 W	25* 75*	5 11	21 58.34	+30 23.0	1.865	1.815	31.8	21.3	71 W	56* 33*
5 21	21 54.90	-10 1.0	1.938	2.229	27.0	21.0	93 W	28* 74	5 21	22 16.06	+32 22.9	1.782	1.798	32.8	21.2	74 W	58* 32*
5 31	22 6.04	-8 19.1	1.788	2.191	27.2	20.8	99 W	31* 72	5 31	22 32.81	+34 14.3	1.692	1.779	33.8	21.1	78 W	62* 30
6 10	22 15.72	-6 36.8	1.642	2.153	27.0	20.6	106 W	35* 71	6 10	22 48.44	+35 54.4	1.596	1.761	34.8	21.0	81 W	66* 28
6 20	22 23.68	-4 55.6	1.502	2.115	26.3	20.3	113 W	39* 69	6 20	23 2.78	+37 20.6	1.494	1.742	35.6	20.8	86 W	71* 27
6 30	22 29.55	-3 17.4	1.370	2.078	25.0	20.0	120 W	42* 67	6 30	23 15.51	+38 28.3	1.386	1.722	36.2	20.7	90 W	77* 26
7 10	22 32.98	-1 44.4	1.247	2.040	23.0	19.7	128 W	43 66	7 10	23 26.32	+39 11.7	1.272	1.703	36.5	20.5	96 W	82* 25
7 20	22 33.59	-0 19.6	1.137	2.004	20.3	19.4	137 W	45 64	7 15	23 30.86	+39 22.0	1.214	1.693	36.4	20.3	98 W	84* 25
7 30	22 31.10	+0 53.3	1.042	1.967	16.8	19.1	146 W	46 63	7 20	23 34.74	+39 22.8	1.155	1.684	36.3	20.2	102 W	84 25
8 9	22 25.53	+1 50.2	0.964	1.932	12.6	18.7	155 W	47 62	7 25	23 37.86	+39 12.4	1.095	1.674	35.9	20.1	105 W	84 25
8 19	22 17.31	+2 27.4	0.905	1.898	8.6	18.4	164 W	47 62	7 30	23 40.19	+38 48.5	1.035	1.664	35.3	19.9	109 W	84 25
8 29	22 7.52	+2 42.9	0.867	1.864	7.2	18.2	167 E	48 61	8 4	23 41.64	+38 8.6	0.976	1.655	34.5	19.8	112 W	83 26
9 8	21 57.77	+2 38.6	0.851	1.833	10.4	18.2	161 E	48 61	8 9	23 42.17	+37 9.5	0.917	1.646	33.4	19.6	117 W	82 27
9 13	21 53.45	+2 30.7	0.850	1.817	12.8	18.3	156 E	48 61	8 14	23 41.71	+35 47.5	0.860	1.636	31.8	19.4	122 W	81 28
9 18	21 49.78	+2 20.0	0.854	1.802	15.4	18.4	151 E	47 62	8 19	23 40.23	+33 57.7	0.804	1.627	29.9	19.2	127 W	79 30
9 23	21 46.92	+2 7.9	0.863	1.788	18.0	18.5	147 E	47 62	8 24	23 37.76	+31 35.2	0.752	1.618	27.4	18.9	133 W	77 32
9 28	21 45.02	+1 55.3	0.876	1.774	20.5	18.6	142 E	47 62	8 29	23 34.38	+28 34.8	0.704	1.609	24.3	18.7	139 W	74 35
10 3	21 44.14	+1 43.4	0.892	1.761	22.9	18.7	137 E	47 62	9 3	23 30.21	+24 52.3	0.661	1.600	20.6	18.4	146 W	70 39
10 8	21 44.33	+1 33.0	0.912	1.748	25.0	18.8	132 E	47 62	9 8	23 25.43	+20 25.4	0.625	1.591	16.4	18.2	153 W	65 44
10 13	21 45.58	+1 24.9	0.934	1.736	27.0	18.9	128 E	46 63	9 13	23 20.27	+15 15.8	0.598	1.583	12.0	17.9	161 E	60 49
10 18	21 47.90	+1 19.8	0.959	1.724	28.7	19.0	124 E	46 63	9 18	23 15.02	+9 30.8	0.580	1.575	8.4	17.7	167 E	55 54
10 28	21 55.56	+1 20.4	1.014	1.703	31.6	19.1	116 E	46 63	9 20	23 12.97	+7 5.8	0.576	1.572	7.8	17.6	168 E	52 57
11 7	22 6.83	+1 37.4	1.076	1.685	33.8	19.3	109 E	47 62	9 22	23 10.96	+4 38.4	0.573	1.568	8.0	17.6	167 E	50 59
11 17	22 21.18	+2 11.5	1.143	1.669	35.3	19.5	103 E	47 62	9 24	23 9.04	+2 9.7	0.573	1.565	8.8	17.7	166 E	47 62
11 27	22 38.12	+3 2.8	1.213	1.657	36.2	19.6	97 E	48 59*	9 26	23 7.21	-0 18.9	0.574	1.562	10.3	17.7	164 E	45 64
12 7	22 57.15	+4 9.9	1.286	1.648	36.7	19.7	92 E	49 55*	9 28	23 5.49	-2 46.3	0.577	1.559	12.0	17.8	161 E	42 67
12 17	23 17.89	+5 30.9	1.362	1.643	36.7	19.8	87 E	51 50*	9 30	23 3.89	-5 11.3	0.582	1.556	13.9	17.9	158 E	40 69
12 27	23 40.03	+7 3.6	1.441	1.641	36.5	20.0	83 E	52 46*	10 2	23 2.42	-7 33.0	0.588	1.553	15.9	18.0	155 E	37 72
1 6	0 3.27	+8 45.0	1.522	1.643	35.9	20.1	79 E	54* 41*	10 4	23 1.11	-9 50.3	0.596	1.550	17.9	18.1	152 E	35 74
1 16	0 27.43	+10 32.2	1.605	1.648	35.2	20.2	75 E	55* 37*	10 6	22 59.95	-12 2.6	0.605	1.547	19.9	18.2	148 E	33 76
310458 2000 QA₁₈₀									238453 2004 QF								
4 21	21 15.77	-39 0.5	2.860	2.904	20.1	21.5	82 W	- 68*	10 8	22 58.97	-14 9.2	0.616	1.545	21.8	18.2	145 E	31 78
5 1	21 26.64	-39 7.6	2.721	2.894	20.4	21.4	90 W	- 73*	10 13	22 57.27	-18 58.4	0.648	1.538	26.2	18.5	137 E	26 83
5 11	21 35.74	-39 24.6	2.582	2.883	20.4	21.3	97 W	- 76*	10 18	22 56.75	-23 6.7	0.688	1.531	29.9	18.7	130 E	22 87
5 21	21 42.78	-39 52.9	2.445	2.870	20.0	21.1	104 W	1* 76	10 23	22 57.45	-26 34.9	0.732	1.525	33.0	18.9	123 E	18 89
5 31	21 47.38	-40 33.2	2.314	2.857	19.2	21.0	112 W	2* 75	10 28	22 59.32	-29 26.7	0.780	1.519	35.5	19.1	117 E	16 87
6 10	21 49.17	-41 24.8	2.190	2.843	17.9	20.8	120 W	3* 75	11 2	23 2.32	-31 46.3	0.830	1.514	37.4	19.3	112 E	13 84
6 20	21 47.71	-42 25.6	2.078	2.827	16.3	20.6	129 W	2* 74	11 7	23 6.37	-33 38.2	0.882	1.509	38.9	19.5	107 E	11 82
6 30	21 42.64	-43 30.8	1.982	2.811	14.3	20.4	137 W	1 72	11 12	23 11.37	-35 6.						

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°
238453 2004 QF										261934 2006 MK₈									
<i>(continuation)</i>										<i>(continuation)</i>									
1 6	0 49.17	-36 32.7	1.431	1.485	39.4	20.5	73 E	8	67*	10 18	3 23.83	-33 30.7	0.729	1.564	29.5	18.6	129 W	11	82
1 11	1 0.54	-35 52.6	1.463	1.486	38.9	20.5	72 E	9	66*	10 23	3 20.81	-33 35.0	0.726	1.565	29.1	18.5	130 W	11	82
1 16	1 12.19	-35 7.2	1.493	1.488	38.5	20.6	70 E	10	64*	10 28	3 16.99	-33 21.5	0.725	1.567	28.7	18.5	131 W	12	83
368531 2003 WN₈₂										488645 2003 OV									
4 21	21 23.61	- 5 8.8	1.921	1.834	30.9	21.4	70 W	27*	60*	4 21	22 1.06	- 8 24.9	1.318	1.222	46.4	21.2	62 W	19*	55*
5 1	21 45.93	- 3 2.4	1.791	1.787	32.7	21.2	73 W	29*	62*	4 26	22 23.80	- 5 49.3	1.234	1.145	49.9	21.0	60 W	19*	53*
5 11	22 8.57	- 0 48.3	1.665	1.740	34.4	21.0	77 W	31*	62*	5 1	22 49.06	- 2 50.2	1.159	1.064	53.7	20.8	58 W	19*	51*
5 21	22 31.63	+ 1 31.9	1.543	1.694	36.1	20.9	80 W	33*	62*	5 6	23 17.20	+ 0 33.2	1.095	0.981	57.8	20.6	55 W	19*	47*
5 31	22 55.21	+ 3 55.9	1.426	1.650	37.6	20.7	83 W	36*	60*	5 11	23 48.58	+ 4 18.5	1.045	0.895	62.2	20.5	52 W	19*	43*
6 10	23 19.45	+ 6 20.8	1.316	1.607	39.1	20.5	86 W	40*	58	5 16	0 23.39	+ 8 19.2	1.014	0.806	66.4	20.3	47 W	18*	38*
6 20	23 44.49	+ 8 43.3	1.212	1.567	40.4	20.3	89 W	43*	55	5 21	1 1.62	+12 22.9	1.003	0.714	69.9	20.1	41 W	16*	32*
6 25	23 57.33	+ 9 52.3	1.162	1.548	41.1	20.2	90 W	46*	54	5 23	1 17.82	+13 57.7	1.005	0.676	71.0	20.0	39 W	16*	30*
6 30	0 10.40	+10 58.9	1.115	1.529	41.6	20.1	92 W	48*	53	5 25	1 34.50	+15 29.1	1.011	0.638	71.8	20.0	37 W	15*	27*
7 5	0 23.71	+12 2.5	1.069	1.512	42.2	20.0	93 W	50*	52	5 27	1 51.62	+16 56.1	1.021	0.600	72.1	19.9	34 W	14*	25*
7 10	0 37.26	+13 2.5	1.025	1.495	42.7	19.9	94 W	52*	51	5 29	2 9.16	+18 17.5	1.035	0.562	72.0	19.7	32 W	13*	23*
7 15	0 51.05	+13 58.0	0.983	1.479	43.2	19.8	95 W	54*	50	5 31	2 27.10	+19 32.3	1.053	0.525	71.2	19.6	29 W	12*	20*
7 20	1 5.05	+14 48.2	0.942	1.465	43.6	19.7	97 W	56*	49	6 5	3 13.60	+22 5.2	1.114	0.434	65.5	19.1	23 W	9*	14*
7 25	1 19.23	+15 32.2	0.904	1.451	43.9	19.6	98 W	58*	48	6 10	4 2.57	+23 40.3	1.195	0.360	52.2	18.5	16 W	5*	8*
7 30	1 33.56	+16 9.2	0.867	1.438	44.1	19.5	99 W	59*	48	6 15	4 53.82	+24 8.6	1.282	0.324	30.3	17.8	9 W	—	—
8 4	1 48.00	+16 38.3	0.832	1.427	44.3	19.4	101 W	60*	47	6 20	5 44.80	+23 29.1	1.358	0.345	6.9	17.3	2 W	—	—
8 9	2 2.47	+16 58.8	0.799	1.417	44.4	19.3	102 W	61*	47	6 22	6 4.19	+22 57.6	1.383	0.367	1.4	17.1	1 E	—	—
8 14	2 16.91	+17 9.9	0.768	1.408	44.3	19.2	104 W	62*	47	6 24	6 22.73	+22 19.3	1.407	0.395	7.2	17.7	3 E	—	—
8 19	2 31.19	+17 11.0	0.738	1.401	44.2	19.1	105 W	62*	47	6 26	6 40.36	+21 35.7	1.430	0.427	12.1	18.1	5 E	—	—
8 24	2 45.22	+17 1.4	0.711	1.395	43.9	19.0	107 W	62	47	6 28	6 57.05	+20 48.1	1.453	0.461	15.8	18.4	7 E	—	1*
8 29	2 58.87	+16 40.8	0.685	1.390	43.5	18.9	109 W	62	47	6 30	7 12.85	+19 57.5	1.476	0.498	18.7	18.7	9 E	—	3*
9 3	3 12.03	+16 9.2	0.661	1.387	42.9	18.8	111 W	61	48	7 2	7 27.80	+19 4.7	1.499	0.535	20.8	18.9	11 E	—	5*
9 8	3 24.57	+15 26.6	0.638	1.386	42.1	18.7	113 W	60	49	7 4	7 41.94	+18 10.5	1.523	0.573	23.3	19.2	12 E	—	6*
9 18	3 47.17	+13 29.4	0.599	1.387	40.0	18.5	117 W	58	51	7 6	7 55.33	+17 15.4	1.548	0.611	23.4	19.4	14 E	—	8*
9 28	4 5.57	+10 54.7	0.567	1.394	37.1	18.3	123 W	56	53	7 8	8 8.03	+16 19.9	1.574	0.649	24.1	19.6	15 E	—	9*
10 8	4 18.96	+ 7 52.6	0.543	1.407	33.3	18.1	129 W	53	56	7 10	8 20.08	+15 24.4	1.601	0.686	24.5	19.7	16 E	—	10*
10 13	4 23.56	+ 6 15.7	0.534	1.416	31.2	18.0	133 W	51	58	7 15	8 47.67	+13 7.3	1.672	0.779	24.6	20.1	19 E	—	13*
10 18	4 26.71	+ 4 37.7	0.528	1.425	28.8	17.9	136 W	50	59	7 20	9 12.14	+10 55.2	1.748	0.869	23.9	20.4	20 E	—	14*
10 23	4 28.43	+ 3 1.4	0.524	1.437	26.4	17.9	140 W	48	61	7 25	9 34.03	+ 8 49.5	1.828	0.956	22.7	20.7	21 E	—	15*
10 28	4 28.82	+ 1 29.5	0.523	1.449	23.9	17.8	144 W	46	63	7 30	9 53.78	+ 6 50.9	1.911	1.040	21.3	20.9	22 E	—	16*
11 2	4 27.98	+ 0 4.9	0.526	1.462	21.6	17.8	147 W	45	64	8 4	10 11.73	+ 4 59.5	1.996	1.122	19.8	21.1	22 E	—	16*
11 7	4 26.10	+ 1 10.0	0.532	1.477	19.4	17.8	150 W	44	65	8 9	10 28.19	+ 3 14.9	2.081	1.200	18.2	21.3	22 E	—	16*
11 12	4 23.39	+ 2 12.9	0.541	1.493	17.5	17.8	153 W	43	66	8 14	10 43.38	+ 1 36.8	2.167	1.276	16.6	21.5	21 E	—	15*
11 17	4 20.10	+ 3 2.0	0.555	1.509	16.2	17.8	155 W	42	67	163902 2003 SW₂₂₂									
11 22	4 16.54	+ 3 36.2	0.572	1.527	15.6	17.9	155 W	41	68	4 21	22 25.23	- 3 8.3	2.301	1.901	25.5	21.5	54 W	19*	47*
11 27	4 12.99	+ 3 55.1	0.593	1.545	15.7	18.0	155 W	41	68	5 1	22 43.51	- 0 16.4	2.188	1.877	27.4	21.4	59 W	22*	50*
12 2	4 9.71	+ 3 59.4	0.619	1.564	16.4	18.1	153 E	41	68	5 11	23 1.58	+ 2 43.8	2.072	1.851	29.1	21.3	63 W	25*	52*
12 7	4 6.89	+ 3 50.1	0.648	1.584	17.5	18.3	151 E	41	68	5 21	23 19.51	+ 5 52.3	1.955	1.824	30.8	21.2	67 W	29*	53*
12 12	4 4.70	+ 3 28.8	0.681	1.604	18.9	18.5	148 E	42	67	5 31	23 37.34	+ 9 9.1	1.836	1.796	32.4	21.1	72 W	34*	53*
12 17	4 3.26	+ 2 57.0	0.718	1.625	20.4	18.6	145 E	42	67	6 10	23 55.15	+12 34.0	1.718	1.766	33.8	20.9	76 W	39*	51*
12 22	4 2.64	+ 2 16.6	0.759	1.646	21.9	18.8	141 E	43	66	6 20	0 13.02	+16 7.2	1.601	1.735	35.2	20.8	80 W	45*	48
12 27	4 2.87	+ 1 29.5	0.804	1.668	23.4	19.0	138 E	44	65	6 30	0 31.00	+19 48.4	1.486	1.704	36.4	20.6	84 W	52*	44
1 1	4 3.95	+ 0 37.3	0.852	1.691	24.7	19.2	134 E	44	65	7 10	0 19.20	+23 37.4	1.375	1.671	37.4	20.4	87 W	59*	40
1 6	4 5.83	+ 0 18.4	0.903	1.713	25.9	19.4	131 E	45	64	7 20	1 7.73	+27 33.7	1.267	1.638	38.3	20.2	91 W	67*	36
1 11	4 8.48	+ 1 16.5	0.957	1.736	26.9	19.6	127 E	46	63	7 30	1 26.64	+31 36.3	1.164	1.604	39.1	20.0	95 W	74*	32
1 16	4 11.85	+ 2 15.8	1.014	1.759	27.8	19.8	123 E	47	62	8 4	1 36.29	+33 39.5	1.114	1.587	39.4	19.9	96 W	77*	30
261934 2006 MK₈										163902 2003 SW₂₂₂									
4 21	22 0.90	-15 39.0	2.219	1.999	26.9	21.4	64 W	13*	58*	8 9	1 46.09	+35 43.8	1.066	1.570	39.7	19.8	98 W	80*	28
5 1	22 22.73	-15 5.0	2.085	1.962	28.6	21.3	69 W	14*	63*	8 14	1 56.05	+37 48.8	1.019	1.553	40.0	19.7	100 W	83	26
5 11	22 44.80	-14 34.2	1.952	1.925	30.2	21.2	73 W	14*	67*	8 19	2 6.17	+39 54.1	0.974	1.536	40.2	19.6	101 W	85	24
5 21	23 7.16	-14 8.8	1.821	1.889	31.6	21.0	78 W	15*	71*	8 24	2 16.47	+41 59.2	0.930	1.519	40.4	19.4	103 W	87	22
5 31	23 29.81	-13 51.3	1.693	1.853	32.8	20.9	82 W	17*	74*	8 29	2 26.96	+44 3.7	0.887	1.502	40.6	19.3	105 W	89	20
6 10	23 52.79	-13 44.4	1.570	1.818	33.9	20.7	87 W	18*	77*	9 3	3 37.66	+46 7.0	0.846	1.485	40.7	19.2	106 W	89	18
6 20	0 16.07	-13 50.9	1.453	1.785	34.7	20.5	91 W	20*	78*	9 8	2 48.58	+48 8.5	0.807	1.469	40.8	19.1	108 W		

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°
163902 2003 SW₂₂₂ (continuation)										398188 Agni (continuation)									
9 28	3 33.88	+55 40.0	0.662	1.405	40.8	18.5	114 W	79	8	6 25	6 4.78	+19 40.1	1.642	0.634	7.3	20.0	5 W	—	—
10 3	3 45.42	+57 19.4	0.629	1.390	40.7	18.4	115 W	78	7	6 30	6 35.27	+20 10.0	1.642	0.629	4.9	19.9	3 W	—	—
10 8	3 56.86	+58 51.3	0.598	1.375	40.5	18.3	117 W	76	5	7 5	7 5.93	+20 22.7	1.641	0.629	5.1	19.9	3 E	—	—
10 13	4 8.02	+60 14.4	0.567	1.361	40.3	18.1	118 W	75	4	7 10	7 36.49	+20 17.4	1.641	0.634	7.7	20.0	5 E	—	—
10 18	4 18.67	+61 27.3	0.537	1.347	39.9	18.0	120 W	74	3	7 15	8 6.72	+19 54.1	1.641	0.644	11.0	20.2	7 E	—	1*
10 23	4 28.55	+62 28.2	0.509	1.334	39.4	17.8	122 W	73	2	7 20	8 36.39	+19 13.3	1.641	0.658	14.2	20.4	9 E	—	3*
10 28	4 37.41	+63 15.4	0.482	1.322	38.8	17.7	124 W	72	1	7 25	9 5.31	+18 16.3	1.642	0.676	17.1	20.5	11 E	—	5*
11 2	4 44.95	+63 47.0	0.455	1.311	38.0	17.5	126 W	71	—	7 30	9 33.35	+17 4.7	1.644	0.697	19.6	20.7	13 E	—	6*
11 7	4 50.83	+64 0.7	0.430	1.300	37.0	17.3	128 W	71	—	8 4	10 0.41	+15 40.5	1.647	0.720	21.8	20.8	15 E	—	8*
11 12	4 54.81	+63 53.4	0.406	1.290	35.7	17.2	130 W	71	—	8 9	10 26.48	+14 5.7	1.652	0.745	23.6	21.0	17 E	—	10*
11 17	4 56.79	+63 21.3	0.383	1.281	34.2	17.0	133 W	72	1	8 14	10 51.57	+12 22.3	1.658	0.770	24.9	21.1	19 E	—	11*
11 22	4 56.93	+62 20.0	0.361	1.274	32.4	16.8	136 W	73	2	8 19	11 15.70	+10 32.4	1.666	0.797	26.0	21.2	20 E	—	13*
11 27	4 55.65	+60 45.6	0.342	1.267	30.3	16.6	140 W	74	3	8 24	11 38.93	+ 8 37.8	1.675	0.823	26.8	21.3	21 E	—	14*
11 29	4 54.84	+59 57.6	0.335	1.264	29.4	16.5	141 W	75	4	8 29	12 1.34	+ 6 40.4	1.687	0.849	27.3	21.4	23 E	—	15*
12 1	4 53.93	+59 3.4	0.328	1.262	28.4	16.4	142 W	76	5	9 3	12 22.92	+ 4 41.5	1.699	0.874	27.5	21.5	24 E	—	16*
12 3	4 52.94	+58 3.0	0.322	1.260	27.4	16.4	144 W	77	6	326332 2000 GS₁₄₆									
12 5	4 51.92	+56 56.1	0.316	1.258	26.4	16.3	145 W	78	7	5 1	1 27.43	-16 1.7	2.158	1.454	23.5	21.5	35 W	—	22*
12 7	4 50.90	+55 42.8	0.310	1.256	25.4	16.2	147 E	79	8	5 11	1 49.39	-11 54.6	2.118	1.432	24.6	21.4	36 W	—	25*
12 9	4 49.92	+54 23.0	0.305	1.255	24.3	16.1	148 E	81	10	5 21	2 10.89	- 7 45.7	2.070	1.407	25.9	21.4	37 W	—	29*
12 11	4 49.00	+52 56.8	0.300	1.253	23.3	16.1	150 E	82	11	5 31	2 32.21	- 3 34.2	2.015	1.381	27.4	21.3	39 W	—	32*
12 13	4 48.19	+51 24.5	0.297	1.252	22.4	16.0	151 E	84	13	6 10	2 53.67	+ 0 41.5	1.952	1.354	29.2	21.3	41 W	—	35*
12 15	4 47.52	+49 46.4	0.293	1.251	21.5	16.0	152 E	85	14	6 20	3 15.64	+ 5 3.4	1.882	1.325	31.2	21.2	43 W	6*	36*
12 17	4 47.01	+48 3.0	0.291	1.250	20.8	15.9	153 E	87	16	6 30	3 38.54	+ 9 33.7	1.805	1.296	33.4	21.1	45 W	13*	37*
12 19	4 46.67	+46 15.0	0.288	1.250	20.2	15.9	154 E	89	18	7 10	4 2.94	+14 14.4	1.723	1.265	35.8	21.1	47 W	20*	38*
12 21	4 46.53	+44 22.9	0.287	1.249	19.7	15.9	155 E	89	20	7 20	4 29.59	+19 6.7	1.638	1.235	38.3	21.0	49 W	27*	34*
12 23	4 46.59	+42 27.6	0.287	1.249	19.5	15.9	155 E	87	22	7 30	4 59.47	+24 9.8	1.554	1.205	40.8	20.9	51 W	34*	30*
12 25	4 46.86	+40 29.9	0.287	1.249	19.6	15.9	155 E	85	24	8 9	5 33.91	+29 18.6	1.474	1.176	43.2	20.8	53 W	41*	26*
12 27	4 47.34	+38 30.7	0.287	1.249	19.8	15.9	155 E	84	25	8 19	6 14.54	+34 20.5	1.402	1.148	45.4	20.7	54 W	45*	21*
12 29	4 48.01	+36 31.0	0.289	1.249	20.3	15.9	154 E	82	27	8 29	7 2.96	+38 52.1	1.343	1.123	47.3	20.6	55 W	48*	15*
12 31	4 48.89	+34 31.5	0.291	1.250	20.9	15.9	153 E	80	29	9 8	7 59.90	+42 18.1	1.301	1.100	48.7	20.5	55 W	49*	9*
1 2	4 49.96	+32 33.1	0.294	1.250	21.8	16.0	152 E	78	31	9 18	9 3.53	+43 59.3	1.279	1.080	49.5	20.5	55 W	48*	3*
1 4	4 51.21	+30 36.7	0.298	1.251	22.7	16.0	151 E	76	33	9 20	9 16.65	+44 4.4	1.278	1.077	49.6	20.4	55 W	47*	2*
1 6	4 52.64	+28 42.8	0.302	1.252	23.8	16.1	149 E	74	35	9 22	9 29.78	+44 4.2	1.277	1.073	49.6	20.4	55 W	47*	1*
1 8	4 54.25	+26 52.2	0.308	1.254	25.0	16.2	147 E	72	37	9 24	9 42.86	+43 58.6	1.276	1.070	49.7	20.4	54 W	46*	—
1 10	4 56.02	+25 5.3	0.313	1.255	26.1	16.3	146 E	70	39	9 26	9 55.85	+43 47.8	1.277	1.067	49.7	20.4	54 W	46*	—
1 12	4 57.95	+23 22.7	0.320	1.257	27.3	16.3	144 E	68	41	9 28	10 8.70	+43 31.9	1.278	1.065	49.6	20.4	54 W	45*	—
1 14	5 0.04	+21 44.6	0.327	1.258	28.5	16.4	142 E	67	42	10 3	10 39.90	+42 31.0	1.285	1.059	49.4	20.4	53 W	44*	—
1 16	5 2.28	+20 11.2	0.335	1.260	29.7	16.5	141 E	65	44	10 8	11 9.35	+41 3.0	1.296	1.054	49.0	20.4	53 W	43*	—
5 1	0 50.29	+21 57.4	2.089	1.256	20.1	21.5	25 W	16*	12*	10 13	11 36.71	+39 12.6	1.310	1.050	48.5	20.4	52 W	42*	—
5 6	1 8.11	+23 53.9	2.076	1.245	20.5	21.5	26 W	16*	12*	10 18	12 1.86	+37 4.9	1.327	1.048	47.8	20.4	51 W	41*	—
5 11	1 26.50	+25 44.2	2.065	1.235	20.8	21.5	26 W	16*	11*	10 23	12 24.83	+34 44.7	1.347	1.047	47.1	20.4	50 W	40*	—
5 16	1 45.47	+27 27.2	2.056	1.227	21.0	21.4	26 W	17*	11*	10 28	12 45.77	+32 15.9	1.368	1.048	46.3	20.4	50 W	40*	—
5 21	2 4.99	+29 1.7	2.049	1.219	21.2	21.4	26 W	17*	10*	11 2	13 4.91	+29 41.8	1.389	1.049	45.4	20.5	49 W	39*	—
5 26	2 25.04	+30 26.3	2.043	1.213	21.3	21.4	26 W	17*	10*	11 7	13 22.45	+27 4.8	1.411	1.052	44.6	20.5	48 W	39*	—
5 31	2 45.56	+31 40.1	2.040	1.209	21.3	21.4	26 W	17*	9*	11 12	13 38.63	+24 27.0	1.431	1.057	43.7	20.5	48 W	39*	—
6 5	3 6.47	+32 42.0	2.038	1.205	21.3	21.4	26 W	17*	9*	11 17	13 53.63	+21 49.7	1.450	1.062	43.0	20.5	47 W	40*	—
6 10	3 27.67	+33 31.5	2.038	1.203	21.3	21.4	25 W	17*	8*	11 22	14 7.65	+19 13.8	1.467	1.069	42.3	20.5	47 W	40*	—
6 15	3 49.06	+34 7.8	2.039	1.203	21.2	21.4	25 W	17*	8*	11 27	14 20.82	+16 39.7	1.482	1.077	41.7	20.5	47 W	40*	1*
6 20	4 10.52	+34 30.8	2.041	1.204	21.1	21.4	25 W	17*	8*	12 2	14 33.29	+14 7.9	1.494	1.086	41.2	20.6	47 W	41*	4*
6 25	4 31.89	+34 40.4	2.044	1.206	21.1	21.4	25 W	17*	7*	12 7	14 45.19	+11 38.2	1.503	1.096	40.9	20.6	47 W	41*	7*
6 30	4 53.06	+34 36.9	2.048	1.210	21.0	21.4	25 W	17*	7*	12 12	14 56.61	+ 9 10.8	1.509	1.106	40.7	20.6	47 W	41*	10*
7 5	5 13.90	+34 20.5	2.053	1.215	21.0	21.4	25 W	18*	7*	12 17	15 7.63	+ 6 45.4	1.511	1.118	40.6	20.6	48 W	40*	13*
7 10	5 34.30	+33 52.0	2.057	1.221	21.0	21.4	25 W	18*	7*	12 22	15 18.33	+ 4 21.8	1.509	1.130	40.7	20.7	48 W	40*	17*
7 15	5 54.18	+33 12.2	2.062	1.229	21.1	21.5	26 W	18*	8*	12 27	15 28.77	+ 1 59.7	1.504	1.143	40.8	20.7	49 W	39*	20*
7 20	6 13.47	+32 21.8	2.067	1.238	21.2	21.5	26 W	18*	8*	1 1	15 39.01	- 0 21.4	1.495	1.157	41.1	20.7	51 W	38*	24*
5 1	1 16.18	+ 3 32.5	0.962	0.383	85.6	21.4	22 W	—	16*	1 6	15 49.10	- 2 41.8	1.482	1.170	41.5	20.7	52 W	37*	28*
5 3	1 24.65	+ 3 58.1	1.019	0.390	77.3	21.3	22 W	—	16*	1 11	15 59.09	- 5 2.1	1.466	1.185	41.9	20.7	54 W	36*	33*
5 5	1 33.52	+ 4 33.2	1.075	0.401	69.6	21.2	22 W	—	16*	1 16	16 9.00	- 7 22.7	1.447	1.199	42.4	20.7	55 W	34*	37*
5 7	1 42.63	+ 5 15.3	1.129	0.416	62.7	21.2	21 W	—	15*	138893 2000 YH₆₆									
5 9	1 51.85	+ 6 2.3	1.182	0.434	56.5	21.2	21 W	—	15*	5 1	1 30.57	+ 9 59.4	0.834	0.311	115.4	19.7	16 W	1*	10*
5 11	2 1.09	+ 6 52.5	1.231	0.455	51.1	21.2	21 W	—	14*	5 3	1 26.66	+11 19.1	0.890	0.329	101.4	19.1	19 W	3*	12*
5 13	2 10.26	+ 7 44.3	1.278	0.478	46.4	21.3	20 W	—	14*	5 5	1 25.64	+12 39.3	0.948	0.353	89.5	18.9	20 W	5*	13*
5 15	2 19.33	+ 8 36.7	1.323	0.502	42.4	21.4	2												

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°
138893 2000 YH₆₆										19356 1997 GH₃									
<i>(continuation)</i>										<i>(continuation)</i>									
7 5	3 52.58	+30 59.5	1.812	1.251	32.7	21.3	42 W	28*	22*	9 18	8 58.95	+14 55.4	1.877	1.322	30.8	20.1	42 W	32*	23*
7 10	4 3.07	+31 32.8	1.828	1.305	32.8	21.4	44 W	31*	22*	9 28	9 36.23	+12 6.7	1.799	1.262	32.6	20.0	43 W	32*	23*
7 15	4 13.15	+32 2.6	1.838	1.356	32.9	21.5	46 W	34*	23*	10 8	10 14.37	+8 50.1	1.736	1.208	34.0	19.8	43 W	32*	23*
234037 1998 VG₅₇										288132 2003 WO₈₄									
5 1	2 24.56	+14 4.9	2.753	1.746	1.4	21.5	2 W	—	—	5 1	2 42.17	+19 33.1	2.664	1.662	3.0	21.4	5 E	—	—
5 11	2 50.26	+16 13.3	2.705	1.703	3.3	21.5	5 W	—	—	5 11	3 9.98	+21 17.4	2.657	1.650	2.1	21.4	3 W	—	—
5 21	3 17.28	+18 13.0	2.655	1.661	5.1	21.5	8 W	—	2*	5 21	3 38.56	+22 46.4	2.648	1.640	2.5	21.4	4 W	—	—
5 31	3 45.68	+20 1.2	2.604	1.621	6.9	21.5	11 W	—	5*	5 31	4 7.83	+23 57.9	2.636	1.631	3.7	21.4	6 W	—	—
6 10	4 15.46	+21 34.3	2.553	1.583	8.6	21.5	13 W	1*	6*	6 10	4 37.64	+24 49.6	2.622	1.624	5.2	21.5	8 W	—	—
6 20	4 46.58	+22 49.1	2.502	1.549	10.2	21.5	16 W	3*	8*	307227 2002 GE₁₂₃									
6 30	5 18.89	+23 42.1	2.454	1.518	11.8	21.5	18 W	6*	9*	5 1	2 44.66	+14 0.1	2.834	1.828	1.6	21.4	3 E	—	—
7 10	5 52.18	+24 10.4	2.408	1.491	13.3	21.4	20 W	8*	10*	5 11	3 9.32	+15 37.0	2.806	1.797	1.3	21.3	2 W	—	—
7 20	6 26.15	+24 11.9	2.366	1.469	14.7	21.4	22 W	11*	11*	5 21	3 34.89	+17 4.0	2.773	1.767	2.9	21.4	5 W	—	—
7 30	7 0.43	+23 45.3	2.328	1.451	16.0	21.4	23 W	13*	11*	5 31	4 1.34	+18 19.1	2.736	1.739	4.7	21.4	8 W	—	2*
8 9	7 34.62	+22 50.8	2.293	1.439	17.3	21.4	25 W	16*	11*	6 10	4 28.64	+19 20.1	2.696	1.711	6.5	21.4	11 W	—	5*
8 19	8 8.38	+21 29.7	2.263	1.432	18.4	21.4	27 W	18*	12*	6 20	4 56.73	+20 5.0	2.654	1.686	8.3	21.4	14 W	—	7*
8 29	8 41.38	+19 44.6	2.237	1.430	19.6	21.4	28 W	20*	12*	6 30	5 25.50	+20 32.1	2.610	1.662	10.1	21.4	17 W	2*	10*
9 8	9 13.39	+17 39.2	2.213	1.434	20.6	21.4	30 W	22*	13*	7 10	5 54.78	+20 39.8	2.564	1.640	11.8	21.4	19 W	5*	12*
9 18	9 44.27	+15 17.5	2.193	1.444	21.7	21.5	32 W	24*	14*	7 20	6 24.43	+20 27.4	2.518	1.621	13.5	21.4	22 W	8*	13*
9 28	10 13.93	+12 43.9	2.174	1.459	22.7	21.5	34 W	26*	15*	7 30	6 54.24	+19 54.2	2.472	1.604	15.2	21.4	24 W	12*	14*
344151 2000 SV₄										453207 2008 GO₁₁₅									
5 1	2 36.13	+14 37.3	2.719	1.712	0.5	21.4	1 E	—	—	5 1	2 54.65	+16 20.8	2.791	1.790	2.9	21.4	5 E	—	—
5 11	3 0.57	+16 57.1	2.740	1.732	1.7	21.6	3 W	—	—	5 11	3 20.54	+17 47.5	2.746	1.737	1.2	21.2	2 E	—	—
5 21	3 25.17	+19 3.7	2.755	1.753	3.7	21.8	6 W	—	—	5 21	3 47.82	+19 3.6	2.697	1.686	0.9	21.0	1 W	—	—
5 31	3 49.93	+20 56.3	2.764	1.774	5.6	21.9	10 W	—	3*	5 31	4 16.50	+20 5.9	2.646	1.636	2.5	21.1	4 W	—	—
6 10	4 14.80	+22 34.4	2.766	1.795	7.6	22.0	14 W	2*	6*	6 10	4 46.53	+20 51.1	2.594	1.590	4.2	21.1	7 W	—	1*
145963 1999 YC₇										229835 2009 QA₃₁									
5 1	2 39.10	+31 44.9	3.831	2.881	5.8	21.5	17 E	8*	—	5 1	2 53.47	+20 39.7	3.085	2.090	3.5	21.5	7 E	1*	—
5 11	2 56.46	+32 52.4	3.829	2.868	5.4	21.4	15 W	8*	—	5 11	3 14.87	+22 31.4	3.127	2.122	2.2	21.5	5 E	—	—
5 21	3 14.22	+33 57.6	3.812	2.853	5.6	21.4	16 W	10*	—	5 21	3 36.32	+24 12.2	3.160	2.155	2.5	21.5	5 W	—	—
5 31	3 32.35	+34 59.5	3.781	2.838	6.5	21.4	19 W	12*	—	5 31	3 57.80	+25 42.1	3.184	2.187	4.0	21.7	9 W	2*	—
6 10	3 50.79	+35 57.6	3.737	2.822	7.8	21.5	22 W	15*	3*	6 10	4 19.23	+27 0.8	3.197	2.219	5.9	21.8	13 W	5*	3*
6 20	4 9.52	+36 51.2	3.679	2.805	9.2	21.5	26 W	19*	6*	453207 2008 GO₁₁₅									
6 30	4 28.45	+37 39.9	3.609	2.787	10.8	21.5	31 W	23*	9*	5 1	2 54.65	+16 20.8	2.791	1.790	2.9	21.4	5 E	—	—
7 10	4 47.51	+38 23.4	3.526	2.768	12.4	21.5	36 W	28*	11*	5 11	3 20.54	+17 47.5	2.746	1.737	1.2	21.2	2 E	—	—
7 20	5 6.62	+39 1.6	3.433	2.748	14.0	21.5	41 W	33*	13*	5 21	3 47.82	+19 3.6	2.697	1.686	0.9	21.0	1 W	—	—
7 30	5 25.66	+39 34.4	3.328	2.727	15.6	21.4	46 W	39*	15*	5 31	4 16.50	+20 5.9	2.646	1.636	2.5	21.1	4 W	—	—
8 9	5 44.50	+40 2.2	3.214	2.705	17.1	21.4	52 W	44*	16*	6 10	4 46.53	+20 51.1	2.594	1.590	4.2	21.1	7 W	—	1*
8 19	6 3.02	+40 25.4	3.091	2.683	18.5	21.3	57 W	50*	17*	6 20	5 17.80	+21 16.2	2.543	1.547	5.8	21.0	9 W	—	3*
8 29	6 21.03	+40 44.7	2.959	2.659	19.8	21.3	63 W	56*	18*	6 30	5 50.14	+21 18.4	2.494	1.508	7.3	21.0	11 W	—	4*
9 8	6 38.36	+41 1.1	2.821	2.635	20.9	21.2	69 W	63*	19*	7 10	6 23.27	+20 55.3	2.448	1.474	8.7	21.0	13 W	1*	6*
9 18	6 54.81	+41 15.7	2.678	2.609	21.9	21.1	75 W	69*	19*	7 20	6 56.92	+20 5.7	2.407	1.445	10.0	21.0	14 W	3*	7*
9 28	7 10.10	+41 30.1	2.530	2.583	22.6	21.0	82 W	75*	20*	8 9	7 30.74	+18 49.5	2.371	1.421	11.2	20.9	16 W	5*	8*
10 8	7 23.97	+41 45.8	2.379	2.557	23.0	20.8	89 W	82*	20*	8 19	8 4.41	+17 7.9	2.340	1.405	12.4	20.9	17 W	7*	9*
10 18	7 36.04	+42 4.6	2.228	2.529	23.1	20.7	96 W	87	21*	8 29	8 37.64	+15 3.2	2.316	1.395	13.4	20.9	19 W	8*	9*
10 28	7 45.89	+42 28.1	2.079	2.501	22.8	20.5	103 W	87	21*	9 8	9 10.21	+12 39.0	2.297	1.392	14.3	20.9	20 W	10*	10*
11 2	7 49.83	+42 42.0	2.006	2.486	22.4	20.4	107 W	88	21*	9 18	9 41.96	+9 59.5	2.284	1.396	15.3	21.0	21 W	12*	11*
11 7	7 53.01	+42 57.4	1.934	2.471	22.0	20.3	111 W	88	21*	9 28	10 12.80	+7 9.2	2.276	1.407	16.2	21.0	23 W	14*	12*
11 12	7 55.36	+43 14.3	1.864	2.457	21.4	20.1	115 W	88	21	9 28	10 42.70	+4 12.8	2.272	1.425	17.1	21.1	25 W	15*	13*
11 17	7 56.79	+43 32.6	1.796	2.442	20.6	20.0	120 W	89	20										
11 22	7 57.21	+43 51.9	1.731	2.426	19.7	19.9	124 W	89	20										
11 27	7 56.56	+44 11.8	1.669	2.411	18.7	19.8	129 W	89	20										
12 2	7 54.76	+44 31.6	1.611	2.396	17.5	19.6	133 W	90	19										
12 7	7 51.76	+44 50.3	1.557	2.380	16.2	19.5	138 W	90	19										
12 12	7 47.54	+45 6.7	1.507	2.364	14.7	19.4	142 W	90	19										
12 17	7 42.12	+45 19.3	1.462	2.348	13.3	19.3	147 W	90	19										
12 22	7 35.57	+45 26.7	1.423	2.332	11.9	19.1	151 W	90	19										
12 27	7 28.08	+45 27.2	1.390	2.316	10.6	19.0	154 W	90	19										
1 1	7 19.85	+45 19.4	1.364	2.300	9.8	18.9	157 W	90	19										
1 6	7 11.15	+45 2.2	1.344	2.283	9.5	18.9	157 W	90	19										
1 11	7 2.33	+44 35.1	1.330	2.267	9.9	18.8	157 E	90	19										
1 16	6 53.71	+43 58.2	1.324	2.250	11.0	18.9	154 E	89	20										
19356 1997 GH₃										229835 2009 QA₃₁									
5 1	2 40.95	+14 20.7	3.320	2.313	0.8	21.4	2 E	—	—	5 1	2 53.47	+20 39.7	3.085	2.090	3.5	21.5	7 E	1*	—
5 11	2 59.62	+15 39.9	3.253	2.247	1.7	21.3	4 W	—	—	5 11	3 14.87	+22 31.4	3.127	2.122	2.2	21.5	5 E	—	—
5 21	3 19.30	+16 55.1	3.175	2.179	3.9	21.4	8 W	—	2*	5 21	3 36.32	+24 12.2	3.160	2.155	2.5	21.5	5 W	—	—
5 31	3 40.04	+18 5.1	3.086	2.110	6.1	21.3	13 W	—	7*	5 31	3 57.80	+25 42.1	3.184	2.187	4.0	21.7	9 W	2*	—
6 10	4 1.93	+19 8.2	2.988	2.039	8.4	21.3	17 W	1*	10*	6 10	4 19.23	+27 0.8	3.197	2.219	5.9	21.8	13 W	5*	3*
6 20	4 25.06	+20 2.7	2.881	1.968	10.7	21.2	21 W	5*	14*	453207 2008 GO₁₁₅									
6 30	4 49.51	+20 46.7	2.769	1.896	13.0	21.2	25 W	8*	16*	5 1	2 54.65	+16 20.8	2.791	1.790	2.9	21.4	5 E	—	—
7 10	5 15.38	+21 17.7	2.652	1.822	15.4	21.1	28 W	12*	19*	5 11	3 20.54	+17 47.5	2.746	1.737	1.2	21.2	2 E	—	—
7 20	5 42.74	+21 33.2	2.532	1.749	17.7	21.0	32 W	16*	20*	5 21	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°
310560 2001 QL₁₄₂										481542 2007 RF₅									
<i>(continuation)</i>										<i>(continuation)</i>									
11 17	18 25.08	-18 32.9	1.203	0.800	54.8	19.7	41 E	19*	32*	9 22	14 14.65	-45 19.4	0.776	0.844	76.4	20.2	55 E	—	37*
11 22	18 56.74	-19 46.1	1.221	0.848	53.4	19.8	44 E	19*	34*	9 24	14 30.67	-46 33.7	0.765	0.858	76.2	20.1	56 E	—	39*
11 27	19 27.07	-20 38.4	1.248	0.895	51.7	19.9	45 E	20*	36*	9 26	14 47.70	-47 39.3	0.754	0.872	75.8	20.1	57 E	—	40*
12 2	19 55.86	-21 10.7	1.282	0.942	49.8	20.1	47 E	20*	37*	9 28	15 5.68	-48 34.9	0.745	0.885	75.3	20.1	59 E	—	41*
12 7	20 23.03	-21 24.8	1.322	0.987	47.9	20.2	48 E	20*	38*	9 30	15 24.52	-49 19.3	0.737	0.899	74.7	20.1	60 E	—	43*
12 12	20 48.54	-21 23.1	1.367	1.030	45.9	20.3	49 E	21*	38*	10 2	15 44.08	-49 51.5	0.730	0.913	74.1	20.1	61 E	—	45*
12 17	21 12.43	-21 8.0	1.416	1.072	44.0	20.4	49 E	21*	38*	10 4	16 4.19	-50 10.5	0.725	0.927	73.4	20.1	63 E	—	46*
12 22	21 34.79	-20 42.0	1.468	1.112	42.1	20.5	49 E	22*	38*	10 6	16 24.60	-50 15.8	0.721	0.941	72.6	20.1	64 E	—	48*
12 27	21 55.73	-20 7.0	1.522	1.150	40.3	20.6	49 E	22*	38*	10 8	16 45.07	-50 7.2	0.719	0.954	71.8	20.1	65 E	—	50*
1	22 15.37	-19 25.0	1.577	1.187	38.5	20.7	49 E	22*	37*	10 10	17 5.34	-49 44.8	0.718	0.968	70.9	20.1	66 E	—	52*
1	22 33.86	-18 37.4	1.633	1.222	36.9	20.8	48 E	23*	37*	10 12	17 25.17	-49 9.2	0.718	0.982	69.9	20.1	68 E	—	54*
1	22 51.32	-17 45.4	1.690	1.255	35.3	20.9	47 E	23*	36*	10 14	17 44.37	-48 21.4	0.720	0.995	69.0	20.1	69 E	—	55*
1	23 7.89	-16 50.1	1.746	1.286	33.7	21.0	47 E	23*	35*	10 16	18 2.77	-47 22.4	0.724	1.009	68.0	20.1	70 E	—	57*
162186 1999 OP₃										20429 1998 YV₁									
5 1	4 19.87	+39 56.9	4.285	3.496	9.3	21.5	34 E	28*	2*	5 1	4 37.35	+24 6.0	2.362	1.578	18.9	21.4	30 E	21*	15*
5 11	4 34.69	+39 50.7	4.308	3.452	8.0	21.4	28 E	22*	—	5 11	5 3.24	+25 1.1	2.346	1.514	17.5	21.3	27 E	17*	13*
5 21	4 50.03	+39 44.7	4.313	3.406	6.7	21.3	23 E	17*	—	5 21	5 30.97	+25 41.3	2.318	1.447	16.2	21.1	23 E	13*	11*
5 31	5 5.81	+39 38.1	4.301	3.360	5.7	21.3	19 E	12*	—	5 31	6 0.58	+26 3.0	2.280	1.378	15.0	20.9	21 E	10*	9*
6 10	5 21.94	+39 29.8	4.272	3.312	5.0	21.2	17 E	8*	—	6 10	6 32.10	+26 2.1	2.233	1.307	14.0	20.7	18 E	8*	8*
6 20	5 38.36	+39 19.2	4.225	3.262	5.0	21.1	16 W	9*	—	6 20	7 5.52	+25 34.0	2.178	1.235	13.3	20.5	16 E	6*	7*
6 30	5 54.98	+39 5.7	4.162	3.212	5.7	21.1	18 W	12*	—	6 30	7 40.79	+24 33.9	2.117	1.163	12.9	20.3	15 E	4*	6*
7 10	6 11.73	+38 48.8	4.081	3.160	6.8	21.1	22 W	16*	—	7 10	8 17.75	+22 56.9	2.051	1.092	12.9	20.1	14 E	3*	6*
7 20	6 28.55	+38 28.2	3.985	3.106	8.3	21.0	26 W	20*	2*	7 20	8 56.27	+20 38.9	1.983	1.024	13.5	19.9	14 E	3*	6*
7 30	6 45.34	+38 3.7	3.873	3.052	10.0	21.0	31 W	25*	5*	7 30	9 36.14	+17 36.8	1.915	0.961	14.7	19.7	14 E	2*	7*
8 9	7 2.04	+37 35.1	3.747	2.996	11.7	21.0	37 W	30*	8*	8 9	10 17.17	+13 49.9	1.849	0.908	16.7	19.6	15 E	2*	8*
8 19	7 18.55	+37 2.6	3.607	2.938	13.4	20.9	42 W	36*	10*	8 19	10 59.24	+9 20.8	1.788	0.866	19.3	19.5	16 E	2*	10*
8 29	7 34.80	+36 26.2	3.454	2.879	15.1	20.8	48 W	42*	13*	8 24	11 20.64	+6 52.5	1.760	0.851	20.8	19.5	17 E	3*	11*
9 8	7 50.69	+35 46.3	3.290	2.819	16.8	20.7	54 W	48*	15*	8 29	11 42.28	+4 16.8	1.735	0.841	22.4	19.5	19 E	3*	12*
9 18	8 6.14	+35 3.2	3.116	2.757	18.4	20.6	60 W	54*	17*	9 3	12 4.16	+1 35.3	1.712	0.835	24.1	19.5	20 E	3*	14*
9 28	8 21.00	+34 17.4	2.934	2.693	19.9	20.5	66 W	60*	20*	9 8	12 26.28	-1 9.9	1.692	0.834	25.7	19.5	21 E	3*	15*
10 8	8 35.18	+33 29.6	2.744	2.628	21.3	20.3	73 W	66*	22*	9 13	12 48.68	-3 56.7	1.676	0.838	27.2	19.6	22 E	3*	16*
10 18	8 48.50	+32 40.4	2.549	2.562	22.5	20.2	79 W	71*	24*	9 18	13 11.35	-6 42.6	1.664	0.847	28.5	19.6	24 E	3*	18*
10 28	9 0.77	+31 50.6	2.351	2.494	23.4	19.9	86 W	75*	27*	9 23	13 34.30	-9 25.1	1.656	0.861	29.7	19.7	25 E	4*	19*
11 7	9 11.74	+31 0.9	2.151	2.425	24.1	19.7	94 W	76*	30*	9 28	13 57.51	-12 1.8	1.653	0.878	30.6	19.7	27 E	4*	20*
11 17	9 21.10	+30 11.9	1.952	2.354	24.3	19.4	101 W	75*	32*	10 3	14 20.98	-14 30.2	1.654	0.900	31.2	19.8	28 E	4*	22*
11 27	9 28.40	+29 24.0	1.757	2.281	24.1	19.1	109 W	74*	34*	10 8	14 44.67	-16 48.2	1.661	0.924	31.6	19.9	29 E	5*	23*
12 2	9 31.12	+29 0.4	1.661	2.245	23.8	19.0	113 W	74	35*	10 13	15 8.53	-18 53.9	1.672	0.952	31.7	20.0	30 E	5*	24*
12 7	9 33.11	+28 37.0	1.568	2.208	23.2	18.8	118 W	74	35	10 18	15 32.47	-20 45.9	1.689	0.981	31.6	20.0	31 E	5*	25*
12 12	9 34.27	+28 13.5	1.476	2.170	22.5	18.6	122 W	73	36	10 23	15 56.42	-22 23.0	1.710	1.013	31.3	20.1	32 E	6*	26*
12 17	9 34.50	+27 49.6	1.388	2.132	21.6	18.4	127 W	73	36	10 28	16 20.24	-23 44.7	1.736	1.046	30.8	20.2	33 E	6*	26*
12 22	9 33.69	+27 24.9	1.302	2.094	20.3	18.2	132 W	72	37	11 2	16 43.82	-24 50.6	1.766	1.080	30.1	20.3	33 E	7*	27*
12 27	9 31.71	+26 58.7	1.220	2.056	18.9	18.0	137 W	72	37	11 7	17 7.06	-25 41.2	1.799	1.115	29.3	20.4	33 E	7*	27*
1	9 28.46	+26 29.9	1.143	2.017	17.0	17.7	143 W	71	38	11 12	17 29.83	-26 16.9	1.837	1.151	28.4	20.5	34 E	8*	27*
1	9 23.83	+25 57.5	1.070	1.978	14.9	17.5	149 W	71	38	11 17	17 52.04	-26 38.6	1.877	1.187	27.4	20.6	34 E	8*	27*
1	9 17.70	+25 20.1	1.002	1.939	12.4	17.2	155 W	70	39	11 22	18 13.61	-26 47.4	1.921	1.223	26.4	20.6	33 E	9*	27*
1	9 10.06	+24 35.8	0.941	1.899	9.5	16.9	161 W	70	39	11 27	18 34.48	-26 44.4	1.967	1.259	25.2	20.7	33 E	9*	26*
481542 2007 RF₅										20429 1998 YV₁									
5 1	4 30.55	+42 18.8	1.851	1.210	30.1	21.5	37 E	31*	2*	8 24	11 20.64	+6 52.5	1.760	0.851	20.8	19.5	17 E	3*	11*
5 6	4 50.76	+42 29.1	1.837	1.183	30.2	21.4	36 E	30*	3*	8 29	11 42.28	+4 16.8	1.735	0.841	22.4	19.5	19 E	3*	12*
5 11	5 11.57	+42 27.5	1.821	1.155	30.3	21.3	35 E	29*	3*	9 3	12 4.16	+1 35.3	1.712	0.835	24.1	19.5	20 E	3*	14*
5 16	5 32.88	+42 12.7	1.803	1.126	30.6	21.3	34 E	28*	4*	9 8	12 26.28	-1 9.9	1.692	0.834	25.7	19.5	21 E	3*	15*
5 21	5 54.57	+41 43.6	1.783	1.095	30.8	21.2	34 E	27*	5*	9 13	12 48.68	-3 56.7	1.676	0.838	27.2	19.6	22 E	3*	16*
5 26	6 16.50	+40 58.9	1.760	1.064	31.2	21.1	33 E	27*	6*	9 18	13 11.35	-6 42.6	1.664	0.847	28.5	19.6	24 E	3*	18*
5 31	6 38.51	+39 57.7	1.735	1.031	31.7	21.0	32 E	25*	7*	9 23	13 34.30	-9 25.1	1.656	0.861	29.7	19.7	25 E	4*	19*
6 5	7 0.45	+38 39.0	1.709	0.998	32.2	20.9	32 E	24*	8*	9 28	13 57.51	-12 1.8	1.653	0.878	30.6	19.7	27 E	4*	20*
6 10	7 22.16	+37 2.1	1.681	0.964	32.8	20.8	31 E	23*	10*	10 3	14 20.98	-14 30.2	1.654	0.900	31.2	19.8	28 E	4*	22*
6 15	7 43.51	+35 6.5	1.651	0.930	33.6	20.7	30 E	22*	11*	10 8	14 44.67	-16 48.2	1.661	0.924	31.6	19.9	29 E	5*	23*
6 20	8 4.40	+32 51.9	1.619	0.895	34.5	20.6	30 E	20*	13*	10 13	15 8.53	-18 53.9	1.672	0.952	31.7	20.0	30 E	5*	24*
6 25	8 24.74	+30 18.3	1.585	0.861	35.5	20.5	29 E	18*	14*	10 18	15 32.47	-20 45.9	1.689	0.981	31.6	20.0	31 E	5*	25*
6 30	8 44.45	+27 25.6	1.550	0.827	36.8	20.4	29 E	16*	16*	10 23	15 56.42	-22 23.0	1.710	1.013	31.3	20.1	32 E	6*	26*
7 10	9 21.88	+20 44.9	1.474	0.763	40.1	20.2	29 E	12*	19*	10 28	16 20.24	-23 44.7	1.736	1.046	30.8	20.2	33 E	6*	26*
7 20	9 56.68	+12 55.7	1.390	0.709	44.7	20.1	29 E	7*	22*	11 2	16 43.82	-24 50.6	1.766	1.080	30.1	20.3	33 E	7*	27*
7 30	10 29.21	+4 9.3	1.296	0.671	50.8	20.0	31 E	2*	25*	11 7	17 7.06	-25 41.2	1.799	1.115	29.3	20.4	33 E	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°		
438908 2009 XO										137126 1999 CF₉											
5 1	5 57.49	+22 12.9	0.053	0.973	129.0	19.7	49	E	34*	29*	11 17	21 48.68	-16 36.0	1.206	1.545	39.8	20.9	89	E	28	75*
5 2	6 14.44	+21 50.5	0.047	0.980	126.3	19.2	52	E	35*	31*	11 22	22 2.48	-15 30.3	1.290	1.588	38.4	21.1	87	E	29	73*
5 3	6 36.53	+21 11.2	0.040	0.986	122.3	18.5	56	E	38*	34*	11 27	22 15.39	-14 25.0	1.375	1.631	37.1	21.3	86	E	31	70*
5 4	7 5.94	+20 1.3	0.034	0.993	116.5	17.8	62	E	41*	39*	12 2	22 27.54	-13 20.1	1.462	1.672	35.9	21.4	84	E	32	67*
5 5	7 45.53	+17 56.5	0.029	0.999	108.0	16.9	70	E	46*	44*	403775 2011 HS₄										
5 6	8 37.91	+14 19.7	0.025	1.006	96.1	16.0	82	E	50*	50*	5 1	9 37.11	+43 58.5	0.209	1.031	77.8	20.4	91	E	83*	20
5 7	9 42.34	+ 8 43.8	0.023	1.013	80.5	15.1	98	E	51*	55	5 2	9 52.31	+42 2.6	0.216	1.042	75.0	20.4	93	E	84*	22
5 8	10 51.22	+ 1 48.4	0.023	1.019	63.1	14.6	116	E	47	62	5 3	10 5.65	+40 8.2	0.224	1.052	72.5	20.4	95	E	84*	24
5 9	11 53.44	+ 4 39.3	0.025	1.026	47.3	14.3	132	E	40	69	5 4	10 17.41	+38 16.9	0.233	1.063	70.2	20.4	97	E	83*	26
5 10	12 42.91	+ 9 30.1	0.029	1.033	35.2	14.3	144	E	35	74	5 5	10 27.81	+36 29.8	0.242	1.073	68.1	20.5	99	E	81*	28
5 11	13 19.96	-12 46.7	0.034	1.041	26.6	14.5	152	E	32	77	5 6	10 37.06	+34 47.5	0.251	1.084	66.2	20.5	101	E	80*	29
5 12	13 47.43	-14 57.3	0.040	1.048	20.7	14.6	159	E	30	79	5 7	10 45.32	+33 10.3	0.261	1.094	64.5	20.6	102	E	78	31
5 13	14 8.05	-16 25.8	0.047	1.055	16.5	14.8	163	E	29	80	5 8	10 52.74	+31 38.2	0.272	1.104	62.9	20.6	103	E	77	32
5 14	14 23.88	-17 27.6	0.053	1.062	13.6	15.0	166	E	28	81	5 9	10 59.44	+30 11.3	0.283	1.114	61.5	20.7	104	E	75	34
5 15	14 36.29	-18 12.3	0.060	1.070	11.6	15.2	168	E	27	82	5 10	11 5.52	+28 49.2	0.294	1.123	60.2	20.7	105	E	74	35
5 16	14 46.24	-18 45.6	0.067	1.077	10.1	15.4	169	E	26	83	5 11	11 11.07	+27 31.9	0.305	1.133	59.0	20.8	106	E	73	36
5 17	14 54.35	-19 11.0	0.074	1.085	9.1	15.6	170	E	26	83	5 13	11 20.85	+25 10.0	0.328	1.152	56.9	20.9	107	E	70	39
5 18	15 1.09	-19 31.0	0.081	1.092	8.4	15.8	171	E	25	84	5 15	11 29.23	+23 3.5	0.352	1.170	55.1	21.1	108	E	68	41
5 19	15 6.76	-19 46.9	0.089	1.100	8.0	16.0	171	E	25	84	5 17	11 36.53	+21 10.1	0.377	1.188	53.7	21.2	109	E	66*	43
5 20	15 11.59	-19 59.9	0.096	1.107	7.8	16.2	171	E	25	84	5 19	11 42.98	+19 28.1	0.402	1.205	52.5	21.4	109	E	64*	45
5 21	15 15.76	-20 10.6	0.104	1.115	7.7	16.4	172	E	25	84	5 21	11 48.77	+17 55.6	0.428	1.222	51.4	21.5	109	E	63*	46
5 22	15 19.39	-20 19.5	0.111	1.123	7.7	16.5	171	E	25	84	419880 2011 AH₃₇										
5 23	15 22.59	-20 27.1	0.119	1.130	7.8	16.7	171	E	25	84	5 1	15 25.66	- 7 57.0	2.945	3.929	3.7	25.2	165	W	37	72
5 24	15 25.43	-20 33.6	0.127	1.138	8.0	16.9	171	E	24	85	5 11	15 16.59	- 7 25.6	2.958	3.956	2.7	25.1	170	W	38	71
5 25	15 27.96	-20 39.2	0.135	1.146	8.2	17.0	171	E	24	85	5 21	15 7.67	- 7 0.0	3.003	3.982	4.3	25.3	163	E	38	71
5 26	15 30.25	-20 44.0	0.143	1.154	8.5	17.2	170	E	24	85	5 31	14 59.48	- 6 42.1	3.077	4.006	6.6	25.5	153	E	38	71
5 27	15 32.32	-20 48.4	0.151	1.162	8.9	17.3	170	E	24	85	6 10	14 52.51	- 6 33.0	3.178	4.030	8.9	25.6	142	E	38	71
5 28	15 34.21	-20 52.2	0.159	1.170	9.3	17.5	169	E	24	85	410088 2007 EJ										
5 29	15 35.95	-20 55.6	0.167	1.178	9.7	17.6	169	E	24	85	5 1	15 27.64	-16 32.3	2.858	3.846	3.4	23.5	167	W	28	81
5 30	15 37.56	-20 58.7	0.175	1.186	10.1	17.7	168	E	24	85	5 11	15 18.17	-16 5.7	2.859	3.868	0.6	23.3	178	W	29	80
5 31	15 39.06	-21 1.6	0.183	1.194	10.5	17.9	168	E	24	85	5 21	15 8.79	-15 39.0	2.892	3.889	2.9	23.6	169	E	29	80
6 2	15 41.78	-21 6.6	0.200	1.210	11.4	18.1	166	E	24	85	5 31	15 0.15	-15 14.5	2.955	3.910	5.8	23.8	157	E	30	79
6 4	15 44.20	-21 10.9	0.217	1.226	12.4	18.4	165	E	24	85	6 10	14 52.79	-14 54.6	3.047	3.928	8.3	24.0	146	E	30	79
6 6	15 46.40	-21 14.7	0.235	1.242	13.3	18.6	164	E	24	85	497096 2004 BW₁										
6 8	15 48.44	-21 18.2	0.253	1.258	14.3	18.8	162	E	24	85	5 1	15 28.57	-15 46.4	1.880	2.870	4.6	23.1	167	W	29	80
6 10	15 50.35	-21 21.5	0.271	1.274	15.3	19.0	161	E	24	85	5 11	15 17.39	-15 10.9	1.818	2.827	1.1	22.7	177	W	30	79
6 15	15 54.79	-21 29.0	0.319	1.315	17.6	19.5	157	E	24	85	5 21	15 5.59	-14 33.9	1.786	2.783	4.5	22.9	168	E	30	79
6 20	15 59.04	-21 36.4	0.369	1.356	19.8	20.0	153	E	23	86	5 31	14 54.30	-13 59.3	1.782	2.737	8.9	23.0	155	E	31	78
6 25	16 3.34	-21 44.1	0.422	1.396	21.7	20.4	149	E	23	86	6 10	14 44.56	-13 31.7	1.805	2.690	13.0	23.2	144	E	31	78
6 30	16 7.83	-21 52.4	0.478	1.437	23.5	20.8	146	E	23	86	364877 2008 EM₉										
7 5	16 12.56	-22 1.3	0.536	1.477	25.0	21.1	142	E	23	86	5 1	15 28.87	-18 40.2	2.639	3.626	3.8	22.6	166	W	26	83
7 10	16 17.56	-22 10.7	0.597	1.516	26.4	21.5	138	E	23	86	5 11	15 17.06	-17 48.6	2.618	3.628	0.3	22.3	179	W	27	82
137126 1999 CF₉										5 21	15 5.27	-16 54.2	2.630	3.627	3.2	22.5	168	E	28	81	
5 1	6 41.66	+21 23.5	1.683	1.447	36.6	21.4	59	E	41*	36*	5 31	14 54.32	-16 0.9	2.675	3.625	6.5	22.7	156	E	29	80
5 11	7 2.52	+21 27.2	1.674	1.356	37.1	21.3	54	E	41*	34*	6 10	14 44.87	-15 12.6	2.749	3.621	9.5	22.9	144	E	30	79
5 21	7 25.81	+21 16.6	1.650	1.261	37.8	21.1	50	E	30*	33*	518678 2008 UZ₉₄										
5 31	7 51.56	+20 48.3	1.608	1.165	38.9	20.9	46	E	25*	32*	5 1	15 28.88	-31 38.0	2.477	3.438	6.0	22.5	159	W	13	84
6 10	8 19.82	+19 59.0	1.549	1.068	40.7	20.7	43	E	21*	31*	5 6	15 23.26	-31 4.1	2.455	3.436	4.7	22.4	164	W	14	85
6 20	8 50.71	+18 44.7	1.473	0.973	43.4	20.5	41	E	18*	30*	5 11	15 17.54	-30 26.4	2.441	3.434	3.7	22.4	167	W	15	86
6 30	9 24.33	+17 0.9	1.380	0.883	47.4	20.2	40	E	16*	30*	5 16	15 11.83	-29 45.2	2.434	3.431	3.4	22.3	168	E	15	86
7 5	9 42.18	+15 56.8	1.327	0.842	50.0	20.1	39	E	15*	30*	5 21	15 6.25	-29 1.2	2.436	3.428	4.0	22.4	166	E	16	87
7 10	10 0.74	+14 43.8	1.270	0.804	53.1	20.0	39	E	15*	30*	5 26	15 0.91	-28 15.1	2.445	3.424	5.1	22.4	162	E	17	88
7 15	10 20.00	+13 21.7	1.209	0.771	56.7	19.9	39	E	14*	31*	5 31	14 55.91	-27 27.7	2.462	3.421	6.5	22.5	157	E	18	89
7 20	10 39.96	+11 49.9	1.145	0.744	60.7	19.8	40	E	14*	31*	509191 2006 OC₅										
7 25	11 0.63	+10 8.4	1.079	0.724	65.1	19.8	40	E	14*	32*	5 1	15 33.21	-12 35.4	2.725	3.709	3.9	24.6	165	W	32	77
7 30	11 22.01	+ 8 16.8	1.011	0.712	69.7	19.7	41	E	14*	33*	5 11	15 23.78	-11 55.2	2.677	3.683	1.8	24.4	173	W	33	76
8 4	11 44.17	+ 6 14.9	0.943	0.709	74.3	19.7	42	E	14*	35*	5 21	15 14.03	-11 16.7	2.661	3.655	3.5	24.5	167	E	34	75
8 9	12 7.24	+ 4 2.1	0.876	0.714	78.5	19.7	44	E	15*	36*	5 31	15 4.70	-10 42.6	2.675	3.626	6.5	24.6	156	E	34	75
8 14	12 31.45	+ 1 37.5	0.812	0.728	82.1	19.7	45	E	15*	38*	6 10	14 56.44	-10 15.7	2.717	3.595	9.3	24.8	145	E	35	74
8 19	12 57.13	+ 0 59.7	0.751	0.749	84.8	19.7	48	E	16*	40*	380240 2001 UA₂										
8 29	13 54.58	+ 6 52.5	0.649	0.812	86.7	19.7	53	E	17*	46*	5 1	15 33.37	-14 16.5	1.954	2.940	4.9	22.3	166	W	31	78
9 8	15 2.68	-13 16.3	0.582	0.892	83.4	19.5	62	E	19*	55*	5 6	15 28.90	-13 40.4	1.925	2.926	3.2	22.2	171	W</		

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°				
369057 2008 DK₅									497503 2006 BL₆												
5	1	15 33.57	-25 59.7	1.381	2.361	7.5	24.4	162 W	19	90	5	1	15 48.75	-55 55.0	2.905	3.703	10.8	22.6	137 W	-	60
5	6	15 24.76	-25 35.7	1.379	2.375	5.0	24.3	168 W	19	90	5	6	15 42.07	-56 4.4	2.875	3.699	10.2	22.6	139 W	-	60
5	11	15 15.87	-25 7.4	1.384	2.389	3.1	24.2	173 W	20	89	5	11	15 35.03	-56 7.2	2.851	3.696	9.8	22.6	142 W	-	60
5	16	15 7.15	-24 35.3	1.397	2.402	3.3	24.3	172 E	20	89	5	16	15 27.79	-56 3.3	2.833	3.692	9.5	22.5	143 E	-	60
5	21	14 58.82	-24 0.7	1.417	2.415	5.4	24.4	167 E	21	88	5	21	15 20.53	-55 52.5	2.822	3.687	9.3	22.5	144 E	-	60
5	26	14 51.09	-23 24.8	1.445	2.426	7.7	24.6	161 E	22	87	5	26	15 13.44	-55 35.0	2.816	3.683	9.3	22.5	144 E	-	60
5	31	14 44.13	-22 48.9	1.480	2.437	10.1	24.7	155 E	22	87	5	31	15 6.70	-55 11.4	2.817	3.678	9.5	22.5	143 E	-	61
497164 2004 RR₃₂₄									65407 2002 RP₁₂₀												
5	1	15 35.84	-26 1.9	2.783	3.753	4.8	23.2	162 W	19	90	5	1	15 53.16	+ 5 57.7	32.022	32.908	0.8	27.6	151 W	51	58
5	11	15 27.11	-25 31.2	2.750	3.752	2.3	23.0	172 W	19	90	5	11	15 51.95	+ 6 2.3	32.030	32.942	0.8	27.5	154 W	51	58
5	21	15 18.18	-24 53.4	2.746	3.749	2.4	23.0	171 E	20	89	5	21	15 50.70	+ 6 5.6	32.064	32.975	0.8	27.6	154 E	51	58
5	31	15 9.78	-24 11.2	2.773	3.746	5.1	23.2	161 E	21	88	5	31	15 49.45	+ 6 7.5	32.126	33.008	0.9	27.6	150 E	51	58
6	10	15 2.52	-23 28.4	2.828	3.742	7.8	23.4	150 E	22	87	6	10	15 48.25	+ 6 8.0	32.213	33.042	1.0	27.6	144 E	51	58
368153 1995 UX₁									429584 2011 EU₂₉												
5	1	15 36.27	-33 22.4	2.604	3.552	6.4	22.6	157 W	12	83	5	1	15 54.46	-17 21.9	3.045	4.009	4.8	25.6	160 W	28	81
5	6	15 31.20	-33 24.2	2.571	3.541	5.3	22.5	161 W	12	83	5	11	15 45.39	-16 50.1	3.029	4.032	2.0	25.5	172 W	28	81
5	11	15 25.90	-33 22.6	2.546	3.529	4.5	22.5	164 W	12	83	5	21	15 36.06	-16 17.5	3.046	4.054	1.3	25.4	175 E	29	80
5	16	15 20.47	-33 17.5	2.529	3.517	4.1	22.4	166 E	12	83	5	31	15 27.12	-15 46.2	3.093	4.075	4.1	25.7	163 E	29	80
5	21	15 15.02	-33 9.0	2.519	3.505	4.4	22.4	165 E	12	83	6	10	15 19.12	-15 18.6	3.171	4.095	6.7	25.9	152 E	30	79
5	26	15 9.69	-32 57.6	2.516	3.492	5.2	22.4	162 E	12	83	331510 2000 AE₆										
5	31	15 4.57	-32 43.5	2.520	3.480	6.3	22.5	158 E	12	83	5	1	15 55.38	- 5 45.9	3.119	4.070	5.4	23.5	158 W	39	70
464831 2005 AR₂₀									5	11	15 47.62	- 5 15.2	3.070	4.053	3.8	23.3	165 W	40	69		
5	1	15 38.76	-10 23.6	1.931	2.911	5.7	22.4	163 W	35	74	5	21	15 39.38	- 4 50.5	3.051	4.035	3.9	23.3	164 E	40	69
5	11	15 29.00	- 9 49.4	1.920	2.922	3.1	22.3	171 W	35	74	5	31	15 31.23	- 4 33.8	3.062	4.016	5.6	23.4	157 E	40	69
5	21	15 19.07	- 9 21.1	1.938	2.932	4.6	22.4	167 E	36	73	6	10	15 23.74	- 4 26.5	3.101	3.996	7.8	23.5	148 E	41	68
5	31	15 9.92	- 9 1.9	1.985	2.942	7.9	22.6	156 E	36	73	249615 1999 TB₅										
6	10	15 2.32	- 8 53.8	2.057	2.950	11.2	22.8	146 E	36	73	5	1	15 57.34	+ 8 33.1	1.716	2.629	11.5	23.0	149 W	54	55
357117 2001 WG₂₃									5	6	15 52.06	+ 9 38.7	1.716	2.638	11.0	23.0	150 W	55	54		
5	1	15 42.58	-40 7.5	3.570	4.477	6.3	22.8	151 W	5	76	5	11	15 46.55	+10 37.8	1.722	2.647	10.9	23.0	150 W	56	53
5	6	15 37.89	-40 12.5	3.552	4.483	5.6	22.8	154 W	5	76	5	16	15 40.93	+11 29.5	1.735	2.655	11.2	23.0	149 W	56	53
5	11	15 33.05	-40 14.1	3.541	4.489	5.0	22.7	157 W	5	76	5	21	15 35.35	+12 13.0	1.755	2.663	11.8	23.1	147 E	57	52
5	16	15 28.13	-40 12.3	3.537	4.495	4.7	22.7	159 E	5	76	5	26	15 29.94	+12 47.9	1.780	2.671	12.7	23.1	145 E	58	51
5	21	15 23.22	-40 7.3	3.540	4.500	4.6	22.7	159 E	5	76	5	31	15 24.84	+13 14.2	1.812	2.678	13.7	23.2	141 E	58	51
5	26	15 18.41	-39 59.1	3.550	4.506	4.8	22.7	158 E	5	76	6	5	15 20.15	+13 31.9	1.849	2.685	14.8	23.3	137 E	59	50
5	31	15 13.80	-39 48.2	3.568	4.511	5.3	22.8	156 E	5	76	24443 2000 OG										
505169 2012 SQ₅₆									5	1	15 58.38	+ 7 39.6	3.233	4.130	7.2	22.6	149 W	53	56		
5	1	15 43.78	-34 20.2	3.719	4.652	5.2	24.3	155 W	11	82	5	11	15 49.50	+ 8 37.1	3.195	4.114	6.6	22.5	152 W	54	55
5	6	15 39.27	-34 24.2	3.699	4.656	4.4	24.3	159 W	11	82	5	21	15 40.13	+ 9 20.9	3.187	4.097	7.0	22.5	150 E	54	55
5	11	15 34.61	-34 25.7	3.686	4.660	3.7	24.2	163 W	11	82	5	31	15 30.85	+ 9 48.6	3.207	4.079	8.2	22.6	145 E	55	54
5	16	15 29.87	-34 24.5	3.680	4.663	3.3	24.2	165 E	11	82	6	10	15 22.26	+ 9 59.3	3.255	4.059	9.8	22.6	137 E	55	54
5	21	15 25.14	-34 21.0	3.683	4.666	3.3	24.2	165 E	11	82	429382 2010 NW₁₁₇										
5	26	15 20.49	-34 15.1	3.693	4.669	3.7	24.2	163 E	11	82	5	1	15 59.06	-21 54.7	2.518	3.476	6.1	23.4	159 W	23	86
5	31	15 16.00	-34 7.2	3.710	4.672	4.4	24.3	159 E	11	82	5	11	15 49.61	-21 23.2	2.457	3.457	2.8	23.1	171 W	24	85
506490 2003 UO₂₇									5	21	15 39.43	-20 45.9	2.426	3.437	0.9	22.9	177 E	24	85		
5	1	15 46.14	-17 2.3	2.832	3.805	4.6	22.4	162 W	28	81	5	31	15 29.35	-20 5.6	2.426	3.416	4.3	23.2	165 E	25	84
5	11	15 37.46	-16 52.7	2.781	3.787	1.6	22.1	174 W	28	81	6	10	15 20.18	-19 25.5	2.455	3.394	7.7	23.4	153 E	26	83
5	21	15 28.31	-16 42.0	2.761	3.769	1.8	22.1	173 E	28	81	469796 2005 SD										
5	31	15 19.38	-16 32.0	2.772	3.750	4.8	22.3	162 E	28	81	5	1	15 59.10	-46 17.0	3.680	4.534	7.5	22.8	144 W	-	70
6	10	15 11.32	-16 24.6	2.812	3.729	7.7	22.5	151 E	29	80	5	6	15 54.62	-46 17.3	3.642	4.526	6.9	22.7	148 W	-	70
162011 Konohmaru									5	11	15 49.90	-46 13.6	3.612	4.519	6.3	22.6	151 W	-	70		
5	1	15 46.15	-18 37.7	3.527	4.498	3.9	22.9	162 W	26	83	5	16	15 45.02	-46 6.0	3.588	4.511	5.9	22.6	153 W	-	70
5	11	15 38.42	-18 15.6	3.486	4.491	1.4	22.7	174 W	27	82	5	21	15 40.08	-45 54.3	3.571	4.503	5.6	22.6	154 E	-	70
5	21	15 30.39	-17 51.8	3.475	4.483	1.3	22.6	174 E	27	82	5	26	15 35.16	-45 38.8	3.561	4.495	5.6	22.6	154 E	-	70
5	31	15 22.59	-17 28.0	3.495	4.475	3.8	22.8	163 E	28	81	5	31	15 30.38	-45 19.6	3.558	4.487	5.8	22.6	153 E	-	71
6	10	15 15.51	-17 6.1	3.545	4.465	6.2	23.0	152 E	28	81	6	5	15 25.82	-44 57.2	3.561	4.479	6.2	22.6	151 E	-	71
496872 2000 SH₅									455426 2003 MT₉												
5	1	15 48.33	-56 23.1	2.861	3.656	11.0	23.2	136 W	-	60	5	1	16 0.09	-20 17.8	1.981	2.943	7.1	23.0	159 W	25	84
5	6	15 41.54	-56 35.8	2.833	3.654	10.5	23.1	139 W	-	59	5	6	15 52.04	-19 50.2	1.997	2.985	4.8	22.9	166 W	25	84
5	11	15 34.37	-56 41.8	2.811	3.651	10.0	23.1	141 W	-	59	5	11	15 43.99	-19 21.3	2.022	3.026	2.6	22.8	172 W	26	83
5	16	15 26.98	-56 40.8	2.795	3.648	9.7	23.1	142 E	-	59	5	16	15 36.11	-18 51.6	2.055	3.066	0.3	22.7	179 W	26	83
5	21	15 19.57	-56 32.9	2.784	3.645	9.6	23.1	143 E	-	59	5	21	15 28.54	-18 21.9	2.097	3.106	1.9	22.9	174 E	27	82
5	26	15 12.33	-56 18.1	2.780	3.642	9.6	23.1	143 E	-	60	5	26	15 21.41	-17 52.8	2.148	3.145	3.9	23.1	168 E	27	82
5	31	15 5.45	-55 57.0	2.783	3.638	9.8	23.1	142 E	-	60	5	31	15 14.83	-17 24.9	2.207	3.183	5.9	23.3	161 E	28	81
495848 2002 QD₇									6	5	15 8.87	-16 58.9	2.273	3.221	7.7	23.5	155 E	28	81		
5	1	15 48.53	-10 38.7	2.683	3.651	5.1	23.4	161 W	34	75											

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°
317122 2002 CW₄₆ (continuation)										37329 2001 QW₁₀₈ (continuation)									
6 5	15 9.32	-38 8.1	1.512	2.459	10.8	22.2	153 E	7	78	6 10	15 51.45	+17 2.3	2.998	3.786	10.9	22.3	135 E	62	47
6 10	15 3.20	-37 32.5	1.532	2.456	12.5	22.3	149 E	7	78	6 20	15 44.38	+16 19.1	3.071	3.794	12.0	22.4	129 E	61	48
6 15	14 57.96	-36 54.6	1.558	2.453	14.1	22.4	144 E	8	79	385580 2004 XO₁₄									
405793 2006 AU₈₀										5 1	16 25.61	+10 51.2	3.242	4.084	8.7	22.3	142 W	56	53
5 1	16 6.75	-12 34.1	1.650	2.608	8.6	22.4	157 W	32	77	5 11	16 18.30	+11 31.5	3.192	4.072	7.9	22.2	146 W	57	52
5 11	15 57.06	-12 3.2	1.593	2.589	4.8	22.1	168 W	33	76	5 21	16 10.22	+11 57.2	3.169	4.059	7.7	22.2	148 W	57	52
5 21	15 46.10	-11 35.3	1.563	2.568	3.4	22.0	171 E	33	76	5 31	16 1.91	+12 5.7	3.171	4.046	8.2	22.2	145 E	57	52
5 31	15 35.04	-11 14.2	1.561	2.547	6.8	22.1	163 E	34	75	6 10	15 53.94	+11 56.3	3.200	4.031	9.3	22.3	140 E	57	52
6 10	15 25.08	-11 3.2	1.585	2.525	11.0	22.3	152 E	34	75	6 20	15 46.81	+11 29.7	3.252	4.015	10.7	22.4	133 E	56	53
366597 2002 VU₁₀₇										464652 2001 GE₄									
5 1	16 12.40	-26 38.4	1.942	2.883	8.7	22.1	154 W	18	89	5 1	16 26.17	-17 12.6	1.679	2.616	10.1	21.8	153 W	28	81
5 11	16 3.26	-26 12.7	1.870	2.859	5.1	21.9	166 W	19	90	5 11	16 15.67	-16 57.4	1.671	2.659	5.7	21.6	165 W	28	81
5 21	15 52.80	-25 35.7	1.825	2.834	1.9	21.6	175 W	19	90	5 21	16 4.25	-16 41.6	1.690	2.700	1.7	21.4	175 W	28	81
5 31	15 42.09	-24 49.6	1.809	2.809	4.3	21.7	168 E	20	89	5 31	15 53.11	-16 27.4	1.737	2.740	4.0	21.7	169 E	29	80
6 10	15 32.27	-23 58.7	1.820	2.782	8.3	21.9	157 E	21	88	6 10	15 43.32	-16 17.5	1.813	2.779	7.9	22.0	158 E	29	80
6 20	15 24.25	-23 8.0	1.857	2.755	12.1	22.1	145 E	22	87	6 20	15 35.63	-16 13.8	1.913	2.817	11.5	22.3	147 E	29	80
515718 2014 UQ₁₉₄										399814 2005 SE₁₃₃									
5 1	16 13.15	-28 23.6	4.955	5.873	4.4	21.8	153 W	17	88	5 1	16 28.64	-19 51.3	1.123	2.068	13.1	21.3	152 W	25	84
5 11	16 7.70	-28 30.3	4.905	5.880	2.8	21.7	163 W	16	87	5 11	16 21.11	-19 13.8	1.052	2.041	8.0	20.9	164 W	26	83
5 21	16 1.81	-28 32.8	4.885	5.887	1.5	21.6	171 W	16	87	5 21	16 11.01	-18 29.4	1.004	2.015	2.4	20.5	175 W	27	82
5 31	15 55.84	-28 31.4	4.894	5.894	1.8	21.6	169 E	16	87	5 31	15 59.78	-17 42.0	0.980	1.988	4.4	20.5	171 E	27	82
6 10	15 50.16	-28 26.9	4.934	5.901	3.3	21.7	160 E	17	88	6 10	15 49.17	-16 57.8	0.979	1.962	10.5	20.8	159 E	28	81
6 20	15 45.09	-28 20.4	5.002	5.907	4.9	21.9	150 E	17	88	6 20	15 40.76	-16 23.1	0.999	1.936	16.3	21.0	148 E	29	80
382674 2002 TH₂₂₄										6 30	15 35.72	-16 3.1	1.036	1.910	21.3	21.2	137 E	29	80
5 1	16 17.62	-14 19.1	1.372	2.324	10.6	21.6	155 W	31	78	7 10	15 34.57	-15 59.7	1.087	1.884	25.4	21.4	127 E	29*	80
5 6	16 12.67	-13 39.6	1.355	2.330	8.3	21.5	161 W	31	78	482391 2012 AN₂₃									
5 11	16 7.25	-12 59.9	1.343	2.335	6.1	21.4	166 W	32	77	5 1	16 31.12	-18 48.5	1.488	2.423	11.4	22.5	152 W	26	83
5 16	16 1.53	-12 20.9	1.338	2.341	4.2	21.3	170 W	33	76	5 6	16 25.73	-18 22.3	1.468	2.432	9.0	22.4	158 W	27	82
5 21	15 55.67	-11 43.2	1.340	2.345	3.7	21.2	171 W	33	76	5 11	16 19.82	-17 54.8	1.454	2.441	6.6	22.2	164 W	27	82
5 26	15 49.87	-11 8.0	1.348	2.350	4.8	21.3	169 E	34	75	5 16	16 13.54	-17 26.3	1.447	2.449	4.1	22.1	170 W	28	81
5 31	15 44.29	-10 35.8	1.363	2.354	6.9	21.4	164 E	34	75	5 21	16 7.07	-16 57.4	1.447	2.457	2.0	22.0	175 W	28	81
6 5	15 39.10	-10 7.5	1.385	2.358	9.1	21.6	158 E	35	74	5 26	16 0.59	-16 28.8	1.453	2.464	2.2	22.0	175 E	29	80
6 10	15 34.42	-9 43.5	1.413	2.362	11.3	21.7	153 E	35	74	5 31	15 54.29	-16 1.2	1.467	2.471	4.4	22.2	169 E	29	80
6 15	15 30.35	-9 24.1	1.446	2.365	13.4	21.8	147 E	36	73	6 5	15 48.33	-15 35.2	1.488	2.477	6.8	22.3	163 E	29	80
6 20	15 26.97	-9 9.5	1.484	2.368	15.4	22.0	142 E	36	73	6 10	15 42.86	-15 11.5	1.516	2.483	9.1	22.5	157 E	30	79
306778 2001 DF₉₂										376944 2002 DP₃									
5 1	16 19.09	-49 31.5	2.946	3.768	10.0	22.0	139 W	—	66	5 1	16 32.24	-20 36.2	2.946	3.860	7.2	22.3	151 W	24	85
5 6	16 13.69	-49 45.3	2.919	3.774	9.3	21.9	143 W	—	66	5 11	16 24.24	-20 30.8	2.884	3.860	4.4	22.1	163 W	24	85
5 11	16 7.88	-49 54.0	2.899	3.779	8.6	21.9	146 W	—	66	5 21	16 15.26	-20 22.6	2.851	3.860	1.4	21.9	175 W	25	84
5 16	16 1.77	-49 57.4	2.885	3.784	8.0	21.9	149 W	—	66	5 31	16 5.96	-20 12.5	2.849	3.858	1.7	21.9	174 E	25	84
5 21	15 55.49	-49 55.3	2.877	3.789	7.6	21.8	150 W	—	66	6 10	15 57.02	-20 1.8	2.877	3.855	4.7	22.1	162 E	25	84
5 26	15 49.21	-49 47.7	2.876	3.794	7.4	21.8	151 E	—	66	6 20	15 49.06	-19 52.1	2.934	3.852	7.4	22.3	151 E	25	84
5 31	15 43.06	-49 34.8	2.882	3.798	7.5	21.8	151 E	—	66	465271 2007 TF₁₀₇									
6 5	15 37.19	-49 17.1	2.894	3.803	7.8	21.9	149 E	—	67	5 1	16 32.64	-49 59.4	2.060	2.885	13.6	22.4	138 W	—	66
6 10	15 31.71	-48 55.2	2.913	3.807	8.3	21.9	147 E	—	67	5 6	16 26.48	-50 28.5	2.037	2.893	12.6	22.3	141 W	—	66
6 15	15 26.72	-48 29.6	2.938	3.811	8.9	21.9	144 E	—	68	5 11	16 19.60	-50 50.9	2.020	2.901	11.7	22.3	144 W	—	65
6 20	15 22.31	-48 1.2	2.970	3.814	9.6	22.0	141 E	—	68	5 16	16 12.18	-51 5.9	2.008	2.909	10.9	22.2	147 W	—	65
366451 2002 AN₁₈										5 21	16 4.42	-51 13.1	2.003	2.916	10.3	22.2	149 W	—	65
5 1	16 20.19	+12 1.8	2.852	3.700	9.6	22.3	142 W	57	52	5 26	15 56.56	-51 12.1	2.003	2.923	10.0	22.2	150 E	—	65
5 11	16 12.51	+12 43.6	2.822	3.702	8.8	22.3	146 W	58	51	5 31	15 48.84	-51 3.3	2.010	2.930	10.1	22.2	150 E	—	65
5 21	16 4.12	+13 7.8	2.817	3.704	8.7	22.3	147 W	58	51	6 5	15 41.48	-50 47.3	2.024	2.937	10.4	22.2	149 E	—	65
5 31	15 55.63	+13 12.0	2.838	3.704	9.3	22.3	144 E	58	51	6 10	15 34.69	-50 24.8	2.043	2.944	11.0	22.3	147 E	—	66
6 10	15 47.69	+12 55.9	2.883	3.704	10.5	22.4	138 E	58	51	6 15	15 28.61	-49 57.0	2.068	2.950	11.7	22.3	144 E	—	66
345853 2007 PU₁₁										6 20	15 23.36	-49 25.0	2.099	2.956	12.6	22.4	141 E	—	67
5 1	16 21.36	-11 52.9	3.221	4.148	6.2	22.3	154 W	33	76	450807 2007 UC₉									
5 11	16 14.30	-11 11.0	3.149	4.128	4.0	22.1	164 W	34	75	5 1	16 34.78	-38 24.8	3.932	4.788	7.0	22.0	145 W	7	78
5 21	16 6.45	-10 30.7	3.106	4.106	2.5	22.0	170 W	34	75	5 11	16 27.99	-38 46.3	3.851	4.775	5.4	21.9	153 W	6	77
5 31	15 58.37	-9 54.2	3.094	4.083	3.6	22.0	165 E	35	74	5 21	16 20.22	-38 58.4	3.796	4.761	4.1	21.8	160 W	6	77
6 10	15 50.62	-9 23.7	3.112	4.060	5.8	22.2	156 E	36	73	5 31	16 11.99	-39 0.4	3.771	4.747	3.7	21.7	162 E	6	77
6 20	15 43.72	-9 0.7	3.157	4.035	8.2	22.3	145 E	36	73	6 10	16 3.92	-38 52.7	3.774	4.732	4.6	21.8	158 E	6	77
2202 Pele										6 20	15 56.56	-38 36.9	3.805	4.717	6.1	21.8	1		