

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

21/22	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45° - 26°	2021	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45° - 26°
456618 2007 HB									439998 2002 CM₄								
11 2	4 17.09	+10 49.1	1.267	2.199	11.7	22.5	153 W	56 53	11 2	4 33.65	+57 26.4	2.627	3.364	12.8	21.9	131 W	78 7
11 12	4 4.13	+11 41.1	1.182	2.154	6.7	22.1	165 W	57 52	11 7	4 27.36	+57 48.8	2.581	3.351	12.2	21.8	134 W	77 6
11 22	3 48.12	+12 46.0	1.124	2.107	3.4	21.8	173 E	58 51	11 12	4 20.23	+58 4.8	2.541	3.338	11.6	21.8	137 W	77 6
12 2	3 30.70	+14 2.7	1.095	2.060	7.9	21.9	163 E	59 50	11 17	4 12.43	+58 13.4	2.506	3.324	11.1	21.7	140 W	77 6
12 12	3 14.06	+15 29.1	1.095	2.011	14.0	22.1	150 E	60 49	11 22	4 4.17	+58 14.0	2.478	3.310	10.6	21.6	142 W	77 6
410685 2008 WA₅₉									417444 2006 OE₂								
11 2	4 19.92	+14 4.4	1.376	2.305	11.3	21.6	153 W	59 50	11 2	4 34.23	-44 6.0	1.531	2.143	24.9	22.1	115 W	1 72
11 7	4 15.00	+13 37.0	1.366	2.318	8.9	21.5	159 W	59 50	11 7	4 26.83	-44 22.8	1.523	2.144	24.7	22.1	115 W	1 72
11 12	4 9.61	+13 9.9	1.362	2.331	6.5	21.4	165 W	58 51	11 12	4 18.76	-44 25.3	1.518	2.144	24.5	22.1	116 W	1 72
11 17	4 3.95	+12 44.0	1.365	2.344	4.4	21.3	170 W	58 51	11 17	4 10.26	-44 12.3	1.516	2.144	24.4	22.1	116 W	1 72
11 22	3 58.18	+12 19.7	1.375	2.357	3.3	21.3	172 W	57 52	11 22	4 1.62	-43 43.4	1.517	2.144	24.4	22.1	116 W	1 72
12 2	3 52.50	+11 57.8	1.392	2.369	4.2	21.4	170 E	57 52	11 27	3 53.11	-42 58.3	1.521	2.143	24.5	22.1	116 E	2 73
12 7	3 47.07	+11 38.8	1.415	2.382	6.1	21.5	165 E	57 52	12 2	3 44.99	-41 57.5	1.528	2.142	24.6	22.1	115 E	3 74
12 12	3 42.07	+11 23.2	1.446	2.394	8.3	21.7	160 E	56 53	12 7	3 37.50	-40 41.8	1.539	2.141	24.8	22.1	114 E	4 75
12 17	3 37.62	+11 11.5	1.483	2.406	10.4	21.8	154 E	56 53	12 12	3 30.83	-39 12.6	1.553	2.140	25.0	22.2	113 E	6 77
12 22	3 33.84	+11 3.7	1.526	2.418	12.5	22.0	148 E	56 53	12 17	3 25.10	-37 31.5	1.570	2.138	25.3	22.2	112 E	7 78
12 22	3 30.77	+10 59.9	1.575	2.429	14.3	22.1	142 E	56 53	12 22	3 20.38	-35 40.4	1.591	2.136	25.7	22.2	110 E	9 80
405019 2001 PY₆₄									199145 2005 YY₁₂₈								
11 2	4 26.83	+31 59.1	1.761	2.655	11.5	22.4	148 W	77 32	11 2	4 40.76	+27 10.0	1.737	2.624	12.0	22.2	147 W	72 37
11 7	4 21.60	+31 59.2	1.738	2.662	9.5	22.3	154 W	77 32	11 7	4 33.16	+26 58.8	1.718	2.642	9.7	22.1	153 W	72 37
11 12	4 15.82	+31 55.2	1.721	2.669	7.6	22.2	159 W	77 32	11 12	4 25.00	+26 43.8	1.707	2.659	7.3	22.0	160 W	72 37
11 17	4 9.66	+31 46.8	1.712	2.677	5.8	22.1	164 W	77 32	11 17	4 16.47	+26 24.9	1.703	2.675	4.9	21.9	167 W	71 38
11 22	4 3.29	+31 34.1	1.709	2.683	4.4	22.0	168 W	77 32	11 22	4 7.80	+26 2.3	1.708	2.691	2.7	21.8	173 W	71 38
11 27	3 56.90	+31 17.4	1.714	2.690	3.9	22.0	169 E	76 33	11 27	3 59.20	+25 36.5	1.721	2.705	1.9	21.8	175 E	71 38
12 2	3 50.67	+30 57.2	1.726	2.696	4.7	22.0	167 E	76 33	12 2	3 50.88	+25 8.4	1.743	2.720	3.6	21.9	170 E	70 39
12 7	3 44.79	+30 34.1	1.746	2.702	6.3	22.2	163 E	76 33	12 7	3 43.03	+24 38.7	1.773	2.733	5.8	22.1	164 E	70 39
12 12	3 39.40	+30 9.1	1.773	2.708	8.1	22.3	157 E	75 34	12 12	3 35.83	+24 8.5	1.812	2.746	8.0	22.2	157 E	69 40
12 17	3 34.65	+29 43.0	1.806	2.714	9.9	22.4	152 E	75 34	12 17	3 29.40	+23 38.9	1.858	2.758	10.1	22.4	151 E	69 40
434707 2006 CH₄₉									390638 2002 LZ₆₂								
11 2	4 26.88	+27 49.9	3.944	4.825	6.0	21.6	150 W	73 36	11 2	4 45.40	+27 45.3	1.417	2.305	14.1	21.9	146 W	73 36
11 12	4 21.18	+27 37.1	3.863	4.807	3.9	21.4	160 W	73 36	11 7	4 40.24	+27 49.6	1.399	2.320	11.7	21.8	152 W	73 36
11 22	4 14.70	+27 18.8	3.811	4.788	1.9	21.2	171 W	72 37	11 12	4 34.38	+27 50.7	1.388	2.334	9.3	21.7	158 W	73 36
12 2	4 7.93	+26 55.7	3.790	4.770	1.5	21.2	173 E	72 37	11 17	4 27.99	+27 48.2	1.382	2.348	6.8	21.6	164 W	73 36
12 12	4 1.39	+26 28.9	3.801	4.751	3.5	21.3	163 E	71 38	11 22	4 21.29	+27 42.1	1.384	2.362	4.4	21.5	169 W	73 36
12 22	3 55.59	+26 0.5	3.842	4.731	5.7	21.5	152 E	71 38	11 27	4 14.47	+27 32.6	1.392	2.375	2.7	21.4	173 W	73 36
412708 2014 OV₂₉₄									405398 2004 LJ₂₈								
11 2	4 28.40	+10 53.2	1.671	2.581	10.9	22.2	151 W	56 53	11 2	4 45.91	+14 7.0	1.202	2.103	15.0	21.4	147 W	59 50
11 12	4 18.94	+10 4.9	1.640	2.597	7.0	22.0	161 W	55 54	11 7	4 41.51	+13 41.7	1.191	2.120	12.5	21.4	153 W	59 50
11 22	4 8.19	+9 22.8	1.638	2.613	4.4	21.8	168 W	54 55	11 12	4 36.45	+13 17.1	1.185	2.136	9.9	21.3	158 W	58 51
12 2	3 57.31	+8 51.0	1.664	2.627	5.8	22.0	164 E	54 55	11 17	4 30.91	+12 53.8	1.185	2.153	7.3	21.2	164 W	58 51
12 12	3 47.52	+8 32.8	1.719	2.641	9.3	22.2	154 E	54 55	11 22	4 25.08	+12 32.4	1.192	2.169	5.1	21.1	169 W	58 51
12 22	3 39.77	+8 29.6	1.799	2.654	12.8	22.5	143 E	53 56	11 27	4 19.17	+12 13.5	1.206	2.186	4.1	21.1	171 W	57 52
380954 2006 KR₁₂₄									456237 2006 MM₆								
11 2	4 29.47	+13 7.5	2.200	3.103	9.0	21.5	151 W	58 51	11 2	4 47.36	+32 55.9	1.914	2.776	12.3	21.7	144 W	78 31
11 12	4 21.24	+12 39.1	2.109	3.065	5.8	21.2	162 W	58 51	11 7	4 42.73	+32 53.1	1.889	2.787	10.5	21.6	149 W	78 31
11 22	4 11.44	+12 12.2	2.047	3.026	3.1	21.0	171 W	57 52	11 12	4 37.51	+32 46.6	1.870	2.798	8.6	21.5	155 W	78 31
12 2	4 0.91	+11 49.5	2.016	2.986	4.1	21.0	167 E	57 52	11 17	4 31.85	+32 36.1	1.858	2.809	6.8	21.4	160 W	78 31
12 12	3 50.67	+11 33.8	2.015	2.945	7.6	21.1	157 E	57 52	11 22	4 25.89	+32 21.6	1.853	2.820	5.1	21.3	165 W	77 32
12 22	3 41.70	+11 27.6	2.042	2.903	11.2	21.3	145 E	56 53	11 27	4 19.80	+32 3.2	1.855	2.830	3.9	21.3	169 W	77 32
1 1	3 34.77	+11 32.4	2.093	2.860	14.4	21.4	133 E	57 52	12 2	4 13.75	+31 41.3	1.865	2.840	3.7	21.3	169 E	77 32
382825 2003 XB₂₂									477826 2011 EB₅₁								
11 2	4 32.28	-26 51.6	1.177	1.958	23.3	22.2	129 W	18 89	11 2	4 33.06	-16 24.2	2.761	3.545	11.2	22.4	136 W	29 80
11 7	4 24.03	-27 19.7	1.162	1.958	22.6	22.2	131 W	18 89	11 7	4 29.36	-16 51.7	2.745	3.549	10.6	22.4	139 W	28 81
11 12	4 14.97	-27 33.6	1.152	1.958	22.1	22.1	132 W	17 88	11 12	4 25.34	-17 14.3	2.734	3.553	10.2	22.4	140 W	28 81
11 17	4 5.37	-27 31.7	1.147	1.957	21.8	22.1	133 W	17 88	11 17	4 21.09	-17 31.6	2.730	3.556	10.0	22.4	141 W	27 82
11 22	3 55.53	-27 13.0	1.146	1.956	21.8	22.1	133 W	18 89	11 22	4 16.67	-17 43.0	2.731	3.559	9.9	22.4	142 W	27 82
11 27	3 45.76	-26 37.5	1.151	1.953	22.1	22.1	132 E	18 89	11 27	4 12.20	-17 48.5	2.739	3.562	10.0	22.4	141 W	27 82
12 2	3 36.38	-25 45.6	1.160	1.950	22.6	22.2	130 E	19 90	12 2	4 7.75	-17 47.6	2.754	3.565	10.3	22.4	140 E	27 82
12 7	3 27.66	-24 38.5	1.175	1.946	23.4	22.2	128 E	20 89	12 7	4 3.43	-17 40.6	2.774	3.567	10.7	22.5	138 E	27 82
12 12	3 19.82	-23 18.1	1.194	1.942	24.3	22.3	126 E	22 87	12 12	3 59.31	-17 27.4	2.801	3.569	11.2	22.5	135 E	28 81
12 17	3 13.03	-21 46.6	1.218	1.936	25.3	22.3	123 E	23 86	12 17	3 55.49	-17 8.5	2.833	3.571	11.7	22.5	132 E	28 81
12 22	3 7.37	-20 6.4	1.246	1.930	26.4	22.4	119 E	25 84									

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

2021	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°	21/22	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°										
321356 2009 MF										465853 2010 RJ₄₂ <i>(continuation)</i>																			
11 2	4 49.44	+15 15.4	2.225	3.098	10.3	21.8	146 W	60	49	12 4	2 29.92	+75 46.5	1.379	2.095	23.0	22.9	124 E	59	—	12 6	2 21.76	+75 24.4	1.377	2.092	23.1	22.9	124 E	60	—
11 12	4 41.52	+14 31.9	2.152	3.090	7.1	21.5	157 W	60	49	12 8	2 14.40	+74 59.6	1.376	2.089	23.1	22.9	124 E	60	—	12 10	2 7.84	+74 32.3	1.375	2.085	23.3	22.9	123 E	60	—
11 22	4 32.00	+13 48.2	2.107	3.080	3.8	21.3	168 W	59	50	307566 2003 FK₂₂																			
12 2	4 21.68	+13 7.2	2.092	3.070	2.9	21.2	171 E	58	51	11 2	4 57.27	+21 35.5	1.958	2.822	11.9	21.5	144 W	67	42	11 12	4 48.85	+21 39.0	1.879	2.812	8.2	21.3	156 W	67	42
12 12	4 11.57	+12 32.0	2.109	3.058	5.9	21.4	161 E	58	51	11 22	4 38.25	+21 38.7	1.827	2.802	4.0	20.0	169 W	67	42	12 2	4 26.44	+21 34.4	1.804	2.790	0.5	20.7	179 E	67	42
12 22	4 2.61	+12 5.5	2.155	3.046	9.3	21.6	150 E	57	52	12 12	4 14.64	+21 27.2	1.813	2.777	5.0	21.0	166 E	66	43	12 22	4 4.10	+21 19.7	1.850	2.764	9.3	21.3	153 E	66	43
510055 2010 FH₈₁										364142 2006 DN₆₂																			
11 2	4 52.93	- 3 31.6	0.567	1.472	25.8	22.4	140 W	41	68	11 2	4 57.98	+14 10.2	2.028	2.889	11.7	22.2	144 W	59	50	11 12	4 50.27	+13 27.8	1.954	2.882	8.3	21.9	155 W	58	51
11 7	4 43.98	- 3 7.1	0.548	1.476	22.4	22.2	145 W	42	67	11 22	4 40.67	+12 46.5	1.907	2.874	4.9	21.7	166 W	58	51	12 2	4 30.04	+12 9.3	1.889	2.866	3.3	21.6	170 E	57	52
11 12	4 33.42	- 2 29.7	0.533	1.479	19.0	22.0	151 W	43	66	12 12	4 14.64	+21 27.2	1.813	2.777	5.0	21.0	166 E	66	43	12 12	4 19.45	+11 39.3	1.902	2.856	6.0	21.7	162 E	57	52
11 17	4 21.57	- 1 38.2	0.523	1.481	15.9	21.9	156 W	43	66	1 1	3 55.80	+21 14.7	1.914	2.749	13.0	21.5	141 E	66	43	12 22	4 9.98	+11 19.5	1.943	2.845	9.6	21.9	151 E	56	53
11 22	4 8.88	- 0 32.5	0.518	1.482	13.9	21.8	159 W	44	65	318580 2005 GL₁₆₂																			
11 27	3 55.90	+ 0 46.1	0.518	1.483	13.5	21.8	159 E	46	63	11 2	4 59.30	+14 57.2	2.286	3.140	10.8	22.3	144 W	60	49	11 12	4 51.49	+14 26.6	2.231	3.156	7.6	22.1	155 W	59	50
12 2	3 43.21	+ 2 15.6	0.525	1.483	15.0	21.9	157 E	47	62	11 22	4 42.13	+13 57.3	2.203	3.171	4.3	21.9	166 W	59	50	12 2	4 32.03	+13 31.3	2.206	3.185	2.6	21.8	172 E	59	50
12 7	3 31.38	+ 3 53.3	0.537	1.483	17.8	22.0	153 E	49	60	12 12	4 22.13	+13 10.8	2.240	3.198	4.9	22.0	164 E	58	51	12 22	4 13.32	+12 57.8	2.304	3.209	8.1	22.2	153 E	58	51
12 12	3 20.88	+ 5 36.2	0.554	1.482	21.1	22.2	147 E	51	58	329395 2002 AC																			
12 17	3 12.01	+ 7 21.4	0.577	1.480	24.4	22.4	142 E	52	57	11 2	5 8.50	+14 7.0	1.852	2.699	13.3	22.3	141 W	59	50	11 12	4 57.78	+14 45.1	1.715	2.639	9.6	21.9	154 W	60	49
159929 2005 UK										364142 2006 DN₆₂																			
11 2	4 54.08	- 9 12.7	1.830	2.641	14.9	21.8	137 W	36	73	11 22	4 40.67	+12 46.5	1.907	2.874	4.9	21.7	166 W	58	51	12 2	4 26.35	+16 23.9	1.529	2.512	2.2	21.2	174 E	61	48
11 7	4 48.72	- 11 0.1	1.803	2.638	14.1	21.7	140 W	34	75	12 12	4 7.75	+17 21.3	1.486	2.445	6.7	21.3	163 E	62	47	12 22	3 49.57	+18 21.7	1.477	2.376	12.3	21.5	149 E	63	46
11 12	4 42.71	- 12 0.3	1.784	2.634	13.5	21.6	142 W	32	77	511600 2015 AZ₂₄₅																			
11 17	4 36.15	- 14 22.2	1.772	2.629	13.1	21.6	143 W	31	78	11 2	5 13.43	+37 23.8	2.305	3.105	12.6	21.8	137 W	82	27	11 7	5 5.65	+36 57.0	2.265	3.116	11.0	21.7	143 W	82	27
11 22	4 29.19	- 15 53.1	1.769	2.624	13.2	21.6	143 W	29	80	11 12	4 57.22	+36 24.5	2.233	3.126	9.2	21.6	149 W	81	28	11 12	4 46.22	+ 6 5.3	1.812	2.734	9.3	22.1	153 W	51	58
11 27	4 21.96	- 17 15.0	1.773	2.619	13.5	21.6	142 W	28	81	11 22	4 48.30	+35 45.8	2.208	3.136	7.5	21.5	156 W	81	28	11 22	4 35.44	+ 6 22.1	1.752	2.709	6.3	21.9	162 W	51	58
12 2	4 14.65	- 18 26.7	1.784	2.613	14.2	21.6	139 E	27	82	12 2	4 23.35	+ 6 52.6	1.720	2.684	5.5	21.8	165 E	52	57	12 2	4 23.35	+ 6 52.6	1.720	2.684	5.5	21.8	165 E	52	57
12 7	4 7.44	- 19 27.3	1.803	2.607	15.1	21.7	136 E	26	83	12 12	4 11.12	+ 7 37.4	1.719	2.658	7.9	21.9	158 E	53	56	12 12	4 11.12	+ 7 37.4	1.719	2.658	7.9	21.9	158 E	53	56
12 12	4 0.49	- 20 16.4	1.828	2.600	16.1	21.8	133 E	25	84	12 22	4 0.02	+ 8 35.9	1.746	2.630	11.5	22.0	148 E	54	55	12 22	4 0.02	+ 8 35.9	1.746	2.630	11.5	22.0	148 E	54	55
12 17	3 53.99	- 20 54.1	1.858	2.593	17.1	21.8	129 E	24	85	468494 2005 GY₁₂₈																			
12 22	3 48.04	- 21 21.0	1.894	2.586	18.2	21.9	125 E	24	85	11 2	4 54.78	+ 6 0.0	1.900	2.758	12.5	22.3	143 W	51	58	11 12	4 46.22	+ 6 5.3	1.812	2.734	9.3	22.1	153 W	51	58
12 27	3 42.75	- 21 37.9	1.934	2.578	19.2	22.0	121 E	23	86	11 22	4 34.49	+ 12 45.8	1.923	2.893	4.4	21.5	167 W	58	51	11 22	4 35.44	+ 6 22.1	1.752	2.709	6.3	21.9	162 W	51	58
354365 2003 LX₂										468494 2005 GY₁₂₈																			
11 2	4 54.17	+ 13 57.3	1.965	2.833	11.7	21.8	145 W	59	50	12 2	4 23.37	+ 12 16.7	1.945	2.922	3.3	21.5	170 E	57	52	12 2	4 23.37	+ 12 16.7	1.945	2.922	3.3	21.5	170 E	57	52
11 12	4 45.09	+ 13 20.3	1.930	2.864	8.0	21.7	156 W	58	51	12 12	4 12.84	+ 11 55.6	1.999	2.949	6.1	21.7	161 E	57	52	12 12	4 12.84	+ 11 55.6	1.999	2.949	6.1	21.7	161 E	57	52
11 22	4 34.49	+ 12 45.8	1.923	2.893	4.4	21.5	167 W	58	51	12 22	4 3.85	+ 11 44.3	2.082	2.975	9.5	22.0	150 E	57	52	12 22	4 3.85	+ 11 44.3	2.082	2.975	9.5	22.0	150 E	57	52
12 2	4 23.37	+ 12 16.7	1.945	2.922	3.3	21.5	170 E	57	52	496868 2000 OA₅₁																			
12 12	4 12.84	+ 11 55.6	1.999	2.949	6.1	21.7	161 E	57	52	11 2	4 55.72	+ 25 9.7	1.880	2.745	12.3	22.5	144 W	70	39	11 12	4 46.22	+ 6 5.3	1.812	2.734	9.3	22.1	153 W	51	58
12 22	4 3.85	+ 11 44.3	2.082	2.975	9.5	22.0	150 E	57	52	11 22	4 45.81	+ 24 38.4	1.843	2.778	8.3	22.3	156 W	70	39	11 22	4 35.44	+ 6 22.1	1.752	2.709	6.3	21.9	162 W	51	58
468494 2005 GY₁₂₈										468494 2005 GY₁₂₈																			
11 2	4 54.78	+ 6 0.0	1.900	2.758	12.5	22.3	143 W	51	58	12 2	4 34.20	+ 23 58.7	1.833	2.809	3.9	22.1	169 W	69	40	12 2	4 23.37	+ 12 16.7	1.945	2.922	3.3	21.5	170 E	57	52
11 12	4 46.22	+ 6 5.3	1.812	2.734	9.3	22.1	153 W	51	58	12 12	4 23.37	+ 12 16.7	1.945	2.922	3.3	21.5	170 E	57	52	12 12	4 11.12	+ 7 37.4	1.719	2.658	7.9	21.9	158 E	53	56
11 22	4 35.44	+ 6 22.1	1.752	2.709	6.3	21.9	162 W	51	58	12 22	4 11.12	+ 7 37.4	1.719	2.658	7.9	21.9	158 E	53	56	12 22	4 11.12	+ 7 37.4	1.719	2.658	7.9	21.9	158 E	53	56
12 2	4 23.35	+ 6 52.6	1.720	2.684	5.5	21.8	165 E	52	57	511600 2015 AZ₂₄₅																			
12 12	4 11.12	+ 7 37.4	1.719	2.658	7.9	21.9	158 E	53	56	11 2	5 13.43	+ 37 23.8	2.305	3.105	12.6	21.8	137 W	82	27	11 22	4 34.20	+ 23 58.7	1.833	2.809	3.9	22.1	169 W	69	40
12 22	4 0.02	+ 8 35.9	1.746	2.630	11.5	22.0	148 E	54	55	11 12	4 57.22	+ 36 24.5	2.233	3.126	9.2	21.6	149 W	81	28	12 2	4 23.35	+ 6 52.6	1.720	2.684	5.5	21.8	165 E	52	57
496868 2000 OA₅₁										496868 2000 OA₅₁																			
11 2	4 55.72	+ 25 9.7	1.880	2.745																									

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

21/22	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45° - 26°	21/22	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45° - 26°
517542 2014 SY ₂₂₃ (continuation)									137032 1998 UO ₁ (continuation)								
11 22	5 6.20	-3 22.4	1.004	1.923	14.9	21.1	150 W	42 67	11 22	5 41.38	+59 50.8	1.958	2.752	14.6	21.1	136 W	75 4
11 27	4 59.68	-4 14.7	1.006	1.933	13.9	21.0	152 W	41 68	11 27	5 28.50	+60 25.2	1.925	2.742	13.8	21.0	138 W	75 4
12 2	4 52.91	-4 56.9	1.013	1.943	13.5	21.1	153 W	40 69	12 2	5 14.25	+60 47.7	1.898	2.731	13.3	20.9	140 W	74 3
12 7	4 46.14	-5 27.8	1.027	1.952	13.8	21.1	152 E	40 69	12 7	4 59.10	+60 56.5	1.878	2.720	13.0	20.9	142 W	74 3
12 12	4 39.62	-5 47.3	1.046	1.961	14.6	21.2	150 E	39 70	12 12	4 43.61	+60 50.5	1.865	2.708	13.0	20.9	142 E	74 3
12 17	4 33.59	-5 55.4	1.071	1.970	15.9	21.3	147 E	39 70	12 17	4 28.43	+60 29.7	1.859	2.695	13.3	20.9	141 E	75 4
12 22	4 28.21	-5 52.8	1.101	1.978	17.4	21.4	143 E	39 70	12 22	4 14.12	+59 55.2	1.860	2.681	13.9	20.9	139 E	75 4
12 27	4 23.62	-5 40.4	1.136	1.986	19.0	21.5	139 E	39 70	12 27	4 1.15	+59 8.7	1.867	2.667	14.7	20.9	136 E	76 5
1 1	4 19.92	-5 19.5	1.176	1.994	20.5	21.7	135 E	40 69	1 1	3 49.84	+58 12.6	1.881	2.652	15.7	20.9	133 E	77 6
356520 2011 SV ₈₇									405072 2001 UT ₈								
11 2	5 50.12	+24 51.1	1.600	2.378	18.2	21.4	132 W	70 39	11 2	6 22.36	+31 50.5	1.486	2.203	21.9	21.4	124 W	77 32
11 12	5 44.13	+24 42.9	1.536	2.402	14.3	21.2	143 W	70 39	11 12	6 18.90	+32 40.3	1.423	2.234	18.4	21.3	135 W	78 31
11 22	5 34.91	+24 30.4	1.492	2.425	9.8	21.0	155 W	70 39	11 22	6 11.25	+33 26.6	1.377	2.263	14.2	21.1	146 W	78 31
12 2	5 23.33	+24 12.2	1.474	2.447	4.8	20.8	168 W	69 40	12 2	5 59.97	+34 3.1	1.352	2.293	9.6	20.9	157 W	79 30
12 12	5 10.76	+23 48.2	1.484	2.468	0.6	20.5	179 E	69 40	12 12	5 46.35	+34 23.1	1.352	2.321	5.5	20.7	167 W	79 30
12 22	4 58.79	+23 20.7	1.523	2.489	5.5	20.9	166 E	68 41	12 22	5 32.27	+34 23.5	1.379	2.349	5.2	20.8	167 E	79 30
1 1	4 48.77	+22 53.0	1.590	2.508	10.1	21.3	153 E	68 41	1 1	5 19.66	+34 6.0	1.435	2.377	8.8	21.1	158 E	79 30
496860 1999 XL ₁₃₆									416294 2003 QK ₉₉								
11 2	5 53.69	+32 2.9	0.831	1.656	27.2	21.4	130 W	77 32	11 2	6 22.77	+54 34.9	1.851	2.498	20.1	21.4	120 W	80 9
11 7	5 56.35	+32 8.7	0.752	1.611	26.0	21.1	135 W	77 32	11 7	6 20.57	+55 34.4	1.822	2.512	19.1	21.4	124 W	79 8
11 12	5 57.98	+32 12.5	0.675	1.564	24.5	20.8	139 W	77 32	11 12	6 16.92	+56 31.1	1.797	2.526	18.1	21.3	128 W	78 7
11 17	5 58.42	+32 13.3	0.601	1.517	22.6	20.4	144 W	77 32	11 17	6 11.82	+57 23.5	1.776	2.539	17.0	21.3	131 W	78 7
11 22	5 57.38	+32 9.8	0.531	1.468	20.3	20.0	149 W	77 32	11 22	6 5.29	+58 10.1	1.760	2.552	16.0	21.2	135 W	77 6
11 27	5 54.51	+32 0.0	0.463	1.419	17.5	19.5	154 W	77 32	11 27	5 57.44	+58 49.2	1.748	2.565	15.0	21.2	138 W	76 5
12 2	5 49.30	+31 40.3	0.400	1.369	14.1	19.0	160 W	77 32	12 2	5 48.46	+59 19.1	1.742	2.578	14.2	21.2	140 W	76 5
12 7	5 41.09	+31 4.9	0.339	1.318	10.1	18.4	166 W	76 33	12 7	5 38.65	+59 38.6	1.742	2.591	13.5	21.2	142 W	75 4
12 12	5 28.91	+30 4.0	0.283	1.266	5.9	17.7	172 W	75 34	12 12	5 28.40	+59 46.8	1.747	2.603	13.1	21.2	143 W	75 4
12 14	5 22.62	+29 28.9	0.261	1.244	5.0	17.5	174 E	74 35	12 17	5 18.14	+59 43.5	1.758	2.615	12.9	21.2	143 E	75 4
12 16	5 15.32	+28 45.3	0.241	1.223	5.5	17.3	173 E	74 35	12 22	5 8.28	+59 29.2	1.775	2.627	13.1	21.2	143 E	76 5
12 18	5 6.86	+27 50.8	0.220	1.202	7.5	17.2	171 E	73 36	12 27	4 59.19	+59 4.8	1.799	2.639	13.5	21.3	141 E	76 5
12 20	4 57.01	+26 42.5	0.201	1.181	10.6	17.0	167 E	72 37	1 1	4 51.16	+58 31.7	1.827	2.651	14.0	21.3	139 E	76 5
12 22	4 45.54	+25 16.2	0.182	1.159	14.4	16.9	163 E	70 39	1 6	4 44.40	+57 51.6	1.862	2.662	14.7	21.4	136 E	77 6
12 23	4 39.08	+24 24.6	0.173	1.149	16.7	16.9	160 E	69 40	1 11	4 39.03	+57 6.4	1.901	2.673	15.5	21.5	133 E	78 7
12 24	4 32.10	+23 26.4	0.165	1.138	19.1	16.8	158 E	68 41	285085 1992 UM ₇								
12 25	4 24.52	+22 20.5	0.156	1.127	21.7	16.8	155 E	67 42	11 2	6 27.43	+16 49.4	1.525	2.223	22.1	21.4	123 W	62 47
12 26	4 16.30	+21 5.7	0.148	1.116	24.6	16.7	152 E	66 43	11 12	6 24.86	+16 11.9	1.454	2.250	18.7	21.2	133 W	61 48
12 27	4 7.38	+19 40.9	0.140	1.105	27.7	16.7	148 E	65 44	11 22	6 18.72	+15 38.5	1.399	2.276	14.7	21.0	144 W	61 48
12 28	3 57.68	+18 4.6	0.133	1.095	31.2	16.6	145 E	63 46	12 2	6 9.45	+15 10.9	1.365	2.301	10.0	20.8	156 W	60 49
12 29	3 47.15	+16 15.3	0.125	1.084	34.9	16.6	141 E	61 48	12 12	5 58.04	+14 50.4	1.355	2.326	5.4	20.6	167 W	60 49
12 30	3 35.71	+14 11.5	0.119	1.073	39.0	16.6	137 E	59 50	12 22	5 45.94	+14 38.1	1.374	2.350	3.9	20.6	171 E	60 49
12 31	3 23.30	+11 51.5	0.113	1.062	43.5	16.6	132 E	57 52	1 1	5 34.65	+14 34.7	1.420	2.373	7.6	20.9	161 E	60 49
1 1	3 9.85	+9 14.4	0.107	1.051	48.4	16.6	127 E	54 55	1 11	5 25.51	+14 40.3	1.493	2.395	11.8	21.2	150 E	60 49
1 3	2 39.71	+3 6.6	0.098	1.029	59.4	16.6	116 E	48 61	1 21	5 19.35	+14 54.2	1.588	2.417	15.6	21.5	139 E	60 49
1 5	2 5.24	-4 4.1	0.092	1.008	72.0	16.9	103 41	68*	136864 1998 FB ₄₁								
1 7	1 27.06	-11 46.6	0.090	0.986	85.6	17.2	89 E	33 70*	11 2	6 31.98	+17 15.6	2.330	2.973	16.5	21.4	122 W	62 47
1 9	0 46.60	-19 10.6	0.091	0.965	99.2	17.8	76 E	26 64*	11 12	6 29.45	+16 57.7	2.210	2.966	14.3	21.2	132 W	62 47
1 11	0 5.92	-25 29.0	0.097	0.943	111.8	18.6	63 E	19* 55*	11 22	6 24.25	+16 43.0	2.108	2.959	11.5	21.0	143 W	62 47
1 12	23 46.19	-28 5.3	0.101	0.933	117.6	19.0	57 E	16* 50*	12 2	6 16.58	+16 31.9	2.028	2.950	8.2	20.8	155 W	62 47
1 13	23 27.18	-30 19.0	0.106	0.922	122.9	19.5	52 E	13* 45*	12 12	6 6.95	+16 24.9	1.975	2.941	4.6	20.5	166 W	61 48
1 14	23 9.07	-32 11.1	0.111	0.911	127.7	20.0	47 E	10* 41*	12 22	5 56.24	+16 22.0	1.951	2.930	2.4	20.4	173 E	61 48
1 15	22 51.99	-33 43.5	0.117	0.901	132.1	20.5	43 E	7* 37*	1 1	5 45.50	+16 23.3	1.959	2.919	5.1	20.5	165 E	61 48
1 16	22 35.99	-34 58.6	0.124	0.890	136.1	21.1	39 E	4* 33*	1 11	5 35.81	+16 29.1	1.996	2.906	8.9	20.7	153 E	61 48
152603 1995 VF ₂									229672 2006 WR ₁								
11 2	6 5.67	+25 5.2	1.513	2.265	20.1	21.5	128 W	70 39	11 2	6 34.44	-9 55.3	1.497	2.109	25.4	21.5	114 W	35 74
11 12	6 0.32	+25 27.4	1.455	2.298	16.3	21.3	139 W	70 39	11 7	6 31.40	-10 27.3	1.435	2.099	24.5	21.3	119 W	35 74
11 22	5 51.34	+25 47.9	1.415	2.331	11.7	21.1	151 W	71 38	11 12	6 27.17	-10 55.8	1.375	2.088	23.4	21.2	123 W	34 75
12 2	5 39.51	+26 3.4	1.398	2.362	6.6	20.9	164 W	71 38	11 17	6 21.69	-11 19.1	1.318	2.077	22.1	21.1	128 W	34 75
12 12	5 26.22	+26 11.0	1.409	2.393	1.6	20.6	176 W	71 38	11 22	6 14.93	-11 35.7	1.266	2.064	20.7	20.9	132 W	33 76
12 22	5 13.20	+26 10.4	1.450	2.422	4.4	20.9	169 E	71 38	11 27	6 6.87	-11 43.6	1.218	2.050	19.3	20.8	137 W	33 76
1 1	5 2.01	+26 3.6	1.518	2.451	9.2	21.3	157 E	71 38	12 2	5 57.58	-11 41.0	1.176	2.035	18.0	20.6	140 W	33 76
1 11	4 53.76	+25 54.4	1.612	2.479	13.3	21.6	145 E	71 38	12 7	5 47.19	-11 25.8	1.140	2.019	16.8	20.5	144 W	34 75
363438 2003 SY ₁₀₅									137032 1998 UO ₁								
11 2	6 7.20	+27 25.9	1.695	2.433	18.8	21.4	128 W	72 37	11 2	6 15.45	+56 21.1	2.148	2.784	17.9	21.4	120 W	79 8
11 12	6 2.30	+27 34.8	1.629	2.462	15.3	21.3	139 W	73 36	11 7	6 9.61	+57 19.9	2.093	2.777	17.1	21.3	124 W	78 7
11 22	5 54.02	+27 39.9	1.582	2.491	11.2	21.1	151 W	73 36	11 12	6 2.01	+58 15.8	2.043	2.769	16.3	21.2	128 W	77 6
12 2	5 43.09	+27 38.3	1.559	2.519	6.6	20.9	163 W	73 36	11 17	5 52.59	+59 6.9	1.998	2.761	15.4	21.2	132 W	76 5
12 12	5 30.70	+27 28.0	1.564	2.546	2.1	20.6	174 W	72 37									

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

21/22	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°	21/22	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°
158299 2001 UC₁₂₆										376879 2001 WW₁									
11 2	6 42.85	+18 6.0	1.880	2.517	20.1	21.4	119 W	63	46	11 2	7 1.34	+7 8.1	0.253	1.115	55.2	21.5	113 W	52	57
11 12	6 40.63	+18 18.5	1.791	2.540	17.5	21.2	130 W	63	46	11 4	7 7.63	+9 21.9	0.243	1.112	54.8	21.4	114 W	54	55
11 22	6 35.15	+18 37.9	1.718	2.563	14.0	21.0	141 W	64	45	11 6	7 14.23	+11 47.6	0.233	1.109	54.4	21.2	115 W	57	52
12 2	6 26.67	+19 3.7	1.666	2.584	9.9	20.8	153 W	64	45	11 8	7 21.18	+14 26.0	0.224	1.106	54.0	21.1	115 W	59	50
12 12	6 15.81	+19 33.9	1.639	2.604	5.4	20.6	166 W	65	44	11 10	7 28.56	+17 17.3	0.216	1.103	53.6	21.0	116 W	62	47
12 22	6 3.72	+20 6.1	1.641	2.624	1.3	20.4	177 W	65	44	11 12	7 36.41	+20 21.7	0.208	1.100	53.3	21.0	117 W	65	44
12 27	5 57.63	+20 22.3	1.653	2.633	2.4	20.5	174 E	65	44	11 14	7 44.84	+23 38.6	0.201	1.097	53.0	20.9	118 W	69	40
1 1	5 51.73	+20 38.1	1.673	2.642	4.6	20.6	168 E	66	43	11 16	7 53.92	+27 7.2	0.195	1.095	52.8	20.8	118 W	72	37
1 6	5 46.19	+20 53.6	1.701	2.651	6.8	20.8	161 E	66	43	11 18	8 3.77	+30 45.8	0.190	1.092	52.8	20.7	118 W	76	33
1 11	5 41.17	+21 8.6	1.735	2.659	9.0	20.9	155 E	66	43	11 20	8 14.51	+34 32.1	0.187	1.090	52.9	20.7	118 W	80	29
1 16	5 36.76	+21 23.2	1.776	2.668	10.9	21.1	149 E	66	43	11 22	8 26.28	+38 22.9	0.184	1.087	53.1	20.7	118 W	83	26
1 21	5 33.06	+21 37.4	1.823	2.676	12.8	21.2	143 E	67	42	11 24	8 39.24	+42 14.5	0.182	1.085	53.5	20.6	118 W	87	22
334042 2001 EC₁₈										380240 2001 UA₂									
11 2	6 43.61	+48 9.8	1.319	1.991	26.1	21.5	118 W	87	16	11 2	7 5.54	+9 46.9	1.343	1.949	28.1	21.4	112 W	55	54
11 7	6 43.75	+49 7.1	1.278	1.993	24.8	21.4	122 W	86	15	11 12	7 7.14	+7 57.9	1.289	1.990	25.2	21.3	121 W	53	56
11 12	6 42.34	+50 4.4	1.240	1.995	23.5	21.3	127 W	85	14	11 22	7 4.85	+6 17.4	1.245	2.032	21.6	21.2	131 W	51	58
11 17	6 39.26	+51 0.4	1.205	1.996	22.0	21.2	131 W	84	13	12 2	6 58.85	+4 51.2	1.215	2.074	17.5	21.0	141 W	50	59
11 22	6 34.42	+51 53.4	1.174	1.998	20.5	21.1	135 W	83	12	12 12	6 49.80	+3 45.8	1.205	2.116	13.4	20.9	150 W	49	60
11 27	6 27.78	+52 41.1	1.147	1.998	18.9	21.0	139 W	82	11	12 22	6 38.91	+3 5.9	1.217	2.159	10.0	20.8	158 W	48	61
12 2	6 19.40	+53 21.0	1.124	1.999	17.5	20.9	143 W	82	11	1 1	6 27.66	+2 53.5	1.253	2.201	9.0	20.9	159 E	48	61
12 7	6 9.48	+53 50.6	1.107	1.999	16.2	20.8	146 W	81	10	1 11	6 17.58	+3 6.8	1.316	2.244	10.9	21.1	155 E	48	61
12 12	5 58.40	+54 7.2	1.095	1.999	15.2	20.7	148 W	81	10	1 21	6 9.87	+3 40.5	1.402	2.286	13.8	21.4	146 E	49	60
12 17	5 46.65	+54 9.4	1.088	1.998	14.6	20.7	149 W	81	10	434053 2001 UP₂₇									
12 22	5 34.80	+53 56.4	1.088	1.997	14.6	20.7	149 E	81	10	11 2	7 12.15	+37 53.4	0.553	1.317	43.6	21.5	114 W	83	26
12 27	5 23.41	+53 28.7	1.093	1.995	15.2	20.7	148 E	82	11	11 7	7 21.74	+41 55.3	0.537	1.322	42.0	21.4	117 W	87	22
1 1	5 13.02	+52 47.6	1.103	1.993	16.2	20.8	146 E	82	11	11 12	7 30.80	+46 7.1	0.523	1.328	40.5	21.3	119 W	89	18
1 6	5 4.03	+51 55.4	1.120	1.991	17.5	20.9	142 E	83	12	11 17	7 39.18	+50 25.1	0.514	1.333	39.1	21.2	122 W	85	14
1 11	4 56.71	+50 55.0	1.141	1.989	19.1	20.9	139 E	84	13	11 22	7 46.63	+54 44.6	0.509	1.340	37.8	21.2	124 W	80	9
1 16	4 51.17	+49 49.2	1.167	1.986	20.6	21.0	135 E	85	14	11 27	7 52.76	+59 0.2	0.507	1.346	36.7	21.2	125 W	76	5
1 21	4 47.41	+48 40.6	1.197	1.982	22.2	21.1	130 E	86	15	12 2	7 57.03	+63 6.3	0.510	1.353	35.8	21.2	127 W	72	1
349068 2006 YT₁₃										434053 2001 UP₂₇									
11 2	6 45.93	-23 17.6	1.245	1.799	31.9	21.4	106 W	22	87	12 7	7 58.69	+66 56.9	0.516	1.360	35.3	21.2	127 W	68	—
11 7	6 44.91	-24 14.2	1.191	1.786	31.5	21.3	110 W	21	88	12 12	7 56.76	+70 26.8	0.526	1.368	35.0	21.2	127 W	65	—
11 12	6 42.62	-25 7.2	1.138	1.772	31.0	21.2	113 W	20	89	12 17	7 50.00	+73 31.1	0.539	1.376	35.0	21.3	127 W	61	—
11 17	6 38.97	-25 54.9	1.087	1.757	30.5	21.0	116 W	19	90	12 22	7 36.95	+76 5.5	0.554	1.384	35.1	21.4	126 W	59	—
11 22	6 33.84	-26 35.0	1.037	1.742	29.8	20.9	119 W	18	89	12 27	7 16.45	+78 5.7	0.572	1.392	35.4	21.5	125 W	57	—
11 27	6 27.16	-27 4.8	0.989	1.725	29.1	20.7	122 W	18	89	1 1	6 48.87	+79 27.9	0.592	1.401	35.8	21.6	124 W	56	—
12 2	6 18.88	-27 21.0	0.944	1.707	28.5	20.6	124 W	18	89	1 6	6 17.51	+80 11.0	0.614	1.409	36.2	21.7	122 E	55	—
12 7	6 9.04	-27 19.6	0.902	1.689	27.8	20.5	127 W	18	89	1 11	5 48.06	+80 18.5	0.637	1.418	36.7	21.8	121 E	55	—
12 12	5 57.79	-26 56.9	0.864	1.670	27.3	20.3	129 W	18	89	1 16	5 25.40	+79 57.9	0.662	1.427	37.1	21.9	119 E	55	—
12 17	5 45.40	-26 9.3	0.831	1.649	27.0	20.2	130 W	19	90	1 21	5 11.43	+79 17.8	0.687	1.436	37.5	22.0	117 E	56	—
12 22	5 32.23	-24 54.2	0.802	1.628	27.0	20.1	131 E	20	89	239875 2000 KQ₇₈									
12 27	5 18.71	-23 10.0	0.779	1.606	27.5	20.0	131 E	22	87	11 2	7 19.53	+16 6.9	2.081	2.597	21.0	21.5	110 W	61	48
1 1	5 5.34	-20 56.8	0.761	1.583	28.5	20.0	130 E	24	85	11 12	7 19.97	+15 32.6	1.977	2.616	19.1	21.3	120 W	61	48
1 6	4 52.61	-18 16.7	0.749	1.558	30.0	19.9	128 E	27	82	11 22	7 17.42	+15 3.7	1.885	2.635	16.6	21.2	130 W	60	49
1 11	4 40.94	-15 13.7	0.743	1.533	31.8	19.9	125 E	30	79	12 2	7 11.88	+14 41.6	1.808	2.652	13.4	21.0	142 W	60	49
1 16	4 30.63	-11 53.1	0.743	1.508	34.0	20.0	121 E	33	76	12 12	7 3.60	+14 27.2	1.753	2.669	9.6	20.8	153 W	59	50
1 21	4 21.84	-8 20.5	0.748	1.481	36.4	20.0	117 E	37	72	12 22	6 53.29	+14 20.8	1.724	2.685	5.6	20.6	165 W	59	50
405471 2004 VQ₃₆										297539 2001 OY₅₁									
11 2	6 47.38	+25 37.3	1.419	2.087	24.6	21.4	119 W	71	38	11 2	7 23.05	+23 4.1	1.412	1.989	27.9	21.5	110 W	68	41
11 12	6 46.99	+26 2.7	1.352	2.119	21.3	21.2	129 W	71	38	11 12	7 26.75	+23 11.8	1.339	2.021	25.2	21.3	120 W	68	41
11 22	6 42.43	+26 32.3	1.299	2.151	17.2	21.0	140 W	72	37	11 22	7 26.39	+23 28.5	1.274	2.053	21.7	21.1	130 W	68	41
12 2	6 33.92	+27 2.8	1.264	2.184	12.3	20.8	152 W	72	37	12 2	7 21.81	+23 53.8	1.223	2.084	17.3	20.9	141 W	69	40
12 12	6 22.33	+27 29.4	1.251	2.215	6.9	20.6	164 W	72	37	12 12	7 13.25	+24 24.7	1.190	2.116	12.1	20.7	153 W	69	40
12 22	6 9.20	+27 47.3	1.265	2.247	2.1	20.4	175 W	73	36	12 22	7 1.69	+24 56.1	1.180	2.147	6.4	20.5	166 W	70	39
12 27	6 2.62	+27 52.2	1.282	2.262	2.8	20.5	174 E	73	36	1 1	6 41.97	+14 21.9	1.724	2.700	3.2	20.5	171 E	59	50
1 1	5 56.36	+27 54.4	1.307	2.278	5.1	20.7	168 E	73	36	1 11	6 30.86	+14 29.6	1.754	2.714	5.6	20.6	164 E	59	50
1 6	5 50.61	+27 54.2	1.338	2.293	7.6	20.9	162 E	73	36	1 21	6 21.17	+14 42.7	1.812	2.727	9.3	20.9	153 E	60	49
1 11	5 45.55	+27 52.0	1.375	2.308	10.0	21.1	156 E	73	36	297539 2001 OY₅₁									
1 16	5 41.31	+27 48.4	1.419	2.323	12.2	21.2	150 E	73	36	11 2	7 23.05	+23 4.1	1.412	1.989	27.9	21.5	110 W	68	41
1 21	5 37.96	+27 43.7	1.468	2.338	14.2	21.4	144 E	73	36	11 12	7 26.75	+23 11.8	1.339	2.021	25.2	21.3	120 W	68	41
242216 2003 RN₁₀										297539 2001 OY₅₁									
11 2	6 55.83	+22 7.3	2.868	3.429	15.0	21.4	117 W	67	42	11 22	7 26.39	+23 28.5	1.274	2.053	21.7	21.1	130 W	68	41
11 12	6 51.28	+21 20.5	2.739	3.433	13.2	21.2	128 W	66	43	12 2	7 21.81	+23 53.8	1.223	2.084	17.3	20.9	141 W	69	40
11 22	6 44.22	+20 31.9	2.627	3.436	10.8	21.													

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

21/22	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°	21/22	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°
297539 2001 OY₅₁										(continuation)									
504869 2010 VQ₂₅										85185 Lederman									
1 16	6 30.50	+25 46.3	1.270	2.224	8.2	20.8	161 E	71	38	11 2	7 45.85	+17 0.1	2.314	2.731	20.6	21.4	104 W	62	47*
1 21	6 25.66	+25 49.9	1.308	2.239	10.7	21.0	155 E	71	38	11 12	7 47.76	+16 31.1	2.192	2.743	19.3	21.3	114 W	62	47
461371 2000 SN₁₇₁										274627 2008 TE₈₂									
11 2	7 28.11	+28 20.0	1.458	2.024	27.4	21.5	110 W	73	36	11 12	7 46.92	+16 8.1	2.079	2.753	17.4	21.1	124 W	61	48
11 12	7 32.40	+29 22.5	1.389	2.061	24.8	21.3	119 W	74	35	12 2	7 43.20	+15 52.3	1.979	2.762	14.7	20.9	135 W	61	48
11 22	7 32.56	+30 36.0	1.329	2.097	21.5	21.2	129 W	76	33	12 12	7 36.62	+15 44.4	1.898	2.770	11.4	20.7	146 W	61	48
12 2	7 28.32	+31 57.1	1.283	2.133	17.4	21.0	140 W	77	32	12 22	7 27.57	+15 44.3	1.840	2.777	7.6	20.5	158 W	61	48
12 12	7 19.82	+33 18.9	1.255	2.169	12.7	20.8	151 W	78	31	1 1	7 16.76	+15 50.7	1.810	2.783	3.7	20.3	170 W	61	48
12 22	7 7.95	+34 31.6	1.250	2.206	8.1	20.7	162 W	80	29	1 11	7 5.25	+16 2.2	1.810	2.788	2.8	20.2	172 E	61	48
1 1	6 54.29	+35 25.7	1.272	2.242	5.5	20.6	167 W	80	29	1 21	6 54.28	+16 17.0	1.841	2.791	6.5	20.4	161 E	61	48
1 11	6 40.87	+35 55.7	1.320	2.277	7.4	20.8	163 E	81	28	234382 2001 QC₆₇									
1 21	6 29.64	+36 2.7	1.394	2.313	11.3	21.1	153 E	81	28	11 2	7 47.40	+14 41.3	2.655	3.041	18.5	21.5	103 W	60	49*
206918 2004 PT₈₉										446938 2002 YQ₅									
11 2	7 30.87	+34 14.1	1.645	2.192	25.2	21.4	110 W	79	30	11 12	7 48.45	+14 13.5	2.544	3.068	17.3	21.4	113 W	59	50
11 12	7 32.87	+35 10.6	1.575	2.233	22.7	21.3	119 W	80	29	11 22	7 47.08	+13 52.1	2.442	3.095	15.5	21.2	123 W	59	50
11 22	7 30.60	+36 13.3	1.516	2.274	19.6	21.2	129 W	81	28	12 2	7 43.23	+13 38.1	2.354	3.120	13.1	21.1	134 W	59	50
12 2	7 23.92	+37 17.1	1.471	2.315	15.9	21.0	140 W	82	27	12 12	7 37.03	+13 32.3	2.285	3.145	10.3	20.9	145 W	59	50
12 12	7 13.13	+38 13.7	1.446	2.354	11.8	20.9	151 W	83	26	12 22	7 28.88	+13 34.7	2.241	3.169	7.0	20.8	157 W	59	50
12 22	6 59.33	+38 53.8	1.445	2.393	8.1	20.8	160 W	84	25	1 1	7 19.41	+13 44.5	2.225	3.192	3.8	20.6	168 W	59	50
1 1	6 44.25	+39 10.2	1.471	2.431	6.5	20.8	164 E	84	25	1 11	7 9.48	+14 0.4	2.239	3.214	2.8	20.6	171 E	59	50
1 11	6 29.94	+39 1.1	1.526	2.468	8.3	21.0	159 E	84	25	1 21	7 0.03	+14 20.5	2.285	3.236	5.4	20.8	162 E	59	50
1 21	6 18.20	+38 30.6	1.607	2.504	11.5	21.2	149 E	84	25	387632 2002 PD₄₀									
360509 2003 OD₃										416296 2003 RM₁									
11 2	7 35.47	+18 53.2	1.799	2.294	24.5	21.4	107 W	64	45*	11 2	8 17.53	+27 6.2	1.513	1.934	30.4	21.4	99 W	72	36*
11 12	7 38.33	+18 42.6	1.707	2.321	22.5	21.3	116 W	64	45	11 12	8 27.06	+26 54.0	1.436	1.966	28.8	21.3	107 W	72	37*
11 22	7 37.85	+18 40.8	1.623	2.348	19.8	21.1	126 W	64	45	11 22	8 32.98	+26 51.3	1.363	1.998	26.5	21.2	115 W	72	37
12 2	7 33.89	+18 48.7	1.552	2.374	16.3	20.9	137 W	64	45	12 2	8 34.87	+26 59.5	1.297	2.031	23.4	21.0	125 W	72	37
12 12	7 26.57	+19 5.7	1.500	2.400	12.1	20.7	149 W	64	45	12 12	8 32.42	+27 17.8	1.242	2.064	19.5	20.8	136 W	72	37
12 22	7 16.50	+19 29.8	1.471	2.425	7.3	20.5	162 W	64	45	12 22	8 25.72	+27 42.4	1.203	2.097	14.8	20.6	147 W	73	36
1 1	7 4.73	+19 57.6	1.469	2.449	2.3	20.2	174 W	65	44	1 1	8 15.36	+28 6.8	1.184	2.131	9.6	20.4	159 W	73	36
1 6	6 58.65	+20 11.8	1.478	2.461	1.2	20.2	177 E	65	44	1 6	8 9.19	+28 16.6	1.183	2.147	6.9	20.3	165 W	73	36
1 11	6 52.71	+20 25.7	1.496	2.473	3.3	20.4	172 E	65	44	1 11	8 2.66	+28 23.5	1.189	2.164	4.6	20.3	170 W	73	36
1 16	6 47.08	+20 38.9	1.520	2.484	5.8	20.5	165 E	66	43	1 16	7 56.02	+28 27.0	1.202	2.181	3.4	20.2	172 W	73	36
1 21	6 41.92	+20 51.4	1.551	2.495	8.1	20.7	159 E	66	43	1 21	7 49.51	+28 26.7	1.221	2.197	4.4	20.3	170 E	73	36
422669 1999 UF₄₃										15745 Yuliya									
11 2	7 39.53	+27 46.4	1.424	1.964	28.8	21.4	107 W	73	36*	11 2	7 44.73	+ 8 26.2	1.710	2.156	26.7	21.3	103 W	53	55*
11 12	7 45.30	+27 47.7	1.353	1.997	26.4	21.3	116 W	73	36	11 12	7 49.03	+ 7 57.5	1.592	2.158	25.3	21.1	111 W	53	56
11 22	7 46.95	+27 56.3	1.289	2.031	23.3	21.1	126 W	73	36	11 22	7 50.19	+ 7 40.4	1.481	2.158	23.2	20.9	121 W	53	56
12 2	7 44.22	+28 11.4	1.236	2.065	19.2	20.9	136 W	73	36	12 2	7 47.79	+ 7 39.6	1.379	2.157	20.2	20.7	131 W	53	56
12 12	7 37.19	+28 29.7	1.199	2.099	14.5	20.7	148 W	73	36	12 12	7 41.59	+ 7 59.5	1.291	2.154	16.4	20.4	142 W	53	56
12 22	7 26.62	+28 45.3	1.183	2.134	9.1	20.5	160 W	74	35	12 22	7 31.74	+ 8 43.4	1.224	2.150	11.7	20.1	154 W	54	55
1 1	7 13.90	+28 52.5	1.191	2.168	4.0	20.3	171 W	74	35	1 1	7 18.97	+ 9 51.2	1.180	2.144	7.1	19.8	164 W	55	54
1 6	7 7.31	+28 51.5	1.206	2.186	2.8	20.3	174 W	74	35	1 6	7 11.89	+10 33.2	1.169	2.140	5.5	19.7	168 W	56	53
1 11	7 0.92	+28 47.2	1.227	2.203	4.1	20.4	171 E	74	35	1 11	7 4.66	+11 19.3	1.164	2.136	5.5	19.7	168 E	56	53
1 16	6 54.95	+28 39.9	1.254	2.220	6.4	20.6	165 E	74	35	1 16	6 57.51	+12 8.6	1.167	2.132	7.0	19.8	165 E	57	52
1 21	6 49.60	+28 29.8	1.289	2.237	8.8	20.8	160 E	73	36	1 21	6 50.69	+12 59.9	1.177	2.127	9.3	19.9	159 E	58	51

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

21/22	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°	21/22	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°
390733 2003 OS										313329 2002 FH₅									
11 2	8 28.65	-9 37.1	2.020	2.211	26.6	21.5	88 W	35	69*	11 2	9 38.25	+15 13.2	2.138	2.156	26.7	21.4	78 W	59*	38*
11 12	8 35.03	-10 27.5	1.920	2.230	26.3	21.3	95 W	35	73*	11 12	9 54.61	+14 23.1	1.983	2.116	27.7	21.2	84 W	59*	41*
11 22	8 38.81	-11 6.3	1.820	2.249	25.4	21.2	102 W	34	75	11 22	10 10.35	+13 37.4	1.828	2.076	28.4	21.0	90 W	59	45*
12 2	8 39.70	-11 28.0	1.721	2.266	24.0	21.1	111 W	34	75	12 2	10 25.35	+12 58.9	1.675	2.035	28.8	20.8	96 W	58	48*
12 12	8 37.40	-11 25.5	1.627	2.283	22.0	20.9	120 W	34	75	12 12	10 39.37	+12 31.2	1.525	1.995	28.7	20.6	103 W	58	50*
12 22	8 31.86	-10 51.3	1.544	2.299	19.3	20.7	129 W	34	75	12 22	10 52.20	+12 18.2	1.381	1.954	28.2	20.3	110 W	57	52*
1 1	8 23.29	-9 38.6	1.477	2.314	16.1	20.5	139 W	35	74	1 1	11 3.52	+12 24.3	1.245	1.914	27.0	20.0	118 W	57	52
1 11	8 12.37	-7 43.4	1.432	2.328	12.8	20.4	148 W	37	72	1 11	11 12.90	+12 54.4	1.118	1.873	25.1	19.7	126 W	58	51
1 21	8 0.27	-5 8.0	1.413	2.341	10.3	20.3	155 E	40	69	1 21	11 19.89	+13 52.7	1.003	1.834	22.5	19.3	135 W	59	50
129470 1993 KC										273419 2006 WX₂₁									
11 2	8 31.57	-5 39.5	2.696	2.837	20.5	21.4	88 W	39	65*	11 2	9 43.09	+12 1.3	1.654	1.702	34.4	21.5	75 W	55*	40*
11 12	8 36.41	-7 43.0	2.549	2.817	20.5	21.3	95 W	37	70*	11 12	10 3.09	+10 22.9	1.582	1.720	34.6	21.4	80 W	55*	43*
11 22	8 39.25	-9 48.1	2.406	2.796	20.2	21.1	103 W	35	74	11 22	10 21.33	+8 49.5	1.508	1.739	34.5	21.3	86 W	54	47*
12 2	8 39.82	-11 51.7	2.269	2.773	19.4	21.0	111 W	33	76	12 2	10 37.59	+7 24.4	1.434	1.761	34.0	21.2	92 W	52	51*
12 12	8 37.84	-13 49.3	2.142	2.750	18.4	20.8	118 W	31	78	12 12	10 51.57	+6 11.6	1.359	1.786	33.1	21.1	98 W	51	55*
12 22	8 33.19	-15 35.0	2.029	2.725	17.0	20.6	126 W	29	80	12 22	11 2.95	+5 14.8	1.285	1.812	31.6	21.0	105 W	50	58*
1 1	8 25.90	-17 1.8	1.933	2.700	15.5	20.4	133 W	28	81	1 1	11 11.35	+4 37.8	1.215	1.840	29.4	20.8	113 W	50	59
1 6	8 21.36	-17 35.7	1.892	2.686	14.8	20.4	136 W	27	82	1 11	11 16.33	+4 24.1	1.150	1.869	26.4	20.7	122 W	49	60
1 11	8 16.33	-18 2.0	1.856	2.673	14.1	20.3	138 W	27	82	1 21	11 17.61	+4 36.0	1.094	1.900	22.6	20.5	132 W	50	59
1 16	8 10.93	-18 20.0	1.827	2.659	13.7	20.2	140 W	27	82	481442 2006 WO₃									
1 21	8 5.26	-18 29.2	1.803	2.645	13.4	20.2	141 E	27	82	11 2	10 13.16	+56 38.8	0.230	1.013	78.2	21.2	89 W	73*	1*
153951 2002 AC₃										11 3	10 6.54	+57 4.8	0.225	1.019	76.9	21.1	90 W	74*	1*
11 2	8 50.27	+34 29.3	1.157	1.574	39.0	21.5	94 W	79	27*	11 4	9 59.39	+57 30.7	0.220	1.024	75.4	21.0	92 W	75*	1*
11 7	9 3.58	+33 38.1	1.097	1.551	39.5	21.3	96 W	79	28*	11 5	9 51.66	+57 56.5	0.214	1.029	73.9	20.9	94 W	75*	2*
11 12	9 16.69	+32 40.4	1.039	1.528	39.9	21.2	98 W	78	29*	11 6	9 43.29	+58 21.8	0.209	1.034	72.4	20.8	96 W	76*	2*
11 17	9 29.58	+31 35.9	0.982	1.505	40.4	21.0	100 W	77	30*	11 7	9 34.20	+58 46.3	0.204	1.039	70.8	20.7	98 W	76*	2*
11 22	9 42.22	+30 24.0	0.926	1.483	40.7	20.9	102 W	75	32*	11 8	9 24.34	+59 9.6	0.199	1.044	69.1	20.6	100 W	76	3*
11 27	9 54.59	+29 4.1	0.872	1.461	41.1	20.7	103 W	74	33*	11 9	9 13.63	+59 31.2	0.194	1.049	67.4	20.5	102 W	75	3*
12 2	10 6.66	+27 35.7	0.819	1.439	41.4	20.6	105 W	73	35*	11 10	9 2.01	+59 50.5	0.189	1.054	65.5	20.4	104 W	75	3*
12 7	10 18.39	+25 57.9	0.768	1.418	41.6	20.4	107 W	71	37*	11 11	8 49.43	+60 6.6	0.184	1.058	63.6	20.3	107 W	75	3*
12 12	10 29.75	+24 9.6	0.719	1.397	41.7	20.2	109 W	69	39*	11 12	8 35.86	+60 18.7	0.179	1.063	61.6	20.2	109 W	75	3*
12 17	10 40.72	+22 9.5	0.672	1.377	41.8	20.1	111 W	67	42*	11 13	8 21.28	+60 25.8	0.175	1.067	59.5	20.1	112 W	75	4*
12 22	10 51.27	+19 56.3	0.627	1.357	41.8	19.9	113 W	65	44*	11 14	8 5.71	+60 26.6	0.170	1.071	57.5	20.0	114 W	75	4
12 27	11 1.37	+17 28.3	0.583	1.339	41.8	19.7	115 W	62	47	11 15	7 49.23	+60 19.9	0.166	1.075	54.9	19.9	117 W	75	4
1 1	11 10.96	+14 43.7	0.543	1.321	41.6	19.5	117 W	60	49	11 16	7 31.95	+60 4.4	0.162	1.079	52.5	19.7	120 W	75	4
1 6	11 20.00	+11 40.6	0.504	1.304	41.3	19.3	119 W	57	52	11 17	6 15.02	+59 38.8	0.158	1.083	49.9	19.6	123 W	75	4
1 11	11 28.43	+8 17.0	0.469	1.288	41.0	19.1	121 W	53	56	11 18	6 55.67	+59 1.8	0.155	1.087	47.3	19.5	126 W	76	5
1 16	11 36.22	+4 30.9	0.436	1.273	40.5	18.9	123 W	50	59	11 19	6 37.13	+58 12.7	0.152	1.091	44.5	19.4	129 W	77	6
1 21	11 43.32	+0 20.9	0.407	1.260	40.0	18.7	125 W	45	64	11 20	6 18.68	+57 10.5	0.149	1.094	41.7	19.3	133 W	78	7
141018 2001 WC₄₇										11 21	6 0.56	+55 55.2	0.146	1.098	38.7	19.2	136 W	79	8
11 2	8 58.81	+16 50.7	1.049	1.408	44.8	21.5	87 W	62*	42*	11 22	5 43.01	+54 26.7	0.144	1.101	35.7	19.1	139 W	81	10
11 12	9 28.12	+15 4.5	0.951	1.372	46.2	21.2	90 W	60	44*	11 23	5 26.23	+52 45.7	0.143	1.105	32.6	19.0	143 W	82	11
11 22	9 58.36	+13 2.3	0.859	1.336	47.6	21.0	92 W	58	46*	11 24	5 10.36	+50 53.0	0.141	1.108	29.5	18.9	146 W	84	13
12 2	10 29.83	+10 44.2	0.773	1.300	49.1	20.7	95 W	56	48*	11 25	4 55.48	+48 50.0	0.141	1.111	26.5	18.8	150 W	86	15
12 12	11 2.84	+8 10.4	0.694	1.264	50.7	20.5	96 W	53	52*	11 26	4 41.66	+46 38.4	0.140	1.114	23.5	18.7	153 W	88	17
12 22	11 37.81	+5 21.4	0.623	1.229	52.5	20.3	97 W	50	56*	11 27	4 28.89	+44 19.8	0.140	1.117	20.7	18.6	156 W	89	20
1 1	12 15.14	+2 18.7	0.561	1.196	54.6	20.0	98 W	47	59*	11 28	4 17.16	+41 56.3	0.141	1.120	18.1	18.5	159 W	87	22
1 11	12 55.07	+0 53.9	0.509	1.164	56.9	19.8	97 W	44	63*	11 29	4 6.42	+39 29.8	0.142	1.122	16.0	18.5	162 E	84	25
1 21	13 37.73	-4 10.2	0.467	1.135	59.5	19.7	96 W	41	66*	11 30	3 56.62	+37 2.0	0.144	1.125	14.4	18.5	163 E	82	27
216722 2005 EC₂₈₆										12 1	3 47.69	+34 34.7	0.146	1.127	13.6	18.5	164 E	80	29
11 2	9 17.35	+38 32.1	2.842	3.008	19.3	21.4	90 W	82*	21*	12 2	3 39.56	+32 9.5	0.149	1.130	13.5	18.5	164 E	77	32
11 12	9 26.06	+39 26.3	2.712	3.010	19.0	21.3	98 W	84	22*	12 3	3 32.18	+29 47.5	0.152	1.132	14.2	18.6	164 E	75	34
11 22	9 32.70	+40 34.7	2.585	3.011	18.4	21.2	106 W	86	22*	12 4	3 25.48	+27 29.9	0.155	1.134	15.5	18.7	162 E	72	37
12 2	9 36.87	+41 57.5	2.465	3.010	17.3	21.1	114 W	87	22*	12 5	3 19.40	+25 17.5	0.159	1.136	17.1	18.8	160 E	70	39
12 12	9 38.12	+43 33.6	2.357	3.009	15.9	20.9	123 W	89	20	12 6	3 13.88	+23 10.9	0.163	1.138	19.0	18.9	158 E	68	41
12 22	9 36.02	+45 19.0	2.264	3.007	14.2	20.8	131 W	90	19	12 7	3 8.87	+21 10.3	0.168	1.140	20.9	19.0	156 E	66	43
1 1	9 30.27	+47 7.0	2.191	3.004	12.4	20.6	139 W	88	17	12 8	3 4.33	+19 16.1	0.173	1.142	22.9	19.2	153 E	64	45
1 11	9 20.84	+48 48.0	2.141	3.000	10.8	20.5	145 W	86	15	12 9	3 0.21	+17 28.3	0.178	1.144	24.8	19.3	151 E		

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

21/22	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°	21/22	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°
168889 2000 WM₉₅										154029 2002 CY₄₆									
<i>(continuation)</i>																			
1 1	10 51.02	+ 3 28.3	2.043	2.644	19.3	20.9	117 W	48	61	11 2	10 40.94	+53 55.6	2.455	2.547	22.8	21.5	84 W	71*	—
1 11	10 49.26	+ 3 18.1	1.945	2.665	16.9	20.8	128 W	48	61	11 7	10 47.73	+54 11.3	2.416	2.561	22.7	21.4	87 W	73*	1*
1 21	10 44.78	+ 3 24.9	1.863	2.685	13.9	20.6	139 W	48	61	11 12	10 53.87	+54 31.8	2.376	2.575	22.6	21.4	90 W	76*	2*
60689 2000 GG₃₇																			
11 2	10 18.34	+10 47.4	2.888	2.661	20.1	21.4	67 W	51*	35*	11 17	10 59.29	+54 57.4	2.337	2.588	22.4	21.4	93 W	77*	2*
11 12	10 29.97	+ 9 59.3	2.744	2.649	21.1	21.3	74 W	54*	39*	11 22	11 3.94	+55 28.2	2.297	2.600	22.2	21.3	96 W	79*	3*
11 22	10 40.56	+ 9 17.7	2.595	2.635	21.8	21.2	81 W	54*	44*	11 27	11 7.73	+56 4.4	2.257	2.612	21.9	21.3	100 W	79*	3*
12 2	10 49.94	+ 8 44.9	2.442	2.621	22.1	21.1	89 W	54	49*	12 2	11 10.58	+56 45.9	2.218	2.624	21.5	21.3	103 W	78	4*
12 12	10 57.85	+ 8 23.3	2.289	2.605	22.0	20.9	97 W	53	53*	12 7	11 12.34	+57 32.5	2.180	2.635	21.0	21.2	107 W	77	4*
12 22	11 4.01	+ 8 15.5	2.137	2.589	21.4	20.8	106 W	53	55*	12 12	11 12.89	+58 23.7	2.144	2.646	20.5	21.2	110 W	77	4*
1 1	11 8.12	+ 8 24.2	1.991	2.571	20.2	20.6	115 W	53	56	12 17	11 12.07	+59 18.9	2.110	2.656	19.9	21.1	113 W	76	4*
1 11	11 9.81	+ 8 52.0	1.855	2.553	18.3	20.3	125 W	54	55	12 22	11 9.71	+60 17.1	2.078	2.666	19.3	21.1	116 W	75	4*
1 21	11 8.83	+ 9 40.2	1.732	2.533	15.7	20.1	136 W	55	54	12 27	11 5.63	+61 16.9	2.050	2.675	18.7	21.1	119 W	74	3*
357022 1999 YG₃																			
11 2	10 34.06	+21 40.0	1.049	1.142	53.7	21.4	68 W	59*	25*	1 6	10 59.63	+62 16.8	2.025	2.684	18.0	21.0	122 W	73	2
11 7	10 49.17	+17 42.4	1.005	1.115	55.4	21.3	68 W	57*	28*	1 11	10 51.54	+63 14.4	2.005	2.692	17.4	21.0	125 W	72	1
11 12	11 4.39	+13 23.0	0.965	1.089	57.2	21.2	68 W	54*	31*	1 16	10 41.29	+64 7.2	1.989	2.700	16.9	20.9	127 W	71	—
11 17	11 19.87	+ 8 41.3	0.929	1.063	59.1	21.1	67 W	51*	34*	1 21	10 28.91	+64 52.4	1.978	2.707	16.4	20.9	129 W	70	—
11 22	11 35.81	+ 3 37.9	0.897	1.037	60.9	21.0	67 W	47*	38*	1 21	10 14.57	+65 27.1	1.972	2.714	16.1	20.9	130 W	70	—
11 27	11 52.39	+ 1 45.5	0.871	1.013	62.7	21.0	66 W	42*	42*	418233 2008 DV									
12 2	12 9.86	+ 7 24.9	0.851	0.989	64.3	20.9	65 W	37*	45*	11 2	11 2.95	+ 8 24.2	1.577	1.310	38.8	21.3	56 W	44*	28*
12 7	12 28.46	+13 14.5	0.839	0.966	65.7	20.9	63 W	31*	48*	11 12	11 31.32	+ 2 3.8	1.469	1.245	41.8	21.1	57 W	41*	33*
12 12	12 48.50	+ 9 6.4	0.834	0.945	66.9	20.8	62 W	25*	50*	11 22	12 1.72	+ 5 3.0	1.374	1.182	44.7	21.0	57 W	37*	37*
12 17	13 10.29	+24 51.0	0.837	0.926	67.7	20.8	60 W	20*	52*	12 2	12 35.22	+12 50.2	1.298	1.123	47.4	20.8	57 W	30*	42*
12 22	13 34.16	+30 18.3	0.848	0.908	68.0	20.8	59 W	14*	52*	12 12	13 13.20	+21 0.7	1.243	1.069	49.7	20.7	56 W	23*	45*
12 27	14 0.38	+35 18.2	0.866	0.893	67.9	20.8	57 W	9*	51*	12 22	13 57.33	+29 2.8	1.215	1.022	51.3	20.6	54 W	15*	47*
1 1	14 29.11	+39 42.0	0.891	0.881	67.4	20.8	56 W	5*	50*	1 1	14 49.15	+36 11.2	1.213	0.985	51.9	20.5	52 W	8*	46*
1 6	15 0.28	+43 22.3	0.922	0.871	66.4	20.9	54 W	1*	48*	1 11	15 48.80	+41 36.2	1.236	0.961	51.3	20.5	50 W	1*	43*
1 11	15 33.55	+46 14.5	0.956	0.865	65.1	20.9	53 W	—	46*	1 21	16 53.62	+44 40.5	1.278	0.950	49.8	20.5	48 W	—	40*
1 16	16 8.22	+48 16.5	0.994	0.862	63.6	20.9	52 W	—	44*	131823 2002 AY₉₇									
1 21	16 43.35	+49 29.0	1.034	0.862	61.8	20.9	50 W	—	42*	11 2	11 9.37	+ 6 14.7	3.186	2.716	17.1	21.5	54 W	41*	28*
175706 1996 FG₃																			
11 2	10 36.75	+ 8 51.5	1.484	1.344	40.7	21.5	62 W	48*	33*	11 12	11 21.38	+ 4 51.9	3.065	2.714	18.5	21.5	60 W	45*	33*
11 12	10 58.33	+ 6 29.8	1.426	1.369	41.4	21.5	66 W	48*	37*	11 22	11 32.56	+ 3 32.9	2.934	2.711	19.6	21.4	67 W	47*	39*
11 22	11 18.99	+ 4 8.3	1.359	1.390	42.1	21.4	71 W	48*	41*	12 2	11 42.79	+ 2 18.7	2.797	2.707	20.6	21.3	75 W	47*	45*
12 2	11 38.82	+ 1 47.9	1.283	1.406	42.7	21.3	75 W	47*	46*	12 12	11 51.88	+ 1 10.9	2.653	2.702	21.2	21.2	82 W	46	51*
12 12	11 57.82	+ 0 30.1	1.200	1.416	43.2	21.2	80 W	44	51*	12 22	11 59.59	+ 0 10.8	2.506	2.696	21.4	21.1	90 W	45	58*
12 22	12 16.02	+ 2 45.0	1.111	1.422	43.6	21.1	85 W	42	57*	1 1	12 5.69	+ 0 40.0	2.359	2.689	21.2	20.9	99 W	44	63*
1 1	12 33.38	+ 4 56.1	1.016	1.422	43.8	20.9	91 W	40	64*	1 11	12 9.86	+ 1 19.8	2.214	2.681	20.5	20.8	108 W	44	65
1 11	12 49.75	+ 7 2.5	0.919	1.417	43.6	20.7	96 W	38	69*	1 21	12 11.81	+ 1 46.7	2.075	2.672	19.1	20.6	117 W	43	66
1 21	13 4.98	+ 9 4.0	0.820	1.407	43.1	20.4	102 W	36	73*	182260 2001 GA₃									
374855 2006 VQ₁₃																			
11 2	10 40.87	+23 32.3	0.138	0.948	104.8	19.5	67 W	59*	22*	11 2	11 36.48	+ 6 47.7	2.883	2.333	18.3	21.5	48 W	38*	22*
11 4	10 15.37	+22 15.7	0.131	0.964	98.4	19.1	74 W	63*	28*	11 12	11 54.17	+ 5 56.9	2.750	2.302	20.2	21.4	53 W	42*	26*
11 6	9 48.24	+20 34.5	0.126	0.980	91.5	18.7	81 W	65*	35*	11 22	12 11.88	+ 5 12.0	2.612	2.269	21.9	21.3	59 W	45*	30*
11 8	9 19.97	+18 28.6	0.123	0.996	84.1	18.4	89 W	63	41*	12 2	12 29.61	+ 4 35.0	2.468	2.237	23.5	21.2	65 W	47*	34*
11 10	8 51.19	+16 1.1	0.121	1.012	76.5	18.1	97 W	61	46*	12 12	12 47.30	+ 4 8.5	2.321	2.204	25.0	21.1	71 W	49*	39*
11 12	8 22.62	+13 17.9	0.121	1.027	68.8	17.9	105 W	58	50*	12 22	13 4.89	+ 3 55.1	2.172	2.171	26.2	21.0	77 W	49*	44*
11 13	8 8.65	+11 52.9	0.122	1.035	65.0	17.8	109 W	57	52*	1 1	13 22.30	+ 3 57.6	2.023	2.138	27.2	20.8	83 W	49	49*
11 14	7 54.99	+10 27.1	0.123	1.043	61.3	17.7	112 W	55	54	1 11	13 39.39	+ 4 19.5	1.877	2.104	27.9	20.6	89 W	49	53*
11 15	7 41.72	+ 9 1.6	0.125	1.050	57.7	17.7	116 W	54	55	1 21	13 56.00	+ 5 3.7	1.734	2.071	28.2	20.4	95 W	50	56*
11 16	7 28.88	+ 7 37.4	0.127	1.058	54.2	17.6	120 W	53	56	152664 1998 FW₄									
11 17	7 16.53	+ 6 15.4	0.130	1.065	50.9	17.6	123 W	51	58	11 2	11 47.28	+ 6 28.9	0.516	0.727	104.6	21.4	45 W	36*	20*
11 18	7 4.69	+ 4 56.3	0.133	1.073	47.8	17.6	127 W	50	59	11 7	12 0.85	+ 4 31.7	0.584	0.723	98.1	21.4	46 W	36*	22*
11 19	6 53.39	+ 3 40.8	0.136	1.080	44.8	17.6	130 W	49	60	11 12	12 14.21	+ 2 37.1	0.650	0.729	91.5	21.3	47 W	37*	23*
11 20	6 42.63	+ 2 29.2	0.140	1.088	42.0	17.6	133 W	47	62	11 17	12 27.44	+ 0 45.1	0.715	0.745	85.2	21.3	49 W	37*	25*
11 21	6 32.41	+ 1 22.0	0.144	1.095	39.5	17.6	135 W	46	63	11 22	12 40.50	+ 1 3.6	0.777	0.769	79.4	21.4	50 W	36*	27*
11 22	6 22.74	+ 0 19.1	0.149	1.102	37.1	17.6	138 W	45	64	11 27	12 53.30	+ 2 48.0	0.835	0.801	74.1	21.4	51 W	36*	29*
11 27	5 41.92	+ 3 49.3	0.177	1.138	28.5	17.8	147 W	41	68	525356 2005 BG₁₄									
12 2	5 11.78	+ 6 23.1	0.210	1.173	24.8	18.1	150 W	39	70	11 2	11 48.23	+ 9 53.9	0.572	0.659	107.2	20.5	39 W	22*	27*
12 7	4 49.75	+ 7 48.0	0.248	1.206	24.4	18.5	150 E	37	72	11 7	11 46.89	+ 5 26.8	0.604	0.714	97.1	20.3	46 W	30*	29*
12 12	4 33.81	+ 8 25.8	0.290	1.238	25.8	19.0	147 E	37	72	11 12	11 48.78	+ 1 40.9	0.636	0.775	88.5	20.2	51 W	36*	31*
12 14	4 28.79	+ 8 31.4	0.308	1.250	26.5	19.1	145 E	36	73	11 17	11 52.55	+ 1 32.2	0.666	0.838	81.4	20.2	57 W	41*	32*
12 16	4 24.41	+ 8 32.8	0.326	1.262	27.3	19.3	144 E	36	73	11 22	11 57.28	+ 4 21.5	0.692	0.902	75.3	20.2	62 W	46*	33*
12 18	4 20.62	+ 8 30.6	0.345	1.274	28.1	19.5	142 E	36	73	12 2	12 2.36	+ 6 54.8	0.714	0.966	70.1	20.3	67 W	50*	34*
12 20	4 17.36	+ 8 25.3	0.363																

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

21/22	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°	21/22	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°
311554 2006 BQ₁₄₇										274138 2008 FU₆ (continuation)									
11 2	11 56.60	0 34.2	1.654	1.099	35.5	21.5	40 W	29*	21*	1 6	16 40.64	-18 42.5	1.676	1.025	32.7	20.3	34 W	17*	23*
11 12	12 32.16	-2 19.4	1.578	1.059	38.0	21.3	41 W	30*	22*	1 11	17 5.36	-18 54.7	1.628	0.974	33.9	20.1	34 W	16*	23*
11 22	13 10.94	-4 8.1	1.501	1.009	40.7	21.2	42 W	30*	22*	1 16	17 31.53	-18 54.2	1.586	0.923	35.0	20.0	33 W	15*	22*
12 2	13 53.84	-5 58.9	1.429	0.949	43.4	21.0	41 W	30*	21*	1 21	17 59.13	-18 39.3	1.549	0.871	35.7	19.8	31 W	14*	22*
12 12	14 41.73	-7 48.8	1.366	0.880	46.0	20.8	40 W	28*	20*	152742 1998 XE₁₂									
12 22	15 35.30	-9 33.6	1.321	0.802	47.9	20.6	37 W	26*	19*	11 2	13 10.64	+29 31.7	0.274	0.834	117.9	20.6	48 W	38*	—
1 1	16 34.81	-11 7.5	1.299	0.717	48.5	20.4	33 W	22*	16*	11 4	13 7.14	+33 19.2	0.256	0.862	113.2	20.2	53 W	43*	—
1 11	17 39.89	-12 24.1	1.307	0.629	46.3	20.0	28 W	18*	13*	11 6	13 3.04	+37 31.7	0.240	0.890	108.2	19.8	58 W	47*	—
1 21	18 49.67	-13 17.9	1.344	0.547	39.3	19.6	21 W	12*	8*	11 8	12 58.04	+42 12.8	0.226	0.916	102.9	19.4	64 W	52*	—
453778 2011 JK										11 10	12 51.62	+47 26.1	0.212	0.942	97.1	19.1	71 W	57*	—
11 2	12 20.95	-5 23.8	1.889	1.182	26.9	21.5	33 W	22*	18*	11 12	12 42.89	+53 13.2	0.201	0.966	90.8	18.8	77 W	60*	—
11 7	12 39.87	-7 8.1	1.860	1.156	27.5	21.4	33 W	21*	18*	11 13	12 37.17	+56 19.3	0.196	0.978	87.5	18.6	81 W	62*	—
11 12	12 59.32	-8 51.5	1.834	1.132	28.0	21.3	33 W	21*	18*	11 14	12 30.10	+59 32.8	0.192	0.990	84.2	18.4	85 W	63*	—
11 17	13 19.32	-10 32.9	1.811	1.110	28.4	21.3	32 W	20*	18*	11 15	12 21.12	+62 52.8	0.188	1.002	80.7	18.3	89 W	63*	—
11 22	13 39.85	-12 11.1	1.792	1.090	28.8	21.2	32 W	20*	19*	11 16	12 9.37	+66 17.3	0.185	1.014	77.1	18.2	92 W	63*	—
11 27	14 0.91	-13 44.6	1.777	1.072	29.0	21.2	32 W	19*	19*	11 17	11 53.40	+69 43.5	0.183	1.025	73.5	18.0	96 W	62*	—
12 2	14 22.46	-15 12.2	1.765	1.057	29.1	21.1	31 W	18*	19*	11 18	11 30.72	+73 6.6	0.181	1.036	69.8	17.9	100 W	61*	—
12 7	14 44.45	-16 32.5	1.757	1.045	29.1	21.1	31 W	17*	19*	11 19	11 0.30	+76 18.5	0.180	1.047	66.1	17.8	104 W	58*	—
12 12	15 6.80	-17 44.1	1.753	1.035	29.0	21.1	31 W	16*	19*	11 20	10 4.17	+79 4.2	0.180	1.058	62.5	17.7	108 W	56	—
12 17	15 29.43	-18 46.1	1.751	1.029	28.8	21.0	30 W	16*	19*	11 21	8 44.08	+80 56.2	0.181	1.069	59.0	17.7	112 W	54	—
12 22	15 52.24	-19 37.5	1.753	1.026	28.6	21.0	30 W	15*	19*	11 22	7 3.17	+81 19.1	0.183	1.080	55.5	17.6	116 W	54	—
12 27	16 15.11	-20 17.7	1.758	1.026	28.3	21.0	30 W	14*	19*	11 23	5 32.98	+80 6.2	0.185	1.090	52.3	17.6	119 W	55	—
1 1	16 37.93	-20 46.5	1.766	1.030	27.9	21.0	29 W	13*	19*	11 24	4 30.97	+77 50.7	0.189	1.100	49.2	17.5	123 W	57	—
1 6	17 0.57	-21 3.6	1.776	1.036	27.6	21.1	29 W	13*	20*	11 25	3 25.34	+75 5.9	0.193	1.110	46.3	17.5	126 E	60	—
1 11	17 22.89	-21 9.3	1.789	1.046	27.2	21.1	29 W	12*	20*	11 26	3 51.38	+72 10.7	0.198	1.120	43.7	17.5	128 E	63	—
1 16	17 44.81	-21 4.0	1.803	1.058	26.9	21.1	29 W	12*	20*	11 27	3 7.56	+69 14.6	0.203	1.130	41.3	17.5	131 E	66	—
1 21	18 6.21	-20 48.5	1.818	1.074	26.6	21.2	29 W	12*	21*	11 28	2 54.78	+66 22.2	0.209	1.140	39.2	17.5	133 E	69	—
85938 1999 DJ₄										11 29	2 45.28	+63 36.1	0.216	1.149	37.4	17.6	135 E	71	—
11 2	12 34.50	+0 11.0	1.843	1.129	27.6	21.4	32 W	24*	13*	11 30	2 38.02	+60 57.7	0.223	1.159	35.8	17.6	137 E	74	3
11 7	12 53.12	-2 13.6	1.815	1.100	28.1	21.3	32 W	23*	13*	12 1	2 32.35	+58 27.7	0.231	1.168	34.5	17.7	138 E	77	6
11 12	13 12.25	-4 40.6	1.789	1.073	28.5	21.3	31 W	22*	14*	12 2	2 27.84	+56 6.2	0.239	1.177	33.5	17.7	139 E	79	8
11 17	13 31.91	-7 8.7	1.768	1.048	28.8	21.2	31 W	21*	14*	12 3	2 24.20	+53 53.2	0.248	1.186	32.6	17.8	140 E	81	10
11 22	13 52.14	-9 36.2	1.751	1.026	29.0	21.1	30 W	20*	15*	12 4	2 21.25	+51 48.6	0.258	1.195	32.0	17.9	140 E	83	12
11 27	14 12.97	-12 1.3	1.738	1.006	29.0	21.1	30 W	19*	15*	12 5	2 18.84	+49 51.8	0.267	1.203	31.6	18.0	140 E	85	14
12 2	14 34.41	-14 22.2	1.730	0.989	28.8	21.0	29 W	17*	16*	12 6	2 16.86	+48 2.7	0.277	1.212	31.3	18.1	140 E	87	16
12 7	14 56.47	-16 36.6	1.725	0.976	28.5	21.0	28 W	16*	16*	12 7	2 15.23	+46 20.6	0.287	1.220	31.1	18.2	140 E	89	18
12 12	15 19.10	-18 42.5	1.724	0.966	28.2	21.0	28 W	14*	16*	12 8	2 13.91	+44 45.3	0.298	1.228	31.1	18.2	140 E	90	19
12 17	15 42.27	-20 37.9	1.728	0.960	27.7	20.9	27 W	12*	17*	12 9	2 12.83	+43 16.2	0.309	1.236	31.1	18.3	140 E	88	21
12 22	16 5.89	-22 21.0	1.735	0.958	27.1	20.9	26 W	11*	17*	12 10	2 11.96	+41 52.9	0.320	1.244	31.3	18.4	139 E	87	22
12 27	16 29.88	-23 50.1	1.745	0.959	26.4	20.9	26 W	9*	17*	12 11	2 11.28	+40 35.1	0.332	1.252	31.5	18.5	138 E	86	23
1 1	16 54.08	-25 4.2	1.758	0.965	25.8	20.9	25 W	8*	17*	12 12	2 10.76	+39 22.3	0.343	1.260	31.7	18.6	138 E	84	25
1 6	17 18.34	-26 2.4	1.774	0.974	25.1	20.9	25 W	7*	18*	12 14	2 10.11	+37 10.3	0.367	1.275	32.3	18.8	136 E	82	27
1 11	17 42.48	-26 44.6	1.792	0.987	24.5	21.0	25 W	5*	18*	12 16	2 9.90	+35 14.4	0.392	1.290	33.0	19.0	135 E	80	29
1 16	18 6.34	-27 10.8	1.813	1.003	23.9	21.0	24 W	4*	18*	12 18	2 10.04	+33 32.4	0.417	1.304	33.7	19.2	133 E	79	30
1 21	18 29.74	-27 21.8	1.835	1.022	23.4	21.1	24 W	3*	18*	12 20	2 10.47	+32 2.2	0.443	1.317	34.4	19.4	131 E	77	32
141495 2002 EZ₁₁										12 22	2 11.14	+30 42.4	0.469	1.330	35.1	19.5	129 E	76	33
11 2	12 57.85	-5 16.7	0.877	0.407	94.0	19.4	24 W	16*	10*	12 24	2 12.02	+29 31.6	0.496	1.343	35.7	19.7	127 E	75	34
11 4	12 55.08	-4 50.5	0.912	0.450	86.4	19.4	27 W	18*	12*	12 26	2 13.09	+28 28.6	0.523	1.355	36.3	19.8	125 E	73	36
11 6	12 53.69	-4 34.3	0.946	0.493	80.4	19.5	29 W	20*	13*	12 28	2 14.31	+27 32.5	0.551	1.367	36.9	20.0	123 E	73	36
11 8	12 53.29	-4 25.3	0.978	0.535	75.5	19.5	32 W	22*	15*	12 30	2 15.67	+26 42.4	0.579	1.378	37.4	20.1	122 E	72	37
11 10	12 53.61	-4 21.6	1.008	0.576	71.6	19.6	34 W	24*	16*	1 1	2 17.17	+25 57.6	0.607	1.389	37.9	20.3	120 E	71	38
11 12	12 54.46	-4 21.9	1.036	0.616	68.3	19.7	35 W	25*	18*	1 3	2 18.78	+25 17.7	0.636	1.399	38.4	20.4	118 E	70	39
11 14	12 55.71	-4 25.2	1.062	0.655	65.5	19.8	37 W	26*	19*	1 5	2 20.50	+24 41.9	0.664	1.409	38.8	20.5	116 E	70	39
11 16	12 57.24	-4 30.7	1.085	0.692	63.1	19.9	39 W	28*	20*	1 7	2 22.32	+24 10.0	0.693	1.419	39.1	20.6	115 E	69	40*
11 18	12 58.98	-4 37.8	1.107	0.729	61.1	20.0	40 W	29*	21*	1 9	2 24.24	+23 41.4	0.722	1.428	39.4	20.7	113 E	69	40*
11 20	13 0.88	-4 46.1	1.127	0.765	59.4	20.1	42 W	30*	23*	1 11	2 26.24	+23 15.9	0.751	1.436	39.7	20.8	111 E	68	41*
11 22	13 2.89	-4 55.3	1.144	0.799	57.9	20.2	43 W	30*	24*	1 13	2 28.31	+22 53.1	0.780	1.445	39.9	20.9	109 E	68	41*
11 27	13 8.19	-5 20.5	1.182	0.882	54.8	20.4	47 W	32*	27*	1 15	2 30.46	+22 32.7	0.809	1.452	40.1	21.0	108 E	68	41*
12 2	13 13.62	-5 46.9	1.209	0.959	52.6	20.6	51 W	34*	30*	1 17	2 32.68	+22 14.6	0.839	1.460	40.3	21.1	106 E	67	41*
12 7	13 18.95	-6 12.8	1.227	1.031	50.8	20.7	54 W	35*	34*	1 19	2 34.96	+21 58.5	0.868	1.467	40.5	21.2	105 E	67	41*
12 12	13 24.03	-6 37.0	1.237	1.100	49.4	20.8	58 W	36*	37*	373135 2011 SD₁₇₃									
12 17	13 28.75	-6 58.7	1.240	1.164	48.2	20.9	62 W	37*	41*	11 2	14 3.47	-12 24.2	1.954	0.974	6.6	21.4	6 W	—	—
12 22	13 33.04	-7 17.5	1.236	1.225	47.1	21.0	66 W	37*	45*	11 7	14 25.40								

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

21/22	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°	21/22	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°
150340 1999 XH₃₁										434313 2004 GP									
11 2	14 21.72	-15 32.2	3.814	2.822	0.6	21.4	2 W	—	—	11 2	15 5.71	-10 46.7	1.944	0.981	10.0	21.4	10 E	3*	—
11 12	14 37.31	-16 42.4	3.783	2.804	2.6	21.5	7 W	—	—	11 12	15 39.86	-13 40.4	1.902	0.935	9.1	21.3	9 E	2*	—
11 22	14 53.16	-17 49.1	3.736	2.785	4.8	21.6	14 W	5*	5*	11 22	16 16.60	-16 24.6	1.844	0.874	8.3	21.0	7 E	1*	—
12 2	15 9.26	-18 51.5	3.673	2.765	6.9	21.6	20 W	9*	10*	12 2	16 56.98	-18 55.6	1.770	0.798	8.1	20.7	7 E	—	—
12 12	15 25.54	-19 49.0	3.596	2.743	9.0	21.7	26 W	12*	16*	12 12	17 42.25	-21 5.9	1.676	0.706	8.9	20.4	6 E	—	—
396605 2001 RC₁₈										348490 2005 SB₂₂₁									
11 2	14 24.11	-21 31.6	3.350	2.368	2.9	21.4	7 W	—	—	11 2	15 7.11	-22 2.2	3.534	2.570	4.5	21.5	12 E	—	6*
11 12	14 42.07	-23 48.9	3.298	2.324	3.7	21.4	9 W	—	2*	11 12	15 25.36	-23 16.0	3.506	2.527	2.7	21.3	7 E	—	—
11 22	15 1.10	-26 5.9	3.234	2.280	5.5	21.4	13 W	—	7*	11 22	15 44.44	-24 25.6	3.466	2.482	1.8	21.2	5 W	—	—
12 2	15 21.31	-28 21.6	3.158	2.236	7.5	21.4	17 W	—	11*	12 2	16 4.36	-25 29.9	3.412	2.437	3.0	21.2	7 W	—	1*
12 12	15 42.82	-30 35.2	3.073	2.192	9.7	21.4	22 W	1*	16*	12 12	16 25.10	-26 27.4	3.346	2.392	4.9	21.2	12 W	—	6*
12 22	16 5.76	-32 45.1	2.979	2.147	11.9	21.4	27 W	2*	21*	12 22	16 46.62	-27 17.1	3.269	2.346	7.1	21.2	17 W	2*	10*
1 1	16 30.28	-34 49.9	2.878	2.103	14.1	21.3	31 W	2*	25*	1 1	17 8.92	-27 57.6	3.181	2.300	9.2	21.2	22 W	4*	15*
1 11	16 56.52	-36 47.6	2.772	2.059	16.3	21.3	36 W	1*	30*	1 11	17 31.91	-28 27.7	3.085	2.254	11.5	21.2	27 W	5*	21*
1 21	17 24.59	-38 35.6	2.663	2.016	18.4	21.2	40 W	—	34*	1 21	17 55.54	-28 46.4	2.980	2.207	13.7	21.2	32 W	6*	26*
6172 Prokofeana										156015 2001 RX₈₁									
11 2	14 27.96	-14 25.9	4.612	3.619	0.1	21.3	0 W	—	—	11 2	15 19.57	-20 14.6	3.582	2.627	5.0	21.5	13 E	—	7*
11 12	14 39.90	-15 8.0	4.611	3.631	2.0	21.6	7 W	—	—	11 12	15 36.90	-21 26.7	3.576	2.599	2.9	21.3	8 E	—	2*
11 22	14 51.80	-15 46.8	4.590	3.642	3.9	21.7	14 W	6*	4*	11 22	15 54.86	-22 34.1	3.556	2.570	1.1	21.2	3 E	—	—
12 2	15 3.56	-16 21.9	4.550	3.651	5.7	21.8	22 W	12*	10*	12 2	16 13.44	-23 36.0	3.522	2.540	1.8	21.2	5 W	—	—
12 12	15 15.10	-16 52.8	4.490	3.660	7.5	21.8	29 W	16*	17*	12 12	16 32.59	-24 31.5	3.473	2.509	3.9	21.3	10 W	—	3*
289618 2005 GE₃₂										388188 2006 DP₁₄									
11 2	14 37.10	-10 30.8	2.671	1.683	2.7	21.5	5 E	—	—	11 2	15 20.36	-24 28.2	1.980	1.059	14.7	21.3	16 E	—	9*
11 12	15 3.88	-12 9.0	2.659	1.676	3.3	21.5	6 W	—	—	11 7	15 36.80	-25 3.0	1.916	0.987	14.5	21.1	14 E	—	8*
11 22	15 31.21	-13 35.2	2.644	1.671	4.6	21.5	8 W	2*	—	11 12	15 54.59	-25 32.5	1.846	0.912	14.5	20.8	13 E	—	7*
12 2	15 59.02	-14 47.6	2.626	1.667	6.3	21.6	11 W	5*	—	11 17	16 13.93	-25 54.9	1.769	0.833	15.0	20.6	13 E	—	7*
12 12	16 27.24	-15 44.3	2.605	1.664	8.0	21.6	14 W	7*	—	11 22	16 35.04	-26 7.1	1.687	0.750	16.0	20.3	12 E	—	6*
4015 Wilson-Harrington										184341 2005 GX₁₇₆									
11 2	14 37.44	-16 54.1	4.008	3.017	1.0	21.5	3 E	—	—	11 2	15 21.61	-22 18.7	2.723	1.781	8.2	21.5	15 E	—	9*
11 12	14 51.66	-17 55.3	3.947	2.960	1.3	21.4	4 W	—	—	11 12	15 48.58	-24 0.1	2.717	1.757	6.4	21.4	11 E	—	5*
11 22	15 6.42	-18 54.7	3.868	2.901	3.5	21.5	10 W	2*	2*	11 22	16 16.75	-25 26.8	2.707	1.735	4.7	21.3	8 E	—	2*
12 2	15 21.73	-19 51.6	3.771	2.840	5.7	21.5	17 W	6*	8*	12 2	16 46.05	-26 36.1	2.693	1.715	3.2	21.1	6 E	—	—
12 12	15 37.56	-20 45.2	3.658	2.778	7.9	21.5	23 W	10*	13*	12 12	17 16.35	-27 25.3	2.676	1.696	2.5	21.1	4 E	—	—
12 22	15 53.88	-21 34.6	3.530	2.714	10.2	21.5	29 W	13*	19*	12 22	17 47.41	-27 52.3	2.657	1.680	3.1	21.1	5 W	—	—
1 1	16 10.67	-22 19.2	3.388	2.648	12.4	21.4	35 W	15*	26*	1 1	18 18.98	-27 55.4	2.636	1.666	4.4	21.1	8 W	—	1*
1 11	16 27.92	-22 58.2	3.233	2.581	14.6	21.3	42 W	16*	33*	1 11	18 50.75	-27 33.8	2.613	1.655	6.1	21.2	10 W	—	4*
1 21	16 45.58	-23 30.9	3.068	2.512	16.8	21.2	48 W	17*	39*	1 21	19 22.39	-26 47.5	2.589	1.646	7.8	21.2	13 W	—	7*
391523 2007 RH₁₉₂										272373 2005 SA₂₁₇									
11 2	14 45.61	-14 3.1	3.065	2.077	2.0	21.5	4 E	—	—	11 2	15 23.34	-18 10.8	2.808	1.859	7.2	21.4	14 E	1*	7*
11 12	15 8.01	-15 11.5	3.030	2.042	1.2	21.3	2 W	—	—	11 12	15 48.38	-19 44.8	2.793	1.825	5.3	21.3	10 E	—	3*
11 22	15 31.22	-16 11.6	2.987	2.007	2.9	21.4	6 W	—	—	11 22	16 14.60	-21 7.3	2.771	1.792	3.3	21.1	6 E	—	—
12 2	15 55.25	-17 1.6	2.936	1.973	5.0	21.4	10 W	3*	—	12 2	16 41.96	-22 15.9	2.745	1.761	1.3	20.9	2 E	—	—
12 12	16 20.04	-17 39.6	2.879	1.939	7.1	21.5	14 W	7*	3*	12 12	17 10.40	-23 8.0	2.715	1.731	0.7	20.8	1 W	—	—
12 22	16 45.53	-18 3.6	2.816	1.907	9.3	21.5	18 W	9*	7*	12 22	17 39.77	-23 41.5	2.681	1.702	2.7	20.9	5 W	—	—
1 1	17 11.65	-18 12.1	2.748	1.875	11.4	21.5	22 W	11*	11*	1 1	18 9.91	-23 54.3	2.645	1.676	4.7	20.9	8 W	—	1*
1 11	17 38.27	-18 3.6	2.677	1.845	13.6	21.5	26 W	13*	15*	1 11	18 40.61	-23 45.1	2.606	1.653	6.6	21.0	11 W	—	5*
1 21	18 5.25	-17 37.0	2.603	1.817	15.6	21.4	30 W	14*	20*	1 21	19 11.62	-23 13.1	2.567	1.631	8.5	21.0	14 W	1*	8*
323137 2003 BM₈₀										184341 2005 GX₁₇₆									
11 2	14 51.63	-19 25.0	4.423	3.441	2.1	21.5	7 E	—	1*	11 2	15 21.61	-22 18.7	2.723	1.781	8.2	21.5	15 E	—	9*
11 12	15 5.99	-20 30.9	4.430	3.442	0.8	21.4	3 W	—	—	11 12	15 48.58	-24 0.1	2.717	1.757	6.4	21.4	11 E	—	5*
11 22	15 20.53	-21 33.4	4.421	3.443	2.0	21.4	7 W	—	1*	11 22	16 16.75	-25 26.8	2.707	1.735	4.7	21.3	8 E	—	2*
12 2	15 35.20	-22 32.2	4.397	3.444	3.7	21.6	13 W	2*	6*	12 2	16 46.05	-26 36.1	2.693	1.715	3.2	21.1	6 E	—	—
12 12	15 49.90	-23 26.8	4.357	3.446	5.5	21.6	20 W	6*	12*	12 12	17 16.35	-27 25.3	2.676	1.696	2.5	21.1	4 E	—	—
283729 2002 UX										184341 2005 GX₁₇₆									
11 2	14 51.97	-23 23.4	2.516	1.550	6.6	21.5	10 E	—	3*	11 2	15 21.61	-22 18.7	2.723	1.781	8.2	21.5	15 E	—	9*
11 12	15 21.84	-24 19.4	2.505	1.528	4.8	21.3	7 E	—	—	11 12	15 48.58	-24 0.1	2.717	1.757	6.4	21.4	11 E	—	5*
11 22	15 52.53	-24 56.8	2.488	1.506	3.2	21.2	5 E	—	—	11 22	16 16.75	-25 26.8	2.707	1.735	4.7	21.3	8 E	—	2*
12 2	16 23.97	-25 13.1	2.466	1.484	2.5	21.1	4 W	—	—	12 2	16 46.05	-26 36.1	2.693	1.715	3.2	21.1	6 E	—	—
12 12	16 56.01	-25 5.8	2.439	1.460	3.4	21.1	5 W	—	—	12 12	17 16.35	-27 25.3	2.676	1.696	2.5	21.1	4 E	—	—
12 22	17 28.47	-24 32.8	2.407	1.437	5.0	21.1	7 W	—	1*	12 22	17 47.41	-27 52.3	2.657	1.680	3.1	21.1	5 W	—	—
1 1	18 1.17	-23 32.8	2.372	1.413	6.9	21.1	10 W	—	3*	1 1	18 18.98	-27 55.4	2.636	1.666	4.4	21.1	8 W	—	1*
1 11	18 33.92	-22 4.9	2.333	1.390	8.9	21.2	13 W	2*	5*	1 11	18 50.75	-27 33.8	2.613	1.655	6.1	21.2	10 W		

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

21/22	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°	21/22	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°
200740 2001 VG₉₅										165464 2001 AY₁₉ (continuation)									
11 2	15 38.55	-11 31.8	3.441	2.512	6.8	21.5	17 E	8*	8*	1 1	19 41.84	-22 47.2	3.119	2.173	5.9	20.9	13 E	3*	5*
11 12	15 56.22	-12 29.3	3.436	2.479	5.0	21.4	13 E	6*	2*	1 11	20 4.24	-21 59.9	3.104	2.136	3.8	20.8	8 E	—	1*
11 22	16 14.51	-13 19.9	3.417	2.446	3.6	21.3	9 E	3*	—	1 21	20 26.96	-21 0.2	3.079	2.098	1.8	20.6	4 E	—	—
12 2	16 33.41	-14 2.9	3.385	2.412	3.2	21.2	8 E	—	—	282226 2002 AU₁₇									
12 12	16 52.85	-14 37.1	3.341	2.378	4.1	21.2	10 W	4*	—	11 2	17 41.44	-23 41.6	2.502	1.952	21.5	21.5	46 E	14*	39*
12 22	17 12.78	-15 1.7	3.285	2.342	5.8	21.2	14 W	8*	—	11 12	18 4.07	-23 24.2	2.535	1.908	20.1	21.4	41 E	14*	34*
1 1	17 33.16	-15 15.9	3.217	2.306	7.8	21.2	19 W	11*	5*	11 22	18 27.74	-22 54.3	2.559	1.864	18.5	21.3	37 E	14*	29*
1 11	17 53.90	-15 19.0	3.140	2.270	9.9	21.2	23 W	13*	11*	12 2	18 52.30	-22 10.2	2.575	1.821	16.9	21.3	32 E	13*	23*
1 21	18 14.94	-15 10.6	3.052	2.233	12.0	21.2	28 W	15*	17*	12 12	19 17.63	-21 10.4	2.584	1.779	15.2	21.2	28 E	13*	18*
477599 2010 KT₇										12 22	19 43.57	-19 53.7	2.586	1.737	13.4	21.0	24 E	12*	14*
11 2	15 43.68	-9 5.1	2.376	1.475	12.8	21.5	19 E	11*	8*	1 1	20 10.01	-18 19.6	2.583	1.697	11.7	20.9	21 E	10*	10*
11 12	16 13.41	-8 39.5	2.375	1.467	12.2	21.4	18 E	11*	4*	1 11	20 36.83	-16 27.7	2.574	1.659	10.0	20.8	17 E	9*	6*
11 22	16 43.65	-8 0.1	2.371	1.462	11.9	21.4	18 E	12*	—	1 21	21 3.92	-14 18.5	2.562	1.623	8.3	20.7	14 E	7*	2*
12 2	17 14.32	-7 5.8	2.367	1.461	12.0	21.4	18 E	12*	—	524522 2002 VE₆₈									
12 12	17 45.30	-5 55.9	2.364	1.464	12.3	21.4	19 E	11*	—	11 2	19 15.77	-9 38.8	0.382	0.935	87.2	21.3	70 E	34*	55*
12 22	18 16.45	-4 30.1	2.362	1.471	12.8	21.5	19 E	11*	—	11 7	19 49.50	-9 49.8	0.393	0.956	83.5	21.3	73 E	35*	57*
1 1	18 47.61	-2 49.4	2.364	1.481	13.3	21.5	20 E	9*	—	11 12	20 20.51	-9 50.5	0.409	0.974	80.2	21.3	76 E	35*	59*
454101 2013 BP₇₃										11 17	20 48.71	-9 42.6	0.429	0.989	77.5	21.3	77 E	35	60*
11 2	15 48.40	-20 42.1	1.431	0.603	34.3	21.4	20 E	2*	14*	11 22	21 14.25	-9 28.1	0.451	1.001	75.3	21.4	79 E	36	60*
11 7	16 15.41	-22 34.0	1.342	0.555	40.9	21.3	22 E	3*	15*	11 27	21 37.42	-9 8.4	0.475	1.010	73.5	21.5	79 E	36	60*
11 12	16 44.66	-24 14.5	1.246	0.519	49.3	21.2	23 E	4*	17*	516457 2005 HM₃									
11 17	17 15.89	-25 37.0	1.145	0.497	59.3	21.2	26 E	5*	19*	11 12	4 8.02	-3 18.1	1.180	2.116	11.7	22.5	154 W	42	67
11 22	17 48.61	-26 34.8	1.041	0.494	70.0	21.3	28 E	6*	21*	11 17	4 1.31	-4 54.9	1.170	2.107	11.5	22.5	155 W	40	69
11 27	18 22.40	-27 2.2	0.938	0.509	80.1	21.5	31 E	8*	24*	11 27	3 54.32	-6 24.5	1.167	2.097	12.1	22.5	154 W	39	70
154229 2002 JN₆₇										11 27	3 47.27	-7 44.9	1.171	2.087	13.4	22.5	151 E	37	72
11 2	16 35.36	-24 13.0	2.938	2.154	13.9	21.4	31 E	6*	25*	12 2	3 40.38	-8 54.3	1.181	2.077	15.1	22.6	147 E	36	73
11 12	16 53.19	-24 55.3	2.925	2.076	11.8	21.2	25 E	4*	19*	12 7	3 33.88	-9 51.7	1.198	2.066	17.0	22.7	142 E	35	74
11 22	17 12.48	-25 32.4	2.894	1.994	9.7	21.0	20 E	2*	14*	12 12	3 27.98	-10 36.8	1.220	2.055	19.0	22.8	137 E	34	75
12 2	17 33.28	-26 2.3	2.846	1.908	7.5	20.8	15 E	—	8*	388838 2008 EZ₅									
12 12	17 55.69	-26 23.1	2.781	1.818	5.2	20.5	10 E	—	4*	11 12	4 8.79	+29 23.6	2.191	3.146	5.6	24.0	162 W	74	35
12 22	18 19.80	-26 32.1	2.700	1.723	3.1	20.2	5 E	—	—	11 17	4 2.62	+29 16.7	2.176	3.148	4.0	23.9	167 W	74	35
1 1	18 45.77	-26 26.6	2.604	1.623	2.1	20.0	3 E	—	—	11 22	3 56.27	+29 6.7	2.169	3.148	2.9	23.9	171 W	74	35
1 11	19 13.77	-26 2.8	2.495	1.518	3.4	19.8	5 W	—	—	11 27	3 49.91	+28 53.6	2.171	3.149	2.9	23.9	171 E	74	35
1 21	19 44.02	-25 16.1	2.376	1.409	5.7	19.7	8 W	—	2*	12 2	3 43.68	+28 38.0	2.180	3.149	4.0	23.9	167 E	74	35
96631 1999 FP₅₉										12 7	3 37.73	+28 20.3	2.197	3.148	5.6	24.1	162 E	73	36
11 2	16 36.51	-23 9.6	2.104	1.359	22.4	21.5	31 E	7*	25*	12 12	3 32.18	+28 1.2	2.222	3.148	7.3	24.2	156 E	73	36
11 12	17 10.85	-24 4.1	2.105	1.333	21.3	21.4	29 E	7*	23*	497626 2006 QT₈₉									
11 22	17 46.54	-24 30.2	2.107	1.310	20.3	21.3	27 E	8*	20*	11 12	4 10.41	-20 48.3	1.268	2.115	18.0	23.2	139 W	24	85
12 2	18 23.23	-24 24.7	2.108	1.291	19.3	21.3	26 E	8*	18*	11 17	4 2.71	-21 43.3	1.259	2.104	18.1	23.2	139 W	23	86
12 12	19 0.50	-23 45.7	2.112	1.276	18.3	21.2	24 E	8*	16*	11 22	3 54.67	-22 25.5	1.256	2.093	18.6	23.2	137 W	23	86
12 22	19 37.86	-22 32.5	2.117	1.266	17.3	21.2	22 E	9*	14*	11 27	3 46.52	-22 53.7	1.258	2.081	19.4	23.2	136 E	22	87
1 1	20 14.88	-20 46.8	2.127	1.260	16.3	21.1	21 E	9*	12*	12 2	3 38.52	-23 7.5	1.265	2.068	20.4	23.2	133 E	22	87
1 11	20 51.21	-18 31.4	2.140	1.258	15.3	21.1	20 E	9*	10*	12 7	3 30.91	-23 6.8	1.278	2.055	21.5	23.2	130 E	22	87
1 21	21 26.59	-15 50.8	2.157	1.262	14.2	21.1	18 E	9*	8*	12 12	3 23.91	-22 52.4	1.294	2.041	22.8	23.3	127 E	22	87
277570 2005 YP₁₈₀										503880 2000 YJ₂₉									
11 2	16 40.18	-22 11.1	1.539	0.875	37.0	21.3	32 E	8*	26*	11 12	4 10.67	+48 7.8	2.695	3.566	8.7	23.5	147 W	87	16
11 7	16 58.64	-22 27.0	1.481	0.818	39.1	21.2	31 E	9*	25*	11 17	4 2.09	+47 47.9	2.668	3.561	7.9	23.4	150 W	87	16
11 12	17 18.24	-22 34.9	1.416	0.761	41.9	21.0	31 E	9*	24*	11 22	3 53.36	+47 20.7	2.649	3.556	7.3	23.4	153 W	88	17
11 17	17 38.95	-22 33.0	1.345	0.705	45.6	20.8	31 E	10*	23*	11 27	3 44.69	+46 46.2	2.638	3.550	7.1	23.4	154 E	88	17
11 22	18 0.74	-22 19.6	1.267	0.653	50.4	20.7	31 E	11*	23*	12 2	3 36.26	+46 5.0	2.635	3.544	7.2	23.4	153 E	89	18
11 27	18 23.42	-21 53.1	1.181	0.606	56.6	20.5	31 E	12*	22*	12 7	3 28.27	+45 17.8	2.640	3.537	7.7	23.4	151 E	90	19
12 2	18 46.71	-21 12.8	1.088	0.567	64.4	20.4	31 E	13*	22*	12 12	3 20.88	+44 25.7	2.654	3.529	8.4	23.4	148 E	89	20
12 7	19 10.12	-20 19.2	0.989	0.539	73.8	20.4	32 E	15*	22*	190119 2004 VA₆₄									
12 12	19 33.05	-19 14.7	0.885	0.526	84.4	20.5	32 E	16*	21*	11 12	4 14.56	+10 19.3	3.665	4.619	3.7	23.5	162 W	55	54
12 17	19 54.98	-18 3.3	0.781	0.529	95.4	20.7	32 E	17*	21*	11 22	4 5.43	+9 38.0	3.655	4.628	2.4	23.4	169 W	55	54
12 22	20 15.70	-16 49.2	0.679	0.549	106.0	21.0	32 E	18*	20*	12 2	3 56.24	+9 1.0	3.679	4.636	3.3	23.5	164 E	54	55
12 27	20 35.58	-15 35.3	0.582	0.581	115.4	21.4	32 E	19*	19*	12 12	3 47.55	+8 30.2	3.736	4.643	5.3	23.6	154 E	54	55
310879 2003 ON₁₂										12 22	3 39.86	+8 7.1	3.825	4.649	7.3	23.8	143 E	53	56
11 2	16 47.72	-27 55.3	3.157	2.411	13.6	21.5	35 E	5*	29*	26166 1995 QN₃									
11 12	17 7.56	-27 38.4	3.191	2.377	11.7	21.4	29 E	4*	23*	11 12	4 16.45	+6 13.1	4.415	5.355	3.7	24.0	160 W	51	58
11 22	17 27.99	-27 14.3	3.214	2.342	9.7	21.3	24 E	3*	17*	11 22	4 9.96	+5 45.9	4.405	5.365	2.8	24.0	165 W	51	58
12 2	17 48.91	-26 41.8	3.224	2.307	7.6	21.2	18 E	2*	12*	12 2	4 3.37	+5 24.2	4.426	5.373	3.2	24.0	162 E	50	59
12 12	18 10.24	-25 59.4	3.222	2.272	5.5	21.1	13 E	—	6*	12 12	3 57.07	+5 9.3	4.480	5.381	4.6	24.1	154 E	50	59
12 22	18 31.86	-25 6.1	3.208	2.236	3.3	20.9	7 E	—	1*	12 22	3 51.44	+5 1.7	4.562	5.389	6.2	24.2	144 E	50	59
1 1	18 53.68	-24 1.0	3.182	2.200	1.0	20.7	2 E	—	—	448721 2011 BN₂₄									
1 11	19 15.61	-22 43.3	3.146	2.164	1.4	20.7	3 W	—	—	11 12	4 18.85	+16 24.2	1.130	2.097	7.9	23.3	163 W	61	48
1 21	19 37.55	-21 12.5	3.098																

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

21/22	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°	21/22	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°
373416 1998 QG₁										495089 2011 SA₂₉									
11 12	4 23.48	+15 11.5	2.434	3.388	5.2	22.7	162 W	60	49	11 12	5 3.66	+26 3.7	1.415	2.336	11.5	21.9	152 W	71	38
11 22	4 13.82	+14 35.4	2.416	3.397	2.3	22.5	172 W	60	49	11 17	4 58.24	+26 0.3	1.402	2.348	9.0	21.8	158 W	71	38
12 2	4 3.91	+14 1.7	2.430	3.405	3.0	22.6	170 E	59	50	11 22	4 52.28	+25 54.4	1.394	2.361	6.4	21.7	164 W	71	38
12 12	3 54.60	+13 33.2	2.476	3.412	6.1	22.8	159 E	59	50	11 27	4 45.98	+25 46.0	1.394	2.373	3.9	21.6	171 W	71	38
12 22	3 46.65	+13 12.0	2.551	3.417	9.1	23.0	147 E	58	51	12 2	4 39.54	+25 35.2	1.401	2.385	1.7	21.4	176 W	71	38
										12 7	4 33.17	+25 22.5	1.415	2.397	2.3	21.5	174 E	70	39
										12 12	4 27.08	+25 8.3	1.436	2.409	4.6	21.7	169 E	70	39
										12 17	4 21.47	+24 53.3	1.464	2.421	7.0	21.9	162 E	70	39
										12 22	4 16.48	+24 38.1	1.499	2.432	9.3	22.0	156 E	70	39
										12 27	4 12.22	+24 23.5	1.540	2.443	11.5	22.2	150 E	69	40
										1 1	4 8.76	+24 9.9	1.587	2.454	13.5	22.3	144 E	69	40
221455 2006 BC₁₀										307190 2002 EK₁₃₀									
11 12	4 23.84	+22 29.0	2.228	3.183	5.6	24.1	162 W	67	42	11 12	5 3.94	+32 20.6	2.858	3.748	7.6	21.6	150 W	77	32
11 17	4 17.63	+22 15.4	2.221	3.195	3.7	24.0	168 W	67	42	11 17	4 59.54	+32 15.5	2.829	3.752	6.2	21.5	156 W	77	32
11 22	4 11.27	+22 0.2	2.221	3.206	1.7	23.9	175 W	67	42	11 22	4 54.82	+32 7.9	2.808	3.756	4.9	21.4	161 W	77	32
11 27	4 4.88	+21 43.8	2.230	3.217	0.5	23.8	178 E	67	42	11 27	4 49.87	+31 57.9	2.795	3.760	3.6	21.4	166 W	77	32
12 2	3 58.61	+21 26.6	2.247	3.227	2.4	24.0	172 E	66	43	12 2	4 44.78	+31 45.3	2.789	3.763	2.7	21.3	170 W	77	32
12 7	3 52.58	+21 9.0	2.273	3.237	4.3	24.1	166 E	66	43	12 7	4 39.67	+31 30.4	2.791	3.766	2.5	21.3	171 E	77	32
12 12	3 46.93	+20 51.5	2.307	3.246	6.2	24.3	159 E	66	43	12 12	4 34.66	+31 13.4	2.801	3.769	3.2	21.3	168 E	76	33
										12 17	4 29.85	+30 54.7	2.820	3.772	4.4	21.4	163 E	76	33
										12 22	4 25.34	+30 34.6	2.845	3.774	5.7	21.5	158 E	76	33
										12 27	4 21.20	+30 13.7	2.879	3.777	7.0	21.6	152 E	75	34
										1 1	4 17.51	+29 52.3	2.919	3.779	8.2	21.7	147 E	75	34
433992 2000 HD₇₄										526401 2006 HR₅₂									
11 12	4 24.51	+36 41.5	3.030	3.947	6.2	23.9	155 W	82	27	11 12	5 5.73	+19 51.4	1.972	2.884	9.2	22.4	152 W	65	44
11 17	4 18.07	+36 59.4	3.027	3.965	5.1	23.8	159 W	82	27	11 22	4 55.94	+19 55.8	1.913	2.877	5.3	22.1	164 W	65	44
11 22	4 11.45	+37 13.5	3.031	3.983	4.4	23.8	162 W	82	27	12 2	4 44.68	+19 58.8	1.884	2.868	1.2	21.8	177 W	65	44
11 27	4 4.76	+37 23.6	3.044	4.000	4.0	23.8	164 E	82	27	12 12	4 33.04	+20 0.9	1.885	2.859	3.6	22.0	170 E	65	44
12 2	3 58.14	+37 29.9	3.065	4.017	4.2	23.8	163 E	82	27	12 22	4 22.25	+20 3.5	1.917	2.848	7.7	22.2	157 E	65	44
12 7	3 51.71	+37 32.5	3.095	4.034	4.8	23.9	160 E	83	26	12 27	4 21.20	+20 8.3	1.976	2.837	11.5	22.4	145 E	65	44
12 12	3 45.58	+37 31.9	3.132	4.051	5.7	24.0	156 E	83	26	1 1	4 13.31	+20 8.3	1.976	2.837	8.2	21.7	147 E	75	34
196625 2003 RM₁₀										437846 1999 RJ₂₇									
11 12	4 24.54	+43 7.8	1.676	2.580	11.1	24.1	150 W	88	21	11 12	5 6.42	-21 5.2	1.190	1.991	21.8	22.2	132 W	24	85
11 17	4 15.29	+43 3.0	1.675	2.600	9.6	24.0	154 W	88	21	11 17	5 0.14	-22 19.1	1.175	1.987	21.3	22.2	133 W	23	86
11 22	4 5.87	+42 49.7	1.681	2.619	8.5	24.0	157 W	88	21	11 22	4 53.12	-23 21.3	1.165	1.983	21.0	22.2	134 W	22	87
11 27	3 56.55	+42 28.0	1.694	2.637	7.9	24.0	158 E	87	22	11 27	4 45.53	-24 9.8	1.160	1.977	21.0	22.1	134 W	21	88
12 2	3 47.61	+41 58.9	1.715	2.655	8.0	24.1	158 E	87	22	12 2	4 37.61	-24 43.2	1.160	1.972	21.0	22.1	133 W	20	89
12 7	3 39.29	+41 23.4	1.744	2.672	8.8	24.1	156 E	86	23	12 7	4 29.62	-25 0.5	1.164	1.965	21.9	22.2	132 E	20	89
12 12	3 31.80	+40 43.2	1.780	2.689	9.9	24.2	152 E	86	23	12 12	4 21.86	-25 1.7	1.173	1.958	22.6	22.2	130 E	20	89
										12 17	4 14.56	-24 47.4	1.186	1.951	23.5	22.2	128 E	20	89
										12 22	4 7.94	-24 18.5	1.203	1.942	24.5	22.3	125 E	21	88
										12 27	4 2.15	-23 36.7	1.223	1.933	25.6	22.3	122 E	21	88
										1 1	3 57.33	-22 43.5	1.246	1.924	26.6	22.4	119 E	22	87
509456 2007 LF										103067 1999 XA₁₄₃									
11 12	4 25.17	+21 33.2	1.256	2.217	8.2	23.3	161 W	67	42	11 12	5 9.62	-24 19.3	2.034	2.763	16.2	21.4	129 W	21	88
11 17	4 18.06	+21 0.7	1.226	2.203	5.3	23.1	168 W	66	43	11 17	5 3.59	-24 44.8	2.002	2.750	15.8	21.4	131 W	20	89
11 22	4 10.40	+20 24.9	1.203	2.189	2.2	22.9	175 W	65	44	11 22	4 57.00	-25 1.8	1.975	2.737	15.6	21.3	132 W	20	89
11 27	4 2.44	+19 46.5	1.187	2.173	1.1	22.7	178 E	65	44	11 27	4 49.97	-25 9.3	1.954	2.723	15.4	21.3	133 W	20	89
12 2	3 54.42	+19 6.3	1.179	2.158	4.2	22.9	171 E	64	45	12 2	4 42.65	-25 6.5	1.939	2.708	15.5	21.3	133 W	20	89
12 7	3 46.61	+18 25.7	1.178	2.141	7.4	23.0	164 E	63	46	12 7	4 35.20	-24 52.8	1.929	2.693	15.7	21.2	132 E	20	89
12 12	3 39.27	+17 45.8	1.184	2.124	10.5	23.2	157 E	63	46	12 12	4 27.82	-24 28.1	1.926	2.677	16.1	21.2	131 E	21	88
										12 17	4 20.68	-23 52.6	1.928	2.661	16.7	21.2	129 E	21	88
										12 22	4 13.93	-23 7.0	1.935	2.644	17.3	21.3	127 E	22	87
										12 27	4 7.71	-22 12.2	1.948	2.627	18.1	21.3	124 E	23	86
										1 1	4 2.13	-21 9.1	1.966	2.609	18.9	21.3	121 E	24	85
										1 6	3 57.27	-19 58.9	1.989	2.591	19.7	21.4	117 E	25	84
										1 11	3 53.20	-18 42.9	2.015	2.572	20.5	21.4	114 E	26	83
										1 16	3 49.94	-17 22.4	2.045	2.552	21.3	21.4	110 E	28	81
										1 21	3 47.50	-15 58.4	2.078	2.532	22.0	21.5	106 E	29	80
488494 2000 JA₃										497676 2006 SR₂									
11 12	4 29.78	+ 8 48.8	2.006	2.949	7.1	23.0	158 W	54	55	11 12	5 9.68	+ 0 23.1	1.689	2.567	12.6	21.5	146 W	45	64
11 22	4 18.80	+ 8 27.6	2.009	2.978	4.5	22.9	166 W	53	56	11 17	5 5.07	+ 0 24.3	1.683	2.584	11.2	21.5	149 W	45	64
12 2	4 7.63	+ 8 15.6	2.042	3.005	4.8	23.0	165 E	53	56	11 22	5 0.07	+ 1 7.1	1.684	2.601	10.0	21.5	153 W	44	65
12 12	3 57.30	+ 8 14.3	2.105	3.031	7.6	23.2	156 E	53	56	11 27	4 54.81	+ 1 44.4	1.691	2.618	9.2	21.4	155 W	43	66
12 22	3 48.66	+ 8 24.5																	

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

21/22	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45° - 26°	21/22	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45° - 26°
380199 2000 YQ₂₉									496127 2010 GN₁₄₅								
<i>(continuation)</i>																	
12 22	4 35.29	+9 9.4	2.628	3.545	6.7	21.2	155 E	54 55	11 12	5 27.84	+27 19.5	1.688	2.572	12.3	21.5	146 W	72 37
1 1	4 27.02	+9 24.9	2.666	3.513	9.4	21.4	144 E	54 55	11 17	5 23.00	+27 34.0	1.665	2.582	10.2	21.4	152 W	73 36
415745 2000 GV₁₄₇									137126 1999 CF₉								
11 12	5 13.20	+22 7.3	1.228	2.145	13.2	22.2	150 W	67 42	11 22	5 17.52	+27 46.6	1.648	2.593	8.0	21.3	159 W	73 36
11 17	5 5.50	+22 21.5	1.220	2.166	10.2	22.1	157 W	67 42	11 27	5 11.52	+27 57.0	1.638	2.603	5.8	21.2	165 W	73 36
11 22	4 57.19	+22 33.8	1.219	2.186	7.1	22.0	164 W	68 41	12 2	5 5.18	+28 4.9	1.635	2.612	3.6	21.1	170 W	73 36
11 27	4 48.50	+22 43.8	1.225	2.205	4.0	21.8	171 W	68 41	12 7	4 58.68	+28 10.1	1.640	2.622	2.1	21.0	174 W	73 36
12 2	4 39.72	+22 51.5	1.239	2.224	0.9	21.6	178 W	68 41	12 12	4 52.22	+28 12.6	1.652	2.631	2.8	21.1	173 E	73 36
12 7	4 31.12	+22 56.8	1.260	2.243	2.3	21.8	175 E	68 41	12 17	4 45.99	+28 12.7	1.671	2.640	4.7	21.2	167 E	73 36
12 12	4 22.96	+23 0.3	1.289	2.261	5.3	22.1	168 E	68 41	12 22	4 40.16	+28 10.7	1.698	2.649	6.8	21.4	161 E	73 36
12 17	4 15.49	+23 2.4	1.325	2.278	8.1	22.3	161 E	68 41	12 27	4 34.88	+28 7.2	1.732	2.658	8.9	21.5	155 E	73 36
12 22	4 8.86	+23 3.7	1.367	2.295	10.6	22.5	154 E	68 41	1 1	4 30.26	+28 2.6	1.772	2.666	10.8	21.7	149 E	73 36
506491 2003 UW₂₉									280853 2005 UY₂₈₂								
11 12	5 13.78	+17 56.0	1.169	2.086	13.7	23.3	150 W	63 46	11 12	5 31.80	+15 15.5	1.951	2.823	11.4	22.4	146 W	60 49
11 17	5 1.90	+17 30.6	1.150	2.099	10.2	23.2	158 W	63 46	11 22	5 20.73	+14 49.3	1.876	2.815	7.7	22.2	158 W	60 49
11 22	4 49.25	+17 2.7	1.139	2.110	6.7	23.0	166 W	62 47	12 2	5 7.62	+14 24.9	1.830	2.804	3.9	21.9	169 W	59 50
11 27	4 36.18	+16 32.6	1.138	2.120	3.5	22.8	172 W	62 47	12 12	4 53.57	+14 4.1	1.816	2.790	3.7	21.9	170 E	59 50
12 2	4 23.09	+16 1.3	1.145	2.128	2.9	22.8	174 E	61 48	12 22	4 39.95	+13 48.9	1.835	2.775	7.4	22.1	159 E	59 50
12 7	4 10.41	+15 29.9	1.163	2.135	5.7	23.0	168 E	60 49	1 1	4 27.98	+13 41.4	1.884	2.757	11.4	22.3	146 E	59 50
12 12	3 58.49	+14 59.7	1.189	2.141	9.0	23.2	160 E	60 49	92278 2000 CB₁₁₀								
12 17	3 47.63	+14 32.0	1.224	2.145	12.2	23.4	153 E	60 49	11 12	5 33.72	+33 13.2	1.720	2.586	13.0	21.4	144 W	78 31
441875 2010 AX₁₂₈									500787 2013 EJ₁₀₇								
11 12	5 13.80	+50 36.1	2.971	3.771	10.0	22.0	139 W	84 13	11 17	5 29.35	+43 5.0	2.142	3.006	10.9	21.9	145 W	88 21
11 17	5 8.51	+50 48.7	2.935	3.768	9.2	21.9	142 W	84 13	11 22	5 23.09	+43 37.8	2.119	3.011	9.6	21.9	149 W	89 20
11 22	5 2.69	+50 56.7	2.906	3.765	8.5	21.9	146 W	84 13	11 27	5 16.18	+44 5.6	2.102	3.017	8.5	21.8	153 W	89 20
11 27	4 56.47	+50 59.4	2.883	3.761	7.8	21.8	149 W	84 13	12 2	5 8.78	+44 27.8	2.093	3.021	7.6	21.7	156 W	89 20
12 2	4 49.99	+50 56.5	2.866	3.758	7.4	21.8	151 W	84 13	12 7	5 1.10	+44 43.6	2.091	3.026	7.1	21.7	158 W	90 19
12 7	4 43.40	+50 47.8	2.857	3.754	7.1	21.8	152 E	84 13	12 12	4 53.34	+44 52.9	2.096	3.030	7.1	21.7	158 E	90 19
12 12	4 36.89	+50 33.5	2.855	3.750	7.2	21.8	151 E	84 13	12 17	4 45.73	+44 55.7	2.109	3.034	7.6	21.8	156 E	90 19
12 17	4 30.61	+50 13.8	2.861	3.746	7.5	21.8	150 E	85 14	12 22	4 38.47	+44 52.6	2.129	3.038	8.5	21.8	153 E	90 19
12 22	4 24.72	+49 49.3	2.873	3.741	8.1	21.8	148 E	85 14	12 27	4 31.74	+44 44.2	2.156	3.041	9.6	21.9	149 E	90 19
12 27	4 19.32	+49 20.6	2.892	3.737	8.8	21.9	145 E	86 15	1 1	4 25.70	+44 31.2	2.190	3.044	10.8	22.0	144 E	90 19
1 1	4 14.54	+48 48.5	2.918	3.732	9.6	21.9	141 E	86 15	1 6	4 20.46	+44 14.8	2.230	3.047	12.0	22.1	140 E	89 20
261918 2006 KL₂₃									463480 2013 PC₇₄								
11 12	5 14.73	+21 37.9	1.864	2.766	10.3	21.9	150 W	67 42	11 12	5 34.99	+31 0.8	2.123	2.983	11.2	22.0	144 W	76 33
11 22	5 5.07	+21 5.4	1.828	2.785	6.2	21.7	162 W	66 43	11 17	5 30.63	+30 58.4	2.092	2.989	9.5	21.9	150 W	76 33
12 2	4 54.06	+20 29.7	1.821	2.804	1.9	21.5	175 W	65 44	11 22	5 25.71	+30 53.5	2.067	2.995	7.8	21.8	156 W	76 33
12 12	4 42.88	+19 53.1	1.844	2.821	2.9	21.6	172 E	65 44	11 27	5 20.34	+30 46.0	2.049	3.001	5.9	21.7	162 W	76 33
12 22	4 32.74	+19 18.7	1.897	2.838	7.1	21.9	159 E	64 45	12 2	5 14.63	+30 35.6	2.038	3.007	4.2	21.6	167 W	76 33
1 1	4 24.56	+18 49.8	1.977	2.854	10.8	22.1	147 E	64 45	12 7	5 8.74	+30 22.5	2.035	3.013	2.8	21.5	172 W	75 34
404670 2014 HD₁₅₁									145656 4788 P-L								
11 12	5 18.94	+22 49.5	1.346	2.253	13.1	22.5	149 W	68 41	11 12	5 35.87	+9 13.4	2.984	3.823	8.9	22.3	143 W	54 55
11 17	5 13.91	+22 39.7	1.331	2.266	10.6	22.4	155 W	68 41	11 22	5 28.37	+8 46.5	2.936	3.846	6.6	22.2	154 W	54 55
11 22	5 8.26	+22 28.6	1.321	2.279	7.9	22.3	162 W	67 42	12 2	5 19.80	+8 25.5	2.918	3.869	4.4	22.1	162 W	53 56
11 27	5 2.15	+22 16.1	1.318	2.292	5.1	22.1	168 W	67 42	12 12	5 10.76	+8 12.1	2.930	3.890	3.7	22.0	165 E	53 56
12 2	4 55.80	+22 2.6	1.322	2.305	2.3	22.0	175 W	67 42	12 22	5 1.97	+8 7.1	2.975	3.910	5.1	22.2	159 E	53 56
12 7	4 49.40	+21 48.2	1.333	2.318	0.6	21.9	179 E	67 42	1 1	4 54.03	+8 10.7	3.050	3.930	7.3	22.3	150 E	53 56
12 12	4 43.19	+21 33.6	1.351	2.330	3.2	22.1	172 E	67 42	192497 1998 HJ₈₉								
12 17	4 37.37	+21 19.1	1.376	2.343	5.9	22.3	166 E	66 43	11 12	5 26.58	+16 41.3	1.714	2.600	12.0	21.4	147 W	62 47
12 22	4 32.10	+21 5.4	1.408	2.355	8.4	22.5	160 E	66 43	11 22	5 17.79	+16 3.7	1.645	2.590	8.0	21.1	159 W	61 48
476187 2007 UQ₁₃									463480 2013 PC₇₄								
11 12	5 27.84	-5 37.7	0.784	1.660	23.3	21.7	138 W	39 70	11 17	5 30.63	+30 58.4	2.092	2.989	9.5	21.9	150 W	76 33
11 17	5 18.87	-8 20.0	0.768	1.661	21.7	21.6	142 W	37 72	11 22	5 25.71	+30 53.5	2.067	2.995	7.8	21.8	156 W	76 33
11 22	5 8.68	-10 54.9	0.759	1.660	20.8	21.5	143 W	34 75	11 27	5 20.34	+30 46.0	2.049	3.001	5.9	21.7	162 W	76 33
11 27	4 57.56	-13 17.1	0.756	1.658	20.6	21.5	144 W	32 77	12 2	5 14.63	+30 35.6	2.038	3.007	4.2	21.6	167 W	76 33
12 2	4 45.89	-15 22.2	0.760	1.655	21.2	21.5	143 W	30 79	12 7	5 8.74	+30 22.5	2.035	3.013	2.8	21.5	172 W	75 34
12 7	4 34.11	-17 6.4	0.770	1.651	22.5	21.6	140 E	28 81	12 12	5 2.83	+30 6.6	2.039	3.018	2.5	21.5	172 E	75 34
12 12	4 22.68	-18 27.9	0.786	1.646	24.3	21.7	136 E	27 82	12 17	4 57.05	+29 48.5	2.051	3.023	3.6	21.6	169 E	75 34
12 17	4 12.02	-19 26.7	0.807	1.640	26.3	21.8	132 E	26 83	12 22	4 51.56	+29 28.5	2.072	3.028	5.3	21.7	164 E	74 35
12 22	4 2.44	-20 3.9	0.832	1.632	28.4	21.9	128 E	25 84	12 27	4 46.47	+29 7.1	2.099	3.032	7.0	21.8	158 E	74 35
12 27	3 54.16	-20 21.9	0.860	1.624	30.4	22.0	123 E	25 84	1 1	4 41.90	+28 44.9	2.133	3.037	8.8	22.0	152 E	74 35
1 1	3 47.32	-20 23.0	0.891	1.614	32.3	22.2	119 E	25 84	1 6	4 37.94	+28 22.6	2.175	3.041	10.4	22.1	146 E	73 36

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

21/22	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45° - 26°	21/22	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45° - 26°
308014 2004 RH₁₉₇									400513 2008 SP₃								
11 12	5 43.79	+16 9.1	1.733	2.592	13.3	21.6	143 W	61 48	11 12	6 16.62	+16 4.0	1.561	2.367	17.2	21.4	135 W	61 48
11 22	5 35.40	+15 37.6	1.683	2.610	9.4	21.4	154 W	61 48	11 22	6 9.71	+15 50.7	1.504	2.391	13.2	21.2	146 W	61 48
12 2	5 24.95	+15 9.2	1.659	2.626	5.3	21.2	166 W	60 49	12 2	5 59.92	+15 43.1	1.469	2.413	8.7	21.0	158 W	61 48
12 12	5 13.55	+14 45.9	1.664	2.642	3.1	21.1	172 E	60 49	12 12	5 48.24	+15 41.7	1.461	2.435	4.3	20.8	169 W	61 48
12 22	5 2.50	+14 29.6	1.698	2.656	6.0	21.3	164 E	59 50	12 22	5 36.08	+15 46.5	1.481	2.457	3.8	20.9	170 E	61 48
1 1	4 52.95	+14 21.7	1.760	2.670	9.9	21.6	152 E	59 50	1 1	5 24.87	+15 57.4	1.530	2.477	7.8	21.1	160 E	61 48
									1 11	5 15.83	+16 14.3	1.606	2.496	12.0	21.4	148 E	61 48
255550 2006 JB₂₆									304292 2006 SK₇₇								
11 12	5 45.50	+28 40.3	1.940	2.791	12.5	21.9	142 W	74 35	11 12	6 24.47	+21 22.0	3.220	3.970	10.4	21.4	134 W	66 43
11 22	5 36.65	+28 47.8	1.884	2.807	8.8	21.7	154 W	74 35	11 22	6 18.57	+20 57.6	3.124	3.975	8.2	21.2	145 W	66 43
12 2	5 25.65	+28 47.4	1.855	2.822	4.8	21.5	166 W	74 35	12 2	6 11.03	+20 32.6	3.054	3.980	5.6	21.1	157 W	66 43
12 12	5 13.61	+28 37.4	1.854	2.836	1.9	21.3	174 E	74 35	12 12	6 2.30	+20 7.0	3.013	3.983	2.7	20.9	169 W	65 44
12 22	5 1.87	+28 18.6	1.885	2.849	4.8	21.6	166 E	73 36	12 22	5 53.03	+19 41.3	3.004	3.986	1.0	20.7	176 E	65 44
1 1	4 51.63	+27 53.8	1.944	2.862	8.6	21.8	154 E	73 36	1 1	5 43.93	+19 16.2	3.028	3.987	3.6	20.9	165 E	64 45
									1 11	5 35.67	+18 52.7	3.084	3.988	6.3	21.1	153 E	64 45
									1 21	5 28.83	+18 32.1	3.169	3.988	8.8	21.3	142 E	64 45
299346 2005 SG₁₇₇									434762 2006 HA₁₅₃								
11 12	5 46.06	+29 34.8	1.645	2.502	14.1	21.8	142 W	75 34	11 12	6 30.17	+32 28.5	4.119	4.842	8.7	21.4	132 W	77 32
11 22	5 36.65	+29 43.5	1.592	2.517	9.9	21.6	154 W	75 34	11 22	6 26.36	+33 2.3	4.016	4.840	7.1	21.3	143 W	78 31
12 2	5 24.71	+29 42.0	1.565	2.532	5.5	21.3	166 W	75 34	12 2	6 21.08	+33 34.2	3.936	4.838	5.2	21.1	153 W	79 30
12 12	5 11.57	+29 28.2	1.565	2.546	2.5	21.2	174 E	74 35	12 12	6 14.64	+34 2.2	3.885	4.836	3.4	21.0	163 W	79 30
12 22	4 58.87	+29 3.2	1.595	2.559	5.6	21.4	165 E	74 35	12 22	6 7.52	+34 24.7	3.864	4.833	2.2	20.9	169 W	79 30
1 1	4 48.05	+28 30.9	1.654	2.571	9.9	21.7	153 E	74 35	1 1	6 0.26	+34 40.5	3.875	4.831	3.0	21.0	165 E	80 29
									1 11	5 53.44	+34 49.5	3.916	4.829	4.8	21.1	156 E	80 29
									1 21	5 47.59	+34 52.4	3.986	4.826	6.7	21.2	145 E	80 29
102873 1999 WK₁₁									383218 2005 YX₂₂₀								
11 12	5 46.55	+23 35.8	1.751	2.608	13.3	21.6	143 W	69 40	11 12	6 33.63	+48 31.1	2.756	3.458	13.0	21.4	128 W	86 15
11 22	5 35.66	+23 53.4	1.717	2.646	9.0	21.4	155 W	69 40	11 22	6 25.81	+49 1.8	2.647	3.441	11.2	21.2	137 W	86 15
12 2	5 22.70	+24 6.4	1.711	2.684	4.3	21.2	168 W	69 40	12 2	6 14.85	+49 19.0	2.561	3.422	9.3	21.0	146 W	86 15
12 12	5 8.99	+24 13.3	1.735	2.719	0.7	21.0	178 E	69 40	12 12	6 1.51	+49 16.2	2.500	3.403	7.7	20.9	152 W	86 15
12 22	4 56.00	+24 14.5	1.790	2.753	5.2	21.4	165 E	69 40	12 22	5 47.05	+48 49.2	2.468	3.382	7.2	20.8	154 E	86 15
1 1	4 44.97	+24 12.2	1.876	2.786	9.3	21.7	153 E	69 40	1 1	5 32.98	+47 57.4	2.465	3.361	8.1	20.9	151 E	87 16
									1 11	5 20.71	+46 44.5	2.491	3.339	9.9	20.9	144 E	88 17
									1 21	5 11.27	+45 17.3	2.543	3.316	12.1	21.1	135 E	90 19
397798 2008 PD									276825 2004 PM₁₀₁								
11 12	5 55.04	+21 1.3	1.236	2.097	17.4	21.4	141 W	66 43	11 12	6 39.46	+35 48.5	1.867	2.617	16.8	21.4	130 W	81 28
11 22	5 46.64	+21 7.8	1.199	2.125	12.3	21.2	153 W	66 43	11 22	6 32.83	+36 21.8	1.796	2.638	13.7	21.3	141 W	81 28
12 2	5 35.27	+21 14.2	1.184	2.153	6.7	20.9	165 W	66 43	12 2	6 22.77	+36 47.1	1.747	2.657	10.1	21.1	152 W	82 27
12 12	5 22.42	+21 19.2	1.196	2.180	1.0	20.6	178 W	66 43	12 12	6 10.12	+36 58.1	1.722	2.675	6.6	20.9	162 W	82 27
12 22	5 9.96	+21 23.0	1.235	2.207	5.2	21.0	168 E	66 43	12 22	5 56.29	+36 50.7	1.726	2.693	4.9	20.9	167 E	82 27
1 1	4 59.53	+21 26.8	1.301	2.234	10.4	21.4	156 E	66 43	1 1	5 42.92	+36 24.6	1.760	2.709	6.7	21.0	161 E	81 28
1 11	4 52.27	+21 32.9	1.390	2.260	14.9	21.7	144 E	67 42	1 11	5 31.53	+35 43.5	1.822	2.725	10.1	21.2	151 E	81 28
									1 21	5 23.17	+34 53.9	1.910	2.739	13.3	21.5	140 E	80 29
344631 2003 LY₂									401824 1998 QG₇₁								
11 12	6 3.81	+21 59.5	2.504	3.312	11.4	21.4	139 W	67 42	11 12	6 40.69	+29 36.2	1.701	2.460	17.9	21.4	130 W	75 34
11 22	5 55.10	+20 56.0	2.446	3.342	8.3	21.2	151 W	66 43	11 22	6 34.64	+29 41.3	1.630	2.481	14.3	21.2	142 W	75 34
12 2	5 44.76	+19 49.6	2.417	3.372	4.9	21.1	163 W	65 44	12 2	6 25.20	+29 41.8	1.580	2.502	10.1	21.0	153 W	75 34
12 12	5 33.59	+18 42.2	2.420	3.401	1.7	20.9	174 W	64 45	12 12	6 13.19	+29 33.9	1.556	2.522	5.6	20.8	166 W	75 34
12 22	5 22.55	+17 36.6	2.457	3.429	3.0	21.0	169 E	63 46	12 22	5 59.98	+29 15.2	1.560	2.540	2.2	20.6	174 E	74 35
1 1	5 12.51	+16 36.0	2.527	3.456	6.3	21.3	157 E	62 47	1 1	5 47.19	+28 45.9	1.593	2.558	5.4	20.9	166 E	74 35
1 11	5 4.19	+15 43.1	2.627	3.481	9.2	21.5	145 E	61 48	1 11	5 36.29	+28 9.4	1.656	2.575	9.7	21.2	154 E	73 36
									1 21	5 28.31	+27 30.4	1.743	2.591	13.5	21.5	142 E	73 36
490070 2008 TM₁₁₆									5496 1973 NA								
11 12	6 7.73	+32 30.8	1.411	2.240	17.5	21.3	137 W	78 31	11 12	6 57.94	-10 25.1	2.518	3.092	16.6	21.3	117 W	35 74
11 17	6 3.93	+32 47.0	1.386	2.254	15.4	21.2	143 W	78 31	11 17	6 54.55	-10 31.2	2.434	3.067	16.0	21.2	121 W	34 75
11 22	5 59.15	+33 1.0	1.367	2.268	13.2	21.1	148 W	78 31	11 22	6 50.39	-10 33.1	2.354	3.042	15.2	21.1	126 W	34 75
11 27	5 53.53	+33 11.9	1.352	2.282	10.8	21.0	154 W	78 31	11 27	6 45.45	-10 29.9	2.279	3.016	14.4	21.0	131 W	35 74
12 2	5 47.21	+33 19.1	1.344	2.295	8.5	20.9	160 W	78 31	12 2	6 39.74	-10 20.5	2.209	2.989	13.5	20.9	135 W	35 74
12 7	5 40.40	+33 22.0	1.342	2.309	6.3	20.8	165 W	78 31	12 7	6 33.28	-10 4.1	2.145	2.962	12.5	20.8	139 W	35 74
12 12	5 33.35	+33 20.2	1.348	2.322	4.6	20.8	169 W	78 31	12 12	6 26.15	-9 39.9	2.088	2.935	11.6	20.6	143 W	35 74
12 17	5 26.30	+33 13.9	1.360	2.335	4.3	20.8	170 E	78 31	12 17	6 18.44	-9 7.2	2.038	2.907	10.9	20.5	146 W	36 73
12 22	5 19.50	+33 3.2	1.379	2.348	5.5	20.9	167 E	78 31	12 22	6 10.27	-8 25.6	1.997	2.879	10.4	20.5	148 W	37 72
12 27	5 13.17	+32 48.9	1.405	2.360	7.4	21.0	162 E	78 31	12 27	6 1.79	-7 35.1	1.964	2.851	10.3	20.4	149 E	37 72
1 1	5 7.50	+32 31.7	1.438	2.373	9.5	21.2	157 E	78 31	1 1	5 53.16	-6 35.7	1.940	2.821	10.7	20.4	148 E	38 71
1 6	5 2.63	+32 12.5	1.477	2.385	11.5	21.3	151 E	77 32	1 6	5 44.58	-5 28.1						

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

21/22	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°	21/22	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°
129989 1999 VS₅										308635 2005 YU₅₅									
<i>(continuation)</i>										<i>(continuation)</i>									
1 1	6 14.77	+22 0.9	1.950	2.929	2.3	20.7	173 E	67	42	12 2	6 18.21	+24 18.4	0.294	1.259	18.9	20.7	156 W	69	40
1 11	6 4.10	+22 6.7	2.008	2.954	6.4	21.1	160 E	67	42	12 7	5 55.72	+24 23.4	0.312	1.290	10.9	20.6	166 W	69	40
1 21	5 55.32	+22 11.0	2.095	2.977	10.0	21.3	148 E	67	42	12 12	5 35.25	+24 16.5	0.335	1.319	3.4	20.5	175 W	69	40
133249 2003 RS₆										19764 2000 NF₅									
11 12	7 10.76	+16 39.5	2.242	2.895	16.8	21.4	122 W	62	47	12 17	5 17.54	+24 1.4	0.364	1.347	3.5	20.7	175 E	69	40
11 22	7 7.83	+16 43.9	2.131	2.896	14.4	21.2	133 W	62	47	12 22	5 2.93	+23 42.5	0.397	1.374	9.4	21.2	167 E	69	40
12 2	7 2.15	+16 55.9	2.037	2.896	11.4	21.0	144 W	62	47	12 27	4 51.40	+23 23.2	0.435	1.399	14.5	21.6	159 E	68	41
12 12	6 53.96	+17 15.2	1.966	2.895	7.9	20.7	156 W	62	47	1 1	4 42.77	+23 5.9	0.478	1.423	18.9	22.0	152 E	68	41
12 22	6 43.86	+17 40.6	1.922	2.893	4.0	20.5	168 W	63	46	1 6	4 36.77	+22 52.0	0.524	1.446	22.6	22.4	146 E	68	41
12 27	6 38.37	+17 55.0	1.912	2.891	2.2	20.4	173 W	63	46	167701 2004 TM₁₃									
1 1	6 32.76	+18 10.2	1.909	2.889	1.9	20.3	174 E	63	46	11 12	7 47.61	+21 13.6	2.618	3.161	16.5	21.4	115 W	66	43
1 6	6 27.19	+18 25.8	1.914	2.887	3.4	20.4	170 E	63	46	11 22	7 45.56	+21 16.8	2.500	3.173	14.8	21.2	125 W	66	43
1 11	6 21.79	+18 41.8	1.927	2.885	5.4	20.6	164 E	64	45	12 2	7 40.89	+21 25.9	2.396	3.183	12.3	21.0	136 W	66	43
1 16	6 16.72	+18 57.8	1.947	2.883	7.3	20.7	158 E	64	45	12 12	7 33.68	+21 40.2	2.313	3.193	9.4	20.9	148 W	67	42
1 21	6 12.09	+19 13.7	1.974	2.880	9.2	20.8	152 E	64	45	12 22	7 24.32	+21 57.4	2.256	3.201	5.9	20.7	161 W	67	42
306886 2001 TC₆₃										143409 2003 BQ₄₆									
11 12	7 15.67	+21 5.0	1.432	2.128	23.3	21.4	122 W	66	43	1 1	7 50.58	+ 9 50.9	1.458	2.039	26.9	21.4	111 W	55	54
11 22	7 13.96	+21 10.7	1.365	2.158	19.8	21.2	132 W	66	43	11 22	7 56.54	+ 8 49.2	1.316	1.997	25.5	21.1	119 W	54	55
12 2	7 8.35	+21 24.2	1.312	2.187	15.4	21.0	144 W	66	43	12 2	7 59.56	+ 7 53.7	1.184	1.954	23.3	20.7	128 W	53	56
12 12	6 59.21	+21 43.6	1.279	2.216	10.4	20.8	156 W	67	42	12 12	7 59.07	+ 7 10.0	1.064	1.911	20.3	20.3	138 W	52	57
12 22	6 47.58	+22 5.4	1.271	2.244	4.8	20.6	169 W	67	42	12 17	7 57.37	+ 6 54.5	1.009	1.889	18.4	20.1	143 W	52	57
1 1	6 34.97	+22 25.9	1.289	2.272	1.0	20.4	178 E	67	42	12 22	7 54.68	+ 6 44.4	0.959	1.866	16.3	19.9	148 W	52	57
1 6	6 28.83	+22 34.9	1.309	2.286	3.7	20.6	171 E	68	41	12 27	7 50.97	+ 6 40.4	0.913	1.844	14.0	19.7	153 W	52	57
1 11	6 23.10	+22 42.9	1.336	2.299	6.4	20.8	165 E	68	41	1 1	7 46.29	+ 6 43.4	0.872	1.821	11.7	19.5	158 W	52	57
1 16	6 17.96	+22 49.9	1.369	2.313	8.9	21.0	159 E	68	41	1 6	7 40.74	+ 6 54.1	0.836	1.798	9.6	19.3	162 W	52	57
1 21	6 13.52	+22 55.9	1.409	2.326	11.3	21.2	153 E	68	41	1 11	7 34.49	+ 7 12.8	0.807	1.775	8.1	19.1	165 W	52	57
418135 2008 AG₃₃										392466 2011 CB₆₆									
11 12	7 20.29	+41 4.5	0.785	1.553	32.9	21.2	122 W	86	23	11 12	7 51.01	+64 27.1	1.801	2.383	22.3	21.4	114 W	71	—
11 17	7 27.71	+43 6.0	0.734	1.530	32.1	21.0	125 W	88	21	11 17	7 53.38	+65 46.6	1.758	2.375	21.8	21.4	117 W	69	—
11 22	7 34.68	+45 20.8	0.685	1.507	31.3	20.8	128 W	90	19	11 22	7 54.06	+67 6.7	1.718	2.367	21.3	21.3	120 W	68	—
11 27	7 41.10	+47 49.8	0.641	1.484	30.5	20.6	130 W	87	16	11 27	7 52.72	+68 26.4	1.682	2.358	20.8	21.2	122 W	67	—
12 2	7 46.82	+50 33.5	0.599	1.460	29.8	20.4	133 W	84	13	12 2	7 48.97	+69 44.1	1.650	2.349	20.4	21.2	124 W	65	—
12 7	7 51.64	+53 31.6	0.562	1.436	29.3	20.2	134 W	81	10	12 7	7 42.43	+70 57.5	1.621	2.339	20.0	21.1	126 W	64	—
12 12	7 55.34	+56 42.8	0.528	1.411	29.2	20.0	136 W	78	7	12 12	7 32.79	+72 4.0	1.597	2.329	19.6	21.0	127 W	63	—
12 17	7 57.60	+60 4.8	0.499	1.387	29.6	19.9	136 W	75	4	12 17	7 19.92	+73 0.6	1.576	2.320	19.4	21.0	128 W	62	—
12 22	7 57.93	+63 34.2	0.473	1.361	30.5	19.8	135 W	71	—	12 22	7 4.00	+73 44.1	1.560	2.309	19.3	21.0	129 W	61	—
12 24	7 57.37	+64 59.0	0.464	1.351	31.0	19.7	135 W	70	—	12 27	6 45.62	+74 11.8	1.549	2.299	19.4	20.9	129 W	61	—
12 26	7 56.33	+66 23.9	0.455	1.341	31.7	19.7	134 W	69	—	1 1	6 25.92	+74 21.3	1.542	2.288	19.6	20.9	129 E	61	—
12 28	7 54.72	+67 48.5	0.447	1.331	32.4	19.6	133 W	67	—	1 6	6 3.77	+74 12.0	1.539	2.277	20.0	20.9	128 E	61	—
12 30	7 52.46	+69 12.4	0.439	1.321	33.3	19.6	133 W	66	—	1 11	5 48.42	+73 44.8	1.540	2.266	20.4	20.9	126 E	61	—
1 1	7 49.46	+70 35.0	0.432	1.311	34.2	19.6	132 W	64	—	1 16	5 33.17	+73 1.8	1.545	2.255	21.0	20.9	125 E	62	—
1 2	7 47.64	+71 15.8	0.429	1.305	34.7	19.6	131 W	64	—	1 21	5 21.17	+72 6.1	1.554	2.243	21.7	21.0	123 E	63	—
1 3	7 45.59	+71 56.1	0.426	1.300	35.2	19.6	130 W	63	—	434110 2002 OX₂₂									
1 4	7 43.28	+72 35.8	0.423	1.295	35.7	19.6	130 W	62	—	11 12	8 18.12	-10 7.4	2.729	3.040	18.8	21.5	99 W	35	74*
1 5	7 40.71	+73 14.9	0.420	1.290	36.2	19.5	129 W	62	—	11 22	8 18.06	-12 4.7	2.645	3.076	17.9	21.4	107 W	33	76
1 6	7 37.85	+73 53.3	0.417	1.285	36.8	19.5	128 W	61	—	12 2	8 15.67	-13 53.2	2.569	3.111	16.7	21.3	115 W	31	78
1 7	7 34.68	+74 31.1	0.414	1.280	37.4	19.5	128 W	60	—	12 12	8 10.96	-15 27.9	2.506	3.146	15.3	21.2	122 W	30	79
1 8	7 31.17	+75 8.0	0.412	1.275	37.9	19.5	127 W	60	—	12 22	8 4.16	-16 43.3	2.459	3.179	13.8	21.2	130 W	28	81
1 9	7 27.30	+75 44.0	0.409	1.270	38.5	19.5	126 W	59	—	1 1	7 55.69	-17 34.5	2.433	3.212	12.3	21.1	136 W	27	82
1 10	7 23.04	+76 19.1	0.407	1.265	39.2	19.5	126 E	59	—	1 11	7 46.22	-17 58.1	2.429	3.244	11.3	21.1	140 W	27	82
1 11	7 18.36	+76 53.2	0.404	1.260	39.8	19.5	125 E	58	—	1 21	7 36.60	-17 53.1	2.449	3.275	10.9	21.1	141 E	27	82
1 12	7 13.24	+77 26.3	0.402	1.255	40.4	19.5	124 E	58	—	155455 1998 ML₂₄									
1 13	7 7.64	+77 58.1	0.400	1.249	41.0	19.5	123 E	57	—	11 12	8 22.26	+19 56.3	2.100	2.562	21.8	21.4	106 W	65	44*
1 14	7 1.53	+78 28.8	0.398	1.244	41.7	19.5	123 E	57	—	11 22	8 24.35	+20 11.3	1.992	2.583	20.1	21.3	116 W	65	44
1 15	6 54.89	+78 58.2	0.396	1.239	42.3	19.5	122 E	56	—	12 2	8 23.46	+20 38.6	1.893	2.603	17.7	21.1	126 W	66	43
1 16	6 47.67	+79 26.2	0.394	1.234	43.0	19.5	121 E	56	—	12 12	8 19.39	+21 17.9	1.808	2.622	14.7	20.9	138 W	66	43
1 17	6 39.86	+79 52.7	0.392	1.229	43.7	19.5	120 E	55	—	12 22	8 12.23	+22 7.4	1.744	2.639	10.9	20.7	150 W	67	42
1 18	6 31.44	+80 17.7	0.390	1.224	44.3	19.5	120 E	55	—	1 1	8 2.42	+23 2.8	1.703	2.656	6.5	20.5	162 W	68	41
1 19	6 22.39	+80 41.1	0.388	1.219	45.0	19.5	119 E	54	—	1 6	7 56.78	+23 31.0	1.694	2.664	4.3	20			

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

21/22	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45° - 26°	21/22	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45° - 26°
167701 2004 TM₁₃ (continuation)									174881 2004 BU₅₈ (continuation)								
12 22	8 22.61	+16 3.7	1.875	2.745	11.6	20.7	146 W	61 48	12 7	8 40.15	-13 1.4	1.237	1.871	28.7	21.0	114 W	32 77
1 1	8 13.68	+16 4.4	1.813	2.749	7.7	20.4	158 W	61 48	12 12	8 33.67	-12 20.5	1.187	1.884	26.9	20.9	120 W	33 76
1 11	8 2.88	+16 11.4	1.779	2.752	3.5	20.2	170 W	61 48	12 17	8 25.76	-11 25.3	1.140	1.895	24.8	20.7	126 W	34 75
1 21	7 51.29	+16 22.1	1.774	2.755	2.1	20.1	174 E	61 48	12 22	8 16.40	-10 13.8	1.097	1.906	22.3	20.6	133 W	35 74
269631 2011 AG₂₉									332663 2008 WA₅₅								
11 12	8 33.10	+14 36.4	1.571	2.031	28.4	21.4	103 W	60 49*	11 12	9 13.85	+13 5.1	1.232	1.615	37.7	21.4	93 W	58 47*
11 22	8 42.69	+14 27.6	1.443	2.012	27.4	21.1	110 W	59 50*	11 22	9 33.25	+10 38.6	1.131	1.595	37.9	21.2	97 W	56 51*
12 2	8 49.82	+14 34.0	1.320	1.992	25.7	20.9	119 W	60 49	12 2	9 51.17	+ 8 4.3	1.034	1.575	37.7	21.0	102 W	53 55*
12 12	8 53.95	+15 1.0	1.207	1.973	23.1	20.6	128 W	60 49	12 12	10 7.27	+ 5 25.0	0.942	1.557	37.0	20.7	108 W	50 59*
12 22	8 54.62	+15 52.9	1.105	1.953	19.5	20.3	138 W	61 48	12 22	10 21.20	+ 2 44.3	0.855	1.542	35.7	20.5	114 W	48 61
1 1	8 51.47	+17 12.2	1.020	1.933	14.9	19.9	150 W	62 47	1 11	10 32.49	+ 0 6.4	0.775	1.528	33.8	20.2	120 W	45 64
1 11	8 44.47	+18 57.2	0.954	1.913	9.2	19.5	162 W	64 45	1 6	10 36.95	- 1 9.7	0.738	1.522	32.6	20.0	124 W	44 65
1 21	8 34.35	+20 59.7	0.912	1.894	2.9	19.1	174 W	66 43	1 11	10 40.54	- 2 22.7	0.704	1.516	31.1	19.9	127 W	43 66
496890 2000 VR₂₃									90916 1997 LR								
11 12	8 39.86	+13 15.0	1.616	2.044	28.4	21.4	101 W	58 50*	11 12	9 14.11	+14 43.0	2.407	2.651	21.9	21.5	93 W	60 46*
11 22	8 45.83	+12 12.8	1.534	2.076	26.7	21.3	109 W	57 52*	11 22	9 19.51	+14 32.0	2.285	2.669	21.2	21.4	102 W	60 48*
12 2	8 48.50	+11 21.3	1.456	2.109	24.4	21.2	118 W	56 53	12 2	9 22.58	+14 33.1	2.167	2.687	20.0	21.2	111 W	60 49*
12 12	8 47.60	+10 43.7	1.388	2.141	21.2	21.0	128 W	56 53	12 12	9 23.05	+14 48.4	2.057	2.703	18.1	21.1	121 W	60 49
12 22	8 43.11	+10 22.4	1.332	2.173	17.3	20.8	139 W	55 54	12 22	9 20.73	+15 18.9	1.958	2.719	15.5	20.9	132 W	60 49
1 1	8 35.32	+10 18.6	1.295	2.205	12.6	20.6	151 W	55 54	1 1	9 15.58	+16 4.1	1.877	2.733	12.3	20.7	144 W	61 48
1 11	8 25.02	+10 31.6	1.280	2.237	7.7	20.4	162 W	56 53	1 11	9 7.80	+17 1.7	1.819	2.747	8.3	20.5	156 W	62 47
1 21	8 13.55	+10 58.2	1.291	2.268	3.9	20.3	171 W	56 53	1 21	8 58.03	+18 6.8	1.787	2.759	4.0	20.2	169 W	63 46
165139 2000 NJ₁₀									340048 2005 VT₅								
11 12	8 42.67	+15 21.5	2.213	2.584	22.1	21.5	101 W	60 48*	11 12	9 43.83	- 8 36.9	1.041	1.292	48.8	21.5	79 W	36 61*
11 22	8 45.81	+15 2.6	2.105	2.610	20.9	21.3	110 W	60 49*	11 17	9 59.29	-11 19.4	1.008	1.273	49.7	21.4	79 W	34 63*
12 2	8 46.23	+14 54.6	2.004	2.636	19.0	21.2	120 W	60 49	11 22	10 15.16	-14 5.1	0.978	1.255	50.7	21.3	79 W	31 65*
12 12	8 43.71	+14 58.9	1.914	2.660	16.4	21.0	130 W	60 49	11 27	10 31.52	-16 52.7	0.950	1.236	51.7	21.3	79 W	28 66*
12 22	8 38.27	+15 15.7	1.840	2.684	13.1	20.8	142 W	60 49	12 2	10 48.43	-19 40.4	0.924	1.219	52.6	21.2	79 W	25 68*
1 1	8 30.17	+15 44.0	1.788	2.706	9.1	20.6	154 W	61 48	12 7	11 5.97	-22 26.3	0.901	1.201	53.6	21.1	79 W	23 69*
1 11	8 20.04	+16 20.7	1.762	2.728	4.8	20.4	167 W	61 48	12 12	11 24.22	-25 8.5	0.880	1.185	54.6	21.1	79 W	20 71*
1 21	8 8.90	+17 1.8	1.765	2.748	1.1	20.2	177 E	62 47	12 17	11 43.25	-27 44.7	0.861	1.169	55.5	21.0	78 W	17 71*
186024 2001 QG₂₀₇									340048 2005 VT₅								
11 12	8 42.69	+17 5.4	4.054	4.352	12.9	21.5	101 W	62 46*	11 12	9 43.83	- 8 36.9	1.041	1.292	48.8	21.5	79 W	36 61*
11 22	8 44.05	+17 1.5	3.924	4.372	12.2	21.4	111 W	62 47*	11 17	9 59.29	-11 19.4	1.008	1.273	49.7	21.4	79 W	34 63*
12 2	8 43.80	+17 4.1	3.804	4.393	11.1	21.3	121 W	62 47	11 22	10 15.16	-14 5.1	0.978	1.255	50.7	21.3	79 W	31 65*
12 12	8 41.92	+17 13.3	3.698	4.413	9.6	21.2	132 W	62 47	11 27	10 31.52	-16 52.7	0.950	1.236	51.7	21.3	79 W	28 66*
12 22	8 38.50	+17 28.7	3.611	4.433	7.8	21.1	143 W	62 47	12 2	10 48.43	-19 40.4	0.924	1.219	52.6	21.2	79 W	25 68*
1 1	8 33.73	+17 49.3	3.549	4.453	5.6	20.9	154 W	63 46	12 7	11 5.97	-22 26.3	0.901	1.201	53.6	21.1	79 W	23 69*
1 11	8 27.92	+18 13.6	3.514	4.473	3.1	20.8	166 W	63 46	12 12	11 24.22	-25 8.5	0.880	1.185	54.6	21.1	79 W	20 71*
1 21	8 21.53	+18 39.5	3.509	4.492	0.6	20.6	177 W	64 45	12 17	11 43.25	-27 44.7	0.861	1.169	55.5	21.0	78 W	17 71*
112661 2002 PR₈₇									340048 2005 VT₅								
11 12	8 45.84	+16 35.6	2.311	2.669	21.4	21.5	100 W	62 46*	11 12	9 43.83	- 8 36.9	1.041	1.292	48.8	21.5	79 W	36 61*
11 22	8 51.29	+16 31.6	2.150	2.641	20.7	21.3	109 W	62 47*	11 17	9 59.29	-11 19.4	1.008	1.273	49.7	21.4	79 W	34 63*
12 2	8 54.49	+16 39.4	1.995	2.612	19.4	21.1	118 W	62 47	11 22	10 15.16	-14 5.1	0.978	1.255	50.7	21.3	79 W	31 65*
12 12	8 55.06	+17 1.7	1.851	2.581	17.4	20.8	128 W	62 47	11 27	10 31.52	-16 52.7	0.950	1.236	51.7	21.3	79 W	28 66*
12 22	8 52.72	+17 39.9	1.722	2.550	14.6	20.5	139 W	63 46	12 2	10 48.43	-19 40.4	0.924	1.219	52.6	21.2	79 W	25 68*
1 1	8 47.30	+18 34.2	1.612	2.518	10.9	20.2	151 W	64 45	12 7	11 5.97	-22 26.3	0.901	1.201	53.6	21.1	79 W	23 69*
1 11	8 38.95	+19 42.3	1.526	2.485	6.5	19.9	163 W	65 44	12 12	11 24.22	-25 8.5	0.880	1.185	54.6	21.1	79 W	20 71*
1 21	8 28.31	+20 58.5	1.468	2.451	1.7	19.5	176 W	66 43	12 17	11 43.25	-27 44.7	0.861	1.169	55.5	21.0	78 W	17 71*
310395 1998 TM₁₅									340048 2005 VT₅								
11 12	8 46.61	+18 23.4	1.505	1.945	30.0	21.4	100 W	63 44*	11 12	9 43.83	- 8 36.9	1.041	1.292	48.8	21.5	79 W	36 61*
11 22	8 56.82	+17 32.9	1.387	1.934	29.1	21.2	108 W	63 46*	11 17	9 59.29	-11 19.4	1.008	1.273	49.7	21.4	79 W	34 63*
12 2	9 4.29	+16 50.0	1.273	1.923	27.4	21.0	116 W	62 47	11 22	10 15.16	-14 5.1	0.978	1.255	50.7	21.3	79 W	31 65*
12 12	9 8.47	+16 18.1	1.166	1.911	24.9	20.7	125 W	61 48	11 27	10 31.52	-16 52.7	0.950	1.236	51.7	21.3	79 W	28 66*
12 22	9 8.85	+16 0.2	1.070	1.899	21.4	20.4	135 W	61 48	12 2	10 48.43	-19 40.4	0.924	1.219	52.6	21.2	79 W	25 68*
1 1	9 5.05	+15 58.0	0.988	1.886	16.9	20.0	146 W	61 48	12 7	11 5.97	-22 26.3	0.901	1.201	53.6	21.1	79 W	23 69*
1 11	8 57.03	+16 11.5	0.924	1.873	11.2	19.7	158 W	61 48	12 12	11 24.22	-25 8.5	0.880	1.185	54.6	21.1	79 W	20 71*
1 21	8 45.57	+16 36.7	0.881	1.860	4.7	19.3	171 W	62 47	12 17	11 43.25	-27 44.7	0.861	1.169	55.5	21.0	78 W	17 71*
206924 2004 PP₁₀₂									340048 2005 VT₅								
11 12	8 48.87	+19 51.6	1.952	2.341	24.6	21.4	100 W	65 43*	11 12	9 43.83	- 8 36.9	1.041	1.292	48.8	21.5	79 W	36 61*
11 22	8 53.45	+19 24.3	1.851	2.368	23.2	21.3	109 W	64 44*	11 17	9 59.29	-11 19.4	1.008	1.273	49.7	21.4	79 W	34 63*
12 2	8 55.00	+19 7.3	1.756	2.393	21.1	21.2	119 W	64 45	11 22	10 15.16	-14 5.1	0.978	1.255	50.7	21.3	79 W	31 65*
12 12	8 53.24	+19 1.6	1.670	2.418	18.3	21.0	129 W	64 45	11 27	10 31.52	-16 52.7	0.950	1.236	51.7	21.3	79 W	28 66*

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

21/22	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°-26°	21/22	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°-26°
378160 2006 WX ₁ (continuation)									417210 2005 XV ₇₇ (continuation)								
12 27	12 31.76	+13 38.2	0.425	1.093	63.9	20.2	93 W	59 45*	12 14	10 48.56	+22 3.6	0.222	1.069	62.1	19.7	106 W	67 41*
1 1	12 51.23	+10 33.5	0.393	1.075	66.0	20.1	93 W	56 48*	12 16	10 41.92	+21 15.0	0.212	1.074	59.7	19.5	110 W	66 42*
1 6	13 12.50	+ 6 58.7	0.363	1.056	68.6	19.9	91 W	52 51*	12 18	10 34.42	+20 21.8	0.203	1.079	57.1	19.4	113 W	65 44*
1 11	13 36.08	+ 2 48.7	0.336	1.035	71.8	19.8	89 W	48 55*	12 20	10 25.94	+19 23.2	0.193	1.084	54.3	19.2	117 W	64 45
1 16	14 2.58	- 1 59.8	0.312	1.013	75.8	19.7	86 W	43 58*	12 22	10 16.36	+18 18.3	0.184	1.088	51.2	19.0	120 W	63 46
1 21	14 32.67	- 7 25.1	0.294	0.989	80.4	19.7	82 W	38 61*	12 24	10 5.55	+17 6.0	0.175	1.092	47.9	18.8	125 W	62 47
418217 2008 CO ₁₆₆									480883 2001 YE ₄								
11 12	10 16.55	+36 0.8	1.368	1.649	36.8	21.5	87 W	79* 21*	11 12	11 56.42	+27 35.1	0.173	0.930	105.5	20.6	65 W	59* 13*
11 22	10 38.74	+35 0.8	1.282	1.644	36.9	21.3	92 W	80* 23*	11 14	11 54.18	+29 35.9	0.163	0.941	102.5	20.4	68 W	62* 13*
12 2	10 58.49	+34 4.4	1.197	1.640	36.6	21.2	97 W	79 25*	11 16	11 51.82	+31 49.1	0.154	0.952	99.4	20.1	72 W	66* 13*
12 12	11 15.37	+33 15.5	1.112	1.637	36.0	21.0	103 W	78 28*	11 18	11 49.21	+34 17.5	0.144	0.962	96.3	19.9	75 W	69* 13*
12 22	11 28.90	+32 36.6	1.028	1.634	34.8	20.8	109 W	78 30*	11 20	11 46.23	+37 4.8	0.135	0.972	93.0	19.6	79 W	73* 12*
1 1	11 38.40	+32 9.7	0.947	1.632	32.9	20.5	115 W	77 32*	11 22	11 42.66	+40 15.2	0.126	0.981	89.4	19.3	83 W	77* 11*
1 11	11 42.98	+31 54.3	0.871	1.631	30.3	20.3	123 W	77 32	11 23	11 40.56	+42 0.5	0.121	0.985	87.6	19.2	85 W	79* 11*
1 21	11 41.72	+31 45.5	0.801	1.631	26.8	20.0	132 W	77 32	11 24	11 38.18	+43 53.5	0.117	0.989	85.7	19.0	88 W	81* 10*
141498 2002 EZ ₁₆									512245 2016 AU ₈								
11 12	10 22.55	- 9 26.6	1.391	1.398	41.6	21.5	70 W	35* 53*	11 12	10 34.20	+18 5.1	0.674	1.057	65.5	21.5	76 W	61* 33*
11 22	10 42.17	-14 44.5	1.277	1.366	43.7	21.3	73 W	30* 59*	11 22	10 56.05	+14 25.2	0.654	1.085	63.7	21.4	80 W	59* 38*
12 2	11 3.29	-20 41.7	1.165	1.325	46.1	21.1	76 W	24 65*	12 2	11 16.37	+10 36.7	0.625	1.110	62.0	21.3	84 W	56 43*
12 12	11 27.06	-27 24.0	1.057	1.276	48.8	20.9	77 W	18 70*	12 12	11 35.10	+ 6 39.6	0.589	1.132	60.4	21.2	88 W	52 50*
12 22	11 55.68	-34 54.5	0.957	1.218	52.1	20.7	78 W	10 72*	12 22	11 52.17	+ 2 31.9	0.548	1.149	58.7	21.0	93 W	48 57*
1 1	12 33.32	-43 7.5	0.869	1.150	56.3	20.4	76 W	2 68*	1 1	12 7.38	- 1 49.6	0.501	1.163	56.9	20.8	98 W	43 64*
1 3	12 42.55	-44 49.1	0.854	1.135	57.2	20.4	76 W	- 67*	1 11	12 20.28	- 6 29.2	0.452	1.172	54.8	20.5	103 W	39 70*
1 5	12 52.53	-46 30.8	0.839	1.119	58.2	20.4	75 W	- 66*	1 21	12 30.27	-11 33.9	0.402	1.178	52.2	20.2	109 W	33 76
1 7	13 3.38	-48 12.1	0.825	1.104	59.2	20.3	75 W	- 64*	101952 1999 RY ₃₁								
1 9	13 15.21	-49 52.1	0.811	1.088	60.3	20.3	74 W	- 62*	11 12	10 42.90	+16 6.7	2.708	2.607	21.4	21.5	74 W	59* 33*
1 11	13 28.16	-51 30.0	0.798	1.071	61.4	20.3	73 W	- 61*	11 22	10 54.92	+15 24.0	2.550	2.579	22.2	21.4	81 W	60* 37*
1 13	13 42.36	-53 4.7	0.787	1.054	62.6	20.2	72 W	- 59*	12 2	11 5.92	+14 49.7	2.388	2.551	22.7	21.2	88 W	60 41*
1 15	13 57.95	-54 34.8	0.776	1.037	63.8	20.2	71 W	- 57*	12 12	11 15.67	+14 26.0	2.226	2.521	22.9	21.0	96 W	59 45*
1 17	14 15.07	-55 58.9	0.766	1.019	65.1	20.2	70 W	- 56*	12 22	11 23.89	+14 15.2	2.066	2.491	22.6	20.8	104 W	59 48*
1 19	14 33.80	-57 15.2	0.757	1.001	66.4	20.1	69 W	- 54*	1 1	11 30.26	+14 19.7	1.911	2.460	21.7	20.6	112 W	59 50*
1 21	14 54.20	-58 21.6	0.749	0.982	67.7	20.1	67 W	- 52*	1 11	11 34.37	+14 41.6	1.764	2.428	20.2	20.4	122 W	60 49
512245 2016 AU ₈									453563 2010 BB								
11 12	10 34.20	+18 5.1	0.674	1.057	65.5	21.5	76 W	61* 33*	11 12	11 4.87	+13 7.9	0.495	0.922	82.8	21.5	67 W	54* 31*
11 22	10 56.05	+14 25.2	0.654	1.085	63.7	21.4	80 W	59* 38*	11 17	11 11.83	+10 53.5	0.494	0.942	80.5	21.5	70 W	54* 35*
12 2	11 16.37	+10 36.7	0.625	1.110	62.0	21.3	84 W	56 43*	11 22	11 19.25	+ 8 33.6	0.490	0.960	78.6	21.4	72 W	52* 38*
12 12	11 35.10	+ 6 39.6	0.589	1.132	60.4	21.2	88 W	52 50*	11 27	11 27.03	+ 6 8.1	0.483	0.977	76.9	21.4	75 W	51* 42*
12 22	11 52.17	+ 2 31.9	0.548	1.149	58.7	21.0	93 W	48 57*	12 2	11 35.09	+ 3 36.9	0.474	0.992	75.4	21.3	77 W	49* 45*
1 1	12 7.38	- 1 49.6	0.501	1.163	56.9	20.8	98 W	43 64*	12 7	11 43.37	+ 0 59.4	0.464	1.006	74.1	21.2	79 W	46 49*
1 11	12 20.28	- 6 29.2	0.452	1.172	54.8	20.5	103 W	39 70*	12 12	11 51.85	+ 1 44.9	0.451	1.017	73.0	21.2	81 W	43 53*
1 21	12 30.27	-11 33.9	0.402	1.178	52.2	20.2	109 W	33 76	12 17	12 0.54	- 4 37.1	0.437	1.027	72.0	21.1	83 W	40 58*
101952 1999 RY ₃₁									417210 2005 XV ₇₇								
11 12	10 42.90	+16 6.7	2.708	2.607	21.4	21.5	74 W	59* 33*	11 12	11 40.02	+29 53.8	0.358	0.925	89.7	21.4	69 W	63* 14*
11 22	10 54.92	+15 24.0	2.550	2.579	22.2	21.4	81 W	60* 37*	11 17	11 34.33	+29 8.3	0.343	0.954	85.6	21.2	74 W	67* 18*
12 2	11 5.92	+14 49.7	2.388	2.551	22.7	21.2	88 W	60 41*	11 22	11 28.72	+28 12.1	0.324	0.981	81.7	21.0	79 W	70* 22*
12 12	11 15.67	+14 26.0	2.226	2.521	22.9	21.0	96 W	59 45*	11 27	11 22.66	+27 6.6	0.304	1.005	77.8	20.7	85 W	72* 26*
12 22	11 23.89	+14 15.2	2.066	2.491	22.6	20.8	104 W	59 48*	12 2	11 15.49	+25 52.0	0.281	1.027	73.8	20.5	90 W	71 31*
1 1	11 30.26	+14 19.7	1.911	2.460	21.7	20.6	112 W	59 50*	12 7	11 6.42	+24 27.2	0.257	1.046	69.4	20.2	97 W	69 35*
1 11	11 34.37	+14 41.6	1.764	2.428	20.2	20.4	122 W	60 49	12 12	10 54.43	+22 48.4	0.232	1.063	64.3	19.8	103 W	68 39*
1 21	11 35.84	+15 21.9	1.629	2.395	18.0	20.1	131 W	60 49	417210 2005 XV ₇₇								
453563 2010 BB									417210 2005 XV ₇₇								
11 12	11 4.87	+13 7.9	0.495	0.922	82.8	21.5	67 W	54* 31*	1 3	0 59.56	+22 56.2	0.179	1.030	70.1	19.5	100 E	68 38*
11 17	11 11.83	+10 53.5	0.494	0.942	80.5	21.5	70 W	54* 35*	1 5	0 59.66	+21 22.1	0.189	1.025	71.9	19.7	98 E	66 39*
11 22	11 19.25	+ 8 33.6	0.490	0.960	78.6	21.4	72 W	52* 38*	1 7	0 59.92	+19 58.9	0.200	1.021	73.7	19.8	95 E	65 39*
11 27	11 27.03	+ 6 8.1	0.483	0.977	76.9	21.4	75 W	51* 42*	1 9	1 0.29	+18 44.8	0.210	1.015	75.4	20.0	93 E	64 40*
12 2	11 35.09	+ 3 36.9	0.474	0.992	75.4	21.3	77 W	49* 45*	1 11	1 0.73	+17 38.3	0.220	1.009	77.0	20.1	90 E	63 40*
12 7	11 43.37	+ 0 59.4	0.464	1.006	74.1	21.2	79 W	46 49*	1 13	1 1.21	+16 38.2	0.230	1.003	78.7	20.3	88 E	62 40*
12 12	11 51.85	+ 1 44.9	0.451	1.017	73.0	21.2	81 W	43 53*	1 15	1 1.71	+15 43.4	0.240	0.995	80.3	20.4	86 E	61 39*
12 17	12 0.54	- 4 37.1	0.437	1.027	72.0	21.1	83 W	40 58*	1 17	1 2.20	+14 53.1	0.250	0.987	81.9	20.5	84 E	60* 39*
12 22	12 9.48	- 7 38.1	0.421	1.035	71.2	21.0	85 W	37 62*	1 19	1 2.66	+14 6.5	0.259	0.979	83.5	20.6	81 E	59* 39*
12 27	12 18.72	-10 49.3	0.405	1.041	70.6	20.9	87 W	34 67*	417210 2005 XV ₇₇								
1 1	12 28.32	-14 12.1	0.387	1.045	70.1	20.8	88 W	31 71*	1 3	0 59.56	+22 56.2	0.179	1.030	70.1	19.5	100 E	68 38*
1 6	12 38.39	-17 47.8	0.370	1.047	69.9	20.7	89 W	27 76*	1 5	0 59.66	+21 22.1	0.189	1.025	71.9	19.7	98 E	66 39*
1 11	12 49.09	-21 37.9	0.352	1.048	69.8	20.6	91 W	23 81*	1 7	0 59.92	+19 58.9	0.200	1.021	73.7	19.8	95 E	65 39*
1 16	13 0.71	-25 44.1	0.334	1.046	70.1	20.5	91 W	19 85*	1 9	1 0.29	+18 44.8	0.210	1.015	75.4	20.0	93 E	64 40*
1 21	13 13.62	-30 8.0	0.317	1.043	70.6	20.4	92 W	15 85*	1 11	1 0.73	+17 38.3	0.220	1.009	77.0	20.1	90 E	63 40*
417210 2005 XV ₇₇									417210 2005 XV ₇₇								
11 12	11 40.02	+29 53.8	0.358	0.925	89.7	21.4	69 W	63* 14*	1 13	1 1.21	+16 38.2	0.230	1.003	78.7	20.3	88 E	62 40*</

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

21/22	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°	21/22	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°	
434188 2003 AD₂₃										234341 2001 FZ₅₇ (continuation)										
11 12	12 8.40	-16 18.0	0.509	0.708	107.7	20.6	43 W	21*	33*	12 22	13 57.39	+10 58.5	0.924	1.076	58.3	21.0	69 W	54*	30*	
11 14	12 2.17	-14 33.1	0.507	0.740	103.5	20.5	47 W	24*	35*	12 27	14 2.67	+10 51.2	0.918	1.120	56.7	21.0	72 W	55*	33*	
11 16	11 56.54	-12 48.3	0.505	0.771	99.5	20.4	50 W	27*	37*	1 1	14 7.53	+10 47.8	0.907	1.162	55.1	21.0	76 W	55*	36*	
11 18	11 51.43	-11 4.2	0.503	0.802	95.7	20.3	54 W	30*	39*	1 6	14 11.85	+10 49.3	0.892	1.200	53.6	21.0	79 W	56*	40*	
11 20	11 46.73	-9 20.7	0.502	0.833	92.1	20.2	57 W	33*	41*	1 11	14 15.51	+10 56.4	0.872	1.237	52.2	21.0	83 W	56*	43*	
11 22	11 42.36	-7 37.9	0.501	0.864	88.6	20.1	61 W	35*	43*	1 16	14 18.42	+11 9.9	0.849	1.271	50.7	20.9	87 W	56*	45*	
11 27	11 32.34	-3 22.7	0.498	0.939	80.4	20.0	70 W	41*	47*	1 21	14 20.45	+11 30.4	0.822	1.302	49.1	20.9	92 W	57	48*	
12 2	11 22.78	+0 53.6	0.494	1.012	72.8	19.8	79 W	46	49*	141531 2002 GB										
12 7	11 12.82	+5 15.1	0.490	1.083	65.4	19.7	88 W	50	51*	11 12	13 31.57	+4 34.7	0.777	0.536	96.1	20.5	33 W	26*	5*	
12 12	11 1.75	+9 44.5	0.488	1.151	58.1	19.6	97 W	55	51*	11 14	13 34.80	+4 51.0	0.812	0.553	90.9	20.5	34 W	28*	6*	
12 17	10 49.05	+14 21.4	0.488	1.217	50.8	19.5	107 W	59	49*	11 16	13 38.40	+4 57.0	0.845	0.572	86.2	20.4	35 W	29*	7*	
12 22	10 34.33	+19 1.8	0.491	1.281	43.4	19.5	117 W	64	45	11 18	13 42.29	+4 54.8	0.878	0.591	82.0	20.4	36 W	30*	7*	
12 27	10 17.39	+23 37.6	0.500	1.343	36.1	19.4	127 W	69	40	11 20	13 46.40	+4 46.0	0.910	0.611	78.3	20.5	37 W	31*	8*	
1 1	9 58.30	+27 57.7	0.516	1.403	29.0	19.4	136 W	73	36	11 22	13 50.67	+4 31.8	0.940	0.632	75.0	20.5	38 W	32*	9*	
1 3	9 50.14	+29 34.6	0.525	1.426	26.3	19.4	140 W	75	34	11 24	13 55.05	+4 13.5	0.969	0.653	72.0	20.5	39 W	32*	10*	
1 5	9 41.76	+31 6.3	0.535	1.449	23.7	19.4	144 W	76	33	11 26	13 59.51	+3 52.0	0.996	0.674	69.4	20.6	40 W	33*	10*	
1 7	9 33.19	+32 32.2	0.546	1.472	21.3	19.4	147 W	78	31	11 28	14 4.02	+3 27.9	1.022	0.696	67.0	20.6	40 W	33*	11*	
1 9	9 24.51	+33 51.8	0.559	1.495	19.1	19.4	150 W	79	30	11 30	14 8.57	+3 1.8	1.047	0.717	64.9	20.7	41 W	34*	12*	
1 11	9 15.78	+35 4.8	0.573	1.517	17.1	19.4	153 W	80	29	12 2	14 13.12	+2 34.3	1.070	0.739	63.0	20.7	42 W	34*	13*	
1 13	9 7.08	+36 10.9	0.589	1.539	15.3	19.4	156 W	81	28	12 7	14 24.45	+1 21.5	1.122	0.792	59.0	20.9	44 W	35*	16*	
1 15	8 58.47	+37 10.2	0.605	1.560	13.9	19.5	158 W	82	27	12 12	14 35.62	+0 6.1	1.165	0.844	56.0	21.0	45 W	36*	18*	
1 17	8 50.01	+38 2.6	0.624	1.582	12.9	19.5	159 W	83	26	12 17	14 46.56	-1 9.4	1.201	0.895	53.6	21.1	47 W	36*	21*	
1 19	8 41.78	+38 48.4	0.643	1.603	12.2	19.6	160 W	84	25	12 22	14 57.24	-2 23.6	1.229	0.944	51.8	21.2	49 W	36*	24*	
1 21	8 33.83	+39 27.9	0.664	1.624	12.0	19.7	160 W	84	25	12 27	15 7.64	-3 35.7	1.250	0.991	50.4	21.3	51 W	36*	28*	
										1 1	15 17.76	-4 45.2	1.265	1.035	49.4	21.4	53 W	36*	31*	
31845 2000 DK₁₇										528857 2009 CT										
11 12	12 17.40	-1 7.4	2.993	2.399	17.0	21.5	45 W	33*	24*	11 12	14 7.03	-14 44.5	1.731	0.816	18.3	21.3	15 W	6*	6*	
11 22	12 33.27	-2 42.5	2.871	2.375	18.8	21.4	51 W	36*	29*	11 17	14 34.08	-16 50.7	1.703	0.774	16.9	21.1	13 W	4*	5*	
12 2	12 48.99	-4 14.5	2.740	2.349	20.6	21.4	57 W	38*	35*	11 22	15 2.78	-18 47.0	1.682	0.737	14.9	20.9	11 W	2*	3*	
12 12	13 4.49	-5 42.4	2.602	2.323	22.1	21.3	63 W	38*	41*	11 27	15 33.07	-20 29.0	1.666	0.707	12.4	20.7	9 W	—	1*	
12 22	13 19.69	-7 5.1	2.458	2.296	23.6	21.2	69 W	38*	48*	12 2	16 4.74	-21 52.1	1.657	0.686	9.2	20.5	6 W	—	—	
1 1	13 34.48	-8 21.5	2.309	2.269	24.8	21.0	75 W	37	55*	12 7	16 37.44	-22 52.5	1.653	0.673	5.6	20.3	4 W	—	—	
1 11	13 48.70	-9 30.4	2.158	2.240	25.8	20.9	82 W	35	62*	12 12	17 10.71	-23 27.3	1.655	0.671	1.8	20.1	1 W	—	—	
1 21	14 2.18	-10 30.5	2.006	2.211	26.4	20.7	89 W	34	69*	12 17	17 44.02	-23 35.3	1.663	0.679	2.0	20.1	1 E	—	—	
										12 22	18 16.81	-23 16.9	1.676	0.698	5.4	20.4	4 E	—	—	
354683 2005 PM₄										437844 1999 MN										
11 12	12 22.34	+6 16.9	2.787	2.240	19.0	21.4	47 W	38*	20*	11 12	14 10.23	-12 38.2	1.047	0.269	70.4	21.1	15 W	7*	4*	
11 22	12 40.79	+4 25.7	2.650	2.192	20.9	21.3	52 W	41*	24*	11 13	14 13.86	-12 54.5	1.084	0.285	63.4	21.1	15 W	7*	4*	
12 2	12 59.47	+2 34.9	2.509	2.145	22.8	21.2	57 W	43*	29*	11 14	14 17.89	-13 13.0	1.119	0.302	57.4	21.1	15 W	7*	4*	
12 12	13 18.36	+0 45.6	2.365	2.098	24.6	21.1	62 W	44*	35*	11 15	14 22.20	-13 33.1	1.152	0.320	52.3	21.2	15 W	7*	4*	
12 22	13 37.46	+1 1.6	2.219	2.052	26.3	21.0	67 W	43*	41*	11 16	14 26.69	-13 54.1	1.183	0.338	47.9	21.2	15 W	7*	4*	
1 1	13 56.78	-2 45.9	2.072	2.006	27.8	20.8	72 W	42*	47*	11 17	14 31.31	-14 15.6	1.213	0.357	44.0	21.3	15 W	7*	4*	
1 11	14 16.27	-4 26.5	1.927	1.960	29.3	20.7	77 W	41	54*	11 18	14 36.00	-14 37.3	1.242	0.375	40.7	21.3	14 W	6*	4*	
1 21	14 35.88	-6 3.0	1.783	1.916	30.6	20.5	82 W	39	60*	11 19	14 40.72	-14 58.8	1.269	0.394	37.8	21.4	14 W	6*	4*	
										1 20	14 45.46	-15 20.2	1.296	0.412	35.3	21.5	14 W	6*	4*	
478574 2012 TS₇₈										267221 2001 AD₂										
11 12	12 38.92	+17 1.9	1.573	1.214	39.0	21.5	51 W	44*	11*	11 12	14 19.42	-14 1.3	1.809	0.867	14.0	21.5	12 W	5*	3*	
11 22	13 9.06	+11 9.2	1.510	1.163	40.8	21.3	50 W	43*	15*	11 17	14 42.02	-15 45.2	1.745	0.801	14.3	21.2	12 W	4*	5*	
12 2	13 39.23	+4 48.9	1.454	1.116	42.6	21.2	50 W	41*	20*	11 22	15 6.95	-17 27.7	1.681	0.732	14.1	21.0	10 W	3*	2*	
12 12	14 10.08	+1 55.0	1.405	1.074	44.3	21.1	50 W	37*	25*	11 27	15 34.60	-19 6.0	1.618	0.660	13.1	20.6	9 W	1*	—	
12 22	14 42.43	-8 56.5	1.365	1.040	45.9	21.0	49 W	32*	31*	12 2	16 5.48	-20 35.7	1.556	0.586	10.7	20.2	6 W	—	—	
1 1	15 17.28	-16 4.7	1.335	1.015	47.1	20.9	49 W	25*	36*	12 7	16 40.04	-21 50.5	1.493	0.513	6.3	19.6	3 W	—	—	
1 11	15 55.68	-23 3.1	1.317	0.999	47.8	20.9	49 W	19*	40*	12 12	17 18.65	-22 41.9	1.428	0.444	1.6	18.9	1 E	—	—	
1 21	16 38.59	-29 28.8	1.313	0.995	48.1	20.9	49 W	12*	42*	12 14	17 35.25	-22 53.5	1.400	0.419	5.8	19.0	2 E	—	—	
										12 16	17 52.44	-22 59.0	1.371	0.397	10.9	19.1	4 E	—	—	
163348 2002 NN₄										234341 2001 FZ₅₇										
11 12	13 12.97	-9 48.8	0.987	0.495	75.8	21.2	29 W	18*	16*	11 12	13 18.14	+9 36.4	0.732	0.617	94.0	20.5	38 W	32*	6*	
11 17	13 36.85	-12 27.9	1.084	0.504	65.5	21.1	28 W	16*	15*	11 14	13 18.52	+10 12.0	0.752	0.644	89.9	20.5	41 W	35*	7*	
11 22	14 1.65	-14 53.2	1.177	0.525	56.3	21.1	26 W	14*	15*	11 16	13 19.33	+10 39.3	0.772	0.671	86.3	20.5	43 W	36*	8*	
11 27	14 26.85	-17 2.0	1.264	0.555	48.4	21.1	25 W	13*	14*	11 18	13 20.48	+11 0.0	0.790							

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

21/22	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°	21/22	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°
416002 2002 BN										137924 2000 BD₁₉ (continuation)									
11 12	14 19.67	-3 26.9	1.397	0.556	34.4	21.2	18 W	12*	—	12 29	14 19.10	+70 43.1	0.434	1.164	55.2	17.7	104 W	64*	—
11 22	15 31.18	-10 11.1	1.379	0.449	24.4	20.4	11 W	4*	—	12 30	14 13.61	+72 39.2	0.436	1.176	53.8	17.7	105 W	62*	—
12 2	16 50.72	-17 54.6	1.365	0.397	14.8	19.8	6 E	—	—	12 31	14 6.67	+74 33.6	0.439	1.187	52.5	17.7	107 W	60*	—
12 12	18 14.54	-24 57.5	1.331	0.439	31.7	20.5	14 E	1*	7*	1 1	13 57.73	+76 25.8	0.443	1.198	51.2	17.7	108 W	59*	—
12 14	18 31.34	-26 5.0	1.323	0.456	35.0	20.6	15 E	2*	9*	1 2	13 45.93	+78 14.9	0.447	1.209	50.0	17.7	110 W	57*	—
12 16	18 48.09	-27 5.1	1.315	0.476	37.9	20.8	17 E	2*	11*	1 3	13 29.90	+79 59.9	0.451	1.220	48.8	17.7	111 W	55	—
12 18	19 4.75	-27 57.3	1.308	0.497	40.4	21.0	19 E	2*	13*	1 4	13 7.41	+81 38.9	0.456	1.230	47.7	17.7	112 W	53	—
12 20	19 21.29	-28 41.4	1.302	0.519	42.5	21.1	21 E	3*	14*	1 5	12 34.73	+83 9.0	0.462	1.241	46.7	17.8	113 W	52	—
12 22	19 37.68	-29 17.2	1.297	0.542	44.2	21.2	23 E	3*	16*	1 6	11 46.28	+84 24.5	0.467	1.251	45.7	17.8	114 W	51	—
12 27	20 17.79	-30 11.3	1.289	0.601	47.1	21.5	27 E	4*	20*	1 7	10 36.67	+85 16.0	0.474	1.261	44.8	17.8	115 W	50	—
1 1	20 56.20	-30 17.5	1.288	0.661	48.4	21.8	30 E	6*	24*	1 8	9 10.52	+85 32.0	0.480	1.271	44.0	17.8	116 W	49	—
1 6	21 32.43	-29 41.6	1.296	0.719	48.8	22.0	33 E	7*	27*	1 9	7 48.59	+85 9.0	0.487	1.281	43.2	17.8	117 W	50	—
1 11	22 6.12	-28 31.1	1.310	0.776	48.4	22.2	36 E	9*	29*	1 10	6 46.90	+84 17.1	0.495	1.290	42.5	17.9	118 E	51	—
480820 1998 VF₃₂										345053 2005 GD₁₀₃									
11 12	14 26.00	-19 29.0	1.414	0.473	21.7	21.3	10 W	—	4*	11 12	15 23.61	-20 55.2	2.859	1.875	2.6	21.3	5 E	—	—
11 17	15 3.67	-20 1.2	1.453	0.481	12.4	21.1	6 W	—	—	11 22	15 48.95	-22 36.3	2.826	1.840	1.4	21.2	3 W	—	—
11 22	15 40.55	-20 0.9	1.488	0.503	4.2	20.8	2 W	—	—	12 2	16 15.57	-24 5.6	2.787	1.805	2.4	21.2	4 W	—	—
11 27	16 16.05	-19 33.8	1.520	0.534	3.6	21.0	2 E	—	—	12 12	16 43.43	-25 20.4	2.742	1.772	4.3	21.2	8 W	—	2*
12 2	16 49.79	-18 45.7	1.549	0.573	8.9	21.4	5 E	—	—	12 22	17 12.46	-26 18.1	2.694	1.740	6.3	21.2	11 W	—	5*
436036 2009 MK₇										535221 2014 YN₄₄									
11 12	14 54.16	-22 46.5	3.262	2.280	2.7	21.4	6 W	—	—	11 12	15 24.12	-10 14.4	2.147	1.176	7.0	21.4	8 E	—	2*
11 22	15 15.08	-23 20.0	3.213	2.242	3.8	21.4	9 W	—	3*	11 17	15 41.50	-12 3.6	2.132	1.159	6.4	21.4	8 E	—	1*
12 2	15 36.60	-23 45.4	3.152	2.202	5.8	21.5	13 W	1*	6*	11 22	15 59.37	-13 49.5	2.119	1.144	5.7	21.3	7 E	—	—
12 12	15 58.66	-24 0.9	3.079	2.162	8.0	21.5	18 W	5*	10*	11 27	16 17.73	-15 31.2	2.107	1.129	5.1	21.2	6 E	—	—
12 22	16 21.23	-24 4.5	2.996	2.122	10.3	21.5	23 W	8*	14*	12 2	16 36.62	-17 7.7	2.096	1.117	4.3	21.1	5 E	—	—
1 1	16 44.25	-23 54.7	2.902	2.080	12.6	21.5	28 W	10*	19*	12 7	16 56.01	-18 38.1	2.087	1.106	3.5	21.1	4 E	—	—
1 11	17 7.65	-23 29.4	2.799	2.039	15.0	21.4	32 W	12*	24*	12 12	17 15.90	-20 1.3	2.078	1.096	2.7	21.0	3 E	—	—
1 21	17 31.34	-22 47.0	2.689	1.996	17.3	21.4	37 W	14*	29*	12 17	17 36.27	-21 16.3	2.072	1.089	1.9	20.9	2 W	—	—
385252 2001 EB₁₈										336053 2008 CU₁₉₉									
11 12	15 5.64	+4 43.1	1.717	0.885	25.2	21.5	22 W	10*	—	11 12	15 27.33	-24 43.8	3.137	2.162	3.8	21.4	8 E	—	1*
11 22	15 55.16	+3 4.4	1.686	0.870	26.5	21.4	23 E	12*	—	11 22	15 49.88	-26 4.4	3.112	2.132	2.8	21.3	6 E	—	—
12 2	16 45.71	+1 3.0	1.675	0.861	26.8	21.4	23 E	13*	—	12 2	16 13.37	-27 16.0	3.078	2.103	3.2	21.3	7 W	—	—
12 12	17 36.13	+1 13.4	1.684	0.860	25.8	21.4	22 E	13*	—	12 12	16 37.77	-28 16.7	3.035	2.073	4.8	21.3	10 W	—	4*
12 22	18 25.36	+3 34.8	1.712	0.866	23.8	21.4	21 E	13*	—	12 22	17 3.01	-29 4.9	2.983	2.042	6.7	21.3	14 W	—	8*
1 1	19 12.66	+5 50.7	1.754	0.879	20.8	21.4	18 E	11*	—	1 1	17 29.01	-29 39.1	2.924	2.012	8.7	21.3	18 W	—	12*
1 11	19 57.70	+7 52.9	1.804	0.898	17.2	21.4	16 E	9*	—	1 11	17 55.66	-29 57.8	2.857	1.983	10.8	21.3	22 W	—	16*
1 21	20 40.47	+9 36.1	1.856	0.921	13.5	21.3	13 E	6*	—	1 21	18 22.79	-29 59.9	2.784	1.953	13.0	21.3	26 W	—	20*
348400 2005 JF₂₁										346281 2008 JV₄									
11 12	15 10.53	-10 17.6	2.943	1.965	3.7	21.5	7 E	—	—	11 12	15 39.05	-22 52.8	2.668	1.697	5.2	21.4	9 E	—	3*
11 22	15 32.78	-11 51.1	2.865	1.896	4.7	21.4	9 W	3*	—	11 22	16 7.54	-24 42.0	2.641	1.662	3.7	21.3	6 E	—	—
12 2	15 56.46	-13 18.4	2.779	1.826	6.5	21.3	12 W	6*	—	12 2	16 37.61	-26 14.5	2.611	1.630	2.7	21.1	5 E	—	—
12 12	16 21.71	-14 37.5	2.685	1.755	8.5	21.3	15 W	9*	1*	12 12	17 9.20	-27 26.7	2.579	1.600	2.9	21.1	5 W	—	—
12 22	16 48.64	-15 46.2	2.586	1.682	10.7	21.2	18 W	11*	5*	12 22	17 42.11	-28 14.9	2.547	1.573	3.9	21.1	6 W	—	—
1 1	17 17.40	-16 41.7	2.484	1.609	12.9	21.1	21 W	12*	9*	1 1	18 16.08	-28 36.1	2.514	1.549	5.4	21.1	8 W	—	2*
1 11	17 48.08	-17 21.0	2.381	1.536	15.1	21.0	24 W	12*	13*	1 11	18 50.72	-28 27.9	2.483	1.528	6.9	21.1	11 W	—	5*
1 21	18 20.75	-17 40.8	2.280	1.463	17.3	20.8	26 W	12*	16*	1 21	19 25.60	-27 49.4	2.453	1.511	8.4	21.1	13 W	—	7*
137924 2000 BD₁₉										181698 5684 T-3									
11 12	15 14.30	-8 12.3	0.743	0.285	145.0	21.4	10 E	2*	—	11 12	15 39.49	-16 50.6	2.999	2.022	3.7	21.4	7 E	—	—
11 14	15 11.55	-4 50.2	0.699	0.349	139.0	20.9	13 W	4*	—	11 22	16 2.49	-18 12.4	2.978	1.993	1.8	21.2	4 E	—	—
11 16	15 8.67	+1 36.1	0.664	0.408	133.2	20.4	18 W	9*	—	12 2	16 26.35	-19 23.9	2.949	1.965	1.4	21.1	3 W	—	—
11 18	15 5.88	+1 31.7	0.635	0.463	127.7	20.0	22 W	14*	—	12 12	16 51.03	-20 23.3	2.913	1.937	3.2	21.2	6 W	—	—
11 20	15 3.27	+4 34.7	0.611	0.514	122.7	19.7	26 W	18*	—	12 22	17 16.45	-21 9.3	2.869	1.910	5.3	21.2	10 W	—	2*
11 22	15 0.89	+7 34.3	0.589	0.562	118.1	19.5	30 W	22*	—	1 1	17 42.54	-21 40.5	2.820	1.883	7.5	21.3	14 W	—	4*
11 24	14 58.73	+10 31.5	0.570	0.608	113.9	19.3	34 W	27*	—	1 11	18 9.20	-21 55.8	2.764	1.857	9.6	21.3	18 W	—	6*
11 26	14 56.80	+13 27.7	0.553	0.651	109.8	19.1	38 W	31*	—	1 21	18 36.28	-21 54.4	2.705	1.832	11.7	21.3	22 W	—	15*
11 28	14 55.08	+16 23.9	0.537	0.693	106.0	19.0	42 W	35*	—										
11 30	14 53.55	+19 21.4	0.522	0.732	102.4	18.9	46 W	39*	—										
12 2	14 52.18	+22 21.0	0.509	0.770	98.8	18.7	51 W	43*	—										
12 4	14 50.94	+25 24.0	0.496	0.807	95.4	18.6	55 W	47*	—										
12 6	14 49.80	+28 31.1	0.484	0.841	92.0	18.5	59 W	51*	—										
12 8	14 48.72	+31 43.2	0.474	0.875	88.6	18.4	63 W	55*	—										
12 10	14 47.66	+35 1.0	0.464	0.907	85.3	18.3	67 W	58*	—										

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

21/22	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°	21/22	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°
131045 2000 YH₃₂										387554 2001 QT₆₉									
11 12	15 42.57	-16 30.7	3.476	2.501	3.3	21.4	8 E	—	1*	11 12	17 7.01	-21 50.0	2.326	1.527	17.8	21.5	28 E	9*	21*
11 22	16 0.79	-17 30.2	3.463	2.478	1.5	21.3	4 E	—	—	11 22	17 39.34	-22 7.6	2.344	1.515	16.4	21.4	26 E	9*	18*
12 2	16 19.51	-18 22.8	3.436	2.454	1.9	21.3	5 W	—	—	12 2	18 12.19	-22 0.8	2.363	1.507	14.9	21.4	23 E	9*	15*
12 12	16 38.67	-19 7.6	3.395	2.430	3.8	21.3	10 W	3*	—	12 12	18 45.25	-21 28.6	2.383	1.503	13.4	21.3	21 E	8*	12*
12 22	16 58.23	-19 43.7	3.342	2.404	6.0	21.4	15 W	6*	5*	12 22	19 18.16	-20 31.3	2.406	1.504	11.9	21.3	18 E	8*	9*
1	17 18.11	-20 10.7	3.276	2.378	8.2	21.4	20 W	9*	10*	1	19 50.63	-19 10.3	2.430	1.509	10.3	21.3	16 E	7*	6*
1 11	17 38.26	-20 28.1	3.198	2.351	10.4	21.4	26 W	11*	16*	1 11	20 22.40	-17 27.7	2.457	1.518	8.7	21.3	13 E	6*	3*
1 21	17 58.57	-20 35.4	3.110	2.323	12.6	21.4	31 W	13*	22*	1 21	20 53.29	-15 26.7	2.486	1.532	7.0	21.2	11 E	4*	1*
416843 2005 LA₂₀										96011 2004 PD₆									
11 12	15 58.06	-12 5.6	2.855	1.905	6.8	21.5	13 E	6*	2*	11 12	17 9.06	-15 51.5	3.211	2.393	11.5	21.4	29 E	14*	19*
11 22	16 22.64	-13 32.4	2.834	1.871	5.4	21.4	10 E	4*	—	11 22	17 27.91	-16 22.9	3.233	2.361	9.6	21.3	24 E	12*	13*
12 2	16 48.19	-14 47.5	2.809	1.838	4.3	21.2	8 E	2*	—	12 2	17 47.47	-16 44.8	3.243	2.329	7.7	21.2	18 E	9*	7*
12 12	17 14.67	-15 49.1	2.780	1.808	3.9	21.2	7 W	—	—	12 12	18 7.66	-16 56.5	3.241	2.296	5.8	21.1	14 E	7*	2*
12 22	17 41.95	-16 35.4	2.748	1.780	4.5	21.1	8 W	2*	—	12 22	18 28.40	-16 57.2	3.228	2.263	4.0	21.0	9 E	3*	—
1	18 9.94	-17 5.3	2.714	1.754	5.6	21.1	10 W	4*	—	1	18 49.59	-16 46.4	3.204	2.229	2.8	20.9	6 E	—	—
1 11	18 38.47	-17 17.6	2.677	1.731	7.1	21.2	13 W	5*	2*	1 11	19 11.17	-16 23.7	3.169	2.195	3.1	20.8	7 W	1*	—
1 21	19 7.35	-17 12.0	2.639	1.711	8.8	21.2	15 W	6*	6*	1 21	19 33.04	-15 49.1	3.124	2.161	4.5	20.8	10 W	3*	—
278592 2008 NG₅										401809 3195 T-2									
11 12	16 2.65	-21 32.5	2.972	2.022	6.5	21.4	13 E	—	7*	11 12	17 9.57	-24 10.8	2.302	1.515	18.5	21.5	29 E	7*	22*
11 22	16 26.20	-22 49.6	2.956	1.986	4.4	21.2	9 E	—	3*	11 22	17 42.30	-24 43.8	2.304	1.485	17.2	21.4	26 E	7*	19*
12 2	16 50.84	-23 55.3	2.932	1.951	2.4	21.1	5 E	—	—	12 2	18 16.21	-24 50.2	2.305	1.461	15.9	21.3	24 E	7*	17*
12 12	17 16.52	-24 48.0	2.900	1.916	0.9	20.9	2 E	—	—	12 12	18 50.93	-24 27.6	2.308	1.441	14.7	21.2	22 E	7*	14*
12 22	17 43.15	-25 25.6	2.861	1.882	2.3	20.9	4 W	—	—	12 22	19 26.00	-23 34.8	2.314	1.427	13.4	21.2	20 E	6*	12*
1	18 10.65	-25 46.5	2.817	1.849	4.3	21.0	8 W	—	2*	1	20 0.99	-22 12.4	2.324	1.418	12.1	21.1	18 E	6*	9*
1 11	18 38.85	-25 49.4	2.767	1.816	6.5	21.0	12 W	—	6*	1 11	20 35.50	-20 22.3	2.337	1.416	10.9	21.1	16 E	5*	7*
1 21	19 7.60	-25 33.0	2.713	1.785	8.6	21.0	16 W	—	10*	1 21	21 9.22	-18 7.8	2.355	1.419	9.5	21.0	14 E	5*	5*
134896 2000 WH₁₃										495829 1995 LG									
11 12	16 4.43	-18 45.5	3.023	2.073	6.3	21.5	13 E	2*	6*	11 12	17 20.21	-16 33.3	1.833	1.116	27.6	21.5	32 E	15*	22*
11 22	16 27.02	-19 53.8	3.016	2.046	4.2	21.3	9 E	—	2*	11 22	17 41.22	-15 15.2	1.755	0.983	27.1	21.1	27 E	15*	16*
12 2	16 50.43	-20 51.4	3.000	2.019	2.1	21.2	4 E	—	—	12 2	18 4.33	-13 39.8	1.638	0.831	28.1	20.6	23 E	14*	10*
12 12	17 14.59	-21 36.8	2.976	1.991	0.7	21.0	1 W	—	—	12 12	18 30.16	-11 45.7	1.474	0.657	32.4	20.0	21 E	14*	4*
12 22	17 39.43	-22 8.7	2.943	1.964	2.5	21.1	5 W	—	—	12 17	18 44.30	-10 45.3	1.369	0.560	37.4	19.6	20 E	14*	2*
1	18 4.87	-22 26.0	2.902	1.938	4.6	21.2	9 W	1*	2*	12 22	18 59.23	-9 53.0	1.243	0.457	46.2	19.2	20 E	13*	—
1 11	18 30.78	-22 27.9	2.855	1.912	6.8	21.2	13 W	2*	6*	12 27	19 15.27	-9 39.9	1.092	0.350	63.0	18.8	18 E	12*	—
1 21	18 57.04	-22 13.8	2.802	1.886	9.0	21.2	17 W	4*	10*	1	19 25.81	-11 55.5	0.913	0.255	98.5	19.1	15 E	9*	—
358453 2007 EH₈₈										393417 2001 QB₁₇₉									
11 12	16 11.98	-26 39.5	1.622	0.738	23.5	21.4	17 E	—	11*	11 12	17 25.00	-28 18.2	2.497	1.753	18.0	21.4	33 E	5*	27*
11 17	16 39.72	-27 35.4	1.570	0.705	26.3	21.3	18 E	—	12*	11 22	17 53.71	-28 26.3	2.511	1.721	16.4	21.4	29 E	5*	23*
11 22	17 9.10	-28 8.6	1.517	0.677	29.7	21.2	20 E	—	14*	12 2	18 23.35	-28 13.8	2.521	1.690	14.8	21.3	26 E	5*	19*
11 27	17 39.90	-28 14.5	1.464	0.654	33.5	21.2	21 E	2*	15*	12 12	18 53.68	-27 39.0	2.528	1.662	13.1	21.2	23 E	4*	16*
12 2	18 11.74	-27 48.8	1.410	0.637	37.7	21.2	23 E	4*	17*	12 22	19 24.39	-26 40.6	2.531	1.636	11.5	21.1	19 E	4*	12*
12 7	18 44.13	-26 49.0	1.357	0.629	42.1	21.2	25 E	6*	18*	1	19 55.21	-25 18.5	2.533	1.612	9.8	21.0	16 E	3*	9*
12 12	19 16.54	-25 14.0	1.306	0.628	46.5	21.2	28 E	9*	20*	1 11	20 25.90	-23 33.1	2.533	1.592	8.2	20.9	13 E	1*	6*
12 17	19 48.49	-23 5.2	1.257	0.636	50.5	21.3	30 E	12*	21*	1 21	20 56.22	-21 26.0	2.532	1.575	6.6	20.8	11 E	—	4*
12 22	20 19.63	-20 25.7	1.213	0.651	54.1	21.4	32 E	15*	22*	419922 2011 BJ₂₄									
12 27	20 49.76	-17 20.0	1.174	0.673	56.9	21.4	35 E	19*	23*	11 12	17 28.16	-17 45.7	2.258	1.530	20.8	21.4	33 E	15*	24*
275749 2001 OL₉										11 22	17 54.84	-18 13.7	2.211	1.437	19.8	21.2	30 E	14*	20*
11 12	16 23.10	-21 17.6	2.870	1.953	9.0	21.4	18 E	3*	11*	12 2	18 24.05	-18 25.2	2.154	1.344	19.1	21.0	26 E	13*	16*
11 22	16 47.69	-22 40.1	2.866	1.921	7.0	21.3	14 E	1*	7*	12 12	18 55.92	-18 15.5	2.088	1.253	18.5	20.7	24 E	12*	13*
12 2	17 13.30	-23 9.3	2.855	1.889	5.0	21.2	10 E	—	3*	12 22	19 30.53	-17 40.1	2.017	1.163	18.4	20.5	22 E	12*	10*
12 12	17 39.82	-23 43.4	2.837	1.859	2.9	21.0	6 E	—	—	1	20 7.95	-16 34.1	1.942	1.079	18.8	20.3	21 E	11*	8*
12 22	18 7.13	-24 0.7	2.813	1.830	0.9	20.8	2 E	—	—	1 11	20 48.13	-14 53.0	1.866	1.002	19.8	20.1	20 E	12*	8*
1	18 35.08	-23 59.9	2.784	1.802	1.3	20.8	2 W	—	—	1 21	21 30.91	-12 34.2	1.794	0.938	21.6	19.9	20 E	12*	8*
1 11	19 3.51	-23 40.0	2.751	1.775	3.3	20.9	6 W	—	—	96006 2004 NE₂₇									
1 21	19 32.22	-23 0.7	2.713	1.751	5.3	20.9	10 W	—	3*	11 12	17 54.79	-22 26.7	2.306	1.662	22.2	21.5	39 E	14*	32*
535203 2014 YJ₁₅										11 22	18 24.23	-22 25.6	2.347	1.654	20.6	21.5	36 E	14*	28*
11 12	16 31.60	-16 47.2	3.621	2.711	7.1	21.5	20 E	8*	11*	12 2	18 54.03	-22 3.3	2.388	1.648	18.9	21.4	33 E	13*	24*
11 22	16 48.15	-16 41.3	3.621	2.675	5.2	21.4	14 E	6*	5*	12 12	19 23.94	-21 19.7	2.427	1.645	17.2	21.4	30 E	13*	20*
12 2	17 5.19	-16 28.4	3.606	2.638	3.5	21.2	9 E	3*	—	12 22	19 53.69	-20 15.4	2.467	1.646	15.5	21.4	26 E	13*	16*
12 12	17 22.67	-16 7.3	3.575	2.601	2.7	21.1	7 E	—	—	1	20 23.08	-18 51.7	2.505	1.649	13.7	21.4	23 E	12*	13*
12 22	17 40.49	-15 36.9	3.529	2.562	3.5	21.1	9 W	3*	—	1 11	20 51.94	-17 10.6	2.543	1.656	11.9				

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

21/22	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45° - 26°	21/22	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45° - 26°		
267136 2000 EF ₁₀₄ (continuation)									486692 2013 VC ₁₃										
12 12	20 9.09	-26 53.8	1.257	0.795	51.6	20.8	39 E	13* 31*	11 22	5 4.43	+13 32.1	1.393	2.349	7.9	22.3	161 W	59	50	
12 17	20 30.64	-25 27.7	1.206	0.764	54.5	20.7	39 E	14* 31*	11 27	4 56.13	+13 7.6	1.388	2.359	5.6	22.2	167 W	58	51	
12 22	20 52.35	-23 43.1	1.151	0.735	58.0	20.6	39 E	16* 30*	12 2	4 47.63	+12 44.4	1.391	2.368	4.1	22.2	170 W	58	51	
12 27	21 14.09	-21 39.1	1.094	0.711	61.8	20.6	40 E	17* 29*	12 7	4 39.16	+12 23.2	1.402	2.377	4.4	22.2	169 E	57	52	
1 1	21 35.73	-19 14.7	1.034	0.691	66.1	20.5	40 E	20* 29*	12 12	4 30.96	+12 4.6	1.420	2.384	6.3	22.3	165 E	57	52	
1 6	21 57.13	-16 29.7	0.972	0.677	70.7	20.5	41 E	22* 28*	12 17	4 23.24	+11 49.1	1.447	2.391	8.6	22.5	159 E	57	52	
1 11	22 18.22	-13 23.6	0.908	0.670	75.4	20.5	41 E	24* 27*	12 22	4 16.18	+11 36.9	1.481	2.397	10.9	22.6	153 E	57	52	
1 16	22 38.94	-9 56.7	0.846	0.669	80.1	20.5	42 E	27* 26*	533990 2014 QX ₂₆₆										
1 21	22 59.37	-6 9.0	0.784	0.675	84.5	20.5	43 E	30* 25*	11 22	5 5.66	+28 59.7	0.754	1.717	11.0	23.4	161 W	74	35	
283626 2002 CK ₂₁₀									11 27	4 56.02	+28 56.3	0.744	1.720	7.4	23.3	167 W	74	35	
11 12	18 9.67	-25 37.5	2.883	2.257	17.3	21.5	43 E	12* 36*	12 2	4 45.81	+28 46.3	0.740	1.722	4.3	23.1	172 W	74	35	
11 22	18 29.89	-25 20.1	2.927	2.222	15.6	21.4	37 E	12* 30*	12 7	4 35.49	+28 30.0	0.742	1.724	4.1	23.1	173 W	74	35	
12 2	18 50.87	-24 52.5	2.961	2.186	13.8	21.3	32 E	11* 24*	12 12	4 25.55	+28 8.3	0.751	1.726	7.1	23.3	168 E	73	36	
12 12	19 12.51	-24 13.6	2.984	2.151	11.9	21.3	27 E	9* 18*	12 17	4 16.42	+27 42.6	0.766	1.726	10.6	23.5	161 E	73	36	
12 22	19 34.65	-23 22.7	2.997	2.115	9.9	21.2	22 E	8* 13*	12 22	4 8.41	+27 14.8	0.786	1.726	14.2	23.7	155 E	72	37	
1 1	19 57.20	-22 19.2	3.001	2.079	7.8	21.0	17 E	5* 8*	495331 2014 KF ₉₁										
1 11	20 20.05	-21 2.8	2.994	2.043	5.8	20.9	12 E	3* 4*	11 22	5 14.35	+19 31.5	2.028	2.976	6.5	23.5	160 W	65	44	
1 21	20 43.10	-19 33.5	2.978	2.007	3.7	20.7	8 E	—	11 27	5 8.82	+19 15.5	2.015	2.983	4.5	23.4	166 W	64	45	
439437 2013 NK ₄									12 2	5 3.05	+18 59.3	2.009	2.989	2.6	23.3	172 W	64	45	
11 12	18 21.77	-27 55.0	1.531	1.095	40.1	21.4	45 E	11* 39*	12 7	4 57.18	+18 43.1	2.012	2.995	1.3	23.2	176 W	64	45	
11 22	18 51.29	-27 5.1	1.490	1.004	41.2	21.2	42 E	12* 35*	12 12	4 51.35	+18 27.1	2.022	3.001	2.4	23.3	173 E	63	46	
12 2	19 22.53	-25 46.1	1.425	0.905	43.3	20.9	39 E	13* 31*	12 17	4 45.71	+18 11.7	2.040	3.007	4.3	23.4	167 E	63	46	
12 12	19 55.37	-23 51.2	1.334	0.798	47.2	20.6	36 E	14* 28*	12 22	4 40.39	+17 57.3	2.066	3.012	6.2	23.6	161 E	63	46	
12 22	20 29.27	-21 12.8	1.213	0.686	54.2	20.3	34 E	16* 24*	12 27	4 35.49	+17 44.1	2.099	3.016	8.1	23.7	154 E	63	46	
12 27	20 46.18	-19 35.4	1.139	0.631	59.5	20.1	34 E	17* 23*	385605 2005 EJ ₂₂₅										
1 1	21 2.57	-17 46.4	1.056	0.578	66.7	20.0	33 E	17* 21*	11 22	5 16.44	+37 20.7	1.554	2.481	9.9	22.6	154 W	82	27	
1 6	21 17.65	-15 47.4	0.964	0.531	76.2	19.9	32 E	18* 19*	11 27	5 7.44	+37 20.0	1.548	2.497	7.9	22.5	160 W	82	27	
1 11	21 30.16	-13 44.0	0.864	0.493	88.5	20.0	30 E	18* 16*	12 2	4 58.12	+37 12.4	1.550	2.512	6.3	22.4	164 W	82	27	
1 13	21 34.02	-12 55.6	0.822	0.481	94.3	20.0	29 E	18* 15*	12 7	4 48.79	+36 58.0	1.560	2.526	5.6	22.4	166 E	82	27	
1 15	21 37.00	-12 8.9	0.780	0.472	100.7	20.2	28 E	18* 14*	12 12	4 39.71	+36 37.3	1.578	2.540	6.0	22.5	164 E	82	27	
1 17	21 38.95	-11 25.2	0.739	0.465	107.5	20.4	27 E	17* 12*	12 17	4 31.16	+36 11.3	1.603	2.553	7.3	22.6	161 E	81	28	
1 19	21 39.69	-10 45.5	0.698	0.461	114.7	20.7	25 E	16* 10*	12 22	4 23.34	+35 41.1	1.636	2.565	9.1	22.7	156 E	81	28	
1 21	21 39.08	-10 11.2	0.658	0.461	122.3	21.1	23 E	15* 8*	495316 2014 GD ₄₅										
299582 2006 GQ ₂									11 22	5 17.89	+31 4.2	2.124	3.059	7.2	25.5	167 W	76	33	
11 12	18 42.83	-40 48.8	1.797	1.409	33.3	21.4	51 E	1* 45*	11 27	5 11.80	+31 7.6	2.107	3.064	5.4	25.4	163 W	76	33	
11 22	19 13.57	-38 27.1	1.797	1.343	32.8	21.3	47 E	3* 41*	12 2	5 5.40	+31 8.0	2.097	3.068	3.8	25.3	168 W	76	33	
12 2	19 44.44	-35 37.7	1.787	1.274	32.4	21.2	44 E	6* 38*	12 7	4 58.84	+31 5.2	2.095	3.073	2.7	25.2	171 W	76	33	
12 12	20 15.29	-32 17.2	1.765	1.201	32.2	21.0	40 E	8* 34*	12 12	4 52.28	+30 59.5	2.101	3.076	3.0	25.3	170 E	76	33	
12 22	20 45.98	-28 22.7	1.733	1.124	32.1	20.8	37 E	11* 30*	12 17	4 45.89	+30 51.0	2.115	3.080	4.4	25.4	166 E	76	33	
1 1	21 16.49	-23 51.1	1.690	1.045	32.4	20.6	35 E	13* 26*	12 22	4 39.83	+30 40.2	2.137	3.083	6.0	25.5	161 E	76	33	
1 11	21 46.93	-18 39.7	1.636	0.966	33.3	20.4	33 E	16* 22*	12 27	4 34.22	+30 27.5	2.167	3.086	7.8	25.6	155 E	75	34	
1 21	22 17.45	-12 46.3	1.571	0.888	34.9	20.2	31 E	19* 18*	264993 2003 DX ₁₀										
469796 2005 SD									11 22	5 20.20	+24 1.6	0.981	1.934	10.7	22.4	159 W	69	40	
11 12	19 16.21	-24 48.6	2.964	2.576	19.0	21.5	58 E	18* 50*	11 27	5 10.69	+24 1.7	0.965	1.937	7.2	22.2	166 W	69	40	
11 22	19 30.54	-23 32.2	3.022	2.522	17.7	21.4	51 E	18* 43*	12 2	5 0.51	+23 58.5	0.957	1.939	3.5	22.0	173 W	69	40	
12 2	19 45.88	-22 10.0	3.068	2.467	16.3	21.4	45 E	18* 35*	12 7	4 50.04	+23 51.9	0.955	1.940	0.8	21.8	178 E	69	40	
12 12	20 2.08	-20 40.7	3.103	2.412	14.7	21.3	39 E	18* 28*	12 12	4 39.68	+23 42.1	0.961	1.941	4.2	22.0	172 E	69	40	
12 22	20 19.00	-19 3.3	3.125	2.357	13.0	21.2	33 E	17* 21*	12 17	4 29.80	+23 30.0	0.974	1.940	7.9	22.2	164 E	69	40	
1 1	20 36.54	-17 17.0	3.135	2.302	11.1	21.1	27 E	15* 15*	12 22	4 20.73	+23 16.4	0.994	1.939	11.3	22.4	157 E	68	41	
1 11	20 54.62	-15 20.9	3.133	2.247	9.2	21.0	21 E	12* 9*	504827 2010 KZ ₁₁₇										
1 21	21 13.16	-13 14.6	3.119	2.192	7.2	20.8	16 E	9* 4*	11 22	5 20.24	+63 24.2	2.372	3.140	13.1	24.2	134 W	72	1	
516725 2009 DK ₁₂									11 27	5 9.37	+63 23.2	2.363	3.153	12.4	24.2	137 W	72	1	
11 22	4 51.66	+34 59.0	4.769	5.706	3.4	22.8	160 W	80	29	12 2	4 58.14	+63 12.0	2.361	3.167	11.9	24.2	138 W	72	1
12 2	4 43.65	+35 19.2	4.762	5.725	2.3	22.7	166 W	80	29	12 7	4 46.95	+62 50.5	2.364	3.180	11.6	24.2	140 E	72	1
12 12	4 35.52	+35 32.2	4.788	5.744	2.6	22.8	165 E	81	28	12 12	4 36.21	+62 19.0	2.374	3.193	11.4	24.2	140 E	73	2
12 22	4 27.80	+35 38.6	4.846	5.762	3.9	22.9	157 E	81	28	12 17	4 26.24	+61 38.3	2.390	3.205	11.4	24.2	140 E	73	2
1 1	4 20.91	+35 39.7	4.934	5.780	5.4	23.0	146 E	81	28	12 22	4 17.30	+60 49.8	2.413	3.217	11.7	24.3	139 E	74	3
407324 2010 OB ₁₀₁									396614 2001 SR ₁₁₅										
11 22	4 55.26	+25 50.1	1.424	2.389	6.6	23.9	164 W	71	38	11 22	5 29.05	+14 23.9	1.754	2.684	8.7	22.4	156 W	59	50
11 27	4 47.17	+25 24.6	1.400	2.379	3.9	23.7	171 W	70	39	12 2	5 17.82	+13 51.0	1.744	2.713	4.9	22.2	166 W	59	50
12 2	4 38.70	+24 55.4	1.383	2.368	1.4	23.5	177 W	70	39	12 12	5 5.99	+13 24.4	1.765	2.740	3.6	22.2	170 E	58	51
12 7	4 30.12	+24 22.9	1.374	2.357	2.4	23.5	174 E	69	40	12 22	4 54.82	+13 6.2	1.816	2.766	6.5	22.4	161 E	58	51
12 12	4 21.67	+23 47.9	1.374	2.345	5.2	23.7	168 E	69	40	1 1	4 45.37	+12 57.7	1.895	2.790	10.1	22.7	150 E	58	51
12 17	4 13.63	+23 11.4	1.381	2.332	8.0	23.8	161 E	68	41	497049 2003 SW ₃₂₄									
12 22	4 6.20	+22 34.4	1.395	2.319	10.8	23.9	154 E	68	41	11 22	5 30.26	+29 35.9	1.540	2.472	9.6	22.3	155 W	75	34
318572 2005 GL ₁₄₁									11 27	5 24.34	+29 38.9	1.533	2.488	7.3	22.2	161 W	75	34	
11 22	4 58.29	+19 19.9	2.154	3.114	5.1	22.8	164 W</												