

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

2020	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45° - 26°	20/21	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45° - 26°
477248 2009 SV									480990 2004 BV₁₁₄ (continuation)								
10 8	3 3.90	+ 3 43.1	0.928	1.845	17.4	21.9	146 W	41 68	11 22	2 35.17	+ 3 46.5	1.334	2.243	12.8	20.9	150 E	41 68
10 13	2 59.50	+ 6 2.2	0.904	1.838	15.7	21.8	150 W	39 70	11 27	2 30.87	+ 3 51.1	1.340	2.221	14.8	21.0	145 E	41 68
10 18	2 54.13	+ 8 22.3	0.887	1.830	14.4	21.7	153 W	37 72	12 2	2 27.09	+ 3 48.2	1.352	2.199	16.8	21.1	140 E	41 68
10 23	2 47.93	+10 39.2	0.875	1.822	14.0	21.6	154 W	34 75	12 7	2 23.95	+ 3 38.0	1.368	2.177	18.8	21.1	135 E	41 68
10 28	2 41.13	+12 48.9	0.871	1.813	14.4	21.6	153 W	32 77	12 12	2 21.53	+ 3 20.7	1.388	2.155	20.6	21.2	130 E	42 67
11 2	2 33.98	+14 47.6	0.873	1.803	15.7	21.6	150 W	30 79	12 17	2 19.91	+ 2 56.6	1.412	2.133	22.2	21.3	125 E	42 67
11 7	2 26.75	+16 32.2	0.880	1.793	17.6	21.7	147 E	28 81	12 22	2 19.13	+ 2 26.4	1.439	2.112	23.8	21.3	120 E	43 66
11 12	2 19.72	+18 0.4	0.894	1.783	19.9	21.8	142 E	27 82	12 27	2 19.18	+ 1 50.5	1.469	2.090	25.1	21.4	116 E	43 66
11 17	2 13.17	+19 11.1	0.912	1.772	22.2	21.9	137 E	26 83	1 1	2 20.08	+ 1 9.7	1.500	2.069	26.3	21.5	111 E	44 65
11 22	2 7.35	+20 4.0	0.935	1.760	24.4	22.0	133 E	25 84	446789 1998 FN₆								
11 27	2 2.43	+20 40.0	0.961	1.748	26.6	22.1	128 E	24 85	10 8	3 13.06	+ 2 37.9	0.600	1.531	21.8	21.6	145 W	48 61
12 2	1 58.52	+21 0.2	0.990	1.735	28.5	22.2	123 E	24 85	10 13	3 11.21	+ 0 12.2	0.569	1.517	19.4	21.4	150 W	45 64
381677 2009 BJ₈₁									10 18	3 8.06	+ 2 24.2	0.544	1.502	17.4	21.2	153 W	43 66
10 8	3 4.18	+ 8 23.4	1.712	2.613	11.8	22.3	148 W	53 56	10 23	3 3.68	+ 5 7.4	0.523	1.486	16.1	21.0	155 W	40 69
10 18	2 54.45	+ 7 24.9	1.638	2.594	7.7	22.0	159 W	52 57	10 28	2 58.23	+ 7 52.2	0.507	1.471	16.1	20.9	156 W	37 72
10 28	2 42.62	+ 6 23.7	1.591	2.574	4.0	21.7	170 W	51 58	11 2	2 51.92	+10 32.8	0.496	1.455	17.3	20.9	154 W	34 75
11 7	2 29.79	+ 5 26.2	1.574	2.552	4.6	21.7	168 E	50 59	11 7	2 45.05	+13 3.2	0.490	1.438	19.7	20.9	151 E	32 77
11 17	2 17.30	+ 4 39.0	1.587	2.528	8.7	21.9	157 E	50 59	11 12	2 37.96	+15 17.8	0.488	1.422	22.8	21.0	146 E	30 79
11 27	2 6.43	+ 4 7.8	1.628	2.502	13.0	22.1	145 E	49 60	11 17	2 31.05	+17 12.4	0.491	1.405	26.3	21.1	141 E	28 81
450161 2000 YE₂₉									11 22	2 24.72	+18 44.4	0.497	1.388	29.8	21.2	136 E	26 83
10 8	3 6.08	+ 3 6.8	2.180	3.060	10.5	21.8	146 W	42 67	11 27	2 19.29	+19 53.0	0.505	1.370	33.1	21.3	131 E	25 84
10 13	3 2.92	+ 3 37.9	2.127	3.034	9.4	21.7	150 W	41 68	12 2	2 14.98	+20 39.0	0.515	1.353	36.3	21.4	126 E	24 85
10 18	2 59.24	+ 4 8.1	2.080	3.009	8.3	21.6	154 W	41 68	12 7	2 11.96	+21 4.2	0.527	1.335	39.3	21.5	121 E	24 85
10 23	2 55.10	+ 4 36.8	2.040	2.983	7.4	21.5	157 W	40 69	351331 2004 XH₂₉								
10 28	2 50.58	+ 5 3.0	2.007	2.957	6.8	21.4	159 W	40 69	10 8	3 16.53	+29 43.3	1.189	2.050	18.6	21.6	139 W	75 34
11 2	2 45.78	+ 5 25.9	1.981	2.931	6.8	21.3	159 W	40 69	10 13	3 10.37	+28 56.5	1.143	2.043	16.2	21.4	145 W	74 35
11 7	2 40.81	+ 5 44.9	1.962	2.904	7.4	21.3	158 E	39 70	10 18	3 3.07	+27 58.6	1.102	2.035	13.4	21.2	152 W	73 36
11 12	2 35.78	+ 5 59.3	1.950	2.878	8.4	21.3	155 E	39 70	10 23	2 54.80	+26 49.0	1.068	2.027	10.4	21.0	158 W	72 37
11 17	2 30.82	+ 6 8.6	1.945	2.851	9.7	21.4	151 E	39 70	10 28	2 45.81	+25 27.8	1.041	2.017	7.3	20.8	165 W	70 39
11 22	2 26.06	+ 6 12.2	1.947	2.823	11.1	21.4	146 E	39 70	11 2	2 36.39	+23 56.0	1.021	2.006	4.6	20.7	171 W	69 40
11 27	2 21.62	+ 6 10.1	1.955	2.796	12.7	21.4	142 E	39 70	11 7	2 26.85	+22 15.6	1.009	1.995	4.0	20.6	172 E	67 42
12 2	2 17.59	+ 6 2.3	1.969	2.769	14.2	21.5	137 E	39 70	11 12	2 17.53	+20 29.1	1.004	1.982	6.2	20.7	167 E	65 44
481044 2005 EG₂₂₅									11 17	2 8.76	+18 39.8	1.008	1.969	9.5	20.8	161 E	64 45
10 8	3 7.71	+14 54.8	2.216	3.058	11.8	21.8	141 W	30 79	11 22	2 0.82	+16 51.4	1.019	1.955	12.9	21.0	154 E	62 47
10 13	3 3.73	+15 19.4	2.176	3.041	11.1	21.7	144 W	30 79	11 27	1 53.91	+15 6.9	1.038	1.940	16.2	21.1	147 E	60 49
10 18	2 59.23	+15 40.4	2.141	3.024	10.4	21.6	147 W	29 80	12 2	1 48.15	+13 29.2	1.062	1.924	19.3	21.2	140 E	58 51
10 23	2 54.28	+15 56.9	2.114	3.007	10.0	21.6	148 W	29 80	12 7	1 43.61	+12 0.0	1.091	1.907	22.1	21.4	133 E	57 52
10 28	2 48.98	+16 8.0	2.092	2.989	9.8	21.5	149 W	29 80	12 12	1 40.29	+10 40.5	1.125	1.889	24.6	21.5	127 E	56 53
11 2	2 43.46	+16 12.9	2.078	2.971	9.9	21.5	149 W	29 80	8013 Gordonmoore								
11 7	2 37.82	+16 11.2	2.070	2.953	10.4	21.5	147 E	29 80	10 8	3 19.97	+ 7 45.2	1.902	2.772	12.3	21.3	144 W	53 56
11 12	2 32.20	+16 2.6	2.068	2.935	11.1	21.5	145 E	29 80	10 18	3 11.09	+ 6 57.7	1.867	2.803	8.5	21.2	155 W	52 57
11 17	2 26.72	+15 46.7	2.074	2.917	12.1	21.5	142 E	29 80	10 28	3 0.58	+ 6 11.4	1.859	2.833	5.0	21.0	166 W	51 58
11 22	2 21.53	+15 23.8	2.085	2.898	13.1	21.6	138 E	30 79	11 7	2 49.45	+ 5 31.1	1.882	2.861	3.7	21.0	169 W	51 58
11 27	2 16.72	+14 54.0	2.103	2.879	14.2	21.6	134 E	30 79	11 17	2 38.75	+ 5 1.1	1.934	2.888	6.3	21.2	161 E	50 59
12 2	2 12.39	+14 18.0	2.125	2.860	15.3	21.7	130 E	31 78	11 27	2 29.48	+ 4 44.6	2.016	2.914	9.7	21.5	150 E	50 59
443842 2001 FA₂₄									12 7	2 22.30	+ 4 42.9	2.123	2.938	12.7	21.7	139 E	50 59
10 8	3 9.05	+27 27.9	2.801	3.636	9.8	22.5	142 W	72 37	85867 1999 BY₆								
10 18	3 1.05	+27 29.0	2.741	3.653	7.3	22.3	152 W	72 37	10 8	3 20.25	+19 22.7	1.336	2.211	16.1	21.2	142 W	64 45
10 28	2 51.75	+27 17.9	2.709	3.669	4.6	22.2	163 W	72 37	10 18	3 12.26	+18 51.9	1.248	2.188	11.5	20.9	154 W	64 45
11 7	2 41.89	+26 55.4	2.706	3.685	2.9	22.1	169 E	72 37	10 28	3 1.01	+18 4.8	1.183	2.162	6.1	20.5	167 W	63 46
11 17	2 32.29	+26 23.8	2.736	3.699	4.0	22.2	165 E	71 38	11 7	2 47.67	+17 4.1	1.145	2.136	0.4	20.0	179 E	62 47
11 27	2 23.72	+25 46.8	2.796	3.712	6.5	22.4	155 E	71 38	11 12	2 40.72	+16 30.4	1.136	2.122	3.2	20.2	173 E	62 47
162825 2001 BO₆₁									11 17	2 33.91	+15 56.0	1.134	2.108	6.4	20.4	166 E	61 48
10 8	3 9.90	+ 5 36.5	1.575	2.470	12.9	21.7	146 W	51 58	11 22	2 27.49	+15 22.2	1.139	2.093	9.4	20.5	160 E	60 49
10 13	3 2.94	+ 4 49.0	1.571	2.499	10.6	21.6	153 W	50 59	11 27	2 21.66	+14 50.3	1.150	2.078	12.4	20.6	153 E	60 49
10 18	2 55.52	+ 4 2.1	1.574	2.527	8.3	21.6	159 W	49 60	12 2	2 16.59	+14 21.4	1.166	2.063	15.2	20.7	147 E	59 50
10 23	2 47.81	+ 3 16.8	1.584	2.555	6.3	21.5	164 W	48 61	12 7	2 12.40	+13 56.5	1.188	2.047	17.8	20.9	141 E	59 50
10 28	2 40.02	+ 2 34.3	1.603	2.581	4.9	21.5	167 W	48 61	12 12	2 9.18	+13 36.2	1.215	2.031	20.2	21.0	135 E	59 50
11 2	2 32.34	+ 1 55.6	1.630	2.607	4.8	21.6	167 W	47 62	12 17	2 6.97	+13 21.0	1.245	2.015	23.2	21.1	129 E	58 51
11 7	2 24.93	+ 1 21.4	1.665	2.632	6.0	21.7	164 E	46 63	12 22	2 5.80	+13 11.3	1.279	1.998	24.2	21.2	124 E	58 51
11 12	2 17.95	+ 0 52.4	1.708	2.656	7.7	21.8	159 E	46 63	12 27	2 5.63	+13 7.1	1.315	1.981	25.9	21.3	118 E	58 51
11 17	2 11.55	+ 0 28.9	1.759	2.679	9.5	22.0	153 E	45 64	1 1	2 6.44	+13 8.1	1.353	1.964	27.3	21.3	113 E	58 51
11 22	2 5.82	+ 0 11.1	1.816	2.702	11.3	22.2	148 E	45 64	1 6	2 8.18	+13 14.1	1.393	1.946	28.6	21.4	109 E	58 51*
11 27	2 0.82	+ 0 1.0	1.880	2.724	13.0	22.3	142 E	45 64	1 11	2 10.79	+13 24.7	1.433	1.929	29.6	21.5	104 E	58 50*
12 2	1 56.60	+ 0 7.7	1.950	2.745	14.5	22.5	136 E	45 64	264308 1999 NA₅								
480990 2004 BV₁₁₄									10 8	3 29.82	+25 20.2	0.916	1.789	21.9	22.4	138 W	70 39
10 8	3 12.44	+ 0 49.3	1.551	2.440	13.5	21.5	145 W	46 63	10 18	3 19.32	+24 46.1	0.858	1.792	16.0	22.1	150 W	70

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

20/21	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°	20/21	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°
155140 2005 UD										469478 2002 TU₂									
<i>(continuation)</i>										<i>(continuation)</i>									
10 28	2 59.94	+40 37.0	1.463	2.378	11.9	20.8	150 W	86	23	12 2	4 9.54	+28 0.9	1.329	2.309	3.5	20.6	172 E	73	36
11 2	2 46.03	+40 27.2	1.441	2.373	10.6	20.7	154 W	85	24	12 7	4 3.57	+27 46.7	1.354	2.325	5.4	20.7	167 E	73	36
11 7	2 31.78	+40 3.4	1.427	2.367	9.8	20.7	156 E	85	24	12 12	3 58.14	+27 30.8	1.386	2.341	7.6	20.9	162 E	73	36
11 12	2 17.66	+39 25.9	1.422	2.359	10.0	20.7	156 E	84	25	12 17	3 53.40	+27 14.2	1.425	2.357	9.8	21.1	156 E	72	37
11 17	2 4.13	+38 36.3	1.427	2.351	11.0	20.7	153 E	84	25	12 22	3 49.46	+26 57.5	1.470	2.373	11.9	21.2	150 E	72	37
11 22	1 51.59	+37 36.9	1.440	2.341	12.6	20.8	149 E	83	26	12 27	3 46.38	+26 41.8	1.520	2.389	13.9	21.4	144 E	72	37
11 27	1 40.32	+36 30.8	1.461	2.330	14.5	20.9	144 E	82	27	452307 Manawydan									
12 2	1 30.50	+35 21.1	1.489	2.318	16.5	21.0	138 E	80	29	10 8	4 59.33	+41 39.9	1.194	1.855	29.1	21.3	115 W	87	22
12 7	1 22.19	+34 10.7	1.524	2.305	18.4	21.1	132 E	79	30	10 13	5 0.23	+40 34.6	1.120	1.835	28.1	21.1	120 W	86	23
12 12	1 15.41	+33 2.0	1.564	2.291	20.2	21.2	126 E	78	31	10 18	4 59.75	+39 15.0	1.048	1.815	26.7	20.9	125 W	84	25
12 17	1 10.09	+31 57.1	1.609	2.275	21.8	21.3	121 E	77	32	10 23	4 57.78	+37 38.3	0.979	1.794	24.9	20.7	131 W	83	26
12 22	1 6.15	+30 57.4	1.658	2.258	23.2	21.4	115 E	76	33*	10 28	4 54.28	+35 41.1	0.914	1.773	22.6	20.4	137 W	81	28
12 27	1 3.47	+30 3.9	1.709	2.240	24.4	21.5	110 E	75	33*	11 2	4 49.21	+33 20.1	0.854	1.753	19.8	20.2	143 W	78	31
424207 2007 PL₄₂										11 7	4 42.62	+30 31.9	0.799	1.732	16.4	19.9	150 W	76	33
10 8	3 56.26	+29 21.6	0.856	1.691	26.4	21.5	131 W	74	35	11 12	4 34.61	+27 13.9	0.752	1.711	12.4	19.6	158 W	72	37
10 13	3 53.62	+29 37.2	0.833	1.701	23.8	21.4	137 W	75	34	11 17	4 25.43	+23 25.6	0.713	1.689	8.0	19.3	166 W	68	41
10 18	3 49.58	+29 46.8	0.813	1.712	21.0	21.2	142 W	75	34	11 22	4 15.43	+19 10.0	0.683	1.668	3.5	18.9	174 W	64	45
10 23	3 44.24	+29 49.4	0.797	1.722	17.9	21.1	148 W	75	34	11 27	4 5.04	+14 33.8	0.663	1.647	4.0	18.9	173 E	60	49
10 28	3 37.78	+29 44.3	0.785	1.733	14.7	21.0	154 W	75	34	12 1	4 0.88	+12 39.8	0.658	1.639	6.0	18.9	170 E	58	51
11 2	3 30.44	+29 31.1	0.778	1.743	11.5	20.9	160 W	75	34	12 11	3 56.75	+10 44.9	0.655	1.630	8.1	19.0	167 E	56	53
11 7	3 22.54	+29 9.7	0.776	1.753	8.4	20.8	165 W	74	35	12 3	3 52.70	+ 8 49.9	0.654	1.622	10.3	19.1	163 E	54	55
11 12	3 14.43	+28 40.6	0.781	1.762	6.2	20.7	169 W	74	35	12 5	3 48.73	+ 6 55.7	0.654	1.614	12.5	19.2	159 E	52	57
11 17	3 6.49	+28 5.0	0.790	1.772	5.9	20.7	169 E	73	36	12 7	3 44.88	+ 5 3.1	0.656	1.605	14.7	19.2	156 E	50	59
11 22	2 59.10	+27 24.8	0.806	1.781	7.6	20.8	166 E	72	37	12 9	3 41.17	+ 3 12.6	0.659	1.597	16.8	19.3	152 E	48	61
11 27	2 52.54	+26 42.2	0.828	1.790	10.3	21.0	161 E	72	37	12 11	3 37.62	+ 1 25.2	0.664	1.589	18.9	19.4	148 E	46	63
12 2	2 47.04	+25 59.3	0.855	1.799	13.2	21.1	155 E	71	38	12 13	3 34.26	+ 0 18.9	0.670	1.580	21.0	19.5	145 E	45	64
12 7	2 42.71	+25 18.0	0.887	1.807	16.0	21.4	150 E	70	39	12 15	3 31.08	+ 1 58.9	0.677	1.572	22.9	19.5	142 E	43	66
12 12	2 39.61	+24 39.7	0.924	1.816	18.5	21.6	144 E	70	39	12 17	3 28.12	+ 3 34.6	0.686	1.564	24.8	19.6	138 E	41	68
434762 2006 HA₁₅₃										12 22	3 21.70	+ 7 13.6	0.712	1.543	29.0	19.8	130 E	38	71
10 8	4 3.89	+17 49.7	4.121	4.851	8.8	21.4	132 W	63	46	12 27	3 16.74	+10 22.7	0.743	1.523	32.7	19.9	123 E	35	74
10 18	4 0.30	+17 54.3	4.019	4.852	7.1	21.3	143 W	63	46	1 1	3 13.24	+13 3.2	0.778	1.503	35.7	20.1	117 E	32	77
10 28	3 55.47	+17 56.6	3.940	4.854	5.1	21.1	154 W	63	46	1 6	3 11.17	+15 17.7	0.815	1.484	38.3	20.2	111 E	30	79
11 7	3 49.68	+17 57.1	3.889	4.855	2.9	21.0	165 W	63	46	1 11	3 10.44	+17 9.4	0.853	1.465	40.3	20.4	106 E	28	81
11 17	3 43.32	+17 56.3	3.869	4.856	0.7	20.8	177 E	63	46	1 16	3 10.98	+18 41.7	0.892	1.446	41.9	20.5	101 E	26	83
11 27	3 36.84	+17 55.3	3.880	4.857	1.8	20.9	171 E	63	46	435323 2007 VB₅									
12 7	3 30.72	+17 55.0	3.922	4.858	4.0	21.1	160 E	63	46	10 8	4 59.71	+ 7 22.1	1.707	2.362	21.7	21.5	119 W	52	57
12 17	3 25.37	+17 56.8	3.994	4.859	6.1	21.2	148 E	63	46	10 18	4 57.55	+ 4 51.2	1.653	2.406	18.8	21.4	129 W	50	59
12 27	3 21.15	+18 1.6	4.093	4.860	7.9	21.4	137 E	63	46	10 28	4 52.25	+ 2 18.6	1.617	2.451	15.6	21.2	138 W	47	62
1 6	3 18.27	+18 10.3	4.213	4.861	9.4	21.5	126 E	63	46	11 7	4 44.29	+ 0 7.2	1.603	2.494	12.4	21.1	147 W	45	64
378124 2006 VT₂										11 17	4 34.46	+ 2 16.4	1.614	2.537	10.0	21.1	153 W	43	66
10 8	4 4.41	+ 1 31.8	1.351	2.156	20.0	21.4	133 W	47	62	11 27	4 23.86	+ 3 59.9	1.653	2.580	9.4	21.2	155 W	41	68
10 13	3 57.82	+ 1 8.6	1.298	2.149	17.9	21.3	138 W	46	63	12 7	4 13.71	+ 5 12.4	1.720	2.622	10.7	21.3	150 E	40	69
10 18	3 49.90	+ 0 45.6	1.249	2.141	15.7	21.1	145 W	46	63	12 17	4 5.01	+ 5 52.6	1.812	2.663	12.9	21.6	143 E	39	70
10 23	3 40.68	+ 0 23.9	1.208	2.131	13.3	20.9	151 W	45	64	12 27	3 58.51	+ 6 3.3	1.926	2.704	15.2	21.8	134 E	39	70
10 28	3 30.26	+ 0 4.5	1.173	2.120	10.9	20.8	156 W	45	64	303079 2004 AB									
11 2	3 18.85	+ 0 11.4	1.146	2.109	8.9	20.6	161 W	45	64	10 8	5 8.80	+ 9 33.8	2.620	3.201	16.1	21.5	117 W	55	54
11 7	3 6.69	+ 0 22.7	1.128	2.095	8.0	20.5	163 W	45	64	10 18	5 8.23	+ 8 31.2	2.469	3.166	14.6	21.3	127 W	54	55
11 12	2 54.13	+ 0 28.3	1.119	2.081	8.7	20.5	161 E	45	64	10 28	5 5.31	+ 7 24.3	2.334	3.130	12.6	21.1	137 W	52	57
11 17	2 41.54	+ 0 27.4	1.118	2.066	10.7	20.6	157 E	45	64	11 7	5 0.05	+ 6 15.7	2.219	3.094	10.2	20.8	146 W	51	58
11 22	2 29.31	+ 0 19.6	1.126	2.049	13.3	20.7	151 E	45	64	11 17	4 52.68	+ 5 9.0	2.129	3.056	7.7	20.6	156 W	50	59
11 27	2 17.79	+ 0 4.8	1.142	2.031	16.2	20.8	145 E	45	64	11 27	4 43.70	+ 4 9.0	2.066	3.018	6.0	20.4	161 W	49	60
12 2	2 7.24	+ 0 16.7	1.166	2.012	19.0	20.9	138 E	45	64	12 7	4 33.91	+ 3 20.1	2.033	2.978	6.5	20.4	160 E	48	61
12 7	1 57.87	+ 0 44.3	1.195	1.991	21.7	21.0	132 E	46	63	12 17	4 24.22	+ 2 46.4	2.030	2.938	8.9	20.5	153 E	48	61
12 12	1 49.78	+ 1 17.5	1.230	1.970	24.1	21.1	125 E	46	63	12 27	4 15.61	+ 2 30.2	2.053	2.897	11.9	20.6	143 E	48	61
12 17	1 43.03	+ 1 55.4	1.268	1.946	26.2	21.3	119 E	47	62	1 6	4 8.85	+ 2 31.6	2.100	2.855	14.8	20.7	132 E	48	61
12 22	1 37.61	+ 2 37.7	1.310	1.922	28.1	21.3	113 E	48	61	1 16	4 4.44	+ 2 49.3	2.164	2.813	17.2	20.8	122 E	48	61
12 27	1 33.47	+ 3 23.6	1.354	1.896	29.7	21.4	107 E	48	61*	137125 1999 CT₃									
400596 2009 BC₂										10 8	5 10.75	+78 23.0	1.092	1.613	37.5	21.4	101 W	57	—
10 8	4 21.86	+45 3.7	2.623	3.246	15.4	21.4	120 W	90	19	10 10	5 15.46	+79 9.6	1.085	1.613	37.4	21.4	101 W	56	—
10 18	4 17.17	+45 21.8	2.492	3.222	13.8	21.2	130 W	90	19	10 12	5 19.97	+79 55.3	1.079	1.614	37.2	21.4	102 W	55	—
10 28	4 9.39	+45 23.2	2.380	3.197	11.8	21.0	139 W	90	19	10 14	5 24.21	+80 40.2	1.072	1.614	37.1	21.4	102 W	54	—
11 7	3 58.98	+45 2.7	2.289	3.171	9.6	20.8	148 W	90	19	10 16	5 28.07	+81 24.2	1.066	1.614	37.0	21.4	103 W	54	—
11 17	3 46.83	+44 16.2	2.223	3.144	7.8	20.7	154 W	89	20	10 18	5 31.45	+82 7.2	1.059	1.615	36.9	21.4	103 W	53	—
11 27	3 34.24	+43 2.6	2.186																

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

20/21	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°-26°	20/21	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°-26°	
137125 1999 CT₃ (continuation)									373579 2002 AW₁₁ (continuation)									
10 31	5 21.06	+86 19.7	1.020	1.615	36.1	21.3	107 W	49	11 12	5 20.02	-1 42.2	0.706	1.608	22.0	20.0	142 W	43	66
11 1	5 14.67	+86 36.4	1.017	1.614	36.0	21.2	107 W	48	11 17	5 14.18	-1 38.7	0.664	1.588	19.8	19.8	147 W	43	66
11 2	5 6.50	+86 52.5	1.014	1.614	36.0	21.2	107 W	48	11 22	5 6.74	-1 23.5	0.626	1.567	17.5	19.6	152 W	44	65
11 3	4 56.16	+87 7.8	1.011	1.614	35.9	21.2	107 W	48	11 27	4 57.74	-0 54.4	0.593	1.545	15.5	19.4	155 W	44	65
11 4	4 43.15	+87 22.1	1.008	1.614	35.9	21.2	108 W	48	12 2	4 47.36	-0 9.2	0.565	1.523	14.3	19.2	158 W	45	64
11 5	4 26.96	+87 35.3	1.006	1.614	35.8	21.2	108 W	47	12 7	4 35.86	+0 53.5	0.542	1.501	14.4	19.1	158 E	46	63
11 6	4 7.06	+87 46.9	1.003	1.614	35.7	21.2	108 W	47	12 17	4 11.23	+3 51.3	0.513	1.455	19.0	19.0	151 E	49	60
11 7	3 43.04	+87 56.7	1.000	1.613	35.7	21.2	108 W	47	12 27	3 47.92	+7 47.9	0.506	1.407	26.9	19.2	140 E	53	56
11 8	3 14.92	+88 4.2	0.997	1.613	35.6	21.2	108 W	47	1 6	3 29.47	+12 19.5	0.515	1.358	35.2	19.4	127 E	57	52
11 9	2 43.33	+88 9.0	0.995	1.613	35.6	21.2	109 E	47	1 16	3 17.76	+17 4.3	0.535	1.308	42.6	19.6	116 E	62	47
11 10	2 9.73	+88 10.8	0.992	1.613	35.5	21.2	109 E	47	360209 1998 WJ₇ (continuation)									
11 11	1 36.15	+88 9.4	0.989	1.613	35.5	21.2	109 E	47	10 8	5 32.42	+23 16.7	1.136	1.764	31.9	21.4	111 W	68	41
11 12	1 4.64	+88 5.1	0.987	1.612	35.4	21.2	109 E	47	10 18	5 45.68	+24 25.9	1.013	1.723	30.7	21.0	118 W	69	40
11 13	0 36.66	+87 58.2	0.984	1.612	35.4	21.2	110 E	47	10 28	5 56.76	+25 46.3	0.899	1.683	28.8	20.7	125 W	71	38
11 14	0 12.86	+87 49.1	0.982	1.612	35.3	21.1	110 E	47	11 7	6 5.01	+27 23.1	0.795	1.643	26.0	20.3	134 W	72	37
11 15	23 53.24	+87 38.2	0.979	1.611	35.3	21.1	110 E	47	11 12	6 7.79	+28 19.1	0.747	1.623	24.2	20.0	138 W	73	36
11 16	23 37.40	+87 25.9	0.976	1.611	35.2	21.1	110 E	48	11 17	6 9.52	+29 20.7	0.703	1.603	22.1	19.8	142 W	74	35
11 17	23 24.83	+87 12.5	0.974	1.611	35.2	21.1	110 E	48	11 22	6 10.11	+30 28.0	0.662	1.584	19.9	19.6	147 W	75	34
11 18	23 14.97	+86 58.4	0.972	1.610	35.1	21.1	110 E	48	11 27	6 9.46	+31 40.7	0.625	1.565	17.4	19.4	152 W	77	32
11 19	23 7.36	+86 43.6	0.969	1.610	35.1	21.1	111 E	48	12 2	6 7.54	+32 58.0	0.592	1.547	14.8	19.1	156 W	78	31
11 20	23 1.58	+86 28.2	0.967	1.610	35.0	21.1	111 E	49	12 7	6 4.31	+34 18.3	0.564	1.529	12.2	18.9	161 W	79	30
11 21	22 57.31	+86 12.5	0.964	1.609	35.0	21.1	111 E	49	12 12	5 59.83	+35 39.6	0.540	1.511	10.1	18.7	164 W	81	28
11 22	22 54.29	+85 56.4	0.962	1.609	34.9	21.1	111 E	49	12 17	5 54.27	+36 59.2	0.520	1.494	9.2	18.6	166 W	82	27
11 23	22 52.30	+85 40.0	0.960	1.608	34.9	21.1	111 E	49	12 22	5 47.96	+38 14.3	0.506	1.478	10.0	18.5	165 E	83	26
11 24	22 51.17	+85 23.3	0.958	1.608	34.8	21.1	112 E	50	12 27	5 41.30	+39 22.3	0.495	1.462	12.2	18.5	162 E	84	25
11 25	22 50.76	+85 6.4	0.956	1.607	34.8	21.1	112 E	50	1 1	5 34.77	+40 21.2	0.489	1.447	15.3	18.6	157 E	85	24
11 26	22 50.96	+84 49.3	0.953	1.607	34.8	21.1	112 E	50	1 6	5 28.86	+41 9.9	0.487	1.432	18.7	18.7	152 E	86	23
11 27	22 51.68	+84 32.1	0.951	1.606	34.7	21.1	112 E	50	1 11	5 24.05	+41 48.0	0.489	1.419	22.2	18.8	147 E	87	22
11 28	22 52.84	+84 14.6	0.949	1.606	34.7	21.0	112 E	51	1 16	5 20.75	+42 16.0	0.494	1.406	25.5	18.9	142 E	87	22
11 29	22 54.39	+83 56.9	0.947	1.605	34.7	21.0	112 E	51	377974 2006 OU₂ (continuation)									
11 30	22 56.27	+83 39.1	0.945	1.605	34.6	21.0	112 E	51	10 8	5 35.29	+13 33.0	1.526	2.099	26.5	21.4	111 W	59	50
12 1	22 58.44	+83 21.1	0.943	1.604	34.6	21.0	112 E	52	10 18	5 37.65	+13 20.3	1.452	2.131	23.9	21.3	120 W	58	51
12 2	23 0.85	+83 3.0	0.942	1.604	34.6	21.0	113 E	52	10 28	5 36.30	+13 9.8	1.387	2.162	20.7	21.1	130 W	58	51
12 3	23 3.49	+82 44.6	0.940	1.603	34.6	21.0	113 E	52	11 7	5 31.23	+13 4.1	1.335	2.194	16.6	20.9	141 W	58	51
12 4	23 6.32	+82 26.1	0.938	1.603	34.5	21.0	113 E	53	11 17	5 22.74	+13 4.9	1.302	2.225	11.9	20.7	152 W	58	51
12 5	23 9.32	+82 7.4	0.936	1.602	34.5	21.0	113 E	53	11 27	5 11.71	+13 13.8	1.292	2.256	7.1	20.5	164 W	58	51
12 6	23 12.47	+81 48.4	0.935	1.601	34.5	21.0	113 E	53	12 7	5 49.53	+13 31.2	1.309	2.287	3.9	20.4	171 W	59	50
12 7	23 15.75	+81 29.3	0.933	1.601	34.5	21.0	113 E	54	12 12	4 53.49	+13 43.1	1.327	2.302	4.6	20.5	169 E	59	50
12 8	23 19.15	+81 10.0	0.931	1.600	34.5	21.0	113 E	54	12 17	4 47.76	+13 56.9	1.353	2.317	6.5	20.7	165 E	59	50
12 9	23 22.66	+80 50.5	0.930	1.599	34.5	21.0	113 E	54	12 22	4 42.50	+14 12.7	1.385	2.331	8.6	20.8	159 E	59	50
12 10	23 26.26	+80 30.8	0.929	1.599	34.5	21.0	113 E	54	12 27	4 37.87	+14 30.4	1.424	2.346	10.8	20.1	154 E	60	49
12 11	23 29.94	+80 10.9	0.927	1.598	34.4	21.0	113 E	55	1 1	4 33.95	+14 49.6	1.469	2.361	12.8	21.2	148 E	60	49
12 12	23 33.69	+79 50.7	0.926	1.597	34.4	21.0	113 E	55	1 6	4 30.82	+15 10.4	1.520	2.375	14.7	21.3	142 E	60	49
12 13	23 37.51	+79 30.4	0.925	1.597	34.4	21.0	113 E	55	1 11	4 28.51	+15 32.4	1.575	2.389	16.4	21.5	137 E	61	48
12 14	23 41.39	+79 9.8	0.923	1.596	34.5	21.0	113 E	56	138893 2000 YH₆₆ (continuation)									
12 15	23 45.31	+78 49.0	0.922	1.595	34.5	21.0	114 E	56	10 8	5 38.18	+36 41.3	1.346	1.918	29.5	21.4	109 W	82	27
12 16	23 49.28	+78 27.9	0.921	1.594	34.5	21.0	114 E	57	10 13	5 34.66	+36 53.3	1.298	1.936	28.0	21.3	114 W	82	27
12 17	23 53.28	+78 6.7	0.920	1.594	34.5	21.0	114 E	57	10 18	5 29.54	+37 3.0	1.252	1.952	26.2	21.2	120 W	82	27
12 19	0 1.37	+77 23.4	0.919	1.592	34.5	21.0	114 E	58	10 23	5 25.70	+37 9.2	1.209	1.968	24.1	21.1	126 W	82	27
12 21	0 9.55	+77 39.3	0.917	1.590	34.6	20.9	113 E	58	10 28	5 14.13	+37 10.0	1.170	1.981	21.7	21.0	132 W	82	27
12 23	0 17.78	+75 54.2	0.916	1.589	34.6	20.9	113 E	59	11 2	5 3.85	+37 3.5	1.135	1.994	19.0	20.8	139 W	82	27
12 25	0 26.03	+75 8.2	0.916	1.587	34.7	20.9	113 E	60	11 7	4 52.00	+36 47.5	1.105	2.005	16.1	20.7	146 W	82	27
12 27	0 34.28	+74 21.2	0.915	1.585	34.8	20.9	113 E	61	11 12	4 38.83	+36 20.0	1.083	2.015	13.0	20.6	153 W	81	28
12 29	0 42.51	+73 33.4	0.915	1.583	34.9	20.9	113 E	61	11 17	4 24.74	+35 39.6	1.067	2.023	9.9	20.4	159 W	81	28
12 31	0 50.71	+72 44.5	0.916	1.581	35.0	20.9	113 E	62	11 22	4 10.23	+34 46.1	1.060	2.030	7.4	20.3	165 W	80	29
1 2	0 58.86	+71 54.8	0.916	1.579	35.1	20.9	112 E	63	11 27	3 55.88	+33 40.5	1.062	2.036	6.3	20.3	167 E	79	30
1 4	1 6.95	+71 4.2	0.917	1.577	35.3	21.0	112 E	64	12 2	3 42.19	+32 25.1	1.073	2.040	7.4	20.3	165 E	77	32
1 6	1 14.98	+70 12.7	0.919	1.575	35.4	21.0	112 E	65	12 7	3 29.58	+31 3.1	1.092	2.043	9.9	20.5	159 E	76	33
1 8	1 22.94	+69 20.4	0.921	1.573	35.6	21.0	111 E	66	12 12	3 18.38	+29 38.1	1.119	2.045	12.8	20.7	153 E	75	34
1 10	1 30.82	+68 27.4	0.923	1.571	35.8	21.0	111 E	67	12 17	3 8.77	+28 13.7	1.154	2.045	15.6	20.8	146 E	73	36
1 12	1 38.63	+67 33.7	0.926	1.568	36.0	21.0	110 E	67	12 22	3 0.84	+26 52.7	1.196	2.044	18.3	21.0	139 E	72	37
1 14	1 46.35	+66 39.3	0.929	1.566	36.2	21.0	110 E	68	12 27	2 54.54	+25 37.3	1.243	2.042	20.7	21.1	133 E	71	38
41429 2000 GE₂ (continuation)									1 1	2 49.80	+24 29.1	1.295	2.039	22.8	21.3	126 E	69	40
10 8	5 15.46	+26 46.4	0.548	1.326	43.2	21.5	115 W	72	1 6	2 46.49	+23 28.6	1.350	2.034	24.6	21.4	120 E	68	41
10 13	5 6.33																	

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

20/21	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45° - 26°	20/21	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45° - 26°
434432 2005 NG₇ (continuation)									251568 2009 EL₁₅								
11 27	5 58.26	-18 17.7	0.641	1.497	28.9	20.1	133 W	27 82	10 8	6 24.01	+26 21.0	1.768	2.169	27.0	21.4	99 W	71 38*
12 2	5 53.79	-18 10.7	0.618	1.490	27.7	20.0	135 W	27 82	10 18	6 30.13	+26 36.4	1.681	2.204	25.5	21.3	108 W	72 37
12 7	5 48.31	-17 43.3	0.597	1.482	26.6	19.8	138 W	27 82	10 28	6 32.80	+26 54.7	1.599	2.237	23.2	21.2	117 W	72 37
12 12	5 42.02	-16 53.1	0.580	1.475	25.6	19.7	140 W	28 81	11 7	6 31.69	+27 16.1	1.525	2.270	20.2	21.0	128 W	72 37
12 17	5 35.23	-15 38.5	0.566	1.468	25.0	19.7	141 E	29 80	11 17	6 26.60	+27 39.0	1.465	2.302	16.5	20.8	139 W	73 36
12 22	5 28.29	-13 58.9	0.556	1.461	24.6	19.6	142 E	31 78	11 27	6 17.75	+28 0.4	1.423	2.334	12.0	20.6	151 W	73 36
12 27	5 21.56	-11 55.4	0.550	1.455	24.8	19.6	142 E	33 76	12 7	6 5.97	+28 15.9	1.405	2.365	7.0	20.4	163 W	73 36
1 1	5 15.39	-9 30.6	0.547	1.449	25.5	19.6	141 E	35 74	12 12	5 59.37	+28 20.3	1.406	2.380	4.5	20.3	169 W	73 36
1 6	5 10.08	-6 48.2	0.549	1.443	26.6	19.6	139 E	38 71	12 17	5 52.59	+28 21.8	1.414	2.395	2.4	20.2	174 W	73 36
1 11	5 5.87	-3 52.5	0.555	1.438	28.1	19.7	136 E	41 68	12 22	5 45.84	+28 20.7	1.429	2.409	2.5	20.3	174 E	73 36
1 16	5 2.96	-0 48.4	0.566	1.433	29.9	19.7	134 E	44 65	12 27	5 39.36	+28 17.0	1.451	2.424	4.5	20.4	169 W	73 36
363714 2004 VT₁₆									141535 2002 GG₅								
10 8	5 47.42	+26 10.6	1.226	1.802	31.9	21.5	108 W	71 38	10 8	6 25.47	+20 50.5	2.379	2.719	21.3	21.5	99 W	66 43*
10 18	5 51.29	+25 57.3	1.174	1.850	28.8	21.3	117 W	71 38	10 18	6 29.25	+20 37.2	2.260	2.736	20.3	21.4	108 W	66 43
10 28	5 50.42	+25 40.1	1.127	1.898	24.8	21.2	127 W	71 38	10 28	6 30.36	+20 25.1	2.146	2.751	18.7	21.2	118 W	65 44
11 7	5 44.77	+25 18.2	1.092	1.946	19.9	21.0	138 W	70 39	11 7	6 28.58	+20 15.0	2.043	2.766	16.4	21.0	128 W	65 44
11 17	5 34.77	+24 49.9	1.073	1.994	14.1	20.9	150 W	70 39	11 17	6 23.83	+20 7.2	1.955	2.779	13.5	20.9	139 W	65 44
11 27	5 21.65	+24 13.9	1.075	2.041	7.8	20.7	164 W	69 40	11 27	6 16.25	+20 1.5	1.888	2.792	9.9	20.7	151 W	65 44
12 7	5 7.34	+23 31.4	1.103	2.087	1.4	20.4	177 W	69 40	12 7	6 6.41	+19 57.4	1.846	2.803	5.8	20.4	163 W	65 44
12 12	5 0.38	+23 8.7	1.127	2.110	1.8	20.5	176 E	68 41	12 12	6 0.89	+19 55.6	1.835	2.809	3.7	20.3	169 W	65 44
12 17	4 53.88	+22 46.1	1.157	2.133	4.8	20.8	170 E	68 41	12 17	5 55.16	+19 54.0	1.832	2.814	1.8	20.2	175 W	65 44
12 22	4 48.05	+22 24.2	1.195	2.155	7.6	21.0	163 E	67 42	12 22	5 49.38	+19 52.6	1.837	2.819	1.6	20.2	175 E	65 44
12 27	4 43.03	+22 3.8	1.239	2.177	10.2	21.2	157 E	67 42	12 27	5 43.70	+19 51.4	1.850	2.823	3.4	20.3	170 E	65 44
1 1	4 38.92	+21 45.5	1.289	2.199	12.6	21.4	151 E	67 42	1 1	5 38.28	+19 50.4	1.870	2.828	5.5	20.5	164 E	65 44
1 6	4 35.76	+21 29.6	1.344	2.221	14.8	21.6	145 E	66 43	1 6	5 33.25	+19 49.7	1.897	2.832	7.5	20.6	158 E	65 44
291877 2006 PB₁₈									438902 2009 WF₁₀₄								
10 8	5 54.57	+18 6.0	1.755	2.247	25.3	21.4	106 W	63 46	10 8	6 35.70	+19 3.2	1.772	2.129	27.8	21.4	96 W	64 45*
10 18	5 57.90	+17 49.4	1.669	2.278	23.3	21.3	115 W	63 46	10 18	6 50.18	+19 35.6	1.578	2.047	28.3	21.1	103 W	65 44*
10 28	5 57.84	+17 33.3	1.590	2.309	20.6	21.1	125 W	63 46	10 28	7 4.28	+20 18.3	1.391	1.963	28.5	20.7	110 W	65 44
11 7	5 54.24	+17 19.0	1.524	2.338	17.2	21.0	136 W	62 47	11 7	7 17.93	+21 17.8	1.211	1.878	28.1	20.3	117 W	66 43
11 17	5 47.23	+17 7.5	1.474	2.368	13.0	20.8	147 W	62 47	11 12	7 24.56	+21 56.6	1.125	1.835	27.8	20.1	120 W	67 42
11 27	5 37.38	+16 59.4	1.447	2.396	8.3	20.6	159 W	62 47	11 17	7 31.04	+22 43.3	1.042	1.792	27.3	19.9	124 W	68 41
12 7	5 25.79	+16 55.2	1.447	2.424	3.7	20.4	171 W	62 47	11 22	7 37.36	+23 39.5	0.962	1.750	26.6	19.6	128 W	69 40
12 12	5 19.76	+16 54.6	1.457	2.438	2.5	20.3	174 W	62 47	11 27	7 43.54	+24 47.2	0.885	1.707	25.7	19.4	131 W	70 39
12 17	5 13.82	+16 55.1	1.474	2.452	3.5	20.4	171 E	62 47	12 2	7 49.59	+26 8.8	0.812	1.664	24.6	19.1	135 W	71 38
12 22	5 8.17	+16 56.9	1.499	2.465	5.6	20.6	166 E	62 47	12 7	7 55.51	+27 46.8	0.743	1.622	23.5	18.8	139 W	73 36
12 27	5 2.97	+17 0.1	1.531	2.478	7.8	20.7	160 E	62 47	12 12	8 1.33	+29 44.3	0.678	1.579	22.1	18.5	143 W	75 34
1 1	4 58.35	+17 4.7	1.569	2.491	9.9	20.9	154 E	62 47	12 17	8 7.09	+32 4.4	0.618	1.537	20.8	18.2	146 W	77 32
1 6	4 54.39	+17 10.7	1.614	2.504	11.9	21.1	148 E	62 47	12 22	8 12.89	+34 50.4	0.563	1.495	19.6	17.9	149 W	80 29
1 11	4 51.18	+17 18.2	1.664	2.516	13.8	21.2	143 E	62 47	12 27	8 18.88	+38 5.0	0.513	1.454	18.9	17.6	151 W	83 26
1 16	4 48.76	+17 27.1	1.719	2.529	15.4	21.3	137 E	62 47	1 1	8 25.30	+41 50.5	0.468	1.414	19.1	17.4	152 W	87 22
302591 2002 QE₇									141756 2002 LP₅₈								
10 8	6 21.60	+29 30.2	0.761	1.358	46.4	21.4	100 W	75 34*	1 6	8 32.48	+46 7.4	0.430	1.374	20.4	17.2	151 W	89 18
10 13	6 29.33	+28 29.2	0.737	1.370	45.1	21.3	103 W	73 36	1 8	8 35.68	+47 58.6	0.416	1.359	21.3	17.1	150 W	87 16
10 18	6 35.78	+27 23.4	0.714	1.383	43.6	21.3	107 W	72 37	1 10	8 39.14	+49 54.3	0.403	1.344	22.5	17.0	149 W	85 14
10 23	6 40.87	+26 13.0	0.691	1.396	41.9	21.2	111 W	71 38	1 12	8 42.91	+51 54.1	0.391	1.328	23.8	17.0	147 W	83 12
10 28	6 44.51	+24 58.4	0.668	1.409	39.8	21.0	115 W	70 39	1 14	8 47.09	+53 57.5	0.380	1.313	25.3	17.0	145 W	81 10
11 2	6 46.63	+23 39.7	0.645	1.422	37.6	20.9	119 W	69 40	1 16	8 51.75	+56 3.9	0.370	1.299	27.0	16.9	143 W	79 8
11 7	6 47.15	+22 17.3	0.624	1.435	35.0	20.8	124 W	67 42	195807 2002 QF₁₇								
11 12	6 46.00	+20 51.4	0.604	1.448	32.1	20.7	129 W	66 43	10 8	7 1.24	+23 23.4	1.168	1.548	40.2	21.5	91 W	68* 39*
11 17	6 43.13	+19 22.5	0.587	1.461	28.9	20.5	135 W	64 45	10 18	7 18.18	+23 37.0	1.119	1.585	38.6	21.4	97 W	69 40*
11 22	6 38.61	+17 51.4	0.572	1.474	25.3	20.4	140 W	63 46	10 28	7 31.58	+23 55.2	1.068	1.624	36.4	21.3	104 W	69 40*
11 27	6 32.55	+16 19.3	0.561	1.487	21.5	20.3	146 W	61 48	11 7	7 40.93	+24 22.8	1.019	1.665	33.5	21.1	112 W	69 40
12 2	6 25.17	+14 47.7	0.554	1.500	17.6	20.1	153 W	60 49									
12 7	6 16.76	+13 18.7	0.552	1.512	13.8	20.0	159 W	58 51									
12 12	6 7.68	+11 54.5	0.554	1.524	10.5	19.9	164 W	57 52									
12 17	5 58.38	+10 37.5	0.562	1.536	8.6	19.9	166 W	56 53									
12 22	5 49.33	+9 29.9	0.576	1.548	9.0	20.0	166 E	54 55									
12 27	5 40.95	+8 33.1	0.594	1.560	11.2	20.1	162 E	54 55									
1 1	5 33.54	+7 47.8	0.618	1.571	14.2	20.3	157 E	53 56									
1 6	5 27.34	+7 13.9	0.647	1.582	17.3	20.6	151 E	52 57									
1 11	5 22.47	+6 51.0	0.680	1.593	20.3	20.8	146 E	52 57									
1 16	5 19.00	+6 37.9	0.716	1.603	23.0	21.0	141 E	52 57									
181704 1989 NA																	
10 8	6 22.35	+17 52.6	2.830	3.153	18.2	21.5	100 W	63 46*									
10 18	6 23.76	+17 57.9	2.722	3.189	17.2	21.4	109 W	63 46									
10 28	6 22.78	+18 6.3	2.620	3.224	15.6	21.3	119 W	63 46									
11 7	6 19.33	+18 18.3	2.531	3.258	13.5</												

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

20/21	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°	20/21	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°
162004 1991 VE (continuation)										162117 1998 SD₁₅ (continuation)									
12 23	14 44.07	-7 40.7	0.671	0.763	86.4	19.8	51 W	33*	31*	12 22	16 41.84	-15 32.2	1.429	0.611	34.0	20.1	20 W	12*	7*
12 25	15 0.80	-9 11.9	0.675	0.736	88.3	19.8	48 W	31*	30*	12 27	17 13.58	-14 47.3	1.461	0.615	30.6	20.1	19 W	11*	4*
12 27	15 17.77	-10 41.1	0.683	0.707	90.1	19.8	46 W	29*	29*	1 1	17 44.73	-13 57.5	1.495	0.625	27.4	20.1	17 W	10*	2*
12 29	15 34.90	-12 7.3	0.694	0.678	91.6	19.8	44 W	27*	27*	1 6	18 15.06	-13 3.9	1.531	0.642	24.4	20.1	16 W	9*	—
12 31	15 52.14	-13 29.5	0.708	0.647	92.9	19.8	41 W	25*	26*	1 11	18 44.40	-12 7.7	1.568	0.663	21.8	20.1	14 W	8*	—
1 2	16 9.42	-14 46.9	0.726	0.617	93.8	19.8	39 W	22*	25*	1 16	19 12.63	-11 9.6	1.606	0.689	19.4	20.2	13 W	7*	—
1 4	16 26.70	-15 59.1	0.747	0.585	94.3	19.8	36 W	20*	23*	232382 2003 BT₄₇									
1 6	16 43.94	-17 5.5	0.772	0.554	94.3	19.7	34 W	18*	22*	10 8	10 25.12	+13 48.5	2.496	1.877	20.9	21.5	42 W	34*	18*
1 8	17 1.16	-18 5.7	0.800	0.521	93.7	19.6	32 W	16*	21*	10 18	10 48.14	+11 18.9	2.362	1.814	23.2	21.4	46 W	37*	20*
1 10	17 18.36	-18 59.6	0.832	0.489	92.5	19.5	30 W	14*	19*	10 28	11 11.78	+8 35.9	2.228	1.750	25.5	21.2	49 W	39*	23*
1 12	17 35.58	-19 46.9	0.867	0.457	90.4	19.4	28 W	13*	18*	11 7	11 36.20	+5 39.4	2.096	1.687	27.8	21.1	53 W	41*	26*
1 14	17 52.91	-20 27.5	0.906	0.425	87.4	19.2	26 W	11*	17*	11 17	12 1.61	+2 29.4	1.966	1.624	30.1	20.9	55 W	41*	30*
1 16	18 10.44	-21 1.1	0.948	0.394	83.3	19.0	23 W	9*	15*	11 27	12 28.22	-0 53.7	1.840	1.563	32.4	20.8	58 W	40*	34*
138175 2000 EE₁₀₄										12 7	12 56.33	-4 28.7	1.722	1.503	34.7	20.6	60 W	39*	38*
10 8	9 8.95	+18 4.7	0.288	0.894	103.1	21.1	61 W	50*	29*	12 17	13 26.26	-8 13.6	1.612	1.445	37.0	20.4	62 W	36*	42*
10 13	9 7.78	+19 51.4	0.296	0.920	96.5	20.9	66 W	55*	30*	12 22	13 42.01	-10 8.6	1.561	1.417	38.2	20.4	63 W	34*	45*
10 18	9 8.09	+21 26.9	0.301	0.946	90.6	20.8	72 W	60*	31*	12 27	13 42.01	-10 8.6	1.512	1.391	39.3	20.3	64 W	32*	47*
10 23	9 9.28	+22 55.3	0.305	0.972	85.3	20.7	77 W	64*	32*	1 1	14 15.31	-14 0.1	1.467	1.365	40.4	20.2	64 W	31*	49*
10 28	9 10.86	+24 20.3	0.306	0.998	80.3	20.5	82 W	68*	33*	1 6	14 32.95	-15 54.8	1.425	1.341	41.5	20.1	65 W	29*	51*
11 2	9 12.43	+25 45.2	0.306	1.023	75.6	20.4	87 W	70*	33*	1 11	14 51.29	-17 47.4	1.386	1.318	42.6	20.1	65 W	27*	53*
11 7	9 13.55	+27 13.1	0.303	1.047	71.0	20.3	92 W	72*	33*	1 16	15 10.34	-19 36.5	1.350	1.296	43.6	20.0	65 W	25*	55*
11 12	9 13.78	+28 46.8	0.299	1.071	66.4	20.2	97 W	74*	33*	488789 2004 XK₆₀									
11 17	9 12.64	+30 28.8	0.294	1.093	61.8	20.0	103 W	75*	32*	10 8	10 30.65	+13 12.7	1.246	0.812	53.1	21.3	41 W	33*	17*
11 22	9 9.63	+32 20.8	0.287	1.115	56.9	19.9	109 W	77*	31*	10 13	11 4.81	+12 25.8	1.214	0.744	55.2	21.1	38 W	31*	13*
11 27	9 4.23	+34 23.0	0.280	1.135	51.8	19.7	115 W	79*	30*	10 18	11 41.21	+11 9.9	1.196	0.677	56.4	20.9	34 W	28*	9*
12 2	8 55.90	+36 34.3	0.274	1.155	46.4	19.6	122 W	82*	27*	10 23	12 19.27	+9 19.7	1.195	0.612	56.3	20.7	31 W	25*	5*
12 7	8 44.03	+38 50.9	0.268	1.173	40.7	19.4	129 W	84*	25*	10 28	12 58.21	+6 51.4	1.210	0.552	54.1	20.4	27 W	21*	1*
12 12	8 28.13	+41 5.7	0.264	1.190	34.8	19.2	136 W	86*	23*	11 2	13 37.20	+3 43.7	1.243	0.501	49.4	20.1	23 W	16*	—
12 17	8 8.08	+43 7.8	0.263	1.206	29.0	19.1	144 W	88*	21*	11 7	14 15.48	-0 1.0	1.288	0.466	41.8	19.8	18 W	11*	—
12 19	7 59.01	+43 50.2	0.263	1.212	26.8	19.0	146 W	89*	20*	11 9	14 30.45	-1 39.7	1.310	0.457	38.1	19.7	17 W	9*	—
12 21	7 49.44	+44 27.6	0.264	1.218	24.7	19.0	149 W	89*	20*	11 11	14 45.17	-3 22.2	1.332	0.453	34.1	19.6	15 W	8*	—
12 23	7 39.46	+44 59.5	0.266	1.223	22.8	18.9	151 W	90*	19*	11 13	14 59.35	-5 7.5	1.354	0.452	30.1	19.5	13 W	6*	—
12 25	7 29.20	+45 25.3	0.268	1.229	21.1	18.9	153 W	90*	19*	11 15	15 13.77	-6 54.5	1.377	0.455	26.1	19.5	12 W	4*	—
12 27	7 18.78	+45 44.5	0.271	1.234	19.7	18.9	155 W	89*	18*	11 17	15 27.62	-8 42.0	1.400	0.463	22.4	19.4	10 W	2*	—
12 29	7 8.35	+45 57.0	0.274	1.239	18.7	18.9	156 W	89*	18*	11 19	15 41.16	-10 28.7	1.424	0.473	19.0	19.4	9 E	1*	—
12 31	6 58.04	+46 2.9	0.278	1.244	18.1	18.9	157 W	89*	18*	11 21	15 54.40	-12 13.6	1.447	0.487	16.2	19.4	8 E	1*	—
1 2	6 47.99	+46 2.4	0.283	1.248	18.0	19.0	157 E	89*	18*	11 23	16 7.36	-13 55.8	1.469	0.504	13.9	19.4	7 E	1*	—
1 4	6 38.31	+45 55.9	0.288	1.253	18.3	19.0	156 E	89*	18*	11 25	16 20.03	-15 34.3	1.492	0.523	12.3	19.5	7 E	—	—
1 6	6 29.11	+45 43.9	0.294	1.257	18.9	19.1	156 E	89*	18*	11 27	16 32.45	-17 8.8	1.515	0.545	11.4	19.6	6 E	—	—
1 8	6 20.48	+45 27.0	0.301	1.261	19.9	19.2	154 E	90*	19*	12 2	17 2.47	-20 44.4	1.571	0.604	11.3	19.9	7 E	—	—
1 10	6 12.47	+45 6.0	0.308	1.265	21.0	19.3	153 E	90*	19*	12 7	17 31.20	-23 48.6	1.628	0.669	12.4	20.2	8 E	—	2*
1 12	6 5.14	+44 41.5	0.316	1.268	22.3	19.4	151 E	90*	19*	12 12	17 58.80	-26 21.4	1.685	0.736	13.5	20.5	10 E	—	4*
1 14	5 58.50	+44 14.4	0.324	1.272	23.7	19.5	149 E	89*	20*	12 17	18 25.34	-28 24.6	1.743	0.803	14.2	20.8	12 E	—	6*
1 16	5 52.56	+43 45.1	0.333	1.275	25.2	19.6	147 E	89*	20*	12 22	18 50.86	-30 1.0	1.802	0.871	14.6	21.1	13 E	—	7*
168318 1989 DA										12 27	19 15.35	-31 13.5	1.861	0.937	14.7	21.3	14 E	—	8*
10 8	9 13.84	+22 29.4	1.172	1.112	51.8	21.4	61 W	52*	25*	154658 2004 FA₁₈									
10 13	9 38.01	+20 30.8	1.157	1.085	52.7	21.3	60 W	51*	25*	10 8	10 43.17	+14 4.9	0.492	0.685	115.3	21.4	38 W	31*	14*
10 18	10 1.76	+18 18.8	1.147	1.061	53.5	21.3	59 W	50*	25*	10 10	10 44.48	+15 44.7	0.506	0.698	111.0	21.3	41 W	34*	14*
10 23	10 24.97	+15 55.6	1.142	1.040	54.0	21.2	58 W	48*	25*	10 12	10 46.32	+17 13.7	0.521	0.713	106.9	21.1	43 W	36*	14*
10 28	10 47.57	+13 23.8	1.142	1.022	54.3	21.2	57 W	47*	25*	10 14	10 48.63	+18 32.9	0.537	0.728	103.1	21.0	45 W	39*	14*
11 2	11 9.53	+10 45.8	1.146	1.008	54.4	21.2	56 W	45*	26*	10 16	10 51.34	+19 43.1	0.552	0.743	99.6	21.0	47 W	41*	14*
11 7	11 30.83	+8 4.2	1.154	0.997	54.3	21.2	55 W	44*	26*	10 18	10 54.39	+20 45.2	0.567	0.759	96.4	20.9	49 W	43*	14*
11 12	11 51.48	+5 21.4	1.165	0.990	54.0	21.2	54 W	42*	27*	10 20	10 57.71	+21 40.2	0.581	0.775	93.4	20.9	51 W	45*	14*
11 17	12 11.51	+2 39.7	1.179	0.987	53.4	21.2	53 W	40*	28*	10 22	11 1.27	+22 28.9	0.596	0.791	90.6	20.9	53 W	46*	14*
11 22	12 30.95	+0 0.9	1.195	0.989	52.8	21.2	53 W	39*	29*	10 24	11 5.01	+23 11.9	0.609	0.807	88.0	20.9	54 W	48*	14*
11 27	12 49.82	-2 33.4	1.213	0.994	52.0	21.2	53 W	37*	30*	10 26	11 8.90	+23 50.1	0.623	0.824	85.6	20.9	56 W	50*	14*
12 2	13 8.17	-5 1.9	1.232	1.003	51.1	21.3	52 W	35*	31*	10 28	11 12.90	+24 23.9	0.635	0.841	83.4	20.9	57 W	51*	14*
12 7	13 26.05	-7 23.6	1.252	1.017	50.2	21.3	52 W	34*	33*	11 2	11 23.24	+25 33.1	0.664	0.883	78.4	20.9	61 W	54*	14*
12 12	13 43.45	-9 37.9	1.271	1.033	49.3	21.3	53 W	32*	35*	11 7	11 33.77	+26 26.1	0.689	0.924	74.2	20.9	64 W	58*	14*
12 17	14 0.41	-11 44.1	1.291	1.053	48.3	21.4	53 W	31*	36*	11 12	11 44.23	+27 8.3	0.709	0.966	70.6	21.0	67 W	61*	15*
12 22	14 16.93	-13 42.0	1.309	1.076	47.5	21.4	54 W	29*	38*	11 17	11 54.45	+27 44.1	0.725	1.006	67.4	21.0	70 W	63*	16*
12 27	14 33.01	-15 31.6	1.327	1.102	46.6	21.5	55 W	28*	41*	11 22	12 4.27	+28 17.0	0.737	1.046	64.6	21.0	73 W	66*	17*
162117 1998 SD₁₅										11 27	12 13.60	+28 49.5	0.745	1.084	62.1	21.0	76 W	69*	18*
10 8	9																		

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

20/21	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°-26°	20/21	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°-26°	
138852 2000 WN₁₀									65909 1998 FH₁₂ (continuation)									
10 8	10 49.31	-60 43.9	0.289	0.889	104.0	21.1	60 W	— 33*	11 2	11 57.11	+ 0 38.8	1.080	0.725	63.1	20.9	41 W	30*	21*
10 9	10 44.24	-61 27.5	0.283	0.894	103.4	21.0	61 W	— 34*	11 7	12 10.35	- 0 25.8	1.135	0.777	58.9	21.0	42 W	31*	22*
10 10	10 38.81	-62 11.4	0.277	0.900	102.9	21.0	61 W	— 35*	11 12	12 23.41	- 1 31.3	1.183	0.830	55.6	21.2	44 W	32*	23*
10 11	10 32.97	-62 55.5	0.271	0.905	102.2	20.9	62 W	— 36*	11 17	12 36.18	- 2 36.1	1.223	0.882	53.1	21.3	45 W	33*	25*
10 12	10 26.67	-63 39.7	0.265	0.911	101.6	20.8	63 W	— 36*	11 22	12 48.59	- 3 39.1	1.256	0.933	51.1	21.4	47 W	33*	27*
10 13	10 19.84	-64 24.2	0.259	0.916	100.9	20.7	64 W	— 37*	415713 1998 XX₂									
10 14	10 12.42	-65 8.8	0.253	0.921	100.2	20.7	65 W	— 38*	10 8	11 21.81	+ 7 3.3	1.411	0.683	40.8	21.4	27 W	20*	9*
10 15	10 4.32	-65 53.4	0.247	0.927	99.4	20.6	66 W	— 39*	10 13	11 49.31	+ 4 13.8	1.409	0.644	39.3	21.3	24 W	17*	7*
10 16	9 55.44	-66 37.9	0.241	0.932	98.6	20.5	68 W	— 40*	10 18	12 17.76	+ 1 10.6	1.412	0.605	36.9	21.1	21 W	15*	6*
10 17	9 45.66	-67 22.1	0.235	0.937	97.8	20.4	69 W	— 40*	10 23	12 47.27	- 2 4.1	1.418	0.567	33.4	20.8	18 W	12*	4*
10 18	9 34.85	-68 5.6	0.229	0.943	96.9	20.3	70 W	— 41*	10 28	13 18.01	- 5 27.5	1.427	0.532	28.7	20.6	15 W	8*	2*
10 19	9 22.87	-68 48.1	0.223	0.948	95.9	20.3	71 W	— 42*	11 2	13 50.12	- 8 55.1	1.437	0.502	22.6	20.3	11 W	5*	—
10 20	9 9.55	-69 29.0	0.217	0.953	94.9	20.2	73 W	— 42*	11 7	14 23.71	-12 21.3	1.447	0.481	15.1	20.0	7 W	1*	—
10 21	8 54.74	-70 7.5	0.212	0.959	93.8	20.1	74 W	— 43*	11 12	14 58.74	-15 38.2	1.455	0.470	6.8	19.6	3 W	—	—
10 22	8 38.25	-70 42.7	0.206	0.964	92.7	20.0	75 W	— 43*	11 17	15 35.01	-18 37.3	1.459	0.471	2.7	19.4	1 E	—	—
10 23	8 19.97	-71 13.5	0.200	0.969	91.5	19.9	77 W	— 44*	11 22	16 12.14	-21 10.2	1.460	0.484	10.5	19.8	5 E	—	—
10 24	7 59.81	-71 38.3	0.195	0.975	90.2	19.8	78 W	— 44*	11 27	16 49.61	-23 10.3	1.458	0.508	17.7	20.2	9 E	—	3*
10 25	7 37.76	-71 55.6	0.190	0.980	88.9	19.7	80 W	— 44*	12 2	17 26.89	-24 34.2	1.456	0.538	23.5	20.5	13 E	—	6*
10 26	7 13.99	-72 3.4	0.184	0.985	87.5	19.6	82 W	— 44*	12 7	18 3.48	-25 21.4	1.455	0.574	28.0	20.8	16 E	2*	9*
10 27	6 48.79	-71 59.8	0.179	0.990	86.0	19.5	84 W	— 44	12 12	18 38.91	-25 33.5	1.456	0.613	31.2	21.0	19 E	4*	12*
10 28	6 22.65	-71 43.0	0.174	0.995	84.4	19.4	86 W	— 44	12 17	19 12.84	-25 13.9	1.460	0.652	33.4	21.2	21 E	6*	14*
10 29	5 56.18	-71 11.2	0.170	1.001	82.7	19.2	88 W	— 45	12 22	19 45.02	-24 26.9	1.468	0.691	34.9	21.4	24 E	8*	16*
10 30	5 30.05	-70 23.3	0.165	1.006	80.9	19.1	90 W	— 46	137158 1999 FB									
10 31	5 4.88	-69 18.6	0.161	1.011	79.0	19.0	92 W	— 47	10 8	11 24.47	+ 6 56.5	0.721	0.472	112.1	19.9	26 W	19*	8*
11 1	4 41.15	-67 57.0	0.157	1.016	77.1	18.9	94 W	— 48	10 10	11 26.92	+ 7 37.6	0.761	0.480	104.9	19.6	28 W	21*	9*
11 2	4 19.21	-66 18.6	0.153	1.021	75.0	18.8	96 W	— 50	10 12	11 30.23	+ 8 4.9	0.802	0.492	98.1	19.4	29 W	22*	9*
11 3	3 59.20	-64 24.3	0.150	1.026	72.8	18.7	99 W	— 52	10 14	11 34.23	+ 8 20.4	0.842	0.506	92.0	19.3	30 W	24*	9*
11 4	3 41.14	-62 14.9	0.147	1.031	70.6	18.6	101 W	— 54	10 16	11 38.76	+ 8 26.0	0.882	0.522	86.5	19.3	31 W	25*	10*
11 5	3 24.96	-59 51.5	0.144	1.036	68.3	18.5	104 W	— 56	10 18	11 43.68	+ 8 23.4	0.921	0.540	81.5	19.2	32 W	26*	10*
11 6	3 10.51	-57 15.6	0.142	1.041	65.9	18.4	107 W	— 59	10 20	11 48.89	+ 8 14.2	0.959	0.559	77.0	19.2	33 W	26*	10*
11 7	2 57.65	-54 28.5	0.140	1.046	63.5	18.3	109 W	— 62	10 22	11 54.30	+ 7 59.6	0.996	0.580	73.0	19.3	34 W	27*	10*
11 8	2 46.20	-51 31.8	0.139	1.050	61.1	18.2	112 E	— 64	10 24	11 59.82	+ 7 40.8	1.031	0.602	69.4	19.3	35 W	28*	11*
11 9	2 36.00	-48 27.3	0.138	1.055	58.6	18.1	115 E	— 68	10 26	12 5.40	+ 7 18.7	1.064	0.624	66.3	19.4	35 W	28*	11*
11 10	2 26.91	-45 16.9	0.137	1.060	56.3	18.1	117 E	— 71	10 28	12 11.01	+ 6 54.0	1.097	0.647	63.4	19.4	36 W	29*	11*
11 11	2 18.78	-42 2.4	0.137	1.065	54.0	18.0	120 E	3 74	11 2	12 24.92	+ 5 44.5	1.170	0.707	57.7	19.6	37 W	30*	12*
11 12	2 11.52	-38 45.8	0.138	1.069	51.8	18.0	122 E	6 77	11 7	12 38.47	+ 4 29.1	1.235	0.767	53.3	19.7	38 W	31*	14*
11 13	2 5.01	-35 29.1	0.139	1.074	49.7	17.9	124 E	10 81	11 12	12 51.53	+ 3 11.9	1.291	0.827	50.1	19.9	40 W	32*	15*
11 14	1 59.16	-32 13.9	0.141	1.079	47.8	17.9	126 E	13 84	11 17	13 4.04	+ 1 55.2	1.339	0.886	47.6	20.1	41 W	33*	17*
11 15	1 53.91	-29 1.9	0.143	1.083	46.0	17.9	128 E	16 87	11 22	13 16.02	+ 0 40.5	1.379	0.944	45.7	20.2	43 W	34*	19*
11 16	1 49.18	-25 54.5	0.146	1.088	44.5	17.9	130 E	19 90	11 27	13 27.47	- 0 31.4	1.412	1.000	44.3	20.4	45 W	35*	21*
11 17	1 44.92	-22 52.9	0.149	1.092	43.1	17.9	131 E	22 87	12 7	13 48.90	- 2 45.1	1.459	1.106	42.5	20.6	49 W	36*	26*
11 18	1 41.08	-19 58.0	0.153	1.097	42.0	18.0	132 E	25 84	12 17	14 8.51	+ 4 44.3	1.481	1.204	41.4	20.8	54 W	37*	32*
11 19	1 37.62	-17 10.3	0.157	1.101	41.1	18.0	133 E	28 81	12 27	14 26.35	- 6 28.7	1.482	1.294	40.8	20.9	59 W	37*	38*
11 20	1 34.50	-14 30.4	0.161	1.105	40.4	18.0	134 E	30 79	1 6	14 42.40	- 7 58.7	1.462	1.377	40.4	21.0	65 W	36*	46*
11 21	1 31.69	-11 58.4	0.166	1.110	39.8	18.1	134 E	33 76	1 16	14 56.54	- 9 14.9	1.425	1.453	40.0	21.1	72 W	36*	53*
11 22	1 29.16	- 9 34.4	0.171	1.114	39.4	18.2	134 E	35 74	417217 2005 YS									
11 23	1 26.88	- 7 18.3	0.177	1.118	39.2	18.2	134 E	38 71	10 8	11 31.60	+43 49.3	0.443	0.814	101.1	21.1	53 W	40*	—
11 24	1 24.83	- 5 9.9	0.183	1.123	39.1	18.3	134 E	40 69	10 10	11 30.76	+44 59.9	0.440	0.833	98.6	21.0	56 W	43*	—
11 25	1 23.00	- 3 8.9	0.189	1.127	39.0	18.4	134 E	42 67	10 12	11 30.11	+46 6.8	0.436	0.851	96.4	20.9	58 W	45*	—
11 26	1 21.36	- 1 15.0	0.195	1.131	39.1	18.5	134 E	44 65	10 14	11 29.67	+47 10.6	0.432	0.868	94.2	20.8	60 W	47*	—
11 27	1 19.90	+ 0 32.2	0.202	1.135	39.3	18.6	133 E	46 63	10 16	11 29.43	+48 12.0	0.427	0.885	92.2	20.8	62 W	49*	—
11 29	1 17.47	+ 3 47.9	0.216	1.143	39.7	18.7	132 E	49 60	10 18	11 29.37	+49 11.7	0.422	0.900	90.3	20.7	65 W	51*	—
12 1	1 15.61	+ 6 41.4	0.231	1.151	40.3	18.9	131 E	52 57	10 23	11 29.95	+51 37.2	0.408	0.937	85.9	20.5	70 W	56*	—
12 2	1 14.25	+ 9 15.5	0.246	1.158	40.9	19.1	130 E	54 55	10 28	11 31.46	+54 3.8	0.392	0.970	81.9	20.4	75 W	60*	—
12 5	1 13.33	+11 32.8	0.262	1.166	41.6	19.3	128 E	57 52	11 2	11 33.70	+56 39.8	0.374	0.999	78.2	20.2	80 W	63*	—
12 7	1 12.81	+13 35.7	0.278	1.173	42.3	19.4	127 E	59 50	11 7	11 36.50	+59 33.5	0.353	1.024	74.6	20.0	85 W	65*	—
12 9	1 12.64	+15 26.3	0.295	1.180	43.0	19.6	125 E	60 49	11 9	11 37.72	+60 50.0	0.345	1.033	73.3	19.9	87 W	66*	—
12 11	1 12.79	+17 6.1	0.312	1.187	43.6	19.7	124 E	62 47	11 11	11 38.97	+62 11.4	0.336	1.042	71.9	19.8	89 W	66*	—
12 13	1 13.23	+18 36.7	0.330	1.194	44.2	19.9	122 E	64 45	11 13	11 40.20	+63 38.4	0.327	1.050	70.5	19.8	91 W	66*	—
12 15	1 13.94	+19 59.4	0.348	1.200	44.8	20.0	121 E	65 44	11 15	11 41.40	+65 11.8	0.318	1.057	69.1	19.7	93 W	66*	—
12 17	1 14.90	+21 15.2	0.366	1.206	45.3	20.2	119 E	66 43	11 17	11 42.50	+66 52.1	0.309	1.064	67.7	19.6	95 W	65*	—
12 19	1 16.09	+22 25.0	0.384	1.212	45.8	20.3	118 E	67 42	11 19	11 43.43	+68 40.2	0.300	1.070	66.3	19.5	98 W	64*	—
12 21	1 17.50	+23 29.6	0.402	1.218	46.2	20.4	117 E	68 41	11 21	11 44.10	+70 36.8	0.291	1.076	64.9	19.4	100 W	63*	—
12 23	1 19.10	+24 29.7	0.421	1.224	46													

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

20/21	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°-26°	20/21	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°-26°		
417217 2005 YS (continuation)									37336 2001 RM (continuation)										
12 7	1 59.58	+87 2.2	0.230	1.101	54.3	18.6	115 E	48	12 27	14 17.83	-26 39.7	3.232	2.791	16.8	21.3	55 W	17*	47*	
12 8	1 22.17	+85 21.1	0.227	1.102	53.9	18.6	115 E	50	1 6	14 31.14	-27 17.2	3.071	2.751	18.4	21.2	62 W	17*	54*	
12 9	1 5.19	+83 33.7	0.225	1.102	53.5	18.5	116 E	51	1 16	14 43.89	-27 47.7	2.899	2.710	19.8	21.1	69 W	17*	62*	
12 10	0 55.96	+81 42.4	0.223	1.102	53.1	18.5	116 E	53	482055 2010 AH₃₀										
12 11	0 50.43	+79 48.0	0.221	1.102	52.8	18.5	117 E	55	10 8	12 29.30	+20 43.4	2.013	1.215	22.2	21.4	27 W	17*	—	
12 12	0 46.94	+77 51.2	0.219	1.102	52.6	18.5	117 E	57	10 18	13 10.80	+17 25.0	1.946	1.157	23.4	21.3	28 W	17*	—	
12 13	0 44.71	+75 52.2	0.218	1.102	52.4	18.4	117 E	59	10 28	13 53.00	+13 29.8	1.898	1.108	24.0	21.1	27 W	16*	—	
12 14	0 43.29	+73 51.4	0.217	1.102	52.4	18.4	118 E	61	11 7	14 35.25	+ 9 5.6	1.874	1.069	23.6	21.0	26 W	14*	—	
12 15	0 42.43	+71 49.3	0.216	1.101	52.3	18.4	118 E	63	11 17	15 16.99	+ 4 24.4	1.872	1.043	22.3	20.9	24 W	13*	—	
12 16	0 41.97	+69 46.1	0.215	1.101	52.4	18.4	118 E	65	11 27	15 57.81	- 0 19.4	1.890	1.032	20.1	20.9	21 W	11*	—	
12 17	0 41.81	+67 42.2	0.215	1.100	52.6	18.4	117 E	67	12 7	16 37.49	- 4 52.4	1.924	1.036	17.3	20.8	18 W	10*	—	
12 18	0 41.88	+65 38.0	0.215	1.099	52.8	18.4	117 E	69	12 17	17 15.99	- 9 3.7	1.971	1.054	14.3	20.8	15 W	8*	—	
12 19	0 42.13	+63 33.9	0.215	1.098	53.1	18.4	117 E	71	12 27	17 53.33	-12 46.0	2.023	1.086	11.5	20.8	13 W	7*	—	
12 20	0 42.51	+61 30.2	0.216	1.097	53.5	18.4	116 E	73	4*	1 6	18 29.55	-15 55.8	2.079	1.130	9.7	20.9	11 W	5*	—
12 21	0 43.01	+59 27.2	0.217	1.096	53.9	18.4	116 E	76	1 16	19 4.72	-18 32.6	2.134	1.184	9.3	21.0	11 W	3*	2*	
12 22	0 43.59	+57 25.3	0.218	1.094	54.4	18.5	115 E	78	364136 2006 CJ										
12 23	0 44.25	+55 24.8	0.219	1.093	55.0	18.5	114 E	80	10 8	12 38.86	- 8 31.1	1.736	0.745	6.4	21.2	5 W	—	—	
12 24	0 44.97	+53 25.9	0.220	1.091	55.7	18.5	114 E	82	10 13	12 58.68	-10 28.7	1.660	0.670	6.7	20.9	5 W	—	—	
12 25	0 45.73	+51 29.0	0.222	1.089	56.3	18.6	113 E	84	10 18	13 20.97	-12 31.1	1.575	0.585	6.7	20.5	4 W	—	—	
12 26	0 46.54	+49 34.2	0.224	1.087	57.1	18.6	112 E	85	10 23	13 46.58	-14 36.2	1.479	0.489	6.9	20.0	3 W	—	—	
12 27	0 47.38	+47 41.8	0.226	1.085	57.8	18.6	111 E	87	10 28	14 16.74	-16 38.5	1.367	0.381	10.2	19.4	4 E	—	—	
12 29	0 49.14	+44 4.5	0.232	1.080	59.5	18.7	109 E	89	10 30	14 30.41	-17 23.5	1.314	0.335	14.3	19.2	5 E	—	—	
12 31	0 50.97	+40 38.3	0.237	1.075	61.2	18.8	107 E	86	11 1	14 45.07	-18 3.3	1.255	0.287	21.1	19.0	6 E	—	—	
1 2	0 52.85	+37 23.4	0.244	1.070	63.0	18.9	104 E	82	11 3	15 0.54	-18 33.7	1.186	0.239	32.3	18.8	7 E	—	1*	
1 4	0 54.76	+34 20.1	0.251	1.063	64.8	19.0	102 E	79	11 5	15 15.95	-18 47.4	1.104	0.197	51.0	18.8	9 E	—	3*	
1 6	0 56.67	+31 28.1	0.259	1.056	66.7	19.1	99 E	76	11 7	15 28.66	-18 32.9	1.006	0.169	80.2	19.2	10 E	—	3*	
1 8	0 58.59	+28 47.2	0.267	1.049	68.5	19.2	97 E	74	11 8	15 32.55	-18 12.1	0.954	0.166	98.1	19.7	10 E	—	3*	
1 10	1 0.49	+26 16.6	0.275	1.041	70.4	19.4	94 E	71	11 9	15 34.10	-17 43.0	0.903	0.170	116.4	20.7	9 E	—	2*	
1 12	1 2.36	+23 55.9	0.283	1.033	72.2	19.5	92 E	69	11 10	15 33.31	-17 7.7	0.857	0.182	133.4	22.2	8 E	—	1*	
1 14	1 4.20	+21 44.1	0.292	1.024	73.9	19.6	89 E	67	11 11	15 30.54	-16 29.0	0.816	0.199	148.0	24.3	6 E	—	—	
226554 2003 WR₂₁									420187 2011 GA₅₅										
10 8	11 56.22	+ 5 5.2	1.753	0.863	21.3	21.4	18 W	12*	10 8	12 43.23	- 9 17.4	2.571	1.576	2.8	21.4	4 W	—	—	
10 13	12 18.30	+ 2 47.9	1.750	0.851	20.4	21.4	17 W	11*	10 18	13 9.79	-12 15.6	2.500	1.513	4.0	21.4	6 W	—	—	
10 18	12 40.48	+ 0 27.0	1.750	0.841	19.4	21.3	16 W	10*	10 28	13 38.38	-15 15.1	2.428	1.450	5.4	21.3	8 W	—	2*	
10 23	13 2.77	+ 1 55.7	1.751	0.833	18.2	21.3	15 W	9*	11 7	14 9.29	-18 11.4	2.356	1.389	6.9	21.2	10 W	—	3*	
10 28	13 25.17	+ 4 18.4	1.756	0.828	17.0	21.2	14 W	8*	11 17	14 42.87	-20 58.6	2.288	1.332	8.3	21.1	11 W	—	5*	
11 2	13 47.71	+ 6 39.4	1.762	0.826	15.7	21.2	13 W	7*	11 27	15 19.33	-23 28.9	2.225	1.279	9.5	21.0	12 W	—	6*	
11 7	14 10.40	+ 8 56.9	1.771	0.827	14.4	21.1	12 W	6*	12 7	15 58.74	-25 32.9	2.169	1.231	10.5	20.9	13 W	—	7*	
11 12	14 33.24	-11 9.1	1.781	0.831	13.0	21.1	11 W	5*	12 17	16 40.89	-27 0.5	2.123	1.189	11.3	20.8	14 W	—	7*	
11 17	14 56.23	-13 14.4	1.794	0.837	11.7	21.1	10 W	4*	12 27	17 25.17	-27 42.2	2.087	1.156	11.8	20.7	14 W	—	8*	
11 22	15 19.35	-15 11.1	1.807	0.846	10.5	21.1	9 W	3*	1 6	18 10.59	-27 31.4	2.063	1.133	12.0	20.7	14 W	—	8*	
11 27	15 42.57	-16 57.8	1.823	0.857	9.3	21.1	8 W	2*	1 16	18 55.98	-26 25.8	2.052	1.121	12.0	20.6	14 W	—	8*	
12 2	16 5.87	-18 33.4	1.839	0.871	8.2	21.1	7 W	1*	315098 2007 EX										
12 7	16 29.18	-19 57.1	1.857	0.886	7.3	21.1	7 W	—	10 8	12 44.05	+13 48.2	0.559	0.510	138.3	20.8	20 W	10*	—	
12 12	16 52.46	-21 8.1	1.876	0.903	6.6	21.1	6 W	—	10 10	12 36.09	+14 17.2	0.572	0.514	133.6	20.3	22 W	13*	—	
12 17	17 15.63	-22 6.0	1.896	0.921	5.9	21.2	6 W	—	10 12	12 28.84	+14 28.3	0.588	0.520	128.4	19.9	24 W	17*	—	
12 22	17 38.61	-22 50.8	1.916	0.941	5.5	21.2	5 W	—	10 14	12 22.49	+14 22.9	0.606	0.527	123.2	19.5	26 W	19*	—	
12 27	18 1.32	-23 22.6	1.937	0.961	5.2	21.3	5 W	—	10 16	12 17.14	+14 3.2	0.626	0.536	118.0	19.2	28 W	22*	—	
1 1	18 23.69	-23 41.7	1.958	0.983	5.1	21.3	5 W	—	10 18	12 12.81	+13 31.4	0.647	0.546	113.0	19.0	30 W	24*	1*	
1 6	18 45.65	-23 48.7	1.979	1.004	5.1	21.4	5 W	—	10 20	12 9.48	+12 49.6	0.668	0.558	108.2	18.8	32 W	26*	4*	
1 11	19 7.16	-23 44.3	2.001	1.026	5.2	21.5	5 W	—	10 22	12 7.10	+11 59.9	0.690	0.571	103.8	18.7	34 W	28*	6*	
208617 2002 EB₃									10 24	12 5.57	+11 4.0	0.712	0.584	99.7	18.6	35 W	29*	8*	
10 8	12 5.55	+ 0 27.3	2.601	1.649	8.3	21.4	14 W	7*	10 26	12 4.81	+10 3.4	0.734	0.599	95.9	18.5	37 W	30*	10*	
10 18	12 28.33	- 2 27.0	2.474	1.552	11.0	21.3	17 W	10*	10 28	12 4.72	+ 8 59.3	0.756	0.614	92.4	18.5	38 W	31*	12*	
10 28	12 53.18	- 5 35.0	2.340	1.450	13.8	21.1	20 W	12*	10 30	12 5.22	+ 7 52.6	0.777	0.630	89.2	18.5	39 W	32*	14*	
11 7	13 20.75	- 8 57.2	2.202	1.344	16.6	20.9	23 W	14*	11 1	12 6.23	+ 6 44.1	0.797	0.646	86.2	18.5	40 W	33*	15*	
11 17	13 51.92	-12 33.4	2.063	1.232	19.3	20.7	24 W	14*	11 3	12 7.69	+ 5 34.4	0.817	0.662	83.5	18.5	42 W	33*	17*	
11 27	14 27.85	-16 20.0	1.929	1.116	22.0	20.4	25 W	13*	11 5	12 9.51	+ 4 24.0	0.836	0.679	81.0	18.5	43 W	34*	18*	
12 2	14 48.08	-18 14.9	1.865	1.057	23.2	20.3	25 W	12*	11 7	12 11.67	+ 3 13.2	0.854	0.696	78.8	18.5	44 W	34*	20*	
12 7	15 10.10	-20 8.4	1.805	0.996	24.2	20.1	25 W	11*	11 12	12 18.16	+ 0 16.4	0.895	0.738	73.9	18.6	46 W	34*	24*	
12 12	15 34.15	-21 57.9	1.749	0.936	25.1	19.9	24 W	10*	11 17	12 25.83	- 2 38.1	0.930	0.780	70.0	18.7	48 W	34*	27*	
12 17	16 0.44	-23 39.7	1.697	0.875	25.6	19.7	23 W	8*	11 22	12 34.29	- 5 29.0	0.959	0.821	66.9	18.7	50 W	33*	31*	
12 22	16 29.14	-25 8.8	1.652	0.815	25.7	19.5	21 W	6*	11 27	12 43.31	- 8 15.8	0.983	0.861	64.3	18.8	52 W	32*	34*	
12 27	17 0.33	-26 19.4	1.614	0.757	25.2	19.3	19 W	4*	12 7	13 2.46	-13 36.9	1.016	0.935	60.5	19.0	56 W	29*	41*	
1 1	17 33.90	-27 4.7	1.583	0.701	23.8	19.0	17 W	1*	12 17	13 22.58	-18 42.7	1.030	1.002	57.9	19.1	60 W	26*	47*	
1 6	18 9.57	-27 17.7	1.560	0.651	21.4	18.8	14 W	—	12 27	13 43.36	-23 35.3	1.028	1.060	56.2	19.1</				

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

20/21	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°	20/21	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°
483423 2000 DO ₁ (continuation)										189829 2002 VQ ₆									
10 28	14 42.81	-17 1.1	1.453	0.496	18.0	20.5	9 E	—	3*	10 8	13 8.56	-9 22.7	2.635	1.642	3.0	21.5	5 E	—	—
11 2	15 18.61	-19 27.0	1.378	0.464	28.0	20.6	13 E	—	7*	10 18	13 34.03	-11 38.4	2.619	1.623	1.3	21.3	2 E	—	—
11 7	15 57.16	-21 27.2	1.300	0.455	39.3	20.7	17 E	1*	11*	10 28	14 0.31	-13 48.6	2.597	1.605	1.5	21.3	2 W	—	—
11 12	16 37.69	-22 51.1	1.223	0.469	50.1	21.0	21 E	4*	15*	11 7	14 27.48	-15 50.6	2.570	1.586	3.3	21.4	5 W	—	—
11 17	17 19.39	-23 32.2	1.151	0.505	58.8	21.2	26 E	7*	19*	11 17	14 55.61	-17 41.8	2.540	1.568	5.2	21.4	8 W	—	1*
11 22	18 1.56	-23 27.9	1.089	0.555	64.6	21.5	31 E	10*	23*	11 27	15 24.73	-19 19.4	2.506	1.550	7.1	21.5	11 W	3*	3*
128451 2004 NC ₂₅										118108 2398 T-3									
10 8	12 50.07	-7 18.7	3.961	2.962	0.6	21.5	2 W	—	—	10 8	13 9.79	-9 18.1	3.970	2.976	1.7	21.5	5 E	—	—
10 18	13 3.63	-8 53.6	3.940	2.953	2.4	21.6	7 W	—	—	10 18	13 23.59	-10 46.8	3.990	2.995	0.8	21.4	2 W	—	—
10 28	13 17.31	-10 27.8	3.902	2.943	4.4	21.7	13 W	5*	4*	10 28	13 37.38	-12 13.1	3.994	3.013	2.6	21.6	8 W	—	1*
11 7	13 31.07	-12 0.6	3.848	2.932	6.4	21.8	19 W	10*	9*	11 7	13 51.12	-13 36.6	3.981	3.030	4.6	21.7	14 W	5*	5*
11 17	13 44.86	-13 31.7	3.779	2.920	8.5	21.8	26 W	14*	14*	11 17	14 4.75	-14 56.9	3.951	3.046	6.6	21.8	21 W	10*	10*
267221 2001 AD ₂										190276 4548 P-L									
10 8	12 50.07	-5 38.8	2.017	1.019	1.2	21.4	1 W	—	—	10 8	13 10.64	-9 12.4	3.071	2.078	2.5	21.4	5 E	—	—
10 18	13 24.50	-9 1.4	1.894	0.899	2.1	21.1	2 W	—	—	10 18	13 30.53	-11 27.1	3.032	2.036	0.9	21.2	2 W	—	—
10 28	14 4.80	-12 38.6	1.760	0.767	1.7	20.6	1 W	—	—	10 28	13 51.32	-13 41.3	2.983	1.994	2.3	21.2	5 W	—	—
11 7	14 53.59	-16 23.6	1.613	0.623	1.7	19.9	1 E	—	—	11 7	14 13.10	-15 53.8	2.926	1.952	4.4	21.3	9 W	—	1*
11 12	15 22.28	-18 13.7	1.535	0.549	5.7	19.8	3 E	—	—	11 17	14 35.99	-18 2.8	2.862	1.910	6.6	21.3	13 W	3*	5*
11 17	15 54.50	-19 56.3	1.449	0.477	12.3	19.6	6 E	—	—	11 27	15 0.06	-20 6.5	2.790	1.868	8.8	21.3	17 W	6*	8*
11 22	16 30.55	-21 24.1	1.354	0.413	23.0	19.5	9 E	—	3*	12 7	15 25.42	-22 2.6	2.714	1.826	11.0	21.3	21 W	8*	12*
11 27	17 9.97	-22 27.2	1.245	0.367	39.0	19.6	14 E	2*	7*	12 17	15 52.17	-23 48.5	2.633	1.784	13.2	21.2	24 W	9*	16*
11 29	17 26.32	-22 43.5	1.197	0.358	46.8	19.6	15 E	3*	8*	12 27	16 20.33	-25 21.4	2.549	1.744	15.4	21.2	28 W	9*	20*
12 1	17 42.75	-22 54.1	1.146	0.354	54.9	19.7	17 E	4*	10*	1 6	16 49.92	-26 38.2	2.463	1.704	17.5	21.1	31 W	9*	24*
12 3	17 59.09	-22 59.1	1.094	0.356	63.2	19.9	19 E	5*	11*	1 16	17 20.88	-27 35.6	2.377	1.665	19.7	21.1	35 W	9*	28*
12 5	18 15.20	-22 58.6	1.041	0.364	71.2	20.1	20 E	7*	13*	170178 2003 MR ₂									
12 7	18 31.01	-22 53.0	0.988	0.378	78.5	20.3	22 E	8*	14*	10 8	13 14.02	-9 52.8	3.217	2.227	2.8	21.5	6 E	—	—
12 9	18 46.53	-22 42.7	0.937	0.396	85.0	20.5	24 E	9*	15*	10 18	13 33.28	-11 47.4	3.188	2.193	1.0	21.3	2 E	—	—
12 11	19 1.82	-22 27.8	0.887	0.418	90.6	20.8	25 E	10*	16*	10 28	13 53.24	-13 40.6	3.148	2.159	1.9	21.3	4 W	—	—
12 13	19 16.99	-22 8.4	0.840	0.443	95.2	21.0	27 E	11*	17*	11 7	14 13.95	-15 30.9	3.100	2.124	3.9	21.4	8 W	—	1*
12 15	19 32.15	-21 44.5	0.795	0.470	98.9	21.1	28 E	12*	19*	11 17	14 35.47	-17 17.1	3.042	2.090	6.1	21.4	13 W	4*	5*
12 17	19 47.42	-21 15.6	0.753	0.498	101.8	21.3	30 E	13*	20*	11 27	14 57.80	-18 57.3	2.976	2.056	8.3	21.4	18 W	7*	8*
12 19	20 2.93	-20 41.3	0.714	0.527	103.9	21.4	31 E	15*	21*	12 7	15 20.99	-20 30.0	2.903	2.023	10.5	21.4	22 W	9*	13*
12 21	20 18.77	-20 1.2	0.678	0.556	105.3	21.5	33 E	16*	22*	12 17	15 45.04	-21 53.4	2.823	1.990	12.7	21.4	26 W	11*	17*
405401 2004 PH ₃₅										378842 2008 TD ₄									
10 8	12 50.31	-19 0.9	2.741	1.783	7.4	21.5	13 W	—	1*	10 8	13 17.90	-9 54.8	1.899	0.915	7.7	21.4	7 E	—	1*
10 18	13 14.77	-22 4.8	2.713	1.757	7.4	21.4	13 W	—	3*	10 13	13 39.66	-11 10.4	1.850	0.870	8.5	21.3	7 E	—	1*
10 28	13 40.70	-25 4.9	2.681	1.733	7.9	21.4	14 W	—	6*	10 18	14 2.74	-12 23.2	1.802	0.828	9.7	21.2	8 E	—	2*
11 7	14 8.29	-27 57.6	2.648	1.710	8.6	21.4	15 W	—	8*	10 23	14 27.17	-13 31.5	1.756	0.789	11.6	21.1	9 E	—	3*
11 17	14 37.67	-30 38.8	2.614	1.690	9.6	21.4	17 W	—	10*	10 28	14 52.99	-14 33.2	1.710	0.756	14.0	21.1	11 E	—	4*
11 27	15 8.93	-33 3.8	2.579	1.672	10.7	21.3	18 W	—	12*	11 2	15 20.16	-15 26.4	1.667	0.729	16.8	21.0	12 E	2*	5*
12 7	15 42.02	-35 7.3	2.545	1.657	11.9	21.3	20 W	—	14*	11 7	15 48.60	-16 8.8	1.627	0.710	20.1	21.0	14 E	4*	7*
12 17	16 16.78	-36 44.4	2.512	1.644	13.1	21.3	22 W	—	16*	11 12	16 18.13	-16 38.7	1.589	0.699	23.7	21.0	16 E	6*	8*
12 27	16 52.82	-37 50.8	2.480	1.634	14.3	21.3	24 W	—	18*	11 17	16 48.54	-16 54.3	1.556	0.697	27.2	21.1	19 E	8*	10*
1 6	17 29.60	-38 23.1	2.450	1.627	15.5	21.4	26 W	—	20*	11 22	17 19.54	-16 54.7	1.527	0.705	30.6	21.2	21 E	10*	11*
1 16	18 6.47	-38 19.9	2.420	1.623	16.8	21.4	28 W	—	22*	11 27	17 50.80	-16 39.5	1.505	0.722	33.5	21.3	24 E	12*	13*
237353 1207 T-2										325102 2008 EY ₅									
10 8	12 53.20	-6 6.1	3.552	2.553	0.2	21.4	0 W	—	—	10 8	13 19.55	-9 42.3	1.717	0.736	9.8	21.2	7 E	—	1*
10 18	13 9.24	-7 55.5	3.514	2.525	2.3	21.6	6 W	—	—	10 13	13 39.06	-11 20.3	1.655	0.677	10.8	21.0	7 E	—	1*
10 28	13 25.65	-9 44.4	3.463	2.497	4.5	21.7	11 W	4*	2*	10 18	14 0.17	-12 58.8	1.584	0.611	12.7	20.8	8 E	—	2*
11 7	13 42.44	-11 32.2	3.399	2.467	6.7	21.7	17 W	8*	6*	10 23	14 23.27	-14 36.8	1.501	0.538	16.0	20.5	9 E	—	3*
11 17	13 59.62	-13 18.3	3.322	2.437	8.9	21.7	22 W	12*	11*	10 28	14 48.72	-16 11.9	1.403	0.457	21.9	20.2	10 E	—	4*
229378 2005 SN ₈										31129 2008 EY ₅									
10 8	12 54.24	-6 18.9	3.138	2.139	0.2	21.4	0 W	—	—	10 8	13 19.55	-9 42.3	1.717	0.736	9.8	21.2	7 E	—	1*
10 18	13 13.80	-8 27.5	3.102	2.110	2.2	21.5	5 W	—	—	10 13	13 39.06	-11 20.3	1.655	0.677	10.8	21.0	7 E	—	1*
10 28	13 33.95	-10 35.1	3.057	2.082	4.3	21.6	9 W	2*	1*	10 18	14 0.17	-12 58.8	1.584	0.611	12.7	20.8	8 E	—	2*
11 7	13 54.73	-12 40.4	3.003	2.053	6.5	21.6	14 W	6*	4*	10 23	14 23.27	-14 36.8	1.501	0.538	16.0	20.5	9 E	—	3*
11 17	14 16.21	-14 42.2	2.941	2.024	8.7	21.7	18 W	9*	8*	10 28	14 48.72	-16 11.9	1.403	0.457	21.9	20.2	10 E	—	4*
83988 2002 LC ₃₄										267223 2001 DQ ₈									
10 8	12 57.41	-1 10.0	3.673	2.679	1.8	21.5	5 E	—	—	10 8	13 20.44	-14 30.7	2.341	1.372	7.8	21.2	11 E	—	4*
10 18	13 12.78	-2 38.9	3.655	2.674	3.1	21.6	8 W	2*	—	10 18	13 43.29	-16 39.1	2.199	1.218	6.2	20.7	8 E	—	—
10 28	13 28.25	-4 5.0	3.622	2.667	5.1	21.6	14 W	8*	—	10 28	14 10.29	-18 57.6	2.034	1.051	5.5	20.2	6 E	—	—
11 7	13 43.80	-5 27.7	3.575	2.660	7.1	21.7	19 W	13*	3*	11 7	14 43.37	-21 23.4	1.847	0.865	6.1	19.6	5 W	—	—
11 17	13 59.40	-6 46.0	3.513	2.652	9.1	21.8	25 W	18*	8*	11 12	15 3.18	-22 36.4	1.744	0.764	6.7	19.2	5 W	—	—
516868 2011 GC ₆₀										267223 2001 DQ ₈									
10 8	13 3.23	-9 19.7	2.203	1.208	3.3	21.5	4 E	—	—	11 17	15 25.98	-23 46.1	1.635	0.655	7.4	18.8	5 W	—	—
10 18	13 28.02	-15 12.9	2.151	1.164	4.9	21.4	6 W	—	—	11 22	15 52.67	-24 46.6	1.517	0.539	8.6	18.2	5 E	—	—
10 28	13 55.56	-21 14.1	2.097	1.126	7.8	21.4	9 W	—	1*	11 27	16 24.45	-25 26.6	1.386	0.413	12.5	17.6	5 E		

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

20/21	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°	20/21	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°
267223 2001 DQ₈ (continuation)										358604 2007 VQ₃ (continuation)									
11 29	16 38.87	-25 31.8	1.328	0.361	16.2	17.4	6 E	—	—	1 6	17 24.44	-17 2.6	2.828	1.980	12.1	21.0	25 W	13*	13*
12 1	16 54.30	-25 27.1	1.264	0.309	22.4	17.1	7 E	—	1*	1 16	17 49.30	-17 6.3	2.744	1.943	14.2	20.9	29 W	15*	18*
12 3	17 10.54	-25 8.2	1.193	0.258	32.7	16.9	8 E	—	2*	154652 2004 EP₂₀									
12 5	17 26.76	-24 29.4	1.110	0.214	49.7	16.8	10 E	—	3*	10 8	14 12.93	-4 31.5	1.988	1.098	17.7	21.3	19 E	9*	11*
12 7	17 40.75	-23 25.7	1.015	0.186	75.6	17.1	11 E	—	4*	10 18	14 44.98	-7 11.3	1.921	1.023	17.8	21.1	18 E	8*	9*
12 8	17 45.76	-22 45.0	0.964	0.182	91.3	17.6	11 E	1*	3*	10 28	15 20.08	-9 54.0	1.842	0.943	18.5	20.8	17 E	8*	8*
12 9	17 48.92	-22 0.5	0.914	0.187	107.2	18.3	10 E	1*	3*	11 7	15 58.93	-12 36.9	1.754	0.860	20.0	20.6	17 E	8*	7*
12 10	17 50.14	-21 14.4	0.866	0.198	121.9	19.3	10 E	2*	2*	11 17	16 42.38	-15 15.6	1.657	0.776	22.8	20.3	18 E	8*	8*
12 11	17 49.65	-20 28.3	0.821	0.215	134.7	20.5	9 E	2*	—	11 22	17 6.08	-16 31.2	1.605	0.735	24.9	20.2	18 E	8*	8*
344076 1998 HJ₃										11 27	17 31.21	-17 42.9	1.551	0.696	27.5	20.1	19 E	9*	9*
10 8	13 23.50	-9 41.1	2.122	1.141	7.1	21.2	8 E	—	2*	12 2	17 57.81	-18 49.1	1.494	0.661	30.7	20.0	20 E	9*	10*
10 18	13 56.47	-12 16.0	1.991	1.008	6.5	20.8	7 E	—	1*	12 7	18 25.90	-19 48.2	1.436	0.630	34.7	19.9	21 E	10*	12*
10 28	14 35.01	-14 54.9	1.852	0.872	7.3	20.4	6 E	—	—	12 12	18 55.39	-20 38.3	1.376	0.606	39.3	19.9	23 E	10*	13*
11 7	15 20.85	-17 27.9	1.707	0.737	10.4	20.0	8 E	—	1*	12 17	19 26.15	-21 17.3	1.314	0.589	44.5	19.9	25 E	11*	15*
11 12	15 47.12	-18 36.9	1.631	0.672	13.4	19.8	9 E	—	2*	12 22	19 57.95	-21 42.9	1.252	0.582	50.0	19.9	27 E	12*	17*
11 17	16 15.92	-19 36.5	1.554	0.613	17.8	19.6	11 E	1*	4*	12 27	20 30.51	-21 52.8	1.189	0.584	55.4	19.9	29 E	13*	20*
11 22	16 47.33	-20 22.4	1.475	0.562	23.8	19.5	13 E	3*	6*	1 1	21 3.58	-21 44.7	1.130	0.596	60.4	20.0	32 E	14*	22*
11 27	17 21.26	-20 50.0	1.394	0.525	31.7	19.5	16 E	5*	8*	1 6	21 36.90	-21 16.7	1.073	0.617	64.7	20.1	35 E	15*	25*
12 2	17 57.32	-20 55.0	1.312	0.505	40.8	19.5	20 E	7*	11*	1 11	22 10.29	-20 27.0	1.023	0.644	68.0	20.2	37 E	17*	27*
12 7	18 34.95	-20 34.6	1.230	0.507	50.2	19.6	23 E	10*	14*	1 16	22 43.55	-19 14.3	0.978	0.678	70.2	20.3	40 E	19*	30*
12 12	19 13.55	-19 47.2	1.153	0.530	58.4	19.8	27 E	13*	17*	187041 2005 JS₁₂₇									
12 17	19 52.70	-18 32.5	1.085	0.569	64.5	20.0	31 E	16*	20*	10 8	14 18.05	-11 46.7	2.751	1.857	11.3	21.4	21 E	4*	15*
12 22	20 32.09	-16 50.6	1.030	0.622	68.0	20.2	36 E	20*	23*	10 18	14 41.52	-13 33.6	2.754	1.828	9.4	21.3	18 E	3*	11*
12 27	21 11.35	-14 42.8	0.990	0.682	69.3	20.4	40 E	23*	26*	10 28	15 5.98	-15 13.7	2.750	1.801	7.5	21.2	14 E	2*	7*
1 1	21 49.98	-12 13.2	0.968	0.747	68.6	20.5	45 E	27*	29*	11 7	15 31.42	-16 44.8	2.742	1.775	5.6	21.1	10 E	1*	3*
1 6	22 27.37	-9 28.2	0.962	0.815	66.6	20.6	49 E	31*	32*	11 17	15 57.87	-18 4.7	2.728	1.749	3.8	20.9	7 E	—	—
1 11	23 2.92	-6 35.9	0.974	0.883	63.7	20.7	54 E	35*	34*	11 27	16 25.26	-19 10.9	2.709	1.726	2.1	20.8	4 E	—	—
1 16	23 36.20	-3 44.6	1.001	0.951	60.5	20.9	57 E	38*	36*	12 7	16 53.51	-20 1.1	2.687	1.703	1.5	20.7	3 W	—	—
133620 2003 UU₁₁₉										12 17	17 22.52	-20 33.5	2.661	1.683	2.8	20.7	5 W	—	—
10 8	13 28.79	+1 38.1	4.016	3.042	3.7	21.5	11 E	5*	—	12 27	17 52.11	-20 46.2	2.633	1.664	4.5	20.8	8 W	1*	—
10 18	13 42.14	+0 10.8	4.001	3.025	3.3	21.4	10 E	3*	—	1 6	18 22.09	-20 38.3	2.603	1.647	6.4	20.9	11 W	2*	2*
10 28	13 55.71	-1 13.4	3.969	3.007	4.1	21.5	12 W	5*	—	1 16	18 52.25	-20 9.1	2.572	1.633	8.2	20.9	14 W	4*	6*
11 7	14 9.46	-2 33.8	3.922	2.987	5.5	21.5	17 W	11*	—	360433 2002 JR₉									
11 17	14 23.36	-3 49.8	3.859	2.967	7.2	21.5	22 W	16*	1*	10 8	14 18.90	-7 28.5	2.480	1.587	13.0	21.4	21 E	7*	13*
348306 2005 AY₂₈										10 18	14 43.27	-9 51.1	2.415	1.496	11.6	21.2	18 E	6*	10*
10 8	13 42.03	-8 55.4	1.320	0.402	31.4	21.5	12 E	—	6*	10 28	15 10.09	-12 14.5	2.343	1.405	10.3	20.9	15 E	5*	7*
10 10	13 55.45	-10 21.7	1.279	0.389	37.4	21.5	14 E	1*	7*	11 7	15 39.73	-14 35.6	2.264	1.313	9.3	20.7	12 E	4*	4*
10 12	14 9.09	-11 48.6	1.236	0.380	44.0	21.6	15 E	1*	9*	11 17	16 12.63	-16 50.0	2.183	1.223	8.4	20.4	10 E	2*	2*
10 14	14 22.88	-13 15.3	1.191	0.376	50.9	21.6	17 E	2*	11*	11 22	16 30.44	-17 52.7	2.141	1.179	8.1	20.3	10 E	2*	1*
10 16	14 36.74	-14 41.0	1.144	0.376	58.0	21.8	19 E	2*	12*	11 27	16 49.21	-18 51.2	2.100	1.137	7.9	20.1	9 E	2*	1*
240313 2003 GO₃₅										12 2	17 8.98	-19 44.2	2.060	1.095	7.8	20.0	9 E	1*	—
10 8	13 42.64	-10 44.7	2.836	1.875	6.8	21.4	13 E	—	7*	12 7	17 29.79	-20 30.4	2.021	1.056	7.8	19.9	8 E	1*	—
10 18	14 3.55	-13 46.3	2.819	1.841	4.8	21.3	9 E	—	3*	12 12	17 51.63	-21 8.3	1.983	1.019	8.0	19.8	8 E	1*	—
10 28	14 25.63	-16 45.7	2.795	1.808	2.9	21.1	5 E	—	—	12 17	18 14.47	-21 36.4	1.948	0.984	8.3	19.7	8 E	1*	—
11 7	14 48.99	-19 41.2	2.764	1.776	1.9	21.0	3 W	—	—	12 22	18 38.27	-21 53.2	1.914	0.953	8.9	19.6	9 E	1*	1*
11 17	15 13.81	-22 30.8	2.728	1.745	2.9	21.0	5 W	—	—	12 27	19 2.91	-21 57.0	1.884	0.926	9.8	19.5	9 E	1*	1*
11 27	15 40.23	-25 11.7	2.687	1.717	4.8	21.0	8 W	—	2*	1 1	19 28.26	-21 46.7	1.857	0.904	10.8	19.5	10 E	1*	2*
12 7	16 8.36	-27 40.9	2.643	1.690	6.8	21.1	12 W	—	6*	1 6	19 54.15	-21 21.2	1.833	0.887	12.0	19.5	11 E	2*	3*
12 17	16 38.31	-29 54.8	2.597	1.666	8.8	21.1	15 W	—	9*	1 11	20 20.40	-20 40.0	1.814	0.875	13.4	19.5	12 E	3*	4*
12 27	17 10.06	-31 49.4	2.549	1.645	10.8	21.1	18 W	—	12*	1 16	20 46.77	-19 43.0	1.799	0.870	14.9	19.5	13 E	4*	5*
1 6	17 43.50	-33 20.8	2.501	1.626	12.8	21.1	21 W	—	15*	483483 2002 RR₂₈									
1 16	18 18.41	-34 25.0	2.454	1.611	14.6	21.1	24 W	—	18*	10 8	14 20.44	-30 0.7	2.697	1.917	15.8	21.4	31 E	—	22*
159857 2004 LJ₁										10 18	14 44.96	-32 5.8	2.701	1.882	14.5	21.3	28 E	—	19*
10 8	14 7.60	-17 33.0	4.065	3.155	6.6	21.4	21 E	—	15*	10 28	15 11.39	-34 3.3	2.699	1.849	13.2	21.3	25 E	—	16*
10 18	14 20.62	-18 12.1	4.071	3.117	4.6	21.3	15 E	—	8*	11 7	15 39.79	-35 49.2	2.690	1.815	12.1	21.2	23 E	—	13*
10 28	14 34.12	-18 51.4	4.059	3.078	2.6	21.2	8 E	—	2*	11 17	16 10.23	-37 19.5	2.676	1.783	11.1	21.1	20 E	—	10*
11 7	14 48.04	-19 29.8	4.027	3.038	1.1	21.0	3 W	—	—	11 27	16 42.61	-38 29.4	2.658	1.752	10.3	21.0	19 E	—	8*
11 17	15 2.37	-20 6.2	3.976	2.996	2.2	21.0	7 W	—	—	12 7	17 16.70	-39 14.3	2.637	1.721	9.8	20.9	17 E	—	6*
11 27	15 17.03	-20 39.7	3.906	2.952	4.3	21.1	13 W	3*	5*	12 17	17 52.14	-39 30.1	2.614	1.692	9.4	20.9	16 E	—	5*
12 7	15 32.00	-21 9.3	3.818	2.907	6.4	21.1	19 W	7*	10*	12 27	18 28.37	-39 13.5	2.589	1.665	9.3	20.8	16 E	—	3*
12 17	15 47.21	-21 34.1	3.712	2.859	8.6	21.1	26 W	11*	16*	1 6	19 4.78	-38 22.7	2.564	1.640	9.4	20.7	16 W	—	3*
12 27	16 2.59	-21 53.0	3.590	2.810	10.8	21.1	32 W	14*	23*	1 16	19 40.75	-36 57.5	2.539	1.617	9.7	20.7	16 W	—	4*
1 6	16 18.09	-22 5.2	3.452	2.759	13.0	21.1	39 W	17*	30*	189166 2002 TW₂₂₆									
1 16	16 33.62	-22 9.7	3.300	2.707	15.1	21.0	46 W	18*	37*	10 8	14 27.61	-11 5.0	2.793	1.919	12.0	21.5	24 E	6*	17*
358604 2007 VQ₃										10 18	14 50.10	-12 47.2	2.798	1.888	10.1	21.4	19 E	5*	13*
10 8	14 11.42	-8 18.2	3.235	2.314	8.1	21.4	19 E												

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

20/21	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°	20/21	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°
508774 1999 JE₁										284456 2007 FM₂₈ (continuation)									
10 8	14 28.35	-19 58.3	1.418	0.692	40.6	21.4	27 E	—	21*	12 27	19 8.67	-27 20.3	2.694	1.738	6.2	20.8	11 E	—	5*
10 13	14 43.92	-22 16.0	1.329	0.618	45.5	21.1	26 E	—	20*	1 6	19 38.01	-26 5.3	2.690	1.721	4.4	20.7	8 E	—	2*
10 18	15 0.62	-24 33.6	1.227	0.546	52.8	20.9	26 E	—	19*	1 16	20 7.07	-24 29.8	2.682	1.705	2.9	20.6	5 E	—	—
10 23	15 18.02	-26 43.0	1.111	0.481	63.6	20.7	26 E	—	19*	382394 3549 P-L									
10 28	15 34.80	-28 27.5	0.981	0.428	79.1	20.7	25 E	—	18*	10 8	15 56.74	-14 34.7	3.047	2.453	16.9	21.5	46 E	17*	38*
11 2	15 48.09	-29 16.4	0.842	0.398	100.1	21.1	23 E	—	17*	10 18	16 13.37	-15 13.8	3.094	2.414	15.3	21.4	40 E	15*	32*
141670 2002 JS₁₀₀										10 28	16 31.00	-15 48.1	3.129	2.374	13.6	21.3	34 E	14*	26*
10 8	14 40.58	-5 44.0	2.929	2.081	12.3	21.5	26 E	12*	18*	11 7	16 49.57	-16 16.2	3.153	2.334	11.8	21.3	29 E	13*	20*
10 18	14 59.99	-7 26.9	2.911	2.021	10.6	21.3	22 E	11*	13*	11 17	17 9.02	-16 36.5	3.165	2.294	10.0	21.2	24 E	11*	14*
10 28	15 20.66	-9 6.6	2.882	1.960	8.9	21.2	18 E	9*	8*	11 27	17 29.28	-16 47.7	3.165	2.254	8.1	21.0	19 E	9*	8*
11 7	15 42.62	-10 41.4	2.844	1.899	7.3	21.0	14 E	7*	3*	12 7	17 50.27	-16 48.5	3.155	2.213	6.3	20.9	14 E	7*	3*
11 17	16 5.98	-12 9.8	2.798	1.837	5.9	20.8	11 E	5*	—	12 17	18 11.93	-16 37.7	3.135	2.173	4.6	20.8	10 E	4*	—
11 27	16 30.77	-13 29.5	2.744	1.775	4.9	20.7	9 E	3*	—	12 27	18 34.15	-16 14.4	3.104	2.133	3.5	20.6	8 E	1*	—
12 7	16 57.05	-14 38.4	2.684	1.714	4.6	20.5	8 E	—	—	1 6	18 56.86	-15 37.7	3.064	2.093	3.4	20.6	7 W	1*	—
12 17	17 24.86	-15 34.2	2.620	1.653	5.0	20.4	8 W	2*	—	1 16	19 19.98	-14 47.3	3.017	2.054	4.6	20.6	10 W	4*	—
12 27	17 54.20	-16 14.3	2.553	1.593	6.1	20.3	10 W	4*	—	495829 1995 LG									
1 6	18 25.03	-16 36.2	2.485	1.535	7.4	20.2	12 W	5*	—	10 8	16 14.76	-12 33.7	1.441	1.102	43.8	21.4	50 E	21*	42*
1 16	18 57.28	-16 37.5	2.418	1.479	8.9	20.2	13 W	6*	3*	10 18	16 27.75	-11 19.9	1.410	0.966	45.0	21.1	43 E	21*	34*
415746 2000 JN₁₀										10 28	16 41.20	-9 58.9	1.339	0.812	47.7	20.7	37 E	20*	26*
10 8	14 42.17	-20 7.5	2.274	1.491	19.4	21.4	30 E	2*	24*	11 7	16 53.54	-8 31.4	1.218	0.635	54.2	20.1	31 E	20*	18*
10 18	15 9.65	-23 21.3	2.261	1.447	18.3	21.3	27 E	—	21*	11 12	16 57.97	-7 51.8	1.134	0.536	60.7	19.8	28 E	19*	13*
10 28	15 39.78	-26 24.0	2.244	1.407	17.3	21.2	25 E	—	19*	11 17	16 59.20	-7 31.0	1.032	0.431	72.1	19.5	25 E	17*	8*
11 7	16 12.80	-29 9.2	2.226	1.371	16.5	21.1	23 E	—	17*	11 22	16 52.90	-8 15.3	0.912	0.325	93.7	19.4	19 E	13*	2*
11 17	16 48.87	-31 29.1	2.209	1.341	15.9	21.0	22 E	—	16*	11 27	16 29.88	-12 25.1	0.801	0.239	135.9	21.5	10 E	3*	—
11 27	17 27.85	-33 15.2	2.193	1.317	15.4	21.0	21 E	—	15*	436030 2009 JO₂									
12 7	18 9.31	-34 18.8	2.181	1.300	15.0	20.9	20 E	—	14*	10 8	16 49.65	-4 28.3	0.986	0.970	61.4	21.4	58 E	32*	45*
12 17	18 52.41	-34 32.8	2.175	1.290	14.8	20.9	20 E	—	13*	10 13	17 0.39	-5 51.4	0.968	0.929	63.4	21.3	56 E	31*	44*
12 27	19 36.02	-33 53.7	2.177	1.288	14.4	20.9	19 E	—	13*	10 18	17 11.30	-7 17.8	0.945	0.887	65.8	21.2	54 E	29*	42*
1 6	20 18.91	-32 22.4	2.186	1.293	14.0	20.9	19 E	—	13*	10 23	17 22.27	-8 49.2	0.917	0.842	68.8	21.2	52 E	28*	40*
1 16	21 0.09	-30 4.1	2.205	1.306	13.5	20.9	18 E	—	12*	10 28	17 33.10	-10 27.9	0.882	0.795	72.4	21.1	50 E	26*	38*
133043 2003 BC₄₃										11 2	17 43.50	-12 17.1	0.842	0.747	77.0	21.0	47 E	24*	36*
10 8	15 10.16	-15 36.6	2.489	1.760	18.8	21.5	35 E	9*	28*	11 7	17 53.01	-14 21.5	0.797	0.697	82.8	20.9	44 E	22*	34*
10 18	15 33.86	-17 39.6	2.522	1.740	17.0	21.4	31 E	8*	24*	11 12	18 0.84	-16 47.6	0.746	0.648	90.2	20.9	41 E	19*	31*
10 28	15 58.69	-19 32.0	2.547	1.721	15.1	21.3	27 E	7*	20*	11 17	18 5.69	-19 43.2	0.693	0.599	99.6	21.0	37 E	16*	28*
11 7	16 24.64	-21 11.6	2.567	1.701	13.2	21.3	23 E	5*	16*	11 22	18 5.49	-23 16.1	0.639	0.554	111.7	21.3	31 E	11*	24*
11 17	16 51.70	-22 36.3	2.581	1.682	11.3	21.2	19 E	4*	13*	408792 2000 GF₂									
11 27	17 19.80	-23 44.0	2.589	1.663	9.4	21.1	16 E	2*	9*	10 8	18 3.95	-20 49.3	0.444	0.991	78.1	21.4	76 E	23*	69*
12 7	17 48.82	-24 32.7	2.592	1.644	7.4	21.0	12 E	1*	6*	10 13	18 41.94	-22 24.2	0.446	1.019	74.6	21.4	80 E	22*	73*
12 17	18 18.64	-25 0.8	2.591	1.627	5.5	20.9	9 E	—	3*	10 18	19 19.87	-23 23.7	0.456	1.048	70.9	21.4	83 E	22*	77*
12 27	18 49.06	-25 6.8	2.584	1.610	3.7	20.7	6 E	—	—	10 23	19 56.58	-23 46.5	0.473	1.077	67.2	21.4	87 E	21	80*
1 6	19 19.87	-24 50.2	2.574	1.594	2.2	20.6	4 E	—	—	10 28	20 31.09	-23 36.0	0.497	1.107	63.8	21.5	90 E	21	82*
1 16	19 50.85	-24 10.7	2.561	1.579	2.0	20.6	3 W	—	—	163191 2002 EQ₉									
161551 2004 XO₇₂										10 18	2 27.03	-0 4.5	1.671	2.641	6.3	23.1	163 W	45	64
10 8	15 16.58	-20 14.8	2.977	2.264	15.5	21.5	37 E	7*	31*	10 23	2 21.24	-0 57.3	1.672	2.647	5.4	23.1	166 W	44	65
10 18	15 35.71	-21 29.4	3.014	2.232	13.7	21.4	32 E	5*	26*	10 28	2 15.36	-1 46.6	1.681	2.653	5.5	23.1	165 W	43	66
10 28	15 55.88	-22 38.7	3.040	2.200	11.8	21.3	27 E	4*	21*	11 2	2 9.54	-2 31.5	1.697	2.659	6.6	23.2	162 E	42	67
11 7	16 17.07	-23 41.0	3.055	2.168	9.8	21.2	22 E	2*	16*	11 7	2 3.93	-3 11.0	1.721	2.664	8.2	23.3	158 E	42	67
11 17	16 39.23	-24 34.7	3.060	2.135	7.8	21.1	17 E	1*	11*	11 12	1 58.66	-3 44.6	1.751	2.668	9.9	23.4	152 E	41	68
11 27	17 2.32	-25 18.1	3.055	2.102	5.7	21.0	12 E	—	6*	11 17	1 53.85	-4 11.8	1.789	2.672	11.7	23.5	147 E	41	68
12 7	17 26.26	-25 49.8	3.041	2.069	3.7	20.8	8 E	—	2*	504181 2006 TC									
12 17	17 50.98	-26 8.2	3.017	2.036	1.9	20.7	4 E	—	—	10 18	2 29.38	-11 32.3	1.968	2.899	8.5	23.1	154 W	33	76
12 27	18 16.34	-26 12.1	2.985	2.004	1.6	20.6	3 W	—	—	10 23	2 21.52	-12 20.4	1.974	2.907	8.3	23.1	155 W	33	76
1 6	18 42.22	-26 0.4	2.945	1.972	3.4	20.6	7 W	—	1*	10 28	2 13.59	-13 2.3	1.989	2.914	8.6	23.1	154 W	32	77
1 16	19 8.51	-25 32.3	2.898	1.940	5.4	20.7	11 W	—	5*	11 2	2 5.76	-13 37.0	2.012	2.920	9.5	23.2	151 E	31	78
433965 1999 SD₁₀										11 7	1 58.18	-14 4.3	2.043	2.925	10.6	23.3	147 E	31	78
10 8	15 17.22	-16 38.2	2.498	1.796	19.3	21.4	36 E	10*	30*	11 12	1 51.00	-14 23.8	2.081	2.930	11.9	23.3	143 E	31	78
10 18	15 41.12	-18 26.6	2.492	1.737	18.0	21.3	33 E	8*	26*	11 17	1 44.35	-14 35.8	2.127	2.933	13.1	23.4	138 E	30	79
10 28	16 6.94	-20 7.1	2.481	1.681	16.6	21.2	29 E	7*	22*	20461 Dioretsa									
11 7	16 34.70	-21 36.1	2.465	1.627	15.2	21.1	25 E	6*	19*	10 18	2 29.50	-6 30.6	31.085	32.014	0.7	28.9	158 W	38	71
11 17	17 4.42	-22 49.6	2.446	1.577	13.8	20.9	22 E	5*	16*	10 28	2 28.22	-6 37.7	31.102	32.036	0.6	28.9	160 W	38	71
11 27	17 35.99	-23 43.3	2.425	1.532	12.5	20.8	20 E	5*	13*	11 7	2 26.93	-6 43.7	31.147	32.058	0.7	28.9	156 E	38	71
12 7	18 9.22	-24 13.0	2.405	1.492	11.2	20.7	17 E	4*	10*	11 17	2 25.66	-6 48.3	31.221	32.079	0.9	28.9	150 E	38	71
12 17	18 43.82	-24 15.1	2.387	1.457	9.9	20.6	15 E	3*	7*	11 27	2 24.45	-6 51.4	31.322	32.101	1.1	29.0	142 E	38	71
12 27	19 19.37	-23 46.8	2.371	1.429	8.8	20.4	13 E	2*	5*	451297 2010 TK₅₄									
1 6	19 55.38	-22 47.1	2.361	1.408	7.7	20.4	11 E	1*	4*	10 18	2 32.29	+22 30.6	1.379	2.342	8.1	22.3	161 W	68	41
1 16	20 31.37	-21 16.6	2.357	1.396	6.6	20.3	9 E	—	2*	10 23	2 22.62	+22 45.5	1.384	2.363	5.7				

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

2020	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45° - 26°	2020	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45° - 26°
385571 Otrera									230118 2001 DB₃								
10 18	2 35.31	+15 22.2	28.377	29.334	0.6	23.5	163 W	60 49	10 18	2 57.31	+47 16.5	3.212	4.010	9.5	23.4	138 W	88 17
10 28	2 34.21	+15 17.1	28.346	29.334	0.2	23.5	174 W	60 49	10 23	2 51.69	+47 20.7	3.189	4.019	8.8	23.3	142 W	88 17
11 7	2 33.09	+15 11.9	28.345	29.334	0.1	23.4	176 E	60 49	10 28	2 45.79	+47 19.4	3.174	4.028	8.1	23.3	145 W	88 17
11 17	2 31.98	+15 6.7	28.375	29.334	0.5	23.5	166 E	60 49	11 2	2 39.75	+47 12.4	3.164	4.036	7.6	23.3	147 W	88 17
11 27	2 30.94	+15 1.8	28.435	29.334	0.8	23.5	155 E	60 49	11 7	2 33.68	+47 0.0	3.162	4.045	7.2	23.3	149 E	88 17
385695 2005 TO₇₄									410832 2009 QO₈								
10 18	2 38.34	+11 1.3	28.658	29.615	0.5	23.0	164 W	56 53	10 18	2 59.73	+63 58.8	1.823	2.513	19.3	23.5	123 W	71 -
10 28	2 37.27	+10 55.7	28.628	29.614	0.2	23.0	173 W	56 53	10 23	2 47.89	+64 38.6	1.801	2.516	18.7	23.4	126 W	70 -
11 7	2 36.18	+10 50.3	28.627	29.612	0.2	23.0	174 E	56 53	10 28	2 34.78	+65 4.9	1.784	2.519	18.2	23.4	128 W	70 -
11 17	2 35.11	+10 45.2	28.657	29.611	0.5	23.0	164 E	56 53	11 2	2 20.92	+65 16.3	1.771	2.521	17.7	23.4	129 E	70 -
11 27	2 34.09	+10 40.6	28.717	29.609	0.8	23.1	154 E	56 53	11 7	2 6.90	+65 12.5	1.763	2.523	17.4	23.4	131 E	70 -
483566 2004 BE₈₅									457647 2009 CZ								
10 18	2 40.85	+43 23.2	2.515	3.364	10.3	23.1	143 W	88 21	10 18	3 1.54	+13 55.7	2.655	3.597	6.0	23.3	158 W	59 50
10 23	2 35.45	+43 11.1	2.468	3.345	9.4	23.0	147 W	88 21	10 28	2 50.63	+13 31.2	2.644	3.626	2.7	23.1	170 W	59 50
10 28	2 29.74	+42 52.3	2.428	3.326	8.6	22.9	150 W	88 21	11 7	2 39.36	+13 4.8	2.665	3.655	1.1	23.0	176 E	58 51
11 2	2 23.84	+42 26.6	2.395	3.306	8.0	22.9	152 E	87 22	11 17	2 28.54	+12 39.5	2.721	3.681	4.3	23.3	164 E	58 51
11 7	2 17.90	+41 54.2	2.369	3.286	7.7	22.8	153 E	87 22	11 27	2 18.93	+12 18.3	2.808	3.706	7.3	23.5	152 E	57 52
11 12	2 12.09	+41 15.5	2.350	3.266	7.8	22.8	153 E	86 23	388185 2006 CX₁₀								
11 17	2 6.54	+40 31.1	2.338	3.245	8.2	22.8	152 E	86 23	10 18	3 6.33	+26 8.0	2.961	3.870	6.9	23.5	152 W	71 38
506504 2004 BT₆₈									509895 2009 BT₁₇₈								
10 18	2 43.86	+47 38.7	1.941	2.772	13.6	22.4	139 W	87 16	10 18	3 7.45	+53 3.3	3.020	3.765	11.3	22.9	132 W	82 11
10 23	2 37.71	+47 35.1	1.902	2.758	12.7	22.3	142 W	87 16	10 23	3 1.58	+53 17.0	2.983	3.760	10.6	22.8	136 W	82 11
10 28	2 31.10	+47 22.4	1.868	2.745	11.8	22.3	145 W	88 17	10 28	2 55.24	+53 24.4	2.951	3.755	10.1	22.8	139 W	82 11
11 2	2 24.24	+47 0.3	1.840	2.731	11.2	22.2	148 E	88 17	11 2	2 48.57	+53 25.2	2.926	3.750	9.6	22.7	141 W	82 11
11 7	2 17.33	+46 28.9	1.819	2.717	10.8	22.1	149 E	89 18	11 7	2 41.74	+53 19.2	2.906	3.745	9.2	22.7	143 E	82 11
11 12	2 10.60	+45 48.6	1.804	2.703	10.8	22.1	149 E	89 18	11 12	2 34.90	+53 6.4	2.893	3.739	9.0	22.7	144 E	82 11
11 17	2 4.27	+45 0.0	1.795	2.688	11.1	22.1	148 E	90 19	11 17	2 28.24	+52 46.9	2.887	3.733	8.9	22.7	144 E	82 11
11 22	1 58.53	+44 4.6	1.793	2.673	11.7	22.1	147 E	89 20	11 22	2 21.93	+52 21.4	2.887	3.727	9.1	22.7	143 E	83 12
11 27	1 53.55	+43 3.7	1.797	2.658	12.7	22.1	144 E	88 21	85938 1999 DJ₄								
509018 2005 NE₁									85938 1999 DJ₄								
10 18	2 45.11	+19 50.0	2.879	3.828	5.2	23.1	160 W	65 44	10 18	3 9.91	+23 9.4	1.815	2.740	9.5	22.7	153 W	68 41
10 28	2 36.81	+19 17.9	2.838	3.823	2.3	22.9	171 W	64 45	10 23	3 3.91	+23 2.1	1.785	2.737	7.5	22.6	159 W	68 41
11 7	2 28.14	+18 39.9	2.829	3.816	1.4	22.9	174 E	64 45	10 28	2 57.45	+22 51.1	1.762	2.734	5.4	22.5	165 W	68 41
11 17	2 19.79	+17 59.2	2.851	3.809	4.3	23.1	163 E	63 46	11 2	2 50.66	+22 36.6	1.746	2.730	3.4	22.3	171 W	68 41
11 27	2 12.42	+17 19.4	2.904	3.801	7.1	23.2	152 E	62 47	11 7	2 43.71	+22 18.9	1.738	2.725	2.2	22.2	174 E	67 42
329395 2002 AC									415794 2001 BR₃₂								
10 18	2 46.60	-19 40.5	2.851	3.715	8.8	23.6	145 W	25 84	10 18	3 11.58	-18 11.5	3.061	3.902	8.9	22.1	143 W	27 82
10 23	2 41.36	-19 57.9	2.847	3.715	8.6	23.6	146 W	25 84	10 23	3 7.87	-18 43.1	3.050	3.903	8.5	22.1	144 W	26 83
10 28	2 35.97	-20 10.1	2.849	3.715	8.6	23.6	146 W	25 84	10 28	3 3.94	-19 10.5	3.046	3.902	8.4	22.1	145 W	26 83
11 2	2 30.52	-20 16.9	2.859	3.715	8.8	23.6	145 W	25 84	11 2	2 59.85	-19 33.2	3.048	3.902	8.4	22.1	145 W	25 84
11 7	2 25.11	-20 17.9	2.875	3.715	9.2	23.7	143 E	25 84	11 7	2 55.68	-19 50.9	3.057	3.901	8.6	22.1	144 W	25 84
11 12	2 19.85	-20 13.2	2.899	3.714	9.8	23.7	140 E	25 84	11 12	2 51.52	-20 3.2	3.073	3.901	9.0	22.1	142 E	25 84
11 17	2 14.81	-20 2.6	2.929	3.713	10.5	23.7	137 E	25 84	11 17	2 47.43	-20 9.9	3.094	3.900	9.5	22.1	140 E	25 84
11 22	2 10.08	-19 46.6	2.966	3.711	11.2	23.8	133 E	25 84	11 22	2 43.51	-20 11.1	3.122	3.898	10.0	22.2	136 E	25 84
495832 2000 JV₆₀									313329 2002 FH₅								
10 18	2 47.48	+20 7.1	3.615	4.559	4.5	24.3	159 W	65 44	10 18	3 16.53	+ 6 35.2	2.060	2.987	8.4	21.4	154 W	52 57
10 28	2 40.51	+19 31.1	3.558	4.540	2.1	24.1	170 W	65 44	10 28	3 7.42	+ 5 50.9	2.017	2.985	5.2	21.2	164 W	51 58
11 7	2 33.17	+18 50.1	3.533	4.521	1.0	24.0	175 E	64 45	11 7	2 57.29	+ 5 11.1	2.004	2.982	3.7	21.1	169 W	50 59
11 17	2 25.99	+18 6.5	3.540	4.501	3.3	24.1	165 E	63 46	11 17	2 47.07	+ 4 40.2	2.021	2.978	5.8	21.3	162 E	50 59
11 27	2 19.48	+17 23.3	3.578	4.481	5.7	24.3	153 E	62 47	11 27	2 37.75	+ 4 21.8	2.067	2.973	9.1	21.5	152 E	49 60
459458 2012 XR₁₃₄									141354 2002 AJ₂₉								
10 18	2 51.40	+15 59.6	2.547	3.498	5.7	23.7	160 W	61 48	10 18	3 21.08	+13 7.0	1.850	2.774	9.4	21.5	153 W	58 51
10 28	2 40.54	+14 57.0	2.494	3.481	2.2	23.4	172 W	60 49	10 28	3 11.26	+11 50.3	1.783	2.755	5.4	21.2	165 W	57 52
11 7	2 29.12	+13 49.3	2.474	3.462	1.5	23.4	175 E	59 50	11 7	2 59.98	+10 29.3	1.746	2.733	2.3	21.0	174 W	55 54
11 17	2 18.01	+12 41.3	2.489	3.441	5.2	23.6	162 E	58 51	11 17	2 48.34	+ 9 10.4	1.740	2.710	5.1	21.1	166 E	54 55
11 27	2 8.06	+11 38.2	2.535	3.418	8.6	23.8	149 E	57 52	11 27	2 37.56	+ 8 0.8	1.765	2.686	9.4	21.3	154 E	53 56
496013 2008 EL₆									26166 1995 QN₃								
10 18	2 55.79	+ 3 5.8	1.607	2.559	8.3	24.4	158 W	48 61	10 18	2 55.86	+ 5 45.8	3.500	4.443	4.6	23.2	159 W	51 58
10 23	2 49.95	+ 2 14.5	1.591	2.558	6.6	24.3	163 W	47 62	10 28	2 48.71	+ 4 56.6	3.506	4.481	2.8	23.1	167 W	50 59
10 28	2 43.78	+ 1 24.8	1.583	2.557	5.5	24.3	166 W	46 63	11 7	2 41.37	+ 4 11.8	3.545	4.518	2.7	23.1	168 E	49 60
11 2	2 37.44	+ 0 37.9	1.582	2.555	5.5	24.3	166 W	46 63	11 17	2 34.31	+ 3 34.0	3.615	4.554	4.4	23.3	159 E	49 60
11 7	2 31.09	+ 0 5.1	1.589	2.553	6.5	24.3	163 E	45 64	11 27	2 28.01	+ 3 5.2	3.716	4.590	6.4	23.4	149 E	48 61
11 12	2 24.89	+ 0 43.3	1.603	2.551	8.1	24.4	159 E	44 65									
11 17	2 19.02	+ 1 16.0	1.625	2.548	10.0	24.5	153 E	44 65									
11 22	2 13.60	+ 1 42.4	1.654	2.544	12.0	24.6	148 E	43 66									

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

2020	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45° - 26°	20/21	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45° - 26°
440760 2006 EX₄₁									500080 2011 WV₁₃₄								
10 18	3 21.42	+51 17.3	2.745	3.498	12.1	22.0	133 W	84 13	10 18	3 40.87	+11 23.8	2.115	3.008	10.0	21.8	148 W	56 53
10 23	3 15.43	+51 36.5	2.718	3.505	11.3	22.0	136 W	83 12	10 28	3 32.54	+10 30.0	1.992	2.943	6.8	21.4	160 W	56 54
10 28	3 8.91	+51 49.3	2.698	3.513	10.6	22.0	139 W	83 12	11 7	3 22.10	+9 31.9	1.896	2.877	3.6	21.1	170 W	55 54
11 2	3 2.01	+51 55.2	2.683	3.520	9.9	21.9	142 W	83 12	11 17	3 10.31	+8 33.7	1.832	2.808	4.0	21.0	169 E	54 55
11 7	2 54.89	+51 53.9	2.674	3.527	9.4	21.9	144 W	83 12	11 27	2 58.25	+7 41.0	1.799	2.738	7.9	21.1	158 E	53 56
11 12	2 47.75	+51 45.5	2.672	3.534	9.1	21.9	146 E	83 12	12 7	2 47.08	+6 59.2	1.795	2.666	12.1	21.2	145 E	52 57
11 17	2 40.76	+51 30.2	2.677	3.541	9.0	21.9	146 E	83 12	12 17	2 37.83	+6 32.6	1.816	2.592	16.0	21.3	133 E	52 57
11 22	2 34.11	+51 8.6	2.688	3.547	9.1	21.9	146 E	84 13	12 27	2 31.24	+6 23.5	1.856	2.516	19.4	21.4	122 E	51 58
11 27	2 27.96	+50 41.5	2.706	3.553	9.4	21.9	144 E	84 13	380524 2004 GY								
12 2	2 22.42	+50 9.7	2.731	3.559	9.8	22.0	142 E	85 14	10 18	3 43.86	+8 8.1	0.820	1.744	17.9	21.8	147 W	53 56
12 7	2 17.60	+49 34.5	2.762	3.565	10.4	22.0	139 E	85 14	10 28	3 24.79	+9 47.6	0.782	1.752	10.4	21.4	161 W	55 54
469359 2001 HX₁₃									89136 2001 US₁₆								
10 18	3 23.22	+16 14.2	1.611	2.535	10.6	22.2	152 W	61 48	10 18	3 46.31	+16 52.3	0.724	1.649	19.5	21.6	147 W	62 47
10 23	3 18.41	+15 48.8	1.603	2.553	8.3	22.1	158 W	61 48	10 23	3 39.36	+16 17.0	0.707	1.657	15.7	21.4	153 W	61 48
10 28	3 13.22	+15 21.9	1.601	2.572	5.9	22.0	164 W	60 49	10 28	3 31.27	+15 37.7	0.695	1.664	11.7	21.2	160 W	61 48
11 2	3 7.78	+14 54.2	1.606	2.590	3.5	21.9	171 W	60 49	11 2	3 21.34	+14 55.3	0.688	1.670	7.6	21.0	167 W	60 49
11 7	3 2.26	+14 26.4	1.618	2.608	1.4	21.8	176 W	59 50	11 7	3 12.92	+14 11.1	0.688	1.676	3.6	20.9	174 W	59 50
11 12	2 56.81	+13 59.1	1.638	2.626	1.8	21.9	175 E	59 50	11 12	3 3.41	+13 26.9	0.693	1.681	2.6	20.8	176 E	58 51
11 17	2 51.58	+13 33.0	1.665	2.643	4.0	22.1	169 E	59 50	11 17	2 54.21	+12 44.5	0.704	1.686	6.2	21.1	169 E	58 51
11 22	2 46.72	+13 8.9	1.700	2.660	6.2	22.3	163 E	58 51	11 22	2 45.72	+12 6.0	0.721	1.690	10.1	21.3	162 E	57 52
11 27	2 42.34	+12 47.5	1.741	2.677	8.3	22.4	157 E	58 51	12 2	2 38.24	+11 33.0	0.744	1.693	13.9	21.5	156 E	57 52
430713 2004 EN₉									327172 2005 JC₈₉								
10 18	3 23.42	+6 58.9	0.973	1.912	14.0	21.6	152 W	52 57	10 18	3 51.57	+17 46.3	1.817	2.695	12.2	22.0	145 W	63 46
10 23	3 17.82	+6 36.2	0.954	1.913	11.2	21.5	158 W	52 57	10 28	3 42.61	+17 31.1	1.777	2.720	8.1	21.8	157 W	63 46
10 28	3 11.47	+6 14.6	0.941	1.914	8.6	21.4	163 W	51 58	11 7	3 31.94	+17 10.7	1.764	2.745	3.7	21.6	170 W	62 47
11 2	3 4.59	+5 55.3	0.934	1.915	6.4	21.3	168 W	51 58	11 17	3 20.63	+16 47.4	1.780	2.768	1.1	21.4	177 E	62 47
11 7	2 57.42	+5 39.0	0.933	1.916	5.6	21.2	169 W	51 58	11 27	3 9.91	+16 24.9	1.827	2.791	5.4	21.8	165 E	61 48
11 12	2 50.23	+5 26.9	0.939	1.916	6.7	21.3	167 E	50 59	12 7	3 0.82	+16 6.9	1.902	2.812	9.4	22.1	152 E	61 48
11 17	2 43.29	+5 19.6	0.950	1.916	9.0	21.4	162 E	50 59	523804 2000 YF₂₉								
11 22	2 36.87	+5 17.9	0.968	1.916	11.8	21.6	157 E	50 59	10 18	3 53.69	+3 57.2	0.613	1.537	22.2	21.2	144 W	49 60
11 27	2 31.17	+5 21.9	0.992	1.915	14.5	21.7	151 E	50 59	10 23	3 51.79	+2 53.9	0.570	1.511	19.9	21.0	149 W	48 61
12 2	2 26.35	+5 31.8	1.020	1.914	17.1	21.9	145 E	51 58	10 28	3 48.46	+1 46.0	0.530	1.485	17.6	20.7	153 W	47 62
12 7	2 22.51	+5 47.2	1.054	1.913	19.5	22.0	140 E	51 58	11 2	3 43.64	+0 34.9	0.493	1.459	15.5	20.4	157 W	46 63
285331 1999 FN₅₃									373503 2001 CK₄₂								
10 18	3 28.26	+13 24.3	1.469	2.391	11.6	21.7	151 W	58 51	10 18	3 30.00	+31 5.9	0.907	1.817	18.3	22.0	145 W	76 33
10 23	3 13.55	+13 29.4	1.442	2.414	6.3	21.5	165 W	58 51	10 23	3 21.91	+31 31.9	0.883	1.818	15.4	21.9	151 W	77 32
11 7	2 57.38	+13 31.2	1.445	2.435	1.4	21.2	177 W	59 50	10 28	3 12.64	+31 49.3	0.865	1.819	12.6	21.7	156 W	77 32
11 17	2 41.45	+13 32.2	1.480	2.453	5.1	21.5	167 E	59 50	11 2	3 2.46	+31 57.0	0.852	1.820	10.1	21.6	161 W	77 32
11 27	2 27.42	+13 36.1	1.545	2.470	10.1	21.9	154 E	59 50	11 7	2 51.76	+31 54.2	0.845	1.819	8.5	21.5	164 W	77 32
12 7	2 16.41	+13 46.7	1.637	2.484	14.3	22.2	141 E	59 50	11 12	2 40.97	+31 41.0	0.845	1.818	8.3	21.5	165 E	77 32
333309 2001 FR₁₁₆									455736 2005 HC₃								
10 18	3 33.27	+8 25.8	2.041	2.946	9.7	22.0	150 W	53 56	10 18	3 38.48	-23 41.1	1.903	2.697	15.3	22.2	135 W	21 88
10 23	3 25.00	+7 34.2	1.998	2.955	6.4	21.8	161 W	53 56	10 23	3 33.07	-24 9.4	1.882	2.692	14.7	22.1	137 W	21 88
11 7	3 15.48	+6 45.6	1.984	2.962	3.8	21.7	169 W	52 57	10 28	3 27.12	-24 30.4	1.866	2.687	14.3	22.1	138 W	20 89
11 17	3 5.63	+6 4.5	2.000	2.968	4.7	21.8	166 E	51 58	11 2	3 20.75	-24 43.0	1.856	2.682	14.2	22.1	139 W	20 89
11 27	2 56.41	+5 35.0	2.045	2.973	7.8	22.0	156 E	51 58	11 7	3 14.11	-24 46.4	1.852	2.676	14.2	22.1	139 W	20 89
12 7	2 48.69	+5 19.6	2.117	2.978	11.0	22.2	145 E	50 59	11 12	3 7.36	-24 40.1	1.854	2.670	14.5	22.1	138 E	20 89
447903 2007 XJ₂₀									523694 2014 GF₅₀								
10 18	3 55.21	+17 32.3	1.641	2.518	13.3	22.4	144 W	63 46	10 18	3 54.29	+4 55.7	0.654	1.575	21.6	21.8	144 W	50 59
10 23	3 43.57	+17 16.7	1.540	2.486	9.0	22.0	157 W	62 47	10 23	3 47.77	+4 49.6	0.647	1.589	18.1	21.7	150 W	50 59
11 7	3 28.85	+16 52.6	1.468	2.450	3.8	21.6	170 W	62 47	10 28	3 40.19	+4 46.9	0.643	1.603	14.5	21.6	156 W	50 59
11 17	3 12.24	+16 21.5	1.426	2.412	2.0	21.4	175 E	61 48	11 2	3 31.84	+4 48.6	0.645	1.617	11.1	21.5	162 W	50 59
11 27	2 55.46	+15 47.5	1.416	2.372	7.7	21.7	161 E	61 48	11 7	3 23.07	+4 55.1	0.652	1.631	8.5	21.4	166 W	50 59
12 7	2 40.34	+15 16.5	1.437	2.328	13.2	21.9	147 E	60 49	11 12	3 14.25	+5 6.9	0.664	1.644	7.6	21.4	167 W	50 59
447903 2007 XJ₂₀									447903 2007 XJ₂₀								
10 18	3 55.21	+17 32.3	1.641	2.518	13.3	22.4	144 W	63 46	11 17	3 5.76	+5 24.2	0.682	1.658	8.8	21.6	165 E	50 59
10 23	3 43.57	+17 16.7	1.540	2.486	9.0	22.0	157 W	62 47	11 22	2 57.97	+5 46.9	0.706	1.670	11.2	21.8	161 E	51 58
11 7	3 28.85	+16 52.6	1.468	2.450	3.8	21.6	170 W	62 47	11 27	2 51.13	+6 14.8	0.735	1.683	14.1	22.0	155 E	51 58
11 17	3 12.24	+16 21.5	1.426	2.412	2.0	21.4	175 E	61 48	12 2	2 45.43	+6 47.3	0.768	1.695	17.0	22.2	150 E	52 57
11 27	2 55.46	+15 47.5	1.416	2.372	7.7	21.7	161 E	61 48	12 7	2 40.96	+7 23.7	0.807	1.707	19.7	22.4	144 E	52 57
12 7	2 40.34	+15 16.5	1.437	2.328	13.2	21.9	147 E	60 49	447903 2007 XJ₂₀								

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

20/21	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°	20/21	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°
370491 2003 SE										422638 1994 CB									
10 18	4 0.05	+12 59.5	1.676	2.547	13.4	21.4	144 W	58	51	10 18	5 1.88	+70 20.6	0.556	1.304	45.5	22.1	111 W	65	—
10 28	3 51.88	+12 7.6	1.636	2.572	9.4	21.2	155 W	57	52	10 20	5 1.16	+71 2.9	0.550	1.305	45.1	22.1	112 W	64	—
11 7	3 41.81	+11 15.1	1.622	2.595	5.2	21.1	166 W	56	53	10 22	4 59.68	+71 43.7	0.545	1.307	44.6	22.1	113 W	63	—
11 17	3 30.90	+10 26.6	1.636	2.618	3.2	21.0	171 W	55	54	10 24	4 57.39	+72 22.9	0.540	1.308	44.2	22.0	114 W	63	—
11 27	3 20.40	+ 9 47.2	1.679	2.639	6.2	21.2	163 E	55	54	10 26	4 54.20	+73 0.1	0.534	1.309	43.7	22.0	114 W	62	—
12 7	3 11.42	+ 9 20.7	1.751	2.660	10.1	21.5	152 E	54	55	10 28	4 50.03	+73 35.2	0.529	1.310	43.3	22.0	115 W	61	—
12 17	3 4.72	+ 9 9.0	1.847	2.680	13.5	21.8	140 E	54	55	10 30	4 44.82	+74 7.7	0.524	1.311	42.8	21.9	116 W	61	—
471545 2012 KC₁₃										422638 1994 CB									
10 18	4 13.90	+18 1.9	1.495	2.346	15.9	21.5	140 W	63	46	11 1	4 38.50	+74 37.1	0.518	1.312	42.3	21.9	117 W	60	—
10 28	4 6.00	+17 45.5	1.458	2.380	11.4	21.3	152 W	63	46	11 3	4 31.05	+75 3.2	0.513	1.313	41.9	21.9	118 W	60	—
11 7	3 55.69	+17 24.0	1.445	2.413	6.5	21.1	164 W	62	47	11 5	4 22.47	+75 25.2	0.509	1.314	41.4	21.8	119 W	60	—
11 17	3 44.14	+16 59.8	1.458	2.446	1.6	20.9	176 W	62	47	11 7	4 12.79	+75 42.8	0.504	1.314	41.0	21.8	120 W	59	—
11 27	3 32.82	+16 36.3	1.500	2.478	4.1	21.1	170 E	62	47	11 8	4 7.58	+75 49.7	0.501	1.315	40.8	21.8	120 W	59	—
12 7	3 23.03	+16 17.8	1.571	2.509	8.7	21.5	157 E	61	48	11 9	4 2.14	+75 55.3	0.499	1.315	40.6	21.8	120 W	59	—
12 17	3 15.70	+16 7.5	1.666	2.540	12.7	21.8	146 E	61	48	11 10	3 56.49	+75 59.4	0.497	1.315	40.4	21.8	121 W	59	—
430587 2002 RL₁₃₇										422638 1994 CB									
10 18	4 19.87	+52 43.5	1.196	1.948	24.7	22.4	125 W	82	11	11 11	3 50.67	+76 2.1	0.495	1.315	40.1	21.8	121 W	59	—
10 23	4 14.82	+53 48.1	1.168	1.953	23.4	22.3	129 W	81	10	11 12	3 44.71	+76 3.3	0.492	1.316	39.9	21.7	121 W	59	—
10 28	4 7.99	+54 44.2	1.144	1.957	22.0	22.2	132 W	80	9	11 13	3 38.63	+76 2.9	0.490	1.316	39.7	21.7	122 W	59	—
11 2	3 59.47	+55 29.6	1.124	1.960	20.7	22.1	136 W	80	9	11 14	3 32.48	+76 0.8	0.488	1.316	39.5	21.7	122 W	59	—
11 7	3 49.49	+56 1.8	1.108	1.964	19.5	22.1	139 W	79	8	11 15	3 26.30	+75 57.1	0.486	1.316	39.3	21.7	123 W	59	—
11 12	3 38.41	+56 18.8	1.096	1.967	18.5	22.0	141 W	79	8	11 16	3 20.13	+75 51.8	0.484	1.316	39.1	21.7	123 E	59	—
11 17	3 26.75	+56 19.2	1.090	1.970	17.7	22.0	143 E	79	8	11 17	3 14.00	+75 44.7	0.482	1.316	39.0	21.7	123 E	59	—
11 22	3 15.13	+56 2.9	1.089	1.972	17.3	22.0	143 E	79	8	11 18	3 7.96	+75 36.0	0.480	1.316	38.8	21.7	124 E	59	—
11 27	3 4.15	+55 30.6	1.093	1.974	17.4	22.0	143 E	79	8	11 19	3 2.05	+75 25.6	0.479	1.316	38.6	21.6	124 E	60	—
12 2	2 54.30	+54 44.5	1.102	1.976	17.8	22.0	142 E	80	9	11 20	2 56.28	+75 13.5	0.477	1.316	38.4	21.6	124 E	60	—
12 7	2 45.95	+53 47.2	1.116	1.978	18.5	22.1	140 E	81	10	11 21	2 50.70	+74 59.8	0.475	1.316	38.3	21.6	124 E	60	—
12 12	2 39.32	+52 41.5	1.135	1.979	19.5	22.1	138 E	82	11	11 22	2 45.33	+74 44.5	0.473	1.316	38.1	21.6	125 E	60	—
468436 2001 WO₄										422638 1994 CB									
10 18	4 28.14	+25 58.6	1.126	1.963	20.9	21.3	135 W	71	38	11 23	2 40.20	+74 27.7	0.472	1.316	38.0	21.6	125 E	61	—
10 28	4 25.17	+25 8.3	1.032	1.937	16.7	20.9	146 W	70	39	11 24	2 35.31	+74 9.4	0.470	1.316	37.8	21.6	125 E	61	—
11 7	4 18.07	+23 55.6	0.957	1.911	11.3	20.5	158 W	69	40	11 25	2 30.69	+73 49.6	0.469	1.316	37.7	21.6	125 E	61	—
11 17	4 7.53	+22 20.0	0.903	1.885	4.9	20.1	171 W	67	42	11 26	2 26.34	+73 28.4	0.468	1.315	37.6	21.6	126 E	62	—
11 22	4 1.44	+21 25.0	0.885	1.872	1.5	19.8	177 W	66	43	11 27	2 22.27	+73 5.8	0.466	1.315	37.5	21.5	126 E	62	—
11 27	3 55.15	+20 26.6	0.873	1.859	2.1	19.8	176 E	65	44	11 29	2 14.97	+72 16.9	0.464	1.315	37.3	21.5	126 E	63	—
12 2	3 48.94	+19 26.7	0.868	1.845	5.7	20.0	169 E	64	45	12 1	2 8.78	+71 23.4	0.462	1.314	37.1	21.5	126 E	64	—
12 7	3 43.09	+18 26.9	0.868	1.832	9.2	20.1	163 E	63	46	12 3	2 3.67	+70 25.6	0.460	1.314	37.0	21.5	127 E	65	—
12 12	3 37.85	+17 29.1	0.875	1.819	12.7	20.3	156 E	62	47	12 5	1 59.56	+69 24.1	0.459	1.313	36.9	21.5	127 E	66	—
12 17	3 33.44	+16 35.1	0.887	1.806	15.9	20.4	150 E	62	47	12 7	1 56.40	+68 19.3	0.458	1.312	36.9	21.5	127 E	67	—
12 22	3 30.02	+15 46.4	0.903	1.793	19.0	20.5	144 E	61	48	12 9	1 54.11	+67 11.5	0.457	1.311	37.0	21.5	127 E	68	—
12 27	3 27.70	+15 4.0	0.924	1.780	21.8	20.6	138 E	60	49	12 11	1 52.60	+66 1.3	0.457	1.310	37.1	21.5	127 E	69	—
1 1	3 26.50	+14 28.4	0.949	1.767	24.3	20.6	132 E	59	50	12 13	1 51.82	+64 48.9	0.457	1.309	37.2	21.5	126 E	70	—
1 6	3 26.45	+13 59.9	0.977	1.755	26.6	20.9	127 E	59	50	12 15	1 51.68	+63 34.8	0.458	1.308	37.4	21.5	126 E	71	—
1 11	3 27.51	+13 38.1	1.007	1.742	28.6	21.0	122 E	59	50	477465 2009 XZ₁									
1 16	3 29.66	+13 23.0	1.039	1.730	30.3	21.1	118 E	58	51	10 18	5 9.09	+ 2 41.4	0.362	1.243	40.7	21.6	126 W	48	61
476003 2007 RP₅₆										10 23	4 51.96	+ 1 51.6	0.345	1.260	34.6	21.3	134 W	47	62
10 18	4 38.07	+ 6 21.6	1.906	2.693	15.5	21.4	134 W	51	58	10 28	4 31.47	+ 1 3.5	0.332	1.274	28.0	21.1	143 W	46	63
10 28	4 32.07	+ 4 58.1	1.866	2.733	12.3	21.3	144 W	50	59	11 2	4 8.07	+ 0 20.6	0.324	1.286	21.5	20.8	152 W	45	64
11 7	4 23.92	+ 3 40.2	1.849	2.772	9.2	21.2	154 W	49	60	11 7	3 42.76	+ 0 13.3	0.322	1.296	16.0	20.7	159 W	45	64
11 17	4 14.38	+ 2 33.4	1.859	2.810	6.8	21.1	160 W	48	61	11 12	3 16.99	+ 0 34.5	0.326	1.304	13.8	20.6	162 W	44	65
11 27	4 4.47	+ 1 42.9	1.897	2.847	6.6	21.2	161 E	47	62	11 17	2 52.36	+ 0 40.7	0.338	1.309	16.2	20.8	158 E	44	65
12 7	3 55.21	+ 1 11.8	1.965	2.883	8.6	21.4	154 E	46	63	11 22	2 30.26	+ 0 31.9	0.356	1.312	21.1	21.1	151 E	44	65
12 17	3 47.44	+ 1 0.9	2.058	2.919	11.2	21.6	145 E	46	63	11 27	2 11.46	+ 0 9.9	0.380	1.312	26.4	21.4	144 E	45	64
26310 1998 TX₆										12 2	1 56.21	+ 0 22.6	0.408	1.311	31.4	21.7	136 E	45	64
10 18	4 43.74	+19 18.6	0.958	1.790	24.1	21.4	133 W	64	45	12 7	1 44.34	+ 1 3.2	0.439	1.307	35.9	22.0	129 E	46	63
10 28	4 34.04	+18 11.0	0.948	1.851	17.9	21.3	145 W	63	46	12 12	1 35.52	+ 1 49.8	0.473	1.300	39.8	22.2	122 E	47	62
11 7	4 20.85	+16 58.0	0.957	1.912	11.2	21.1	158 W	62	47	505093 2011 VQ₅									
11 17	4 6.03	+15 45.4	0.989	1.972	4.6	21.0	171 W	61	48	10 18	5 11.41	+27 22.9	0.665	1.484	33.1	21.5	125 W	72	37
11 27	3 51.78	+14 40.8	1.048	2.030	3.9	21.1	172 E	60	49	10 28	5 31.19	+30 2.9	0.567	1.429	31.8	21.0	131 W	75	34
12 7	3 39.92	+13 51.1	1.133	2.087	9.2	21.6	160 E	59	50	11 7	5 51.78	+33 14.1	0.481	1.377	30.2	20.5	136 W	78	31
12 17	3 31.50	+13 20.0	1.243	2.143	14.0	22.0	148 E	58	51	11 17	6 13.66	+37 2.8	0.408	1.327	28.6	20.0	140 W	82	27
395207 2010 HQ₈₀										11 22	6 25.33	+39 11.7	0.376	1.304	27.9	19.8	142 W	84	25
10 18	5 0.15	+13 33.5	0.810	1.632	28.4	21.5	129 W	59	50	11 27	6 37.72	+41 29.4	0.348	1.282	27.5	19.6	143 W	86	23
10 23	4 53.14	+11 9.8	0.802	1.664	24.9	21.4	135 W	56	53	12 2	6 51.03	+43 54.2	0.323	1.262	27.2	19.4	144 W	89	20
10 28	4 44.97	+ 8 44.9	0.799	1.695	21.3	21.3	142 W	54	55	12 7	7 5.44	+46							

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

20/21	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°-26°	20/21	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°-26°	
450263 2003 WD₁₅₈									449107 2012 VJ₈₂ (continuation)									
10 18	5 22.35	+3 52.5	1.025	1.773	28.3	21.3	123 W	49 60	11 25	8 14.17	+21 45.5	0.310	1.181	45.2	19.2	122 W	67 42	
10 23	5 22.54	+3 34.3	0.965	1.754	26.9	21.2	127 W	49 60	11 27	8 21.64	+19 44.5	0.293	1.168	45.8	19.1	122 W	65 44	
10 28	5 21.55	+3 17.6	0.906	1.733	25.4	20.9	132 W	48 61	11 29	8 29.43	+17 29.1	0.277	1.156	46.7	19.0	122 W	62 47	
11 2	5 19.25	+3 3.2	0.850	1.712	23.5	20.7	137 W	48 61	12 1	8 37.58	+14 57.7	0.262	1.143	47.7	18.9	121 W	60 49	
11 7	5 15.51	+2 52.4	0.798	1.691	21.3	20.5	142 W	48 61	12 3	8 46.15	+12 8.7	0.248	1.131	48.9	18.8	120 W	57 52	
11 12	5 10.20	+2 46.7	0.749	1.668	19.0	20.2	147 W	48 61	12 5	8 55.17	+9 0.5	0.235	1.118	50.4	18.7	119 W	54 55	
11 17	5 3.25	+2 47.7	0.705	1.645	16.4	20.0	152 W	48 61	12 7	9 4.71	+5 31.7	0.223	1.106	52.2	18.6	118 W	51 58	
11 22	4 54.66	+2 57.4	0.665	1.621	13.9	19.8	157 W	48 61	12 12	9 31.28	-4 42.3	0.198	1.075	58.1	18.4	112 W	40 69	
11 27	4 44.51	+3 17.4	0.631	1.596	11.9	19.5	160 W	48 61	12 17	10 2.72	-16 46.4	0.184	1.045	66.0	18.5	104 W	28 81	
12 2	4 33.03	+3 49.1	0.603	1.570	11.3	19.4	162 E	49 60	12 22	10 40.41	-29 22.1	0.182	1.015	75.0	18.7	95 W	16 87	
12 7	4 20.52	+4 33.5	0.581	1.544	12.5	19.3	160 E	50 59	12 27	11 25.45	-40 37.4	0.191	0.986	83.6	19.0	85 W	4 75*	
12 17	3 54.28	+6 39.9	0.554	1.489	19.4	19.4	150 E	52 57	12 29	11 45.55	-44 24.8	0.198	0.975	86.6	19.2	82 W	1 71*	
12 27	3 29.98	+9 29.2	0.549	1.432	28.3	19.5	136 E	54 55	12 31	12 6.73	-47 43.2	0.205	0.964	89.3	19.3	79 W	- 67*	
1 6	3 10.96	+12 47.1	0.560	1.372	36.9	19.7	123 E	58 51	1 2	12 28.82	-50 32.1	0.214	0.953	91.7	19.5	76 W	- 63*	
1 16	2 58.70	+16 21.7	0.579	1.310	44.5	19.9	111 E	61 48*	1 4	12 51.56	-52 52.0	0.224	0.943	93.7	19.7	73 W	- 60*	
134509 1999 FC₈									505348 2013 BL₇₀									
10 18	5 37.41	+16 56.1	2.035	2.676	18.8	21.3	120 W	62 47	10 18	6 25.50	+31 51.7	1.036	1.656	34.7	21.3	109 W	77 32	
10 28	5 35.32	+16 25.0	1.936	2.688	16.4	21.2	130 W	61 48	10 23	6 33.98	+31 37.9	0.986	1.644	34.1	21.2	112 W	77 32	
11 7	5 30.28	+15 53.1	1.854	2.700	13.3	21.0	141 W	61 48	10 28	6 41.77	+31 20.6	0.937	1.633	33.3	21.0	115 W	76 33	
11 17	5 22.50	+15 21.5	1.792	2.710	9.6	20.8	153 W	60 49	11 2	6 48.78	+30 59.7	0.890	1.621	32.4	20.9	119 W	76 33	
11 27	5 12.59	+14 52.1	1.756	2.719	5.6	20.5	164 W	60 49	11 7	6 54.90	+30 35.4	0.844	1.611	31.3	20.7	123 W	76 33	
12 7	5 1.54	+14 26.8	1.749	2.728	3.0	20.4	172 W	59 50	11 12	7 0.03	+30 7.7	0.801	1.600	29.9	20.5	126 W	75 34	
12 17	4 50.51	+14 7.8	1.772	2.735	5.3	20.6	165 E	59 50	11 17	7 4.05	+29 36.3	0.760	1.590	28.2	20.4	130 W	75 34	
12 27	4 40.69	+13 57.0	1.824	2.741	9.1	20.8	154 E	59 50	11 22	7 6.87	+29 1.3	0.721	1.581	26.3	20.2	135 W	74 35	
1 6	4 32.99	+13 55.4	1.902	2.747	12.6	21.0	142 E	59 50	11 27	7 8.43	+28 22.4	0.685	1.572	24.1	20.0	139 W	73 36	
1 16	4 27.95	+14 3.3	2.001	2.752	15.6	21.3	131 E	59 50	12 7	7 7.56	+26 51.9	0.624	1.556	18.6	19.6	150 W	72 37	
23606 1996 AS₁									450259 2003 WQ₇									
10 18	6 5.19	+40 40.9	1.336	1.950	28.1	21.4	113 W	86 23	10 18	6 29.26	+32 17.1	0.688	1.377	43.4	21.2	108 W	77 32	
10 23	6 4.77	+40 57.3	1.303	1.970	26.6	21.4	117 W	86 23	10 23	6 49.23	+34 30.4	0.637	1.345	44.4	21.0	109 W	80 29	
10 28	6 2.97	+41 12.0	1.272	1.989	25.0	21.3	122 W	86 23	10 28	7 11.83	+36 51.6	0.590	1.313	45.6	20.8	109 W	82 27	
11 2	5 59.74	+41 24.2	1.243	2.008	23.1	21.2	127 W	86 23	11 2	7 37.69	+39 17.0	0.547	1.281	47.0	20.6	109 W	84 25*	
11 7	5 55.08	+41 32.7	1.218	2.027	21.0	21.1	133 W	87 22	11 7	8 7.47	+41 40.2	0.510	1.250	48.8	20.4	108 W	87 22*	
11 12	5 49.03	+41 36.3	1.196	2.045	18.7	21.0	138 W	87 22	11 9	8 20.61	+42 34.8	0.497	1.237	49.6	20.4	108 W	88 21*	
11 17	5 41.70	+41 33.4	1.179	2.062	16.4	20.9	144 W	87 22	11 11	8 34.49	+43 26.7	0.484	1.225	50.5	20.3	107 W	88 20*	
11 22	5 33.31	+41 22.8	1.167	2.079	13.9	20.8	150 W	86 23	11 13	8 49.12	+44 15.0	0.473	1.213	51.4	20.3	107 W	89 19*	
11 27	5 24.13	+41 3.4	1.160	2.096	11.5	20.7	155 W	86 23	11 15	9 4.47	+44 58.7	0.462	1.201	52.4	20.2	106 W	90 18*	
12 2	5 14.51	+40 34.8	1.161	2.112	9.4	20.7	159 W	86 23	11 17	9 20.53	+45 36.8	0.453	1.189	53.4	20.2	105 W	89 17*	
12 7	5 4.82	+39 57.2	1.168	2.128	8.0	20.6	163 W	85 24	11 19	9 37.22	+46 8.3	0.444	1.178	54.5	20.2	104 W	89 16*	
12 12	4 55.42	+39 11.3	1.182	2.143	7.6	20.7	163 E	84 25	11 21	9 54.47	+46 32.2	0.436	1.166	55.6	20.2	103 W	88 15*	
12 17	4 46.64	+38 18.8	1.203	2.158	8.4	20.8	161 E	83 26	11 23	10 12.15	+46 47.8	0.430	1.155	56.8	20.1	102 W	88 15*	
12 22	4 38.76	+37 21.5	1.231	2.172	10.0	20.9	157 E	82 27	11 25	10 30.12	+46 54.3	0.424	1.144	58.0	20.1	101 W	88 14*	
12 27	4 31.98	+36 21.5	1.265	2.186	11.9	21.0	153 E	81 28	11 27	10 48.23	+46 51.3	0.420	1.133	59.2	20.1	99 W	88 13*	
1 1	4 26.40	+35 20.9	1.306	2.199	13.9	21.2	147 E	80 29	11 29	11 6.31	+46 38.6	0.416	1.123	60.5	20.1	98 W	88 12*	
1 6	4 22.05	+34 21.4	1.353	2.212	15.9	21.3	142 E	79 30	12 1	11 24.19	+46 16.4	0.413	1.112	61.7	20.1	97 W	89 12*	
1 11	4 18.92	+33 24.3	1.405	2.225	17.7	21.5	137 E	78 31	12 3	11 41.70	+45 44.8	0.412	1.102	63.0	20.1	95 W	89* 12*	
506779 2006 YY₂									449107 2012 VJ₈₂									
10 18	6 7.12	+8 30.6	1.459	2.018	27.8	21.4	109 W	36 73	10 18	6 21.09	+36 54.0	0.711	1.407	41.8	21.3	110 W	82 27	
10 23	6 9.38	+8 56.0	1.388	1.994	27.4	21.2	113 W	36 73	10 23	6 34.38	+36 15.6	0.652	1.379	42.0	21.1	112 W	81 28	
10 28	6 10.86	+9 19.6	1.318	1.969	26.9	21.1	116 W	36 73	10 28	6 47.92	+35 22.5	0.594	1.350	42.2	20.9	114 W	80 29	
11 2	6 11.50	+9 40.4	1.250	1.944	26.3	20.9	120 W	35 74	11 2	7 1.82	+34 11.5	0.538	1.321	42.4	20.6	116 W	79 30	
11 7	6 11.19	+9 57.1	1.184	1.918	25.5	20.7	124 W	35 74	11 7	7 16.16	+32 37.9	0.484	1.291	42.6	20.3	118 W	78 31	
11 12	6 9.84	+10 8.2	1.120	1.893	24.5	20.6	127 W	35 74	11 12	7 31.08	+30 35.2	0.432	1.261	43.0	20.0	120 W	76 33	
11 17	6 7.36	+10 11.8	1.059	1.867	23.4	20.4	131 W	35 74	11 17	7 46.76	+27 54.5	0.383	1.231	43.5	19.7	121 W	73 36	
11 22	6 3.69	+10 5.7	1.001	1.840	22.1	20.2	135 W	35 74	11 19	7 53.30	+26 37.0	0.364	1.218	43.8	19.6	121 W	72 37	
11 27	5 58.79	+9 47.6	0.947	1.814	20.7	20.0	139 W	35 74	11 21	8 0.03	+25 10.4	0.345	1.206	44.2	19.5	122 W	70 39	
12 2	5 52.65	+9 14.9	0.897	1.787	19.3	19.8	143 W	36 73	11 23	8 6.98	+23 33.6	0.327	1.193	44.6	19.4	122 W	69 40	
12 7	5 45.32	+8 25.1	0.852	1.761	17.9	19.6	147 W	37 72										
12 12	5 36.89	+7 16.0	0.813	1.734	16.9	19.4	149 W	38 71										
12 17	5 27.57	+5 45.8	0.779	1.707	16.4	19.3	151 E	39 70										
12 22	5 17.63	+3 53.8	0.752	1.680	16.7	19.2	151 E	41 68										
12 27	5 7.44	+1 40.8	0.731	1.653	17.9	19.1	149 E	43 66										
1 1	4 57.35	+0 51.1	0.716	1.626	20.0	19.1	146 E	46 63										
1 6	4 47.73	+3 38.6	0.709	1.599	22.7	19.2	141 E	49 60										
1 11	4 38.92	+6 37.3	0.707	1.572	25.7	19.2	136 E	52 57										
1 16	4 31.22	+9 43.1	0.712	1.545	28.8	19.3	131 E	55 54										

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

20/21	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°	20/21	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°
450259 2003 WQ₇										475198 2005 VC₁									
<i>(continuation)</i>										<i>(continuation)</i>									
1 1	14 40.16	+28 39.1	0.455	0.998	75.0	20.5	78 W	71*	18*	11 27	6 47.51	+11 47.0	1.514	2.368	15.0	20.9	142 W	57	52
1 6	14 58.69	+25 16.2	0.469	0.989	75.5	20.6	77 W	68*	22*	12 7	6 37.33	+10 19.8	1.491	2.409	10.8	20.8	153 W	55	54
1 11	15 15.13	+21 58.4	0.483	0.984	75.7	20.6	76 W	65*	25*	12 17	6 25.35	+9 4.9	1.495	2.450	7.2	20.6	162 W	54	55
1 16	15 29.93	+18 46.8	0.497	0.983	75.4	20.7	75 W	62*	29*	12 27	6 12.94	+8 6.3	1.527	2.489	6.0	20.7	165 E	53	56
										1 6	6 1.49	+7 26.1	1.589	2.528	8.4	20.9	158 E	52	57
										1 16	5 52.12	+7 4.3	1.678	2.566	11.7	21.2	148 E	52	57
480820 1998 VF₃₂										217145 2002 ML₂									
10 18	6 34.14	+44 23.4	0.366	1.157	55.4	21.2	107 W	89	20	10 18	6 56.54	+25 21.2	1.964	2.380	24.2	21.5	102 W	70	39*
10 20	6 39.64	+43 45.7	0.346	1.150	55.5	21.1	108 W	89	20	10 28	7 0.69	+25 8.0	1.867	2.409	22.6	21.3	111 W	70	39
10 22	6 45.28	+43 2.0	0.326	1.142	55.6	21.0	109 W	88	21	11 7	7 1.59	+24 57.5	1.777	2.438	20.4	21.2	121 W	70	39
10 24	6 51.11	+42 11.4	0.306	1.134	55.7	20.8	110 W	87	22	11 17	6 59.01	+24 49.8	1.698	2.466	17.5	21.0	131 W	70	39
10 26	6 57.17	+41 12.3	0.286	1.126	55.9	20.7	110 W	86	23	11 27	6 52.94	+24 44.1	1.635	2.494	13.8	20.8	143 W	70	39
10 28	7 3.51	+40 3.1	0.267	1.117	56.1	20.5	111 W	85	24	12 7	6 43.78	+24 38.2	1.593	2.520	9.5	20.6	155 W	70	39
10 30	7 10.20	+38 41.3	0.247	1.108	56.4	20.3	112 W	84	25	12 17	6 32.35	+24 29.9	1.576	2.546	4.7	20.4	168 W	69	40
11 1	7 17.33	+37 4.1	0.228	1.099	56.8	20.1	112 W	82	27	12 22	6 26.18	+24 24.2	1.579	2.559	2.2	20.3	174 W	69	40
11 3	7 25.00	+35 7.2	0.209	1.089	57.4	20.0	112 W	80	29	12 27	6 19.97	+24 17.4	1.588	2.572	0.5	20.2	179 E	69	40
11 5	7 33.33	+32 45.4	0.190	1.079	58.1	19.8	112 W	78	31	1 1	6 13.89	+24 9.5	1.606	2.584	2.8	20.4	173 E	69	40
11 7	7 42.50	+29 51.1	0.172	1.068	59.2	19.5	112 W	75	34	1 6	6 8.12	+24 0.7	1.630	2.596	5.2	20.6	166 E	69	40
11 8	7 47.45	+28 8.7	0.163	1.063	59.9	19.4	112 W	73	36	1 11	6 2.81	+23 51.3	1.662	2.608	7.4	20.7	160 E	69	40
11 9	7 52.69	+26 14.3	0.155	1.057	60.7	19.3	111 W	71	38	1 16	5 58.10	+23 41.6	1.701	2.620	9.5	20.9	154 E	69	40
11 10	7 58.26	+24 5.9	0.146	1.051	61.6	19.2	111 W	69	40*	416694 2004 YR₃₂									
11 11	8 4.19	+21 41.6	0.138	1.046	62.8	19.1	110 W	67	42*	10 18	7 2.54	+14 59.3	1.489	1.923	30.7	21.2	99 W	60	49*
11 12	8 10.53	+18 59.1	0.130	1.040	64.1	19.0	109 W	64	45*	10 28	7 19.72	+15 27.3	1.296	1.829	31.6	20.8	105 W	60	49*
11 13	8 17.33	+15 56.0	0.123	1.034	65.7	18.9	108 W	61	48*	11 7	7 37.78	+16 11.3	1.110	1.734	32.2	20.4	111 W	61	48
11 14	8 24.64	+12 29.9	0.116	1.028	67.5	18.9	106 W	57	51*	11 17	7 57.32	+17 21.8	0.934	1.639	32.6	19.9	117 W	62	47
11 15	8 32.55	+9 38.4	0.110	1.022	69.7	18.8	104 W	54	55*	11 27	8 7.97	+18 11.7	0.851	1.590	32.7	19.6	120 W	63	46
11 16	8 41.10	+4 20.1	0.104	1.016	72.3	18.8	102 W	49	59*	11 27	8 19.50	+19 14.7	0.771	1.542	32.8	19.4	122 W	64	45
11 17	8 50.40	-0 25.6	0.099	1.009	75.2	18.7	99 W	45	64*	12 2	8 32.22	+20 34.1	0.694	1.494	32.9	19.1	125 W	66	43
11 18	9 0.53	-5 37.3	0.096	1.003	78.6	18.8	96 W	39	68*	12 7	8 46.59	+22 13.7	0.621	1.446	33.0	18.8	127 W	67	42
11 19	9 11.58	-11 11.2	0.093	0.997	82.2	18.8	92 W	34	72*	12 12	9 3.24	+24 17.9	0.553	1.398	33.4	18.4	129 W	69	40
11 20	9 23.66	-17 0.5	0.091	0.990	86.2	18.9	89 W	28	75*	12 17	9 23.10	+26 51.3	0.491	1.351	34.2	18.1	130 W	72	37
11 21	9 36.86	-22 56.0	0.090	0.983	90.3	19.0	84 W	22	76*	12 19	9 32.22	+28 1.5	0.468	1.332	34.6	18.0	130 W	73	36
11 22	9 51.28	-28 47.1	0.091	0.977	94.4	19.2	80 W	16	74*	12 21	9 42.19	+29 17.0	0.445	1.314	35.2	17.9	130 W	74	35
11 23	10 6.98	-34 23.0	0.093	0.970	98.4	19.4	76 W	11	70*	12 23	9 53.11	+30 37.5	0.424	1.295	35.9	17.8	129 W	76	33
11 24	10 24.00	-39 34.4	0.096	0.963	102.1	19.7	72 W	5	66*	12 25	10 5.14	+32 2.7	0.405	1.277	36.9	17.7	129 W	77	32
11 25	10 42.34	-44 14.8	0.100	0.956	105.6	19.9	69 W	1	61*	12 27	10 18.43	+33 31.8	0.386	1.259	38.0	17.6	128 W	79	30
11 26	11 1.91	-48 20.3	0.104	0.949	108.6	20.2	66 W	-	57*	12 29	10 33.14	+35 3.8	0.369	1.241	39.3	17.5	127 W	80	29
11 27	11 22.56	-51 49.9	0.110	0.941	111.3	20.4	63 W	-	53*	12 31	10 49.43	+36 36.8	0.353	1.223	40.9	17.4	125 W	82	27
11 28	11 44.03	-54 44.5	0.116	0.934	113.6	20.7	60 W	-	49*	1 2	11 7.46	+38 8.7	0.340	1.205	42.8	17.3	124 W	83	26
11 29	12 6.00	-57 6.4	0.123	0.927	115.7	20.9	58 W	-	46*	1 4	11 27.32	+39 36.4	0.327	1.188	44.9	17.3	122 W	85	24
11 30	12 28.09	-58 58.7	0.131	0.919	117.4	21.2	56 W	-	43*	1 6	11 49.03	+40 56.5	0.317	1.171	47.2	17.2	119 W	86	23
12 1	12 49.92	-60 25.1	0.139	0.912	118.9	21.4	54 W	-	40*	1 8	12 12.51	+42 4.8	0.309	1.154	49.8	17.2	116 W	87	22*
										1 10	12 37.50	+42 57.6	0.302	1.137	52.6	17.2	113 W	88	21*
										1 12	13 3.59	+43 31.4	0.298	1.121	55.5	17.2	110 W	89	20*
										1 14	13 30.23	+43 43.8	0.295	1.105	58.5	17.3	107 W	89	19*
										1 16	13 56.79	+43 34.0	0.295	1.090	61.4	17.3	103 W	89	18*
										432308 2009 TQ₃									
10 18	6 47.49	+3 36.1	1.631	2.075	28.1	21.4	102 W	49	60*	10 18	7 4.97	+32 11.9	1.836	2.246	25.8	21.5	101 W	77	32*
10 28	6 50.89	+0 24.8	1.506	2.060	27.1	21.2	109 W	45	64*	10 28	7 11.10	+32 47.3	1.750	2.280	24.3	21.3	109 W	78	31
11 7	6 50.87	-3 5.3	1.389	2.042	25.6	20.9	117 W	42	67	11 7	7 13.72	+33 28.8	1.670	2.314	22.1	21.2	119 W	78	31
11 17	6 46.86	-6 49.8	1.285	2.022	23.6	20.7	125 W	38	71	11 17	7 12.41	+34 15.3	1.599	2.347	19.2	21.0	129 W	79	30
11 27	6 38.41	-10 39.1	1.199	1.998	21.5	20.4	132 W	34	75	11 27	7 6.99	+35 3.0	1.542	2.379	15.7	20.9	139 W	80	29
12 2	6 32.50	-12 31.0	1.163	1.985	20.6	20.3	135 W	32	77	12 7	6 57.75	+35 46.1	1.505	2.411	11.7	20.7	150 W	81	28
12 7	6 25.51	-14 17.9	1.133	1.971	19.9	20.2	137 W	31	78	12 17	6 45.48	+36 17.0	1.492	2.442	7.6	20.6	161 W	81	28
12 12	6 17.56	-15 57.1	1.109	1.957	19.6	20.2	138 W	29	80	12 27	6 31.69	+36 29.4	1.506	2.473	5.2	20.5	167 W	81	28
12 17	6 8.82	-17 25.8	1.091	1.942	19.6	20.1	139 W	28	81	1 1	6 24.80	+36 27.9	1.523	2.488	5.6	20.5	166 E	81	28
12 22	5 59.52	-18 41.5	1.080	1.926	20.0	20.1	138 E	26	83	1 6	6 18.22	+36 21.3	1.548	2.503	6.8	20.6	163 E	81	28
12 27	5 49.97	-19 42.4	1.074	1.909	20.9	20.1	136 E	25	84	1 11	6 12.15	+36 10.2	1.579	2.518	8.4	20.8	158 E	81	28
1 1	5 40.46	-20 27.6	1.073	1.891	22.1	20.1	134 E	25	84	1 16	6 6.76	+35 55.2	1.618	2.533	10.2	20.9	153 E	81	28
1 6	5 31.29	-20 56.6	1.078	1.873	23.5	20.1	131 E	24	85	225488 2000 HT₁₅									
1 11	5 22.75	-21 9.9	1.087	1.854	25.1	20.2	127 E	24	85	10 18	7 8.54	+3 46.9	1.360	1.772	34.0	21.4	96 W	49	60*
1 16	5 15.07	-21 8.5	1.100	1.834	26.7	20.2	123 E	24	85	10 28	7 19.76	-0 0.3	1.261	1.762	33.4	21.2	102 W	45	64*
										11 7	7 28.26	-4 8.2	1.168	1.751	32.5	21.0	108 W	41	68
										11 17	7 33.50	-8 32.6	1.085	1.740	31.3	20.8	114 W	36	73
										11 27	7 34.94	-13 4.7	1.012	1.727	29.8	20.6	120 W	32	77
	</																		

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

20/21	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°	20/21	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°		
198752 2005 EA₆₀										141498 2002 EZ₁₆											
10 18	7 9.07	+25 53.7	0.659	1.280	50.2	21.3	99 W	71	38*	10 18	9 5.75	+10 1.3	1.402	1.399	41.7	21.5	69 W	50*	40*		
10 23	7 31.34	+25 19.4	0.633	1.262	51.1	21.2	99 W	70	38*	10 28	9 19.26	+ 6 13.9	1.313	1.422	42.4	21.4	75 W	50*	46*		
10 28	7 53.58	+24 32.3	0.610	1.245	52.0	21.1	99 W	70	39*	11 7	9 31.16	+ 2 4.9	1.216	1.437	42.9	21.3	81 W	47*	52*		
11 2	8 15.57	+23 33.2	0.591	1.231	52.8	21.0	99 W	69	39*	11 17	9 41.21	- 2 31.5	1.114	1.443	43.1	21.1	86 W	42	60*		
11 7	8 37.10	+22 23.1	0.574	1.219	53.4	21.0	99 W	67	40*	11 27	9 48.97	- 7 41.8	1.009	1.442	43.1	20.9	93 W	37	68*		
11 12	8 57.93	+21 3.6	0.560	1.210	54.0	20.9	99 W	66	41*	12 7	9 53.84	-13 34.6	0.905	1.432	42.9	20.6	98 W	31	77*		
11 17	9 17.88	+19 36.8	0.548	1.203	54.3	20.9	99 W	65	42*	12 17	9 54.74	-20 18.6	0.806	1.414	42.5	20.3	104 W	25	84		
11 22	9 36.80	+18 4.8	0.539	1.199	54.4	20.8	99 W	63	44*	12 22	9 53.20	-24 1.7	0.760	1.403	42.3	20.2	106 W	21	88		
11 27	9 54.58	+16 30.0	0.531	1.197	54.3	20.8	100 W	61	45*	12 27	9 49.95	-27 59.1	0.716	1.389	42.2	20.0	109 W	17	88		
12 2	10 11.15	+14 54.3	0.525	1.198	54.0	20.8	101 W	60	47*	1	1	9 44.61	-32 9.8	0.676	1.372	42.3	19.9	110 W	13	84	
12 7	10 26.43	+13 19.7	0.519	1.202	53.4	20.7	102 W	58	49*	1	6	9 36.65	-36 31.4	0.640	1.354	42.6	19.7	111 W	8	79	
12 12	10 40.38	+11 48.2	0.515	1.209	52.5	20.7	103 W	57	51*	1	11	9 25.39	-40 59.5	0.608	1.334	43.3	19.6	112 W	4	75	
12 17	10 52.92	+10 21.3	0.511	1.218	51.4	20.7	105 W	55	53*	1	16	9 10.00	-45 26.7	0.581	1.311	44.4	19.5	111 W	-	71	
12 22	11 4.03	+ 9 0.4	0.508	1.230	50.0	20.6	107 W	54	55*	66294 1999 JS₂₇											
12 27	11 13.68	+ 7 46.4	0.505	1.244	48.4	20.6	109 W	53	56*	10 18	9 20.20	+15 21.9	3.492	3.237	16.5	21.5	67 W	53*	34*		
1	1	11 21.85	+ 6 40.1	0.502	1.260	46.4	20.6	112 W	52	57	10 28	9 28.81	+14 42.5	3.344	3.231	17.3	21.4	75 W	57*	38*	
1	6	11 28.48	+ 5 42.4	0.500	1.278	44.2	20.5	115 W	51	58	11 7	9 36.21	+14 7.7	3.191	3.224	17.8	21.3	83 W	59*	42*	
1	11	11 33.53	+ 4 53.8	0.498	1.298	41.7	20.5	119 W	50	59	11 17	9 42.20	+13 39.1	3.033	3.216	17.9	21.2	92 W	59	46*	
1	16	11 36.97	+ 4 14.8	0.497	1.320	38.8	20.4	123 W	49	60	11 27	9 46.55	+13 18.6	2.876	3.207	17.6	21.0	101 W	58	49*	
508767 1993 BD₂										12 7	9 49.04	+13 7.5	2.722	3.197	16.8	20.9	110 W	58	51*		
10 18	7 52.53	+12 18.4	1.432	1.702	35.8	21.5	87 W	57*	48*	12 17	9 49.42	+13 7.6	2.576	3.186	15.5	20.7	120 W	58	51		
10 28	8 15.26	+13 3.5	1.291	1.652	37.0	21.2	92 W	58	48*	12 27	9 47.52	+13 19.7	2.443	3.174	13.6	20.5	131 W	58	51		
11 7	8 38.96	+14 6.4	1.156	1.603	37.9	21.0	96 W	59	48*	1	6	9 43.27	+13 43.9	2.327	3.161	11.0	20.3	142 W	59	50	
11 17	9 4.00	+15 35.2	1.028	1.555	38.6	20.7	101 W	61	47*	1	16	9 36.79	+14 19.1	2.234	3.148	7.9	20.1	154 W	59	50	
11 27	9 30.82	+17 39.5	0.908	1.510	39.0	20.3	106 W	63	46*	262623 2006 WY₂											
12 2	9 45.10	+18 58.2	0.853	1.487	39.1	20.2	108 W	64	45*	10 18	9 26.31	+12 44.3	1.342	1.289	44.4	21.5	65 W	50*	35*		
12 7	10 0.09	+20 29.5	0.801	1.466	39.2	20.0	110 W	65	43*	10 28	9 56.66	+12 50.2	1.249	1.270	46.5	21.4	68 W	53*	35*		
12 12	10 15.87	+22 14.5	0.753	1.446	39.2	19.8	112 W	67	42*	11 7	10 29.26	+12 56.6	1.154	1.246	48.6	21.2	71 W	55*	35*		
12 17	10 32.53	+24 13.6	0.709	1.426	39.2	19.7	114 W	69	40*	11 17	11 4.85	+13 3.7	1.060	1.215	51.0	21.0	73 W	56*	34*		
12 22	10 50.18	+26 26.7	0.669	1.407	39.2	19.5	115 W	71	38*	11 27	11 44.23	+13 10.1	0.971	1.180	53.6	20.9	74 W	57*	34*		
12 27	11 8.90	+28 52.4	0.635	1.389	39.3	19.4	117 W	74	35*	12 7	12 28.25	+13 11.1	0.892	1.138	56.5	20.7	74 W	57*	33*		
1	1	11 28.74	+31 28.6	0.605	1.373	39.4	19.3	118 W	76	33*	12 17	13 17.39	+12 58.5	0.827	1.092	59.8	20.5	74 W	57*	32*	
1	6	11 49.70	+34 11.5	0.581	1.357	39.8	19.2	118 W	79	30	12 27	14 11.34	+12 20.7	0.781	1.040	63.5	20.4	71 W	56*	31*	
1	11	12 11.68	+36 56.7	0.562	1.343	40.3	19.1	118 W	82	27	1	1	14 39.74	+11 48.4	0.766	1.013	65.4	20.4	70 W	55*	30*
1	16	12 34.48	+39 39.0	0.548	1.330	40.9	19.0	118 W	85	24	1	6	15 8.75	+11 5.3	0.757	0.985	67.3	20.3	67 W	54*	29*
162472 2000 LL										1	11	15 38.04	+10 11.2	0.755	0.955	69.1	20.3	65 W	52*	29*	
10 18	8 6.24	+15 6.7	0.969	1.320	48.7	21.5	84 W	59*	44*	1	16	16 7.29	+ 9 6.0	0.758	0.926	70.7	20.3	63 W	50*	28*	
10 28	8 21.53	+ 8 53.4	0.905	1.335	48.1	21.3	89 W	54	52*	523679 2013 YB₃₈											
11 7	8 33.86	+ 1 59.6	0.845	1.349	47.1	21.2	94 W	47	60*	10 18	9 26.97	+ 0 42.1	1.797	1.591	33.5	21.5	62 W	39*	43*		
11 17	8 42.81	- 5 32.8	0.791	1.362	45.8	21.0	99 W	39	69*	10 28	9 53.62	- 3 33.8	1.674	1.526	35.8	21.3	64 W	39*	46*		
11 27	8 47.76	-13 35.2	0.746	1.373	44.2	20.9	104 W	31	78	11 7	10 21.83	- 8 15.6	1.561	1.462	38.1	21.1	66 W	35*	49*		
12 7	8 47.94	-21 50.6	0.713	1.383	42.7	20.7	108 W	23	86	11 17	10 52.05	-13 19.6	1.460	1.400	40.4	20.9	67 W	31*	53*		
12 17	8 42.34	-29 52.5	0.693	1.391	41.3	20.6	111 W	15	86	11 27	11 24.84	-18 37.4	1.374	1.342	42.6	20.8	67 W	26*	56*		
12 27	8 30.10	-37 5.6	0.685	1.398	40.5	20.6	113 W	8	79	12 7	12 0.85	-23 56.8	1.304	1.287	44.7	20.6	67 W	21*	58*		
1	6	8 11.18	-42 55.3	0.688	1.403	40.2	20.6	113 W	2	73	12 17	12 40.69	-29 0.6	1.249	1.238	46.6	20.5	66 W	16	59*	
1	16	7 47.12	-46 55.0	0.701	1.406	40.4	20.7	112 E	-	69	12 27	13 24.70	-33 27.7	1.210	1.196	48.3	20.4	65 W	12	59*	
478450 2012 KJ₄₅										1	1	13 48.23	-35 20.5	1.195	1.178	49.0	20.4	65 W	10*	59*	
10 18	8 8.60	+ 8 59.8	2.001	2.116	27.8	21.5	83 W	53*	50*	1	6	14 12.67	-36 56.4	1.183	1.162	49.6	20.3	64 W	8*	58*	
10 28	8 20.90	+ 6 11.1	1.860	2.089	28.4	21.3	89 W	51	54*	1	11	14 37.82	-38 13.1	1.174	1.149	50.1	20.3	64 W	7*	58*	
11 7	8 31.59	+ 3 6.4	1.722	2.062	28.6	21.1	95 W	48	59*	1	16	15 3.44	-39 9.2	1.168	1.138	50.5	20.3	63 W	6*	57*	
11 17	8 40.33	- 0 14.1	1.590	2.034	28.4	20.9	102 W	45	64*	418416 2008 LV₁₆											
11 27	8 46.74	- 3 49.5	1.465	2.006	27.8	20.7	108 W	41	68	10 18	9 47.25	+16 11.7	0.335	0.885	99.4	21.3	61 W	50*	29*		
12 7	8 50.39	- 7 37.1	1.349	1.979	26.8	20.4	115 W	37	72	10 23	9 38.86	+15 18.7	0.360	0.921	91.0	21.1	68 W	54*	34*		
12 12	8 51.03	- 9 34.0	1.296	1.965	26.2	20.3	118 W	35	74	10 28	9 32.60	+14 26.0	0.382	0.961	83.6	21.0	74 W	57*	38*		
12 17	8 50.80	-11 31.9	1.246	1.951	25.4	20.2	122 W	33	76	11 2	9 27.47	+13 36.2	0.402	1.003	76.9	21.0	80 W	58*	41*		
12 22	8 49.66	-13 29.3	1.200	1.937	24.7	20.1	125 W	32	77	11 7	9 22.72	+12 51.0	0.419	1.047	70.8	21.0	86 W	58*	45*		
12 27	8 47.57	-15 24.8	1.159	1.924	23.9	20.0	128 W	30	79	11 12	9 17.76	+12 11.3	0.433	1.092	64.9	21.0	92 W	57	48*		
1	1	8 44.54	-17 16.6	1.121	1.910	23.1	19.8	130 W	28	81	11 17	9 12.15	+11 38.2	0.445	1.139	59.3	21.0	98 W	57	50*	
1	6	8 40.58	-19 2.9	1.087	1.897	22.4	19.7	133 W	26	83	11 22	9 5.56	+11 12.3	0.456	1.186	53.8	20.9	104 W	56	52*	
1	11	8 35.73	-20 41.3	1.059	1.884	21.9	19.7	134 W	24	85	11 27	8 57.82	+10 54.1	0.466	1.233	48.3	20.9	111 W	56	53	
1	16	8 30.11	-22 9.6	1.035	1.870	21.5	19.6	136 W	23	86	12 2	8 48.83	+10 43.7	0.476	1.281	42.8	20.9	118 W	56	53	
334139 2001 RN₅₆										12 7	8 38.60	+10 41.1	0.487	1.329	37.2	20.9	125 W	56	53		
10 18	8 39.88	+19 33.6	1.637	1.723	34.4	21.5	78 W	61*	37*	12 12	8 27.26	+10 46.0	0.501	1.376	31.5	20.8					

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

20/21	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°	20/21	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°
240871 MOSS (continuation)										152742 1998 XE₁₂ (continuation)									
11 27	10 53.63	+24 31.2	2.028	2.252	26.0	20.9	90 W	70	32*	12 7	18 8.38	-19 56.0	1.054	0.314	68.9	19.1	17 E	7*	8*
12 7	11 5.37	+23 26.4	1.872	2.213	26.2	20.7	97 W	68	36*	12 9	18 28.83	-18 50.5	1.015	0.352	75.1	19.5	20 E	10*	10*
12 17	11 15.33	+22 27.4	1.718	2.174	26.1	20.4	104 W	67	40*	12 11	18 48.45	-17 39.6	0.979	0.392	79.3	19.8	23 E	12*	12*
12 27	11 23.07	+21 35.0	1.568	2.136	25.3	20.2	112 W	67	42*	12 13	19 7.47	-16 24.1	0.948	0.433	81.9	20.0	26 E	15*	13*
1 6	11 28.12	+20 49.1	1.425	2.097	24.0	19.9	120 W	66	43	12 15	19 26.03	-15 4.4	0.921	0.472	83.3	20.2	28 E	17*	15*
1 16	11 29.84	+20 9.3	1.292	2.059	21.8	19.6	129 W	65	44	12 17	19 44.23	-13 41.0	0.898	0.511	83.8	20.3	31 E	20*	16*
193948 2001 RQ₄₇										202683 2006 US₂₁₆									
10 18	10 35.00	+27 25.7	2.962	2.553	19.0	21.5	57 W	51*	13*	12 22	20 28.30	-10 0.7	0.859	0.604	82.5	20.6	38 E	25*	20*
10 28	10 50.65	+26 13.0	2.828	2.525	20.4	21.4	62 W	56*	17*	12 27	21 10.17	-6 12.9	0.845	0.690	79.0	20.7	44 E	31*	22*
11 7	11 5.58	+25 3.8	2.686	2.497	21.6	21.3	68 W	61*	20*	1 1	21 49.34	-2 30.3	0.852	0.770	74.5	20.8	49 E	36*	25*
11 17	11 19.69	+23 59.4	2.540	2.468	22.7	21.2	75 W	65*	24*	1 6	22 25.38	+0 56.0	0.877	0.843	69.7	20.9	54 E	40*	26*
11 27	11 32.83	+23 1.5	2.389	2.438	23.6	21.0	81 W	67*	28*	1 11	22 58.12	+3 59.9	0.916	0.911	65.1	21.0	57 E	44*	28*
12 7	11 44.83	+22 11.6	2.235	2.407	24.1	20.9	88 W	67	33*	1 16	23 27.64	+6 39.6	0.967	0.974	60.9	21.1	60 E	47*	28*
12 17	11 55.42	+21 31.3	2.081	2.376	24.4	20.7	95 W	67	37*	168044 2005 SG									
12 27	12 4.30	+21 2.2	1.928	2.344	24.2	20.5	102 W	66	41*	10 18	11 50.16	-0 29.9	1.293	0.605	48.1	21.1	27 W	18*	13*
1 6	12 11.07	+20 45.2	1.779	2.312	23.5	20.3	110 W	66	43*	10 23	12 22.22	-3 39.8	1.283	0.539	46.8	20.8	23 W	15*	10*
1 16	12 15.26	+20 40.9	1.636	2.279	22.2	20.0	119 W	66	43	10 28	12 57.45	-7 1.3	1.281	0.468	43.3	20.4	19 W	11*	7*
495323 2014 JG₇₈										11 2	13 36.70	-10 30.6	1.284	0.395	36.0	19.8	14 W	6*	3*
10 18	10 45.85	-9 24.5	0.674	0.657	96.9	21.3	41 W	21*	31*	11 7	14 21.07	-14 0.9	1.287	0.328	22.1	19.0	7 W	—	—
10 23	10 49.29	-10 21.4	0.736	0.698	87.8	21.2	45 W	23*	34*	11 9	14 40.43	-15 22.6	1.285	0.306	13.9	18.6	4 W	—	—
10 28	10 55.13	-11 13.7	0.793	0.743	80.5	21.3	48 W	25*	36*	11 11	15 0.67	-16 41.0	1.278	0.290	4.4	18.0	1 W	—	—
11 2	11 2.37	-12 2.9	0.843	0.792	74.6	21.3	50 W	26*	39*	11 13	15 21.62	-17 54.4	1.267	0.280	7.0	18.1	2 E	—	—
11 7	11 10.37	-12 49.6	0.887	0.842	69.9	21.4	53 W	27*	41*	11 15	15 42.98	-19 0.8	1.250	0.279	18.4	18.5	5 E	—	—
250577 2005 AC										11 17	16 4.38	-19 58.8	1.228	0.287	29.5	18.8	8 E	—	2*
10 18	10 49.51	+66 34.9	1.395	1.592	38.3	21.5	82 W	57*	—	11 19	16 25.52	-20 47.6	1.202	0.302	39.6	19.2	11 E	1*	4*
10 23	11 7.33	+66 30.9	1.359	1.590	38.4	21.4	83 W	58*	—	11 21	16 46.20	-21 27.0	1.173	0.322	48.1	19.5	14 E	2*	7*
10 28	11 24.49	+66 30.2	1.322	1.586	38.6	21.4	85 W	58*	—	11 23	17 6.35	-21 57.3	1.144	0.347	55.1	19.8	17 E	4*	10*
11 2	11 41.07	+66 34.0	1.283	1.580	38.8	21.3	87 W	59*	—	11 25	17 25.96	-22 19.0	1.116	0.374	60.6	20.1	19 E	5*	12*
11 7	11 57.18	+66 43.1	1.242	1.573	39.0	21.2	89 W	60*	—	11 27	17 45.07	-22 32.7	1.089	0.402	64.8	20.3	22 E	7*	14*
11 12	12 12.90	+66 59.0	1.199	1.564	39.3	21.1	91 W	61*	—	11 29	18 3.72	-22 38.8	1.064	0.432	68.0	20.5	24 E	8*	16*
11 17	12 28.34	+67 22.8	1.156	1.554	39.5	21.0	93 W	61*	—	12 1	18 21.95	-22 37.7	1.041	0.461	70.3	20.7	26 E	10*	18*
11 22	12 43.59	+67 55.7	1.111	1.542	39.7	20.9	94 W	62*	—	12 3	18 39.78	-22 29.9	1.021	0.490	71.9	20.8	28 E	11*	20*
11 27	12 58.79	+68 38.9	1.065	1.529	39.9	20.8	96 W	62*	—	12 5	18 57.22	-22 15.8	1.003	0.518	73.0	20.9	30 E	12*	21*
12 2	13 14.15	+69 33.8	1.018	1.514	40.1	20.7	98 W	62*	—	12 7	19 14.26	-21 55.6	0.988	0.546	73.6	21.0	32 E	14*	23*
12 7	13 29.95	+70 42.0	0.971	1.497	40.4	20.6	100 W	62*	—	12 12	19 55.08	-20 42.0	0.961	0.612	73.8	21.2	37 E	17*	26*
12 12	13 46.57	+72 5.3	0.924	1.479	40.7	20.5	102 W	61*	—	12 17	20 33.14	-19 1.0	0.948	0.672	72.5	21.4	41 E	20*	29*
12 17	14 4.65	+73 45.5	0.876	1.460	41.0	20.3	103 W	60*	—	12 22	21 8.27	-17 0.7	0.947	0.726	70.6	21.5	44 E	23*	31*
12 19	14 12.52	+74 30.7	0.858	1.451	41.2	20.3	104 W	59*	—	12 27	21 40.44	-14 48.8	0.956	0.775	68.3	21.6	47 E	26*	33*
12 21	14 20.91	+75 18.9	0.839	1.443	41.3	20.2	104 W	58*	—	302169 2001 TD₄₅									
12 23	14 29.98	+76 10.2	0.820	1.434	41.5	20.2	105 W	58*	—	10 18	11 55.22	+25 0.8	1.477	0.991	42.1	21.5	42 W	35*	—
12 25	14 39.95	+77 4.7	0.802	1.425	41.7	20.1	105 W	57*	—	10 23	12 14.87	+22 2.7	1.467	0.967	42.3	21.4	41 W	34*	—
12 27	14 51.13	+78 2.3	0.784	1.415	42.0	20.1	106 W	56*	—	10 28	12 33.98	+18 53.0	1.458	0.942	42.4	21.3	40 W	33*	1*
12 28	14 57.30	+78 32.2	0.775	1.410	42.1	20.0	106 W	55*	—	11 2	12 52.64	+15 32.4	1.452	0.916	42.5	21.3	39 W	32*	2*
12 29	15 3.97	+79 2.9	0.766	1.405	42.2	20.0	106 W	55*	—	11 7	13 10.98	+12 2.0	1.446	0.890	42.4	21.2	37 W	31*	3*
12 30	15 11.22	+79 34.3	0.757	1.401	42.3	20.0	106 W	54*	—	11 12	13 29.13	+8 22.7	1.442	0.865	42.2	21.1	36 W	30*	4*
12 31	15 19.16	+80 6.3	0.748	1.395	42.5	19.9	107 W	54*	—	11 17	13 47.27	+4 35.6	1.440	0.840	41.9	21.0	35 W	28*	6*
1 1	15 27.96	+80 38.9	0.739	1.390	42.6	19.9	107 W	53*	—	11 22	14 5.56	+0 41.7	1.439	0.816	41.4	21.0	33 W	27*	7*
1 2	15 37.80	+81 11.9	0.731	1.385	42.8	19.9	107 W	53*	—	11 27	14 24.21	+3 17.4	1.440	0.793	40.8	20.9	32 W	24*	9*
1 3	15 48.91	+81 45.3	0.722	1.380	42.9	19.9	107 W	52*	—	12 2	14 43.46	-7 19.9	1.442	0.771	40.1	20.8	30 W	22*	11*
1 4	16 1.63	+82 18.8	0.714	1.375	43.1	19.8	107 W	51*	—	12 7	15 3.56	-11 23.5	1.445	0.752	39.2	20.7	29 W	19*	13*
1 5	16 16.35	+82 52.1	0.705	1.369	43.3	19.8	107 W	51*	—	12 12	15 24.80	-15 25.1	1.450	0.735	38.2	20.7	28 W	16*	14*
1 6	16 33.61	+83 24.9	0.697	1.364	43.5	19.8	107 W	50*	—	12 17	15 47.46	-19 20.7	1.457	0.721	37.1	20.6	26 W	13*	15*
1 7	16 54.05	+83 56.5	0.689	1.358	43.7	19.7	107 W	49*	—	12 22	16 11.80	-23 5.3	1.466	0.711	35.9	20.6	25 W	10*	16*
1 8	17 18.49	+84 26.1	0.680	1.353	43.9	19.7	107 W	49*	—	12 27	16 38.04	-26 33.2	1.478	0.705	34.7	20.5	24 W	6*	17*
1 9	17 47.78	+84 52.7	0.672	1.347	44.1	19.7	107 W	48*	—	1 1	17 6.29	-29 37.9	1.491	0.703	33.4	20.5	23 W	3*	17*
1 10	18 22.64	+85 14.8	0.665	1.342	44.4	19.7	107 W	47*	—	1 6	17 36.52	-32 12.9	1.507	0.706	32.0	20.5	22 W	—	16*
1 11	19 3.16	+85 30.5	0.657	1.336	44.6	19.6	107 W	46*	—	1 11	18 8.42	-34 12.4	1.526	0.712	30.7	20.5	22 W	—	15*
1 12	19 48.27	+85 37.9	0.649	1.330	44.9	19.6	107 E	46*	—	1 16	18 41.46	-35 32.0	1.548	0.722	29.3	20.5	21 W	—	14*
1 13	20 35.41	+85 35.5	0.642	1.324	45.2	19.6	107 E	47*	—	152742 1998 XE₁₂									
1 14	21 21.24	+85 22.9	0.634	1.318	45.5	19.5	107 E	48*	—	10 18	11 18.41	-0 13.9	1.545	0.918	37.9	21.4	34 W	23*	20*
1 15	22 2.93	+85 0.6	0.627	1.312	45.8	19.5	107 E	49*	—	10 28	12 4.74	-5 48.8	1.422	0.777	42.2	21.0	32 W	20*	19*
152742 1998 XE₁₂										11 7	13 3.23	-12 11.8	1.324	0.613	45.0	20.4	26 W	14*	15*
10 18	11 18.41	-0 13.9	1.545	0.918	37.9	21.4	34 W	23*	20*	11 17	14 20.77	-18 38.3	1.268	0.423	41.1	19.4	16 W	5*	8*
10 28	12 4.74	-5 48.8	1.422	0.777	42.2	21.0	32 W	20*	19*	11 19	14 39								

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

20/21	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°	20/21	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°
163023 2001 XU₁										456973 2008 BS₂									
10 18	12 25.70	+12 15.5	1.596	0.846	32.8	21.3	27 W	21*	—	10 18	12 41.35	-12 19.7	2.483	1.526	8.2	21.5	13 W	1*	6*
10 23	12 48.17	+9 25.1	1.559	0.795	33.2	21.2	26 W	20*	—	10 28	13 7.98	-15 23.7	2.394	1.459	10.3	21.4	15 W	3*	8*
10 28	13 11.58	+6 15.3	1.525	0.740	33.3	21.0	24 W	18*	—	11 7	13 37.00	-18 29.6	2.303	1.389	12.3	21.3	17 W	4*	10*
11 2	13 36.10	+2 45.1	1.494	0.683	32.8	20.7	22 W	16*	—	11 17	14 8.97	-21 32.6	2.211	1.317	14.2	21.1	19 W	5*	12*
11 7	14 1.98	-1 6.3	1.467	0.622	31.4	20.4	19 W	13*	—	11 27	14 44.47	-24 25.6	2.121	1.244	16.0	21.0	20 W	4*	13*
11 17	14 59.34	-9 52.4	1.423	0.497	23.8	19.7	12 W	6*	—	12 7	15 24.06	-26 58.0	2.036	1.171	17.6	20.8	21 W	4*	14*
11 27	16 8.23	-19 40.6	1.377	0.391	4.2	18.3	2 W	—	—	12 17	16 8.12	-28 56.0	1.959	1.100	18.8	20.6	21 W	2*	15*
12 7	17 33.40	-28 30.6	1.289	0.367	29.2	18.9	10 E	—	4*	12 27	16 56.51	-30 2.4	1.893	1.031	19.5	20.4	21 W	1*	14*
12 9	17 52.14	-29 48.4	1.265	0.376	35.8	19.1	13 E	—	7*	1 1	17 22.10	-30 10.8	1.865	0.999	19.6	20.3	20 W	—	14*
12 11	18 11.21	-30 52.6	1.240	0.389	41.7	19.3	15 E	—	9*	1 6	17 48.39	-30 0.1	1.840	0.968	19.6	20.2	19 W	—	13*
12 13	18 30.51	-31 42.1	1.216	0.405	47.0	19.5	18 E	—	12*	1 11	18 15.16	-29 28.9	1.820	0.940	19.3	20.1	18 W	—	12*
12 15	18 49.90	-32 16.6	1.191	0.425	51.5	19.7	20 E	—	14*	1 16	18 42.15	-28 36.3	1.804	0.914	18.7	20.0	17 W	—	11*
12 17	19 9.28	-32 35.9	1.168	0.446	55.3	19.9	22 E	—	16*	276400 2002 XS₄₅									
12 19	19 28.53	-32 40.4	1.145	0.469	58.4	20.1	24 E	—	18*	10 18	13 30.52	-7 54.8	3.588	2.592	0.7	21.4	2 W	—	—
12 21	19 47.54	-32 30.3	1.125	0.493	60.8	20.2	26 W	2*	20*	10 28	13 46.49	-9 35.6	3.555	2.571	2.6	21.5	7 W	1*	—
12 23	20 6.22	-32 6.6	1.106	0.518	62.8	20.3	28 W	3*	22*	11 7	14 2.78	-11 14.0	3.508	2.548	4.8	21.6	12 W	5*	2*
12 25	20 24.47	-31 29.9	1.090	0.543	64.2	20.4	30 W	5*	23*	11 17	14 19.41	-12 49.6	3.447	2.525	6.9	21.6	18 W	10*	6*
12 27	20 42.21	-30 41.3	1.076	0.568	65.2	20.5	32 E	8*	25*	11 27	14 36.35	-14 21.5	3.373	2.501	9.1	21.6	24 W	14*	11*
12 29	20 59.39	-29 41.9	1.064	0.593	65.8	20.6	33 E	8*	27*	461501 2003 FT₃									
12 31	21 15.95	-28 32.9	1.054	0.618	66.2	20.7	35 E	10*	28*	10 18	13 34.17	-8 43.7	2.421	1.425	0.7	21.4	1 E	—	—
1 2	21 31.86	-27 15.6	1.047	0.643	66.2	20.8	37 E	11*	29*	10 28	14 5.47	-11 22.1	2.356	1.364	1.5	21.3	2 W	—	—
1 4	21 47.11	-25 51.0	1.042	0.667	66.1	20.8	38 E	13*	30*	11 7	14 39.05	-13 54.5	2.296	1.308	2.6	21.3	3 W	—	—
1 6	22 1.70	-24 20.5	1.040	0.691	65.7	20.9	40 E	15*	31*	11 17	15 15.04	-16 14.9	2.242	1.259	3.5	21.2	4 W	—	—
1 8	22 15.62	-22 45.3	1.039	0.714	65.2	21.0	41 E	17*	32*	11 27	15 53.38	-18 15.5	2.197	1.218	4.2	21.1	5 W	—	—
1 10	22 28.91	-21 6.5	1.041	0.737	64.6	21.0	43 E	18*	33*	12 7	16 33.83	-19 48.6	2.163	1.187	4.7	21.1	6 W	—	—
1 12	22 41.57	-19 25.1	1.044	0.759	63.8	21.1	44 E	20*	33*	12 17	17 15.89	-20 47.3	2.141	1.167	5.0	21.0	6 W	—	—
1 14	22 53.65	-17 42.1	1.049	0.781	63.0	21.1	45 E	22*	34*	12 27	17 58.80	-21 6.4	2.132	1.159	5.2	21.0	6 W	—	—
1 16	23 5.17	-15 58.2	1.056	0.802	62.2	21.2	46 E	24*	34*	1 6	18 41.67	-20 44.3	2.135	1.163	5.3	21.0	6 W	—	—
1 16	23 5.17	-15 58.2	1.056	0.802	62.2	21.2	46 E	24*	34*	1 16	19 23.61	-19 43.0	2.152	1.180	5.5	21.1	7 W	—	—
434326 2004 JG₆										280488 2004 LL₃₁									
10 18	12 30.24	+2 27.4	0.856	0.343	104.1	19.6	20 W	13*	2*	10 18	13 34.91	-11 39.0	3.678	2.683	0.8	21.4	2 E	—	—
10 19	12 31.09	+2 54.8	0.880	0.354	98.5	19.4	21 W	14*	3*	10 28	13 51.01	-12 59.7	3.650	2.661	1.7	21.5	5 W	—	—
10 20	12 32.34	+3 15.5	0.905	0.366	93.4	19.3	22 W	15*	3*	11 7	14 7.45	-14 17.9	3.608	2.638	3.8	21.5	10 W	2*	2*
10 21	12 33.92	+3 30.1	0.929	0.378	88.7	19.3	22 W	16*	3*	11 17	14 24.21	-15 33.0	3.551	2.615	6.0	21.6	16 W	7*	6*
10 22	12 35.78	+3 39.4	0.953	0.391	84.5	19.2	23 W	17*	3*	11 27	14 41.26	-16 43.9	3.480	2.591	8.1	21.6	22 W	11*	11*
10 23	12 37.88	+3 44.2	0.977	0.404	80.6	19.2	24 W	17*	3*	351615 2005 WU₅₅									
10 24	12 40.17	+3 45.1	1.001	0.417	77.1	19.2	24 W	18*	4*	10 18	13 38.34	-12 34.2	3.280	2.287	1.5	21.5	3 E	—	—
10 25	12 42.62	+3 42.5	1.024	0.430	73.9	19.2	25 W	18*	4*	10 28	13 57.45	-14 14.2	3.250	2.258	1.4	21.4	3 W	—	—
10 26	12 45.20	+3 37.1	1.046	0.444	70.9	19.2	25 W	19*	4*	11 7	14 17.16	-15 51.0	3.208	2.230	3.4	21.5	8 W	—	1*
10 27	12 47.89	+3 29.1	1.068	0.457	68.3	19.2	25 W	19*	4*	11 17	14 37.52	-17 23.5	3.155	2.201	5.6	21.6	13 W	4*	4*
10 28	12 50.66	+3 19.0	1.089	0.471	65.8	19.3	26 W	19*	4*	11 27	14 58.51	-18 50.3	3.093	2.171	7.8	21.6	17 W	7*	8*
10 30	12 56.39	+2 53.6	1.129	0.498	61.5	19.3	26 W	20*	5*	387826 2004 GD₃₉									
11 1	13 2.28	+2 22.8	1.166	0.524	57.9	19.4	27 W	20*	5*	10 18	13 42.84	-7 33.6	2.837	1.843	1.8	21.4	3 E	—	—
11 3	13 8.28	+1 48.0	1.201	0.550	54.8	19.5	27 W	21*	5*	10 28	14 6.11	-10 0.5	2.808	1.817	1.8	21.4	3 W	—	—
11 5	13 14.32	+1 10.4	1.234	0.575	52.1	19.6	27 W	21*	6*	11 7	14 30.21	-12 22.6	2.776	1.793	3.3	21.4	6 W	—	—
11 7	13 20.38	+0 30.8	1.265	0.600	49.9	19.7	28 W	21*	6*	11 17	14 55.20	-14 37.9	2.738	1.770	5.2	21.5	9 W	3*	—
11 12	13 35.48	+1 13.9	1.332	0.658	45.5	19.8	28 W	22*	7*	11 27	15 21.12	-16 44.0	2.697	1.749	7.2	21.5	13 W	5*	2*
11 17	13 50.42	+3 2.0	1.388	0.710	42.5	20.0	29 W	22*	8*	308020 2004 RM₂₂₂									
11 22	14 5.18	+4 50.4	1.433	0.758	40.5	20.2	30 W	22*	10*	10 18	13 45.49	-13 56.6	4.534	3.543	1.5	21.4	5 E	—	—
11 27	14 19.80	+6 37.5	1.469	0.800	39.1	20.3	31 W	22*	12*	10 28	13 57.08	-15 14.1	4.565	3.574	1.0	21.4	4 W	—	—
12 7	14 48.90	-10 5.2	1.518	0.870	37.7	20.5	33 W	22*	15*	11 7	14 8.61	-16 29.5	4.577	3.605	2.7	21.6	10 W	1*	3*
12 17	15 18.36	-13 21.9	1.538	0.921	37.5	20.7	35 W	22*	20*	11 17	14 20.03	-17 42.4	4.570	3.634	4.5	21.7	17 W	6*	8*
12 27	15 48.81	-16 26.6	1.536	0.954	38.2	20.8	37 W	21*	24*	11 27	14 31.22	-18 52.7	4.544	3.663	6.2	21.8	24 W	11*	14*
1 6	16 21.02	-19 18.0	1.514	0.971	39.5	20.8	39 W	19*	28*	203467 2001 YR₁₅₁									
1 16	16 55.86	-21 53.6	1.475	0.970	41.3	20.8	41 W	17*	32*	10 18	13 47.38	-14 43.9	3.552	2.565	2.5	21.4	6 E	—	—
523636 2010 EX₁₁₉										10 28	14 4.23	-16 19.8	3.530	2.539	1.4	21.2	4 W	—	—
10 18	12 34.79	-8 39.8	1.870	0.936	15.0	21.4	14 W	5*	6*	11 7	14 21.60	-17 53.5	3.494	2.513	2.7	21.3	7 W	—	1*
10 23	12 58.07	-10 11.9	1.839	0.898	14.4	21.2	13 W	4*	5*	11 17	14 39.48	-19 24.4	3.445	2.486	4.7	21.4	12 W	2*	5*
10 28	13 22.38	-11 40.4	1.813	0.864	13.5	21.1	12 W	3*	4*	11 27	14 57.87	-20 51.4	3.382	2.458	6.8	21.4	17 W	5*	9*
11 2	13 47.71	-13 3.4	1.791	0.834	12.2	20.9	10 W	2*	2*	12 7	15 16.75	-22 13.6	3.308	2.429	9.0	21.4	23 W	9*	14*
11 7	14 13.99	-14 18.9	1.774	0.808	10.7	20.8	9 W	1*	1*	12 17	15 36.11	-23 30.2	3.222	2.400	11.2	21.4	28 W	11*	19*
11 12	14 41.13	-15 24.8	1.762	0.789	8.9	20.6	7 W	—	—	12 27	15 55.90	-24 40.3	3.125	2.370	13.3	21.4	34 W	12*	25*
11 17	15 8.95	-16 19.3	1.754	0.777	7.2	20.5	6 W	—	—	1 6	16 16.09	-25 43.2	3.018	2.339	15.4	21.4	39 W	13*	31*
11 22	15 37.24	-17 1.0	1.752	0.771	5.7	20.4	4 W	—	—	1 16	16 36.61	-26 38.2	2.903	2.308	17.4	21.3	45 W	14*	37*
11 27	16 5.78	-17 28.7	1.754	0.773	5.0	20.4	4 W	—	—	85118 1971 UU									
12 2	16																		

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

20/21	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°	20/21	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°
100933 1998 MK₃₀										396795 2004 NJ₈ (continuation)									
10 18	13 49.80	-10 41.9	4.170	3.178	1.4	21.4	5 E	—	—	12 27	16 55.18	-31 39.2	3.165	2.276	9.0	21.1	21 W	—	15*
10 28	14 3.07	-11 47.9	4.142	3.149	0.7	21.3	2 W	—	—	1 6	17 18.43	-31 33.4	3.083	2.239	11.0	21.1	26 W	2*	20*
11 7	14 16.63	-12 52.1	4.096	3.120	2.7	21.4	9 W	2*	—	1 16	17 41.86	-31 14.2	2.991	2.202	13.2	21.1	31 W	4*	25*
11 17	14 30.45	-13 53.9	4.033	3.089	4.8	21.5	15 W	7*	4*	159612 2002 AV₁₇									
11 27	14 44.46	-14 52.4	3.952	3.057	6.8	21.5	22 W	12*	10*	10 18	14 28.54	-7 49.5	3.542	2.587	5.4	21.5	14 E	5*	6*
514914 2008 TN₂₆										10 28	14 44.85	-9 16.0	3.534	2.559	3.6	21.3	9 E	3*	—
10 18	13 52.31	-14 8.8	1.796	0.815	8.3	21.4	7 E	—	1*	11 7	15 1.70	-10 38.4	3.512	2.529	2.5	21.2	6 E	—	—
10 23	14 17.13	-15 42.7	1.748	0.773	10.0	21.3	8 E	—	2*	11 17	15 19.09	-11 56.0	3.476	2.499	3.0	21.2	7 W	1*	—
10 28	14 43.58	-17 9.1	1.701	0.737	12.3	21.2	9 E	—	3*	11 27	15 36.99	-13 7.9	3.426	2.467	4.6	21.2	12 W	6*	—
11 2	15 11.66	-18 24.7	1.656	0.707	15.2	21.2	11 E	—	5*	12 7	15 55.37	-14 13.2	3.364	2.435	6.6	21.3	16 W	10*	2*
11 7	15 41.29	-19 25.8	1.615	0.685	18.7	21.2	13 E	—	6*	12 17	16 14.21	-15 11.2	3.290	2.402	8.7	21.3	22 W	13*	8*
11 12	16 12.24	-20 9.2	1.576	0.672	22.6	21.2	15 E	—	8*	12 27	16 33.45	-16 1.1	3.204	2.369	10.8	21.3	27 W	16*	14*
11 17	16 44.23	-20 32.1	1.542	0.669	26.5	21.3	18 E	—	10*	1 6	16 53.05	-16 42.3	3.107	2.334	13.0	21.3	32 W	18*	20*
11 22	17 16.84	-20 32.7	1.512	0.677	30.2	21.4	20 E	—	12*	1 16	17 12.96	-17 14.3	3.001	2.299	15.1	21.2	37 W	19*	26*
11 27	17 49.63	-20 10.5	1.489	0.695	33.5	21.5	23 E	—	14*	124311 2001 QO₇₃									
453563 2010 BB										10 18	14 38.82	-16 11.2	3.465	2.534	6.8	21.4	18 E	1*	12*
10 18	13 55.90	-15 44.6	1.714	0.743	11.4	21.4	8 E	—	2*	10 28	14 56.27	-17 23.6	3.474	2.511	4.7	21.3	12 E	—	6*
10 23	14 20.47	-17 24.6	1.679	0.716	13.1	21.4	9 E	—	3*	11 7	15 14.31	-18 32.0	3.470	2.488	2.6	21.2	6 E	—	—
10 28	14 46.30	-18 54.1	1.643	0.690	15.2	21.3	10 E	—	4*	11 17	15 32.91	-19 35.3	3.452	2.464	0.4	20.9	1 E	—	—
11 2	15 13.43	-20 10.2	1.604	0.665	17.8	21.3	12 E	—	6*	11 27	15 52.03	-20 32.3	3.421	2.439	1.9	21.0	5 W	—	—
11 7	15 41.83	-21 10.0	1.564	0.643	20.9	21.2	13 E	—	7*	12 7	16 11.65	-21 22.1	3.377	2.413	4.1	21.1	10 W	2*	2*
11 12	16 11.39	-21 50.6	1.522	0.623	24.6	21.2	15 E	—	9*	12 17	16 31.71	-22 3.8	3.320	2.387	6.4	21.2	16 W	5*	7*
11 17	16 41.93	-22 9.5	1.478	0.608	28.7	21.2	17 E	—	10*	12 27	16 52.15	-22 36.5	3.251	2.360	8.6	21.2	21 W	8*	12*
11 22	17 13.16	-22 4.8	1.433	0.598	33.2	21.3	19 E	—	12*	1 6	17 12.89	-22 59.4	3.172	2.332	10.8	21.2	26 W	10*	18*
11 27	17 44.79	-21 35.8	1.386	0.593	37.8	21.3	22 E	—	14*	1 16	17 33.86	-23 11.9	3.081	2.304	13.0	21.2	32 W	11*	24*
12 2	18 16.48	-20 42.9	1.338	0.594	42.5	21.4	24 E	—	15*	409256 2004 HO₁									
12 7	18 47.95	-19 27.6	1.291	0.601	47.0	21.4	26 E	—	16*	10 18	14 44.03	-20 49.7	2.218	1.333	15.3	21.4	21 E	—	15*
88254 2001 FM₁₂₉										10 23	14 58.56	-22 42.7	2.193	1.301	15.0	21.3	20 E	—	13*
10 18	13 58.84	-12 59.8	2.790	1.806	4.1	21.5	7 E	—	1*	10 28	15 13.97	-24 34.3	2.168	1.270	14.7	21.2	19 E	—	13*
10 28	14 18.93	-14 42.9	2.831	1.839	1.5	21.4	3 E	—	—	11 2	15 30.34	-26 23.4	2.141	1.240	14.6	21.1	18 E	—	12*
11 7	14 38.92	-16 18.0	2.856	1.867	1.3	21.4	2 W	—	—	11 7	15 47.77	-28 8.7	2.115	1.212	14.6	21.1	18 E	—	11*
11 17	14 58.89	-17 45.0	2.865	1.889	3.9	21.6	7 W	—	—	11 12	16 6.33	-29 48.9	2.088	1.185	14.8	21.0	18 E	—	11*
11 27	15 18.89	-19 3.7	2.857	1.906	6.5	21.8	13 W	4*	4*	11 17	16 26.09	-31 22.2	2.062	1.160	15.1	20.9	18 E	—	11*
298767 2004 NS₃										11 22	16 47.09	-32 46.6	2.037	1.137	15.4	20.9	18 E	—	11*
10 18	14 4.81	-14 15.2	2.931	1.954	4.7	21.5	9 E	—	3*	11 27	17 9.34	-33 59.9	2.012	1.117	15.9	20.8	18 E	—	11*
10 28	14 27.09	-16 28.8	2.909	1.922	2.8	21.3	5 E	—	—	12 2	17 32.78	-34 59.7	1.990	1.099	16.5	20.8	18 E	—	12*
11 7	14 50.43	-18 37.1	2.881	1.891	1.2	21.2	2 E	—	—	12 7	17 57.33	-35 43.7	1.969	1.084	17.1	20.8	19 E	—	12*
11 17	15 14.91	-20 38.3	2.846	1.860	2.1	21.2	4 W	—	—	12 12	18 22.81	-36 9.7	1.951	1.073	17.7	20.7	19 E	—	13*
11 27	15 40.56	-22 29.8	2.805	1.831	4.0	21.2	7 W	—	1*	12 17	18 48.98	-36 15.7	1.936	1.064	18.3	20.7	20 E	—	13*
12 7	16 7.39	-24 9.3	2.759	1.802	6.0	21.3	11 W	—	4*	12 22	19 15.53	-36 0.5	1.924	1.058	18.9	20.7	20 E	—	14*
12 17	16 35.40	-25 34.3	2.709	1.775	8.1	21.3	15 W	2*	8*	12 27	19 42.14	-35 23.6	1.915	1.056	19.4	20.7	21 E	—	15*
12 27	17 4.51	-26 42.2	2.656	1.749	10.1	21.3	18 W	3*	11*	1 1	20 8.45	-34 25.2	1.911	1.058	19.8	20.7	21 E	—	15*
1 6	17 34.57	-27 30.6	2.601	1.725	12.1	21.3	22 W	3*	15*	1 6	20 34.19	-33 6.4	1.911	1.063	20.1	20.7	22 E	—	16*
1 16	18 5.40	-27 57.5	2.543	1.703	14.1	21.3	25 W	4*	19*	1 11	20 59.10	-31 28.9	1.916	1.071	20.3	20.8	22 E	—	16*
162452 2000 HO₁₄										1 16	21 23.02	-29 35.3	1.925	1.083	20.3	20.8	22 E	1*	16*
10 18	14 10.26	-12 52.3	2.371	1.401	7.1	21.4	10 E	—	4*	85383 1996 MS									
10 28	14 42.37	-15 5.8	2.336	1.360	5.9	21.3	8 E	—	2*	10 18	14 49.56	-11 2.8	3.654	2.732	6.9	21.4	19 E	6*	12*
11 7	15 16.35	-17 5.8	2.303	1.324	4.9	21.1	7 E	—	—	10 28	15 5.27	-12 18.2	3.651	2.695	4.9	21.3	14 E	4*	6*
11 17	15 52.17	-18 46.8	2.275	1.294	4.0	21.0	5 E	—	—	11 7	15 21.63	-13 29.9	3.634	2.657	3.1	21.1	8 E	1*	—
11 27	16 29.59	-20 2.8	2.253	1.271	3.3	20.9	4 E	—	—	11 17	15 38.64	-14 37.1	3.603	2.619	1.8	21.0	5 E	—	—
12 7	17 8.25	-20 48.9	2.238	1.256	2.8	20.8	4 E	—	—	11 27	15 56.25	-15 38.8	3.558	2.580	2.5	21.0	7 W	1*	—
12 17	17 47.66	-21 1.4	2.231	1.250	2.4	20.8	3 E	—	—	12 7	16 14.43	-16 34.1	3.499	2.540	4.4	21.0	11 W	5*	—
12 27	18 27.17	-20 38.8	2.233	1.251	2.2	20.8	3 E	—	—	12 17	16 33.15	-17 22.2	3.427	2.500	6.4	21.1	17 W	9*	5*
1 6	19 6.17	-19 42.0	2.242	1.261	2.2	20.8	3 W	—	—	12 27	16 52.35	-18 2.2	3.344	2.459	8.6	21.1	22 W	11*	10*
1 16	19 44.10	-18 14.2	2.260	1.279	2.5	20.9	3 W	—	—	1 6	17 11.99	-18 33.5	3.249	2.418	10.8	21.1	27 W	14*	16*
360436 2002 JE₇₀										1 16	17 32.00	-18 55.6	3.144	2.377	12.9	21.0	33 W	15*	23*
10 18	14 16.21	-9 37.1	2.694	1.726	6.3	21.4	11 E	2*	4*	333270 2146 P-L									
10 28	14 41.67	-11 55.3	2.666	1.687	4.6	21.3	8 E	—	—	10 18	14 49.88	-12 48.8	3.491	2.573	7.4	21.4	19 E	5*	13*
11 7	15 8.41	-14 6.7	2.635	1.650	3.1	21.1	5 E	—	—	10 28	15 6.90	-13 52.9	3.480	2.527	5.4	21.3	14 E	3*	7*
11 17	15 36.49	-16 8.4	2.603	1.616	2.0	21.0	3 E	—	—	11 7	15 24.71	-14 53.3	3.456	2.480	3.5	21.1	9 E	1*	1*
11 27	16 5.92	-17 57.1	2.569	1.585	2.2	20.9	3 W	—	—	11 17	15 43.31	-15 48.5	3.418	2.433	1.8	20.9	5 E	—	—
12 7	16 36.64	-19 29.3	2.536	1.558	3.4	20.9	5 W	—	—	11 27	16 2.66	-16 37.4	3.367	2.386	2.1	20.9	5 W	—	—
12 17	17 8.54	-20 41.7	2.504	1.534	4.8	20.9	8 W	1*	—	12 7	16 22.76	-17 18.5	3.305	2.338	3.9	20.9	9 W	3*	—
12 27	17 41.41	-21 31.5	2.474	1.515	6.4	21.0	10 W	2*	2*	12 17	16 43.59	-17 50.6	3.231	2.289	6.0	20.9	14 W	7*	3*
1 6	18 14.97	-21 56.3	2.446	1.500	8.0	21.0	12 W	2*	4*	12 27	17 5.08	-18 12.3	3.147	2.241	8.2	20.9	19 W	10*	8*
1 16	18 48.89	-21 55.0	2.421	1.489	9.5	21.0	14 W	3*	7*	1 6	17 27.20	-18 22.5	3.055	2.1					

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

20/21	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°-26°	2020	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°-26°
89766 2002 AO₆₂ (continuation)									428694 Saule								
12 27	16 48.23	-18 13.2	3.604	2.724	8.0	21.3	23 W	12* 11*	10 18	17 35.84	-27 48.1	0.969	0.982	61.4	21.5	60 E	13* 54*
1 6	17 5.21	-18 37.1	3.522	2.703	10.1	21.3	29 W	15* 18*	10 23	17 43.88	-29 20.3	0.943	0.924	64.4	21.4	57 E	11* 51*
1 16	17 22.17	-18 53.2	3.427	2.681	12.1	21.3	35 W	17* 25*	10 28	17 52.24	-30 55.8	0.911	0.867	67.9	21.3	54 E	9* 48*
306288 2011 SM₂₈									310737 2002 QG₂₄								
10 18	14 57.94	-23 5.6	2.821	1.960	12.2	21.4	25 E	— 18*	11 2	18 0.62	-32 35.6	0.872	0.810	72.2	21.2	51 E	7* 45*
10 28	15 21.89	-24 26.3	2.823	1.924	10.4	21.3	20 E	— 14*	11 7	18 8.56	-34 20.6	0.827	0.755	77.5	21.1	48 E	5* 42*
11 7	15 47.04	-25 37.7	2.818	1.888	8.5	21.2	16 E	— 10*	11 12	18 15.32	-36 11.8	0.776	0.702	84.0	21.0	45 E	3* 39*
11 17	16 13.40	-26 37.3	2.806	1.853	6.7	21.1	13 E	— 6*	11 17	18 19.70	-38 9.3	0.718	0.655	92.0	21.0	41 E	1* 35*
11 27	16 40.89	-27 22.4	2.787	1.819	4.9	20.9	9 E	— 3*	11 22	18 19.82	-40 10.5	0.657	0.615	101.8	21.2	38 E	— 31*
12 7	17 9.40	-27 50.5	2.762	1.786	3.4	20.8	6 E	— —	11 27	18 12.99	-42 5.9	0.595	0.585	113.5	21.5	33 E	— 26*
12 17	17 38.79	-27 59.1	2.732	1.753	2.6	20.7	5 W	— —	453778 2011 JK								
12 27	18 8.86	-27 46.3	2.698	1.722	3.2	20.7	6 W	— —	10 28	3 7.48	+13 51.0	1.791	2.765	5.0	22.3	166 W	59 50
1 6	18 39.34	-27 10.5	2.661	1.693	4.6	20.7	8 W	— 2*	11 2	3 1.67	+13 16.6	1.774	2.760	2.9	22.1	172 W	58 51
1 16	19 10.02	-26 11.0	2.622	1.665	6.3	20.7	11 W	— 5*	11 7	2 55.66	+12 41.5	1.764	2.754	1.4	22.0	176 W	58 51
177953 2006 MQ₆									159518 2001 FF₇								
10 18	15 24.98	-14 56.1	3.051	2.222	12.2	21.5	28 E	9* 21*	10 28	3 21.85	-22 58.0	2.051	2.883	12.8	22.5	140 W	22 87
10 28	15 44.75	-16 5.7	3.063	2.184	10.3	21.4	23 E	7* 16*	11 2	3 16.26	-24 6.3	2.066	2.893	12.9	22.5	140 W	21 88
11 7	16 5.47	-17 8.7	3.064	2.146	8.3	21.3	18 E	6* 11*	11 7	3 10.50	-25 5.2	2.087	2.903	13.1	22.6	138 W	20 89
11 17	16 27.15	-18 3.6	3.055	2.107	6.3	21.1	14 E	4* 6*	11 12	3 4.71	-25 54.3	2.115	2.913	13.6	22.6	136 E	19 90
11 27	16 49.73	-18 48.7	3.037	2.069	4.4	21.0	9 E	2* 1*	11 17	2 49.62	+12 6.5	1.763	2.748	2.6	22.1	173 E	57 52
12 7	17 13.17	-19 22.5	3.010	2.031	2.6	20.8	5 E	— —	11 22	2 43.69	+11 32.5	1.769	2.741	4.8	22.2	167 E	57 52
12 17	17 37.41	-19 43.4	2.974	1.993	1.8	20.7	4 W	— —	11 27	2 38.03	+11 0.3	1.783	2.733	7.0	22.4	160 E	56 53
12 27	18 2.35	-19 50.2	2.931	1.956	3.0	20.7	6 W	— —	11 27	2 32.78	+10 30.7	1.804	2.726	9.1	22.5	154 E	56 53
1 6	18 27.90	-19 41.7	2.881	1.919	4.9	20.7	10 W	2* 1*	434751 2006 HV₅₇								
1 16	18 53.96	-19 17.1	2.826	1.883	7.0	20.7	14 W	4* 5*	10 28	3 28.75	+24 34.9	1.756	2.704	7.9	22.4	158 W	70 39
390725 2003 HB									482488 2012 SW₂₀								
10 18	15 31.91	-24 38.4	1.360	0.742	45.8	21.5	32 E	2* 26*	10 28	3 29.39	+14 4.2	1.570	2.529	7.5	23.2	161 W	59 50
10 23	15 51.17	-26 41.2	1.305	0.704	48.9	21.3	32 E	2* 26*	11 2	3 22.50	+13 22.9	1.588	2.565	5.0	23.2	167 W	58 51
10 28	16 11.56	-28 37.0	1.244	0.666	52.7	21.2	32 E	1* 26*	11 7	3 16.56	+23 39.2	1.783	2.765	3.5	22.3	170 W	69 40
11 2	16 33.07	-30 22.5	1.175	0.630	57.6	21.1	32 E	1* 26*	11 12	3 10.49	+23 8.1	1.808	2.795	1.9	22.2	175 W	68 41
11 7	16 55.55	-31 53.3	1.099	0.596	63.7	21.0	33 E	— 26*	11 17	3 4.65	+22 35.9	1.840	2.824	2.4	22.3	173 E	68 41
11 12	17 18.66	-33 4.0	1.016	0.567	71.0	21.0	33 E	1* 27*	11 22	2 59.18	+22 3.3	1.880	2.853	4.2	22.5	168 E	67 42
11 17	17 41.74	-33 48.1	0.927	0.545	79.8	21.0	33 E	1* 27*	11 27	2 54.19	+21 31.3	1.928	2.882	6.1	22.7	162 E	67 42
11 22	18 3.77	-33 58.3	0.834	0.531	89.9	21.1	33 E	1* 26*	12 2	2 49.78	+21 0.7	1.983	2.911	7.9	22.9	156 E	66 43
11 27	18 23.46	-33 26.8	0.739	0.526	101.2	21.3	32 E	2* 26*	482488 2012 SW₂₀								
424003 2006 WD₃									482488 2012 SW₂₀								
10 18	15 52.03	-22 25.4	2.995	2.265	15.0	21.5	36 E	7* 30*	10 28	3 29.39	+14 4.2	1.570	2.529	7.5	23.2	161 W	59 50
10 28	16 11.75	-22 33.8	3.019	2.221	13.1	21.4	30 E	6* 24*	11 2	3 22.50	+13 22.9	1.588	2.565	5.0	23.2	167 W	58 51
11 7	16 32.35	-22 36.2	3.032	2.175	11.1	21.3	25 E	5* 19*	11 7	3 15.61	+12 42.5	1.614	2.600	2.8	23.1	173 W	58 51
11 17	16 53.80	-22 30.7	3.033	2.130	9.1	21.2	20 E	4* 13*	11 12	3 8.89	+12 3.8	1.648	2.635	2.1	23.1	174 E	57 52
11 27	17 16.02	-22 15.2	3.022	2.084	7.0	21.0	15 E	3* 8*	11 17	3 2.49	+11 27.7	1.690	2.670	3.7	23.3	170 E	56 53
12 7	17 38.94	-21 48.0	3.000	2.038	4.9	20.8	10 E	1* 2*	11 22	2 56.57	+10 55.0	1.740	2.703	5.8	23.5	164 E	56 53
12 17	18 2.49	-21 7.4	2.969	1.992	2.9	20.7	6 E	— —	11 27	2 51.23	+10 26.1	1.797	2.737	7.8	23.7	158 E	55 54
12 27	18 26.57	-20 11.9	2.928	1.947	1.6	20.5	3 E	— —	139056 2001 FY								
1 6	18 51.10	-19 0.2	2.878	1.901	2.7	20.5	5 W	— —	10 28	3 30.67	+11 49.6	1.542	2.500	7.7	22.6	160 W	57 52
1 16	19 16.00	-17 31.3	2.822	1.857	4.7	20.5	9 W	2* —	11 2	3 24.88	+11 26.6	1.523	2.498	5.5	22.4	166 W	56 53
316857 2000 NH₁₀									458198 2010 RT₁₁								
10 18	17 7.68	-21 45.1	2.278	1.859	25.4	21.5	53 E	16* 46*	10 28	3 36.74	+18 55.6	2.002	2.948	7.1	23.4	158 W	64 45
10 28	17 30.06	-22 4.9	2.311	1.810	24.2	21.4	48 E	16* 41*	11 7	3 26.06	+18 12.2	1.974	2.957	3.0	23.1	171 W	63 46
11 7	17 53.93	-22 13.0	2.336	1.761	22.9	21.4	44 E	15* 36*	11 17	3 14.80	+17 24.3	1.977	2.964	1.3	23.0	176 E	62 47
11 17	18 19.19	-22 7.0	2.354	1.713	21.6	21.3	40 E	15* 32*	11 27	3 4.06	+16 36.5	2.011	2.970	5.5	23.3	163 E	62 47
11 27	18 45.69	-21 44.5	2.365	1.666	20.2	21.2	36 E	15* 27*	12 7	2 54.82	+15 53.5	2.075	2.975	9.3	23.6	151 E	61 48
12 7	19 13.26	-21 3.5	2.370	1.621	18.8	21.1	32 E	14* 22*	480934 2003 LX₅								
12 17	19 41.75	-20 2.5	2.369	1.577	17.4	21.0	29 E	14* 18*	10 28	3 39.22	+19 53.1	2.319	3.259	6.7	22.4	158 W	65 44
12 27	20 10.98	-18 40.3	2.365	1.537	16.0	20.9	25 E	13* 14*	11 7	3 29.96	+19 24.4	2.233	3.213	3.1	22.1	170 W	64 45
1 6	20 40.77	-16 56.8	2.358	1.499	14.6	20.8	23 E	12* 11*	11 17	3 19.61	+18 49.6	2.178	3.166	0.8	21.8	178 E	64 45
1 16	21 10.97	-14 52.3	2.350	1.464	13.3	20.7	20 E	11* 8*	11 27	3 9.10	+18 11.4	2.155	3.118	4.7	22.0	165 E	63 46
439437 2013 NK₄									480934 2003 LX₅								
10 18	17 24.84	-28 50.1	1.379	1.193	44.9	21.5	58 E	11* 52*	12 7	2 59.42	+17 33.8	2.162	3.069	8.5	22.2	152 E	63 46
10 28	17 50.00	-28 37.5	1.372	1.113	45.7	21.4	53 E	11* 47*	480934 2003 LX₅								
11 7	18 16.90	-28 7.3	1.345	1.024	47.1	21.2	49 E	12* 43*	10 28	3 39.22	+19 53.1	2.319	3.259	6.7	22.4	158 W	65 44
11 17	18 45.44	-27 13.8	1.294	0.926	49.6	20.9	45 E	13* 39*	11 7	3 29.96	+19 24.4	2.233	3.213	3.1	22.1	170 W	64 45
11 27	19 15.31	-25 51.0	1.217	0.820	53.8	20.7	42 E	14* 34*	11 17	3 19.61	+18 49.6	2.178	3.166	0.8	21.8	178 E	64 45
12 7	19 45.63	-23 52.3	1.109	0.710	61.0	20.4	39 E	15* 30*	11 27	3 9.10	+18 11.4	2.155	3.118	4.7	22.0	165 E	63 46
12 12	20 0.34	-22 38.0	1.043	0.654	66.4	20.2	37 E	16* 28*	12 7	2 59.42	+17 33.8	2.162	3.069	8.5	22.2	152 E	