

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

20/21	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°	20/22	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°
495760 2017 CL₁₂										51157 2000 HB₅₇ (continuation)									
12 27	17 15.77	-25 49.7	2.572	1.647	9.2	20.9	16 W	2*	9*	9 13	18 56.70	-19 45.1	2.395	2.940	18.3	21.1	113 E	25	84
1 6	17 47.33	-25 59.5	2.543	1.641	11.0	20.9	19 W	3*	12*	9 23	18 59.56	-19 57.0	2.533	2.943	19.3	21.2	104 E	25	84
1 16	18 18.86	-25 44.9	2.513	1.639	12.8	20.9	22 W	4*	15*	10 3	19 4.59	-20 4.2	2.676	2.944	19.8	21.4	95 E	25	84*
1 26	18 50.02	-25 6.0	2.482	1.640	14.5	21.0	25 W	5*	18*	10 13	19 11.55	-20 6.2	2.820	2.945	19.8	21.5	87 E	25*	79*
2 5	19 20.54	-24 4.3	2.450	1.644	16.3	21.0	28 W	5*	22*	480922 2002 XP₃₇									
2 15	19 50.18	-22 41.7	2.417	1.650	18.0	21.0	31 W	6*	25*	12 27	17 17.61	-27 37.3	1.504	0.615	25.3	21.4	15 W	-	9*
2 25	20 18.75	-21 0.8	2.382	1.660	19.6	21.1	34 W	7*	28*	1 1	17 49.83	-26 20.2	1.541	0.624	20.9	21.3	13 W	-	7*
3 7	20 46.14	-19 4.6	2.346	1.673	21.2	21.1	38 W	8*	32*	1 6	18 20.57	-24 39.3	1.577	0.640	17.0	21.3	11 W	-	4*
3 17	21 12.29	-16 56.1	2.308	1.688	22.7	21.1	41 W	8*	35*	1 11	18 49.67	-22 40.0	1.613	0.661	13.8	21.3	9 W	-	2*
3 27	21 37.16	-14 38.4	2.267	1.705	24.2	21.2	44 W	10*	38*	1 16	19 17.10	-20 27.2	1.648	0.687	11.4	21.4	8 W	-	1*
4 6	22 0.78	-12 14.3	2.224	1.725	25.6	21.2	48 W	11*	42*	1 21	19 42.94	-18 5.3	1.682	0.716	9.9	21.4	7 W	-	-
4 16	22 23.15	-9 46.5	2.177	1.747	26.9	21.2	52 W	13*	46*	344474 2002 PN₁₁₃									
4 26	22 44.30	-7 17.5	2.126	1.771	28.1	21.2	56 W	15*	49*	12 27	17 17.63	-22 53.4	4.105	3.166	4.7	21.0	15 W	4*	7*
5 6	23 4.23	-4 49.5	2.072	1.796	29.1	21.2	60 W	17*	53*	1 6	17 32.99	-22 48.9	4.019	3.128	6.7	21.0	22 W	8*	14*
5 16	23 22.95	-2 24.3	2.013	1.823	30.0	21.2	65 W	20*	56*	1 16	17 48.37	-22 37.9	3.917	3.088	8.7	21.0	28 W	10*	20*
5 26	23 40.40	+0 3.8	1.951	1.852	30.8	21.2	69 W	24*	58*	1 26	18 3.65	-22 20.1	3.800	3.048	10.7	21.0	35 W	13*	27*
6 5	23 56.52	+2 10.6	1.884	1.881	31.3	21.2	74 W	28*	60*	2 5	18 18.74	-21 55.3	3.670	3.007	12.6	21.0	42 W	14*	34*
6 15	0 11.18	+4 17.5	1.814	1.912	31.5	21.1	80 W	33*	59*	2 15	18 33.54	-21 23.3	3.527	2.966	14.4	20.9	48 W	16*	41*
6 25	0 24.21	+6 15.4	1.740	1.943	31.4	21.1	85 W	39*	58	2 25	18 47.91	-20 44.3	3.374	2.923	16.1	20.8	55 W	18*	48*
7 5	0 35.40	+8 3.1	1.664	1.975	31.0	21.0	92 W	45*	56	3 7	19 1.75	-19 58.3	3.212	2.880	17.7	20.8	62 W	19*	55*
7 15	0 44.44	+9 39.0	1.588	2.007	30.1	20.9	98 W	50*	54	3 17	19 14.92	-19 5.6	3.043	2.836	19.1	20.6	69 W	21*	62*
7 25	0 50.99	+11 1.4	1.512	2.039	28.6	20.8	106 W	55*	53	3 27	19 27.28	-18 6.5	2.868	2.792	20.2	20.5	76 W	22*	69*
8 4	0 54.72	+12 8.2	1.439	2.072	26.5	20.7	114 W	57	52	4 6	19 38.67	-17 1.3	2.691	2.747	21.2	20.4	83 W	24*	75*
8 14	0 55.28	+12 56.7	1.372	2.105	23.8	20.5	123 W	58	51	4 16	19 48.90	-15 50.5	2.513	2.701	21.8	20.2	90 W	26*	79*
8 24	0 52.48	+13 24.2	1.316	2.138	20.2	20.4	133 W	58	51	4 26	19 57.77	-14 34.7	2.336	2.655	22.1	20.0	97 W	28*	79
9 3	0 46.43	+13 28.4	1.273	2.170	16.0	20.2	144 W	58	51	5 6	20 5.06	-13 14.6	2.163	2.609	22.0	19.8	105 W	30*	77
9 13	0 37.64	+13 8.0	1.249	2.202	11.1	20.0	155 W	58	51	5 16	20 10.47	-11 51.1	1.996	2.562	21.4	19.6	113 W	32*	76
9 18	0 32.53	+12 49.3	1.246	2.219	8.7	19.9	161 W	58	51	5 26	20 13.72	-10 25.4	1.838	2.514	20.2	19.3	121 W	34*	74
9 23	0 27.16	+12 25.6	1.248	2.234	6.3	19.8	166 W	57	52	6 5	20 14.53	-8 58.9	1.692	2.466	18.5	19.1	130 W	36	73
9 28	0 21.71	+11 57.8	1.257	2.250	4.5	19.8	170 W	57	52	6 15	20 12.63	-7 33.8	1.560	2.418	16.1	18.8	139 W	37	72
10 3	0 16.35	+11 27.0	1.272	2.266	4.0	19.8	171 E	56	53	6 25	20 7.95	-6 13.2	1.447	2.370	13.2	18.4	148 W	39	70
10 8	0 11.26	+10 54.3	1.294	2.282	5.1	19.9	168 E	56	53	7 5	20 0.64	-5 0.3	1.354	2.321	10.1	18.1	156 W	40	69
10 13	0 6.61	+10 21.1	1.323	2.297	7.1	20.0	164 E	55	54	7 15	19 51.22	-3 59.6	1.284	2.273	7.9	17.9	162 W	41	68
10 18	0 2.53	+9 48.5	1.358	2.313	9.2	20.2	158 E	55	54	7 25	19 40.68	-3 14.5	1.239	2.225	8.4	17.8	161 E	42	67
10 23	23 59.10	+9 17.7	1.399	2.328	11.3	20.4	153 E	54	55	8 4	19 30.30	-2 47.3	1.217	2.177	11.6	17.8	154 E	42	67
10 28	23 56.39	+8 49.6	1.445	2.343	13.3	20.5	147 E	54	55	8 14	19 21.42	-2 37.9	1.218	2.129	15.8	17.9	145 E	42	67
11 2	23 54.42	+8 24.7	1.497	2.358	15.1	20.7	142 E	53	56	8 24	19 15.24	-2 43.5	1.237	2.083	19.9	18.0	136 E	42	67
11 7	23 53.22	+8 3.7	1.553	2.373	16.7	20.8	137 E	53	56	9 3	19 12.44	-2 59.9	1.271	2.037	23.5	18.2	126 E	42	67
11 12	23 52.78	+7 46.8	1.614	2.388	18.1	21.0	131 E	53	56	9 13	19 13.36	-3 22.2	1.315	1.992	26.6	18.3	118	42	67
11 17	23 53.07	+7 34.4	1.679	2.402	19.3	21.1	127 E	53	56	9 23	19 18.02	-3 45.4	1.367	1.948	29.0	18.4	110 E	41	68
11 22	23 54.04	+7 26.3	1.747	2.417	20.3	21.2	122 E	52	57	10 3	19 26.15	-4 5.5	1.423	1.906	30.9	18.5	102 E	41	68
11 27	23 55.66	+7 22.5	1.817	2.431	21.2	21.4	117 E	52	57	10 13	19 37.48	-4 18.7	1.481	1.866	32.2	18.6	96 E	41	68*
12 2	23 57.88	+7 22.8	1.890	2.445	21.9	21.5	113 E	52	57	10 23	19 51.66	-4 22.2	1.540	1.827	33.0	18.6	90 E	41	66*
141447 2002 CW₅₉										51157 2000 HB₅₇									
12 27	17 16.88	-1 55.5	2.562	1.742	14.7	21.1	27 W	21*	3*	11 2	20 8.33	-4 13.8	1.597	1.792	33.4	18.7	84	41	61*
1 6	17 41.66	-1 59.3	2.600	1.808	15.4	21.2	29 W	23*	—	11 12	20 27.18	-3 51.8	1.654	1.759	33.5	18.7	79	41	56*
1 16	18 5.04	-1 50.0	2.631	1.873	16.2	21.3	32 W	25*	8*	11 22	20 47.89	-3 15.1	1.709	1.729	33.4	18.7	74 E	42*	51*
1 26	18 27.00	-1 28.6	2.653	1.937	17.1	21.5	35 W	27*	14*	12 2	21 10.19	-2 23.3	1.764	1.703	33.0	18.8	70 E	42*	46*
2 5	18 47.52	-0 56.5	2.666	2.001	18.1	21.6	39 W	29*	20*	12 12	21 33.83	-1 16.5	1.818	1.680	32.4	18.8	66 E	43*	40*
51157 2000 HB₅₇										495851 2002 TL₆₈									
12 27	17 17.43	-20 12.7	3.445	2.512	6.1	21.1	16 W	6*	6*	12 27	17 17.67	-14 6.1	2.616	1.709	10.3	21.4	18 W	11*	3*
1 6	17 35.81	-20 25.5	3.431	2.541	8.1	21.2	21 W	9*	12*	1 6	17 46.53	-13 37.3	2.553	1.674	12.3	21.4	21 W	13*	7*
1 16	17 53.72	-20 29.5	3.402	2.569	10.1	21.3	27 W	11*	18*	1 16	18 15.95	-12 48.3	2.490	1.642	14.2	21.4	24 W	15*	11*
1 26	18 11.04	-20 25.4	3.359	2.596	12.1	21.3	33 W	13*	25*	1 26	18 45.75	-11 38.7	2.429	1.614	16.0	21.3	27 W	16*	14*
2 5	18 27.68	-20 14.0	3.303	2.622	13.9	21.4	40 W	15*	32*	2 5	19 15.77	-10 8.8	2.371	1.588	17.8	21.3	29 W	17*	17*
2 15	18 43.52	-19 56.1	3.235	2.647	15.6	21.4	46 W	16*	39*	2 15	19 45.83	-8 19.8	2.317	1.566	19.4	21.3	32 W	18*	20*
2 25	18 58.45	-19 32.7	3.154	2.671	17.1	21.4	53 W	18*	46*	2 25	20 15.75	-6 13.8	2.267	1.548	20.9	21.3	34 W	19*	23*
3 7	19 12.33	-19 5.1	3.062	2.694	18.5	21.4	59 W	19*	53*	3 7	20 45.42	-3 53.7	2.222	1.534	22.3	21.2	36 W	20*	26*
3 17	19 25.05	-18 34.5	2.960	2.716</															

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

20/22	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°	20/22	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°
495851 2002 TL₆₈										97514 2000 DL₁									
<i>(continuation)</i>										<i>(continuation)</i>									
9 13	3 38.06	+18 57.7	1.371	1.998	27.5	20.9	113 W	64	45	2 15	19 40.01	-49 40.0	3.005	2.425	17.0	19.1	46 W	—	32*
9 23	3 40.15	+17 7.8	1.312	2.042	24.3	20.8	123 W	62	47	2 25	20 6.64	-49 34.7	2.950	2.443	18.2	19.1	50 W	—	35*
10 3	3 38.41	+14 56.7	1.265	2.086	20.3	20.6	134 W	60	49	3 7	20 32.18	-49 23.3	2.888	2.459	19.3	19.1	55 W	—	39*
10 13	3 33.02	+12 28.6	1.234	2.130	15.6	20.5	145 W	57	52	3 17	20 56.47	-49 8.8	2.819	2.475	20.4	19.1	60 W	—	42*
10 18	3 29.16	+11 10.5	1.226	2.152	13.0	20.4	151 W	56	53	3 27	21 19.39	-48 53.9	2.743	2.489	21.3	19.1	65 W	—	46*
10 23	3 24.69	+9 51.5	1.224	2.174	10.5	20.3	157 W	55	54	4 6	21 40.85	-48 41.4	2.661	2.502	22.1	19.1	70 W	—	49*
10 28	3 19.76	+8 33.3	1.229	2.196	8.0	20.2	162 W	54	55	4 16	22 0.76	-48 34.2	2.574	2.514	22.7	19.0	75 W	—	53*
11 2	3 14.55	+7 17.3	1.240	2.218	6.0	20.2	166 W	52	57	4 26	22 18.99	-48 35.2	2.483	2.525	23.2	19.0	81 W	—	57*
11 7	3 9.25	+6 5.4	1.259	2.239	5.0	20.2	169 W	51	58	5 6	22 35.40	-48 47.0	2.389	2.534	23.4	18.9	86 W	—	60*
11 12	3 4.04	+4 59.0	1.285	2.261	5.5	20.3	167 E	50	59	5 16	22 49.80	-49 12.2	2.294	2.543	23.4	18.8	92 W	—	63*
11 17	2 59.11	+3 59.4	1.317	2.282	7.1	20.4	163 E	49	60	5 21	22 56.15	-49 30.5	2.247	2.546	23.3	18.8	95 W	—	64*
11 22	2 54.59	+3 7.3	1.357	2.304	9.1	20.6	158 E	48	61	5 26	23 1.87	-49 52.7	2.200	2.550	23.2	18.7	98 W	—	65*
11 27	2 50.61	+2 23.4	1.402	2.325	11.1	20.8	153 E	47	62	5 31	23 6.93	-50 19.2	2.154	2.553	22.9	18.7	101 W	—	65*
12 2	2 47.24	+1 47.7	1.454	2.346	13.0	20.9	148 E	47	62	6 5	23 11.26	-50 49.9	2.108	2.556	22.6	18.6	104 W	—	65*
12 7	2 44.56	+1 20.1	1.511	2.367	14.8	21.1	142 E	46	63	6 10	23 14.78	-51 24.9	2.064	2.558	22.3	18.6	107 W	—	65
12 12	2 42.60	+1 0.2	1.573	2.388	16.4	21.3	137 E	46	63	6 15	23 17.40	-52 4.0	2.021	2.560	21.8	18.5	111 W	—	64
12 17	2 41.35	+0 47.6	1.640	2.409	17.8	21.4	132 E	46	63	6 20	23 19.03	-52 46.8	1.980	2.562	21.3	18.5	114 W	—	63
132 Aethra										126398 2002 BP₉									
12 27	17 17.88	-24 27.7	3.314	2.378	6.2	14.0	15 W	3*	8*	12 27	17 18.39	-20 49.3	2.568	1.640	9.1	19.8	15 W	6*	6*
1 6	17 37.48	-23 57.1	3.316	2.422	8.3	14.1	21 W	6*	13*	1 6	17 48.37	-21 13.2	2.562	1.659	10.8	19.9	18 W	7*	10*
1 16	17 56.20	-23 17.3	3.305	2.466	10.3	14.2	27 W	9*	19*	1 16	18 17.87	-21 16.2	2.555	1.681	12.5	20.0	22 W	8*	14*
1 26	18 13.94	-22 29.0	3.280	2.509	12.3	14.3	33 W	11*	25*	2 5	18 46.64	-20 59.6	2.544	1.705	14.2	20.1	25 W	8*	18*
2 5	18 30.63	-21 32.7	3.241	2.551	14.1	14.4	39 W	13*	32*	2 5	19 14.51	-20 25.4	2.531	1.732	15.9	20.2	29 W	9*	22*
2 15	18 46.19	-20 29.3	3.189	2.593	15.8	14.4	45 W	16*	38*	2 15	19 41.33	-19 35.7	2.513	1.762	17.5	20.3	32 W	10*	26*
2 25	19 0.50	-19 19.5	3.124	2.635	17.2	14.5	52 W	18*	45*	2 25	20 6.96	-18 33.1	2.491	1.793	19.1	20.3	36 W	10*	30*
3 7	19 13.47	-18 4.0	3.048	2.675	18.5	14.5	59 W	20*	52*	3 7	20 31.34	-17 20.3	2.463	1.826	20.7	20.4	41 W	11*	34*
3 17	19 24.99	-16 43.7	2.963	2.715	19.6	14.5	66 W	22*	59*	3 17	20 54.43	-15 59.9	2.429	1.860	22.1	20.4	45 W	12*	39*
3 27	19 34.91	-15 19.4	2.869	2.755	20.3	14.5	73 W	24*	66*	3 27	21 16.18	-14 34.7	2.389	1.896	23.5	20.5	49 W	13*	43*
4 6	19 43.10	-13 52.2	2.769	2.793	20.7	14.5	81 W	27*	72*	4 6	21 36.58	-13 7.1	2.343	1.932	24.8	20.5	54 W	14*	48*
4 16	19 49.39	-12 22.9	2.665	2.831	20.8	14.4	89 W	29*	76*	4 16	21 55.63	-11 39.5	2.290	1.970	25.9	20.6	59 W	15*	53*
4 26	19 53.60	-10 52.9	2.561	2.868	20.4	14.3	97 W	32*	75	4 26	22 13.26	-10 14.1	2.231	2.008	26.8	20.6	64 W	17*	57*
5 6	19 55.56	-9 23.4	2.459	2.904	19.5	14.3	106 W	34*	73	5 6	22 29.45	-8 53.1	2.165	2.046	27.5	20.6	70 W	19*	62*
5 16	19 55.14	-7 56.1	2.363	2.939	18.1	14.1	115 W	37*	72	5 16	22 44.11	-7 38.7	2.094	2.084	28.0	20.5	75 W	22*	66*
5 26	19 52.26	-6 33.2	2.279	2.973	16.3	14.0	125 W	38	71	5 26	22 57.12	-6 33.0	2.018	2.123	28.2	20.5	82 W	25*	69*
6 5	19 47.00	-5 17.1	2.209	3.007	14.0	13.9	134 W	40	69	6 5	23 8.34	-5 38.0	1.938	2.162	28.0	20.5	88 W	28*	70
6 15	19 39.58	-4 10.6	2.159	3.040	11.3	13.8	144 W	41	68	6 15	23 17.55	-4 55.9	1.856	2.200	27.4	20.4	96 W	32*	69
6 25	19 30.48	-3 16.2	2.132	3.071	8.7	13.7	153 W	42	67	6 25	23 24.54	-4 29.1	1.774	2.239	26.2	20.3	103 W	36*	68
7 5	19 20.41	-2 36.5	2.132	3.102	6.8	13.6	159 W	42	67	7 5	23 29.04	-4 19.4	1.695	2.277	24.5	20.2	112 W	39*	68
7 15	19 10.18	-2 12.0	2.160	3.132	6.5	13.6	160 E	43	66	7 15	23 30.81	-4 28.7	1.621	2.314	22.1	20.0	121 W	40*	68
7 25	19 0.66	-2 2.4	2.215	3.162	8.0	13.8	154 E	43	66										
8 4	18 52.56	-2 5.8	2.297	3.190	10.2	14.0	146 E	43	66										
8 14	18 46.38	-2 19.5	2.402	3.217	12.4	14.2	137 E	43	66										
8 24	18 42.41	-2 40.2	2.527	3.244	14.3	14.4	128 E	42	67										
9 3	18 40.69	-3 4.8	2.667	3.269	15.8	14.6	118 E	42	67										
9 13	18 41.16	-3 30.6	2.818	3.294	16.7	14.7	110 E	41	68										
9 23	18 43.63	-3 55.3	2.977	3.318	17.3	14.9	101 E	41	68										
10 3	18 47.90	-4 16.9	3.140	3.341	17.4	15.0	93 E	41*	68*										
10 13	18 53.75	-4 34.2	3.303	3.363	17.2	15.1	85 E	40*	64*										
10 23	19 0.94	-4 46.1	3.464	3.384	16.7	15.2	77 E	40*	58*										
11 2	19 9.28	-4 51.6	3.619	3.404	15.9	15.3	70 E	39*	51*										
11 12	19 18.57	-4 50.4	3.767	3.423	14.9	15.4	62 E	38*	43*										
11 22	19 28.65	-4 41.8	3.906	3.442	13.7	15.4	55 E	36*	35*										
12 2	19 39.34	-4 25.8	4.033	3.459	12.3	15.5	49 E	34*	27*										
12 12	19 50.53	-4 2.2	4.146	3.476	10.9	15.5	42 E	31*	19*										
12 22	20 2.06	-3 31.0	4.245	3.492	9.4	15.5	36 E	28*	11*										
1 1	20 13.83	-2 52.4	4.328	3.507	8.0	15.5	30 E	23*	4*										
1 11	20 25.73	-2 6.4	4.395	3.521	6.6	15.4	24 E	18*	—										
1 21	20 37.67	-1 13.5	4.443	3.534	5.4	15.4	20 E	12*	—										

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

20/22	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°	20/22	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°
126398 2002 BP₉										185290 2006 UB₂₁₉									
<i>(continuation)</i>										<i>(continuation)</i>									
7 25	23 29.67	-4 57.7	1.557	2.351	19.1	19.9	131 W	40	69	7 5	18 11.37	-25 4.2	3.748	4.752	2.2	20.3	170 E	20	89
8 4	23 25.63	-5 45.8	1.508	2.388	15.3	19.7	142 W	39	70	7 15	18 5.42	-25 12.4	3.796	4.757	4.5	20.5	159 E	20	89
8 14	23 18.95	-6 49.9	1.476	2.424	10.9	19.6	153 W	38	71	7 25	18 0.33	-25 18.9	3.871	4.763	6.5	20.6	148 E	20	89
8 19	23 14.80	-7 26.2	1.469	2.442	8.5	19.5	159 W	38	71	8 4	17 56.41	-25 23.8	3.970	4.769	8.2	20.8	138 E	20	89
8 24	23 10.26	-8 4.2	1.468	2.459	6.1	19.4	165 W	37	72	8 14	17 53.89	-25 27.7	4.090	4.774	9.7	20.9	127 E	20	89
8 29	23 5.46	-8 42.7	1.474	2.477	3.6	19.3	171 W	36	73	8 24	17 52.88	-25 31.0	4.226	4.779	10.8	21.0	118 E	19	90
9 3	23 0.53	-9 20.9	1.486	2.494	1.5	19.1	176 W	36	73	9 3	17 53.40	-25 33.9	4.374	4.784	11.6	21.1	108 E	19	90
9 8	22 55.63	-9 57.5	1.506	2.511	1.9	19.2	175 E	35	74	9 13	17 55.42	-25 36.5	4.531	4.789	12.0	21.2	99 E	19	90
9 13	22 50.90	-10 31.7	1.532	2.528	4.2	19.4	170 E	34	75	9 23	17 58.85	-25 38.8	4.690	4.794	12.1	21.3	90 E	19	84*
9 18	22 46.49	-11 2.6	1.565	2.545	6.4	19.6	164 E	34	75	10 3	18 3.58	-25 40.6	4.850	4.799	11.9	21.4	81 E	18	75*
9 23	22 42.50	-11 29.7	1.605	2.561	8.6	19.8	158 E	34	75	10 13	18 9.48	-25 41.6	5.007	4.803	11.4	21.4	73 E	18	66*
10 3	22 36.14	-12 10.8	1.702	2.594	12.4	20.1	146 E	33	76	10 23	18 16.42	-25 41.4	5.156	4.807	10.7	21.4	64 E	17	58*
10 13	22 32.29	-12 33.8	1.820	2.626	15.5	20.3	135 E	32	77	11 2	18 24.25	-25 39.6	5.295	4.811	9.8	21.5	56 E	16	49*
10 23	22 31.09	-12 39.0	1.955	2.656	17.8	20.6	125 E	32	77	11 12	18 32.85	-25 36.1	5.422	4.815	8.8	21.5	48 E	14	41*
11 2	22 32.40	-12 28.4	2.104	2.686	19.5	20.8	116 E	33	76	11 22	18 42.08	-25 30.4	5.534	4.819	7.6	21.5	40 E	13	33*
11 12	22 35.97	-12 3.7	2.262	2.716	20.5	21.1	107 E	33	76	12 2	18 51.82	-25 22.5	5.630	4.823	6.2	21.5	32 E	10	24*
11 22	22 41.51	-11 27.0	2.427	2.744	20.9	21.2	98 E	34	75*	12 12	19 1.96	-25 12.1	5.707	4.826	4.8	21.4	24 E	7	17*
12 2	22 48.68	-10 40.0	2.593	2.771	20.8	21.4	90 E	34	69*	12 22	19 12.37	-24 59.2	5.765	4.830	3.3	21.3	17 E	3	9*
66419 1999 NR₁₃										3988 Huma									
12 27	17 18.87	-29 51.4	2.922	1.994	7.7	18.6	16 W	—	10*	12 27	17 19.10	-21 5.2	2.164	1.241	11.9	20.7	15 W	5*	6*
1 6	17 43.99	-29 29.6	2.930	2.034	9.5	18.7	20 W	1*	14*	1 6	17 57.97	-20 40.7	2.111	1.199	13.3	20.6	16 W	6*	7*
1 16	18 8.02	-28 54.0	2.927	2.074	11.4	18.8	25 W	3*	18*	1 16	18 37.91	-19 39.7	2.064	1.161	14.5	20.5	17 W	6*	9*
1 26	18 30.86	-28 5.8	2.915	2.114	13.3	18.9	29 W	4*	23*	2 5	19 18.47	-18 1.0	2.024	1.127	15.5	20.4	18 W	6*	9*
2 5	18 52.42	-27 6.8	2.891	2.154	15.1	19.0	35 W	6*	29*	2 5	19 59.19	-15 46.0	1.993	1.099	16.1	20.4	18 W	6*	10*
2 15	19 12.65	-25 58.6	2.856	2.194	16.8	19.1	40 W	8*	34*	2 15	20 39.69	-12 58.5	1.971	1.077	16.5	20.3	18 W	6*	10*
2 25	19 31.47	-24 42.6	2.810	2.234	18.5	19.1	46 W	10*	40*	2 20	20 59.75	-11 24.4	1.964	1.068	16.6	20.3	18 W	6*	10*
3 7	19 48.83	-23 20.6	2.754	2.274	20.0	19.2	52 W	11*	46*	2 25	21 19.64	-9 44.7	1.959	1.062	16.7	20.3	18 W	6*	10*
3 17	20 4.68	-21 53.9	2.687	2.313	21.3	19.2	58 W	13*	52*	3 2	21 39.35	-8 0.4	1.957	1.058	16.6	20.3	18 W	6*	10*
3 27	20 18.92	-20 23.9	2.611	2.351	22.4	19.2	64 W	15*	58*	3 7	21 58.86	-6 12.6	1.957	1.056	16.6	20.3	18 W	6*	10*
4 6	20 31.49	-18 52.0	2.527	2.389	23.3	19.2	71 W	17*	64*	3 12	22 18.16	-4 22.2	1.960	1.055	16.4	20.3	17 W	6*	10*
4 16	20 42.25	-17 19.6	2.436	2.426	23.8	19.2	78 W	20*	71*	3 22	22 56.13	-0 38.3	1.972	1.061	16.3	20.3	17 W	5*	10*
4 26	20 51.06	-15 47.8	2.339	2.463	24.0	19.1	85 W	22*	76*	3 27	23 14.80	+1 13.1	1.980	1.068	15.9	20.3	17 W	5*	10*
5 6	20 57.75	-14 18.0	2.240	2.499	23.8	19.1	93 W	25*	78*	4 1	23 33.27	+3 2.8	1.991	1.076	15.8	20.3	17 W	5*	10*
5 16	21 1.10	-12 51.6	2.141	2.534	23.1	19.0	101 W	29*	77	4 6	23 51.55	+4 50.2	2.003	1.085	15.6	20.3	17 W	5*	10*
5 26	21 3.92	-11 30.0	2.044	2.568	21.8	18.9	110 W	32*	75	4 11	0 9.65	+6 34.3	2.016	1.097	15.5	20.4	17 W	5*	10*
6 5	21 3.02	-10 14.7	1.955	2.601	20.0	18.7	119 W	34*	74	4 16	0 27.56	+8 14.6	2.030	1.110	15.3	20.4	17 W	4*	10*
6 15	20 59.30	-9 7.5	1.875	2.634	17.5	18.6	129 W	36	73	4 26	1 2.85	+11 21.0	2.061	1.141	15.3	20.5	17 W	4*	10*
6 25	20 52.83	-8 10.2	1.812	2.666	14.4	18.4	139 W	37	72	5 6	1 37.46	+14 6.0	2.094	1.177	15.4	20.6	18 W	4*	11*
7 5	20 43.94	-7 24.0	1.768	2.696	10.9	18.3	150 W	38	71	5 16	2 11.39	+16 27.1	2.127	1.217	15.8	20.7	19 W	5*	12*
7 15	20 33.26	-6 50.3	1.749	2.726	7.3	18.1	160 W	38	71	5 26	2 44.59	+18 23.1	2.158	1.260	16.3	20.9	20 W	5*	13*
7 25	20 21.74	-6 29.0	1.757	2.755	4.9	18.0	167 W	39	70	6 5	3 17.01	+19 53.8	2.186	1.304	17.1	21.0	22 W	6*	14*
8 4	20 10.44	-6 19.1	1.793	2.784	5.6	18.1	164 E	39	70	6 15	3 48.57	+20 59.5	2.209	1.350	18.0	21.1	24 W	8*	16*
8 14	20 0.39	-6 18.9	1.857	2.811	8.6	18.4	156 E	39	70	6 25	4 19.16	+21 41.1	2.227	1.396	19.1	21.2	27 W	10*	18*
8 24	19 52.39	-6 25.3	1.946	2.837	11.7	18.6	145 E	39	70	7 5	4 48.71	+22 0.1	2.239	1.442	20.3	21.4	29 W	13*	19*
9 3	19 46.89	-6 35.5	2.057	2.862	14.4	18.9	135 E	38	71	7 15	5 17.11	+21 58.0	2.242	1.488	21.5	21.5	32 W	16*	21*
9 13	19 44.04	-6 46.7	2.186	2.886	16.5	19.1	125 E	38	71	285872 2001 NR₅									
9 23	19 43.80	-6 56.6	2.328	2.910	18.1	19.3	116 E	38	71	12 27	17 19.77	-20 58.3	2.702	1.770	8.2	21.5	15 W	5*	6*
10 3	19 45.93	-7 3.3	2.480	2.932	19.1	19.5	107 E	38	71	1 6	17 48.10	-21 32.5	2.651	1.746	10.3	21.5	18 W	7*	10*
10 13	19 50.17	-7 5.3	2.638	2.953	19.5	19.6	98 E	38	71*	1 16	18 17.00	-21 48.3	2.597	1.724	12.3	21.5	22 W	7*	14*
10 23	19 56.23	-7 1.4	2.799	2.974	19.5	19.8	90 E	38	68*	1 26	18 46.29	-21 44.7	2.541	1.703	14.3	21.5	25 W	8*	18*
11 2	20 3.82	-6 51.1	2.959	2.993	19.2	19.9	82 E	38	63*	2 5	19 15.77	-21 21.5	2.484	1.685	16.2	21.5	29 W	8*	22*
11 12	20 12.69	-6 33.7	3.115	3.011	18.5	20.0	75 E	38*	55*	2 15	19 45.27	-20 39.2	2.426	1.669	18.1	21.5	32 W	8*	25*
11 22	20 22.62	-6 8.9	3.266	3.029	17.5	20.1	68 E	38*	48*	2 25	20 14.58	-19 38.5	2.368	1.655	20.0	21.5	35 W	8*	29*
12 2	20 33.39	-5 36.6	3.409	3.045	16.3	20.2	60 E	37*	39*	3 7	20 43.55	-18 21.1	2.309	1.644	21.8	21.5	38 W	8*	32*
12 12	20 44.84	-4 56.8	3.543	3.061	15.0	20.2	53 E	36*	31*	3 17	21 12.05	-16 49.0	2.251	1.636	23.5	21.4	41 W	9*	35*
12 22	20 56.81	-4 9.6	3.665	3.075	13.5	20.2	47 E	34*	24*	3 27	21 39.96	-15 4.5	2.194	1.631	25.1	21.4	44 W	9*	38*
1 1	21 9.17	-3 15.2	3.774	3.089	11.9	20.3	40 E	31*	16*	4 6	22 7.23	-13 10.4	2.137	1.628	26.7	21.4	47 W	9*	41*
1 11	21 21.81	-2 13.9	3.869	3.101	10.2	20.2	34 E	27*	10*	4 16	22 33.81	-11 9.4	2.080	1.629	28.2	21.4	50 W	10*	44*
1 21	21 34.63	-1 6.3	3.949	3.112	8.5	20.2	28 E	22*	3*	4 26	22 59.66	-9 4.4	2.023	1.632	29.6	21.4	53 W	11*	47*
185290 2006 UB₂₁₉										5 6	23 24.77	-6 58.4	1.967	1.638	30.8	21.4	56 W	12*	50*
12 27	17 19.04	-22 23.4	5.558	4.614	3.1	21.2	15 W	4*	7*	5 16	23 49.13	-4 54.0	1.910	1.647	32.0	21.3	60 W	14*	53*
1 6	17 29.77	-22 38.1	5.515	4.623	4.7	21.2	23 W	8*	14*	5 26	0 12.68	-2 53.9	1.852	1.659	33.0	21.3	63 W	16*	55*
1 16	17 40.22	-22 49.8	5.453	4.631	6.2	21.3	30 W	11*	22*	6 5	0 35.39	+1 0.4	1.793						

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

20/22	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°	20/22	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°
285872 2001 NR₅										101931 1999 RZ₂₀									
<i>(continuation)</i>																			
10 8	2 47.14	+ 4 8.5	1.059	1.996	13.7	19.9	152 W	49	60	12 27	17 20.62	-27 44.5	3.086	2.150	6.7	21.3	15 W	—	9*
10 13	2 42.52	+ 3 43.2	1.055	2.012	11.1	19.8	157 W	49	60	1 6	17 45.18	-28 0.6	3.016	2.114	8.9	21.3	19 W	2*	13*
10 18	2 37.34	+ 3 19.4	1.056	2.028	8.6	19.7	162 W	48	61	1 16	18 10.27	-28 2.6	2.937	2.077	11.1	21.3	24 W	3*	18*
10 23	2 31.82	+ 2 58.0	1.062	2.044	6.5	19.7	167 W	48	61	1 26	18 35.77	-27 49.5	2.852	2.040	13.3	21.3	28 W	4*	22*
10 28	2 26.15	+ 2 39.9	1.075	2.059	5.4	19.7	169 W	48	61	2 5	19 1.54	-27 20.7	2.761	2.004	15.4	21.3	33 W	5*	27*
11 2	2 20.54	+ 2 26.0	1.095	2.075	5.9	19.7	168 E	47	62	2 15	19 27.46	-26 35.6	2.666	1.968	17.6	21.2	37 W	6*	31*
11 12	2 10.31	+ 2 13.0	1.152	2.107	9.7	20.1	159 E	47	62	2 25	19 53.39	-25 34.3	2.567	1.933	19.7	21.2	41 W	6*	35*
11 22	2 2.45	+ 2 21.4	1.233	2.138	14.0	20.4	148 E	47	62	3 7	20 19.21	-24 16.9	2.465	1.899	21.7	21.1	45 W	7*	39*
12 2	1 57.62	+ 2 50.2	1.334	2.169	17.7	20.7	138 E	48	61	3 17	20 44.83	-22 43.9	2.362	1.866	23.7	21.0	49 W	8*	43*
12 12	1 56.05	+ 3 36.5	1.452	2.200	20.7	21.0	128 E	49	60	3 27	21 10.15	-20 56.2	2.259	1.834	25.6	21.0	53 W	8*	47*
12 22	1 57.56	+ 4 36.8	1.584	2.230	22.8	21.3	119 E	50	59	4 6	21 35.13	-18 54.6	2.155	1.804	27.5	20.9	56 W	9*	50*
154276 2002 SY₅₀																			
12 27	17 20.00	-26 7.5	2.222	1.295	11.1	20.6	15 W	1*	8*	4 16	21 59.72	-16 40.5	2.053	1.775	29.3	20.8	60 W	11*	54*
1 1	17 35.13	-26 34.6	2.265	1.351	11.8	20.7	16 W	2*	10*	4 26	22 23.87	-14 15.4	1.953	1.748	30.9	20.7	63 W	12*	57*
1 6	17 49.67	-26 55.4	2.304	1.405	12.6	20.9	18 W	2*	12*	5 6	22 47.59	-11 40.7	1.854	1.723	32.5	20.6	67 W	14*	60*
1 11	18 3.66	-27 10.6	2.340	1.457	13.5	21.0	20 W	2*	14*	5 16	23 10.86	-8 58.2	1.759	1.701	33.9	20.5	70 W	17*	63*
1 16	18 17.11	-27 20.9	2.372	1.508	14.3	21.2	22 W	3*	16*	5 26	23 33.64	-6 9.9	1.666	1.681	35.2	20.4	73 W	20*	64*
1 21	18 30.03	-27 27.0	2.399	1.558	15.2	21.3	25 W	3*	18*	6 5	23 55.94	-3 17.6	1.577	1.665	36.4	20.3	77 W	24*	65*
1 26	18 42.45	-27 29.5	2.423	1.607	16.1	21.4	27 W	4*	21*	6 15	0 17.68	+ 0 23.4	1.491	1.651	37.3	20.2	80 W	28*	64*
138013 2000 CN₁₀₁																			
12 27	17 20.06	-17 7.4	1.624	0.732	21.9	16.1	16 W	8*	4*	6 25	0 38.78	+ 2 30.6	1.408	1.640	38.0	20.0	83 W	34*	61*
1 1	17 51.70	-17 11.7	1.597	0.685	20.2	15.9	14 W	7*	2*	7 5	0 59.13	+ 5 22.6	1.328	1.633	38.5	19.9	87 W	39*	59*
1 6	18 24.72	-17 0.1	1.578	0.645	17.7	15.7	12 W	5*	—	7 15	1 18.53	+ 8 10.6	1.251	1.629	38.6	19.8	91 W	45*	56
1 11	18 58.83	-16 31.8	1.565	0.613	14.5	15.4	9 W	3*	—	7 25	1 36.72	+ 10 52.8	1.178	1.629	38.4	19.7	96 W	51*	53
1 16	19 33.61	-15 46.8	1.558	0.592	11.1	15.2	7 W	1*	—	8 4	1 53.37	+ 13 27.9	1.107	1.632	37.7	19.5	100 W	57*	51
1 21	20 8.57	-14 46.2	1.556	0.583	8.9	15.1	5 W	—	—	8 14	2 8.01	+ 15 54.3	1.040	1.639	36.5	19.3	106 W	63*	48
1 26	20 43.17	-13 32.0	1.560	0.589	9.7	15.1	6 E	—	—	8 24	2 20.10	+ 18 10.6	0.978	1.649	34.7	19.2	112 W	61	46
1 31	21 16.94	-12 6.7	1.569	0.607	12.6	15.3	8 E	2*	—	9 3	2 29.00	+ 20 15.3	0.920	1.662	32.1	19.0	119 W	65	44
2 5	21 49.50	-10 33.1	1.583	0.637	15.8	15.6	10 E	4*	—	9 8	2 32.04	+ 21 12.4	0.894	1.670	30.5	18.9	123 W	66	43
2 10	22 20.59	-8 53.9	1.604	0.676	18.6	15.8	13 E	6*	2*	9 13	2 34.02	+ 22 5.6	0.870	1.678	28.7	18.8	127 W	67	42
2 15	22 50.09	-7 11.8	1.630	0.722	20.6	16.1	15 E	8*	4*	9 18	2 34.91	+ 22 54.2	0.848	1.687	26.7	18.7	131 W	68	41
2 20	23 17.94	-5 29.3	1.662	0.772	21.9	16.3	17 E	9*	6*	9 23	2 34.67	+ 23 37.8	0.828	1.697	24.5	18.6	136 W	69	40
2 25	23 44.19	-3 48.2	1.700	0.825	22.6	16.5	19 E	10*	8*	9 28	2 33.29	+ 24 15.6	0.812	1.708	22.0	18.5	140 W	69	40
3 2	0 8.90	-2 10.1	1.743	0.880	22.7	16.7	20 E	11*	9*	10 3	2 30.80	+ 24 46.8	0.799	1.719	19.4	18.4	145 W	70	39
3 7	0 32.17	-0 36.1	1.791	0.936	22.5	16.9	21 E	12*	10*	10 8	2 27.31	+ 25 10.7	0.790	1.731	16.6	18.3	150 W	70	39
3 17	1 14.86	+ 2 16.6	1.896	1.047	21.2	17.2	22 E	12*	12*	10 13	2 22.97	+ 25 26.8	0.785	1.743	13.7	18.2	155 W	70	39
3 27	1 53.12	+ 4 46.8	2.012	1.157	19.4	17.5	23 E	12*	13*	10 18	2 18.01	+ 25 35.0	0.785	1.756	11.0	18.1	160 W	71	38
4 6	2 27.77	+ 6 54.0	2.134	1.262	17.2	17.8	22 E	10*	13*	10 23	2 12.69	+ 25 35.4	0.790	1.770	8.5	18.0	165 W	71	38
4 16	2 59.50	+ 8 39.4	2.256	1.363	15.0	18.0	21 E	7*	13*	10 28	2 7.29	+ 25 28.6	0.801	1.784	6.9	18.0	168 E	70	39
4 26	3 28.81	+ 10 4.7	2.376	1.459	12.8	18.2	19 E	4*	12*	11 2	2 2.07	+ 25 15.7	0.816	1.798	6.7	18.0	168 E	70	39
5 6	3 56.12	+ 11 11.5	2.491	1.550	10.6	18.3	16 E	1*	10*	11 7	1 57.30	+ 24 58.0	0.837	1.813	8.0	18.2	165 W	70	39
5 16	4 21.77	+ 12 1.5	2.599	1.637	8.7	18.4	14 E	—	8*	11 12	1 53.21	+ 24 37.2	0.863	1.828	10.1	18.3	161 E	70	39
5 26	4 45.97	+ 12 36.1	2.697	1.719	7.0	18.5	12 E	—	5*	11 17	1 49.96	+ 24 15.0	0.895	1.844	12.4	18.5	156 E	69	40
6 5	5 8.91	+ 12 56.8	2.785	1.797	5.8	18.7	10 E	—	2*	11 22	1 47.65	+ 23 52.9	0.931	1.860	14.7	18.7	152 E	69	40
6 15	5 30.71	+ 13 4.6	2.861	1.870	5.5	18.8	10 W	—	—	11 27	1 46.32	+ 23 32.2	0.972	1.876	16.8	18.9	147 E	69	40
6 25	5 51.47	+ 13 0.6	2.923	1.939	6.1	18.9	12 W	—	4*	12 2	1 45.97	+ 23 13.8	1.018	1.893	18.8	19.1	142 E	68	41
7 5	6 11.25	+ 12 45.9	2.971	2.004	7.4	19.1	15 W	—	8*	12 12	1 48.16	+ 22 46.6	1.120	1.927	22.2	19.4	132 E	68	41
7 15	6 30.10	+ 12 21.4	3.004	2.065	9.0	19.3	18 W	—	12*	12 22	1 53.79	+ 22 34.4	1.236	1.962	24.6	19.8	124 E	68	41
7 25	6 48.03	+ 11 47.8	3.022	2.123	10.7	19.4	23 W	2*	17*	1 1	2 2.31	+ 22 36.5	1.364	1.997	26.3	20.1	116 E	68	41*
8 4	7 5.05	+ 11 6.1	3.025	2.177	12.5	19.5	28 W	8*	20*	1 11	2 13.23	+ 22 51.2	1.500	2.033	27.4	20.3	108 E	68	41*
8 14	7 21.17	+ 10 17.0	3.011	2.227	14.2	19.6	33 W	14*	24*	1 21	2 26.08	+ 23 15.8	1.643	2.070	27.8	20.6	101 E	68	39*
8 24	7 36.35	+ 9 21.4	2.982	2.274	15.9	19.7	38 W	20*	28*	17493 Wildcat									
9 3	7 50.55	+ 8 20.0	2.937	2.318	17.5	19.8	44 W	25*	32*	12 27	17 20.97	-35 11.9	4.741	3.818	4.6	21.3	18 W	—	12*
9 13	8 3.70	+ 7 13.6	2.878	2.358	19.0	19.8	50 W	31*	35*	1 6	17 33.75	-34 55.9	4.710	3.832	6.0	21.4	24 W	—	18*
9 23	8 15.71	+ 6 3.2	2.804	2.395	20.4	19.8	56 W	36*	39*	1 16	17 46.00	-34 38.7	4.659	3.846	7.5	21.4	31 W	—	25*
10 3	8 26.48	+ 4 49.7	2.717	2.429	21.5	19.8	63 W	41*	43*	1 26	17 57.60	-34 20.1	4.588	3.858	9.0	21.4	38 W	3*	32*
10 13	8 35.83	+ 3 34.2	2.619	2.460	22.4	19.8	70 W	44*	48*	2 5	18 8.43	-34 0.3	4.499	3.870	10.4	21.5	45 W	5*	39*
10 23	8 43.59	+ 2 18.1	2.510	2.488	23.0	19.8	77 W	46*	52*	2 15	18 18.35	-33 39.7	4.393	3.881	11.7	21.5	53 W	6*	47*
11 2	8 4																		

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

20/22	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°-26°	20/22	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°-26°	
17493 Wildcat (continuation)									1627 Ivar (continuation)									
8 24	17 21.42	-22 11.2	3.461	3.928	14.0	21.1	110 E	23* 86	3 17	22 41.37	-9 10.3	2.053	1.148	15.5	15.5	18 W	-	12*
9 3	17 21.62	-21 30.4	3.608	3.922	14.6	21.2	101 E	23* 86	3 22	22 59.53	-7 44.3	2.063	1.159	15.6	15.5	18 W	-	12*
9 13	17 23.64	-20 54.6	3.759	3.915	14.9	21.3	91 E	23* 83*	3 27	23 17.30	-6 17.0	2.074	1.172	15.7	15.6	19 W	-	13*
9 23	17 27.27	-20 23.1	3.910	3.907	14.8	21.3	82 E	23* 75*	4 1	23 34.67	-4 49.3	2.086	1.187	15.9	15.6	19 W	-	13*
10 3	17 32.32	-19 54.6	4.057	3.899	14.3	21.4	74 E	22* 67*	4 6	23 51.67	-3 21.7	2.100	1.204	16.1	15.7	19 W	-	13*
10 13	17 38.62	-19 28.2	4.197	3.889	13.5	21.4	65 E	22* 58*	4 16	0 24.56	-0 30.0	2.129	1.242	16.6	15.8	21 W	-	15*
10 23	17 45.98	-19 2.6	4.326	3.879	12.5	21.5	57 E	21* 49*	4 26	0 56.06	+2 13.5	2.159	1.285	17.2	15.9	22 W	-	16*
11 2	17 54.24	-18 36.7	4.441	3.868	11.2	21.5	49 E	20* 41*	5 6	1 26.28	+4 45.6	2.189	1.332	17.9	16.0	24 W	-	18*
11 12	18 3.26	-18 9.5	4.541	3.856	9.8	21.5	42 E	18* 32*	5 16	1 55.34	+7 3.8	2.216	1.382	18.8	16.1	26 W	-	1*
11 22	18 12.89	-17 40.1	4.623	3.843	8.2	21.4	34 E	17* 24*	5 26	2 23.28	+9 6.6	2.240	1.434	19.7	16.3	29 W	-	2*
12 2	18 23.00	-17 7.8	4.687	3.830	6.6	21.4	26 E	14* 15*	6 5	2 50.18	+10 53.1	2.259	1.488	20.7	16.4	31 W	-	4*
12 12	18 33.48	-16 31.8	4.730	3.815	4.9	21.3	19 E	11* 7*	6 15	3 16.06	+12 23.1	2.271	1.542	21.8	16.5	34 W	-	7*
12 22	18 44.20	-15 15.4	4.753	3.800	3.3	21.2	13 E	7* -	6 25	3 40.91	+13 36.8	2.272	1.596	22.9	16.6	38 W	-	11*
1	18 55.05	-15 6.4	4.754	3.784	2.2	21.1	8 E	2* -	7 5	4 4.71	+14 34.6	2.276	1.651	24.0	16.7	41 W	-	15*
1 11	19 5.93	-14 16.2	4.734	3.767	2.4	21.1	9 W	3* -	7 15	4 27.41	+15 17.4	2.260	1.704	25.1	16.8	45 W	-	20*
1 21	19 16.73	-13 20.5	4.693	3.749	3.8	21.2	15 W	8* 2*	7 25	4 48.94	+15 46.1	2.238	1.757	26.1	16.8	50 W	-	26*
24242 1999 XY₁₀₀									280252 2002 XK₁₄									
12 27	17 21.64	-25 32.5	2.749	1.812	7.7	18.6	14 W	1* 7*	8 4	5 9.23	+16 1.9	2.206	1.809	27.0	16.9	54 W	-	32*
1 6	17 50.26	-25 39.8	2.694	1.784	9.8	18.6	18 W	3* 11*	8 14	5 28.16	+16 6.1	2.164	1.860	27.9	16.9	59 W	-	37*
1 16	18 19.37	-25 26.8	2.634	1.757	11.8	18.6	22 W	4* 15*	8 24	5 45.59	+16 0.2	2.113	1.909	28.5	16.9	64 W	-	43*
1 26	18 48.74	-24 52.4	2.573	1.731	13.9	18.6	25 W	5* 18*	9 3	6 1.39	+15 45.9	2.052	1.957	29.0	16.9	70 W	-	49*
2 5	19 18.17	-23 56.5	2.509	1.707	15.9	18.6	28 W	6* 22*	9 13	6 15.34	+15 24.7	1.983	2.004	29.2	16.9	77 W	-	53*
2 15	19 47.46	-22 39.2	2.444	1.684	17.9	18.6	32 W	6* 25*	9 23	6 27.21	+14 58.8	1.906	2.049	29.1	16.9	83 W	-	57*
2 25	20 16.43	-21 1.4	2.379	1.664	19.8	18.6	35 W	7* 29*	10 3	6 36.74	+14 30.0	1.825	2.092	28.6	16.8	91 W	-	59*
3 7	20 44.93	-19 4.7	2.314	1.646	21.7	18.6	38 W	8* 32*	10 13	6 43.56	+14 0.8	1.740	2.133	27.5	16.7	99 W	-	59*
3 17	21 12.87	-16 50.8	2.249	1.631	23.5	18.5	41 W	8* 35*	10 23	6 47.33	+13 33.6	1.654	2.173	25.9	16.6	108 W	-	59*
3 27	21 40.17	-14 22.2	2.185	1.618	25.2	18.5	44 W	9* 38*	11 2	6 47.69	+13 10.9	1.573	2.211	23.5	16.5	117 W	-	58*
4 6	22 6.80	-11 41.4	2.122	1.608	26.9	18.5	47 W	11* 40*	11 12	6 44.33	+12 55.4	1.500	2.248	20.4	16.4	128 W	-	58*
4 16	22 32.77	-8 51.1	2.061	1.601	28.4	18.4	49 W	12* 43*	11 22	6 37.21	+12 49.1	1.441	2.282	16.4	16.2	139 W	-	58*
4 26	22 58.08	-5 54.4	2.001	1.597	29.9	18.4	52 W	14* 46*	12 2	6 26.66	+12 53.4	1.401	2.315	11.8	16.1	151 W	-	58*
5 6	23 22.77	-2 53.8	1.941	1.596	31.2	18.4	55 W	16* 48*	12 12	6 13.56	+13 8.5	1.386	2.346	7.0	16.0	163 W	-	58*
5 16	23 46.87	+0 7.7	1.883	1.598	32.5	18.4	58 W	18* 50*	12 17	6 6.48	+13 19.8	1.389	2.361	5.0	16.0	168 W	-	58*
5 26	0 10.37	+3 7.4	1.825	1.603	33.6	18.3	61 W	21* 51*	12 22	5 59.34	+13 33.3	1.400	2.375	4.1	16.0	170 E	-	59*
6 5	0 33.29	+6 3.1	1.767	1.611	34.6	18.3	64 W	25* 52*	12 27	5 52.32	+13 48.7	1.418	2.389	4.9	16.1	168 E	-	59*
6 15	0 55.59	+8 52.5	1.708	1.622	35.4	18.3	68 W	29* 52*	1 1	5 45.63	+14 5.8	1.443	2.402	6.7	16.1	163 E	-	59*
6 25	1 17.19	+11 33.5	1.649	1.635	36.1	18.2	71 W	35* 51*	1 6	5 39.46	+14 24.3	1.476	2.415	8.8	16.3	158 E	-	59*
7 5	1 38.01	+14 4.9	1.588	1.652	36.5	18.2	75 W	40* 50*	1 11	5 33.94	+14 44.0	1.516	2.428	11.0	16.4	152 E	-	60*
7 15	1 57.86	+16 25.1	1.527	1.670	36.7	18.1	79 W	47* 48*	1 16	5 29.21	+15 4.5	1.561	2.440	13.0	16.5	146 E	-	60*
7 25	2 16.51	+18 33.3	1.463	1.691	36.7	18.1	84 W	53* 45	1 21	5 25.30	+15 25.8	1.613	2.452	14.8	16.6	140 E	-	60*
8 4	2 33.67	+20 29.0	1.399	1.714	36.3	18.0	89 W	59* 44	280252 2002 XK₁₄									
8 14	2 48.93	+22 11.7	1.333	1.739	35.5	17.9	95 W	65* 42	12 27	17 22.21	-18 55.4	3.009	2.074	7.0	21.5	15 W	7* 4*	
8 24	3 1.83	+23 41.2	1.267	1.765	34.2	17.8	101 W	69* 40	1 6	17 45.75	-19 14.0	2.943	2.042	9.2	21.5	19 W	9* 9*	
9 3	3 11.83	+24 57.4	1.202	1.793	32.4	17.6	108 W	70 39	1 16	18 9.74	-19 19.2	2.871	2.010	11.4	21.5	24 W	10* 15*	
9 13	3 18.30	+25 59.0	1.141	1.821	29.8	17.5	116 W	71 38	1 26	18 34.09	-19 10.4	2.791	1.978	13.6	21.5	28 W	12* 20*	
9 23	3 20.71	+26 44.5	1.085	1.851	26.4	17.3	125 W	72 37	2 5	18 58.71	-18 47.5	2.706	1.946	15.8	21.5	32 W	12* 25*	
10 3	3 18.70	+27 11.0	1.038	1.882	22.2	17.1	135 W	72 37	2 15	19 23.54	-18 10.3	2.616	1.915	17.9	21.4	37 W	13* 29*	
10 13	3 12.31	+27 14.4	1.005	1.913	17.2	16.9	145 W	72 37	2 25	19 48.46	-17 19.0	2.522	1.884	20.0	21.4	41 W	14* 34*	
10 18	3 7.71	+27 6.4	0.995	1.928	14.4	16.8	151 W	72 37	3 7	20 13.42	-16 14.2	2.425	1.853	22.1	21.3	45 W	14* 38*	
10 23	3 2.38	+26 51.8	0.989	1.944	11.6	16.7	157 W	72 37	3 17	20 38.37	-14 56.7	2.327	1.824	24.1	21.3	48 W	15* 42*	
10 28	2 56.54	+26 30.9	0.990	1.960	8.8	16.6	162 W	72 37	3 27	21 3.23	-13 27.6	2.227	1.795	26.0	21.2	52 W	16* 46*	
11 2	2 50.43	+26 4.0	0.996	1.976	6.3	16.6	167 W	71 38	4 6	21 28.01	-11 48.2	2.128	1.767	27.9	21.1	56 W	16* 49*	
11 7	2 44.32	+25 32.2	1.008	1.992	4.7	16.5	171 E	71 38	4 16	21 52.68	-10 0.0	2.029	1.741	29.6	21.0	59 W	17* 52*	
11 12	2 38.48	+24 56.9	1.026	2.008	5.0	16.6	170 E	70 39	4 26	22 17.23	-8 5.1	1.931	1.716	31.3	20.9	62 W	18* 55*	
11 17	2 33.14	+24 19.7	1.051	2.024	6.8	16.7	166 E	69 40	5 6	22 41.68	-6 5.3	1.835	1.693	32.9	20.8	66 W	20* 58*	
11 22	2 28.47	+23 42.0	1.081	2.040	9.1	16.9	161 E	69 40	5 16	23 6.01	-4 2.9	1.741	1.672	34.4	20.7	69 W	21* 60*	
11 27	2 24.60	+23 5.2	1.118	2.056	11.5	17.1	155 E	68 41	5 26	23 30.21	-2 0.6	1.650	1.653	35.7	20.6	72 W	24* 61*	
12 2	2 21.63	+22 30.7	1.160	2.072	13.8	17.3	150 E	68 41	6 5	23 54.29	-0 0.8	1.561	1.637	36.9	20.5	76 W	27* 62*	
12 7	2 19.59	+21 59.5	1.207	2.088	15.9	17.5	144 E	67 42	6 15	0 18.16	+1 53.7	1.476	1.623	37.9	20.4	79 W	30* 61*	
12 12	2 18.50	+21 32.3	1.259	2.104	17.8	17.6	139 E	67 42	6 25	0 41.75	+3 39.8	1.394	1.612	38.7	20.3	82 W	34* 60*	
12 22	2 19.04	+20 51.4	1.374	2.135	21.0	18.0	129 E	66 43	7 5	1 4.93	+5 14.9	1.314	1.604	39.2	20.2	86 W	38* 59*	
1 1	2 22.85	+20 28.6	1.504	2.167	23.2	18.3	120 E	65 44	7 15	1 27.49	+6 36.0	1.238	1.598	39.5	20.0	90 W	43* 57	
1 11	2 29.48	+20 22.5	1.643	2.197	24.7	18.5	111 E	65 44*	7 25	1 49.14	+7 40.4	1.164	1.596	39.4	19.9	94 W	47* 56	
1 21	2 38.45	+20 30.2	1.790	2.227	25.5	18.8	103 E	66 42*	8 4	2 9.55	+8 26.0	1.093	1.597	38.9	19.8	98 W	51* 56	
1627 Ivar									8 14	2 28.25	+8 50.7	1.026	1.601	38.0	19.4	103 W	53* 55	
12 27	17 21.78	-18 46.4	2.182	1.259	11.7	15.8	15 W	7* 4*	8 24	2 44.71	+8 53.3	0.962	1.608	36.5	19.4	109 W	54 55	

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

20/22	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°	20/22	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°
280252 2002 XK₁₄										145962 Lacchini									
<i>(continuation)</i>										<i>(continuation)</i>									
11 22	2 40.38	+ 1 13.2	0.838	1.782	13.7	18.7	155 E	46	63	7 10	22 34.93	-22 23.4	1.588	2.411	17.5	19.4	134 W	23	86
12 2	2 35.47	+ 1 41.5	0.911	1.810	18.1	19.0	145 E	47	62	7 15	22 33.27	-23 39.8	1.564	2.428	15.8	19.4	139 W	21	88
12 12	2 34.00	+ 2 35.7	1.001	1.839	21.9	19.4	136 E	48	61	7 20	22 30.84	-24 59.2	1.545	2.445	14.0	19.3	144 W	20	89
12 17	2 34.59	+ 3 10.6	1.051	1.854	23.5	19.6	131 E	48	61	7 25	22 27.67	-26 20.2	1.532	2.461	12.2	19.2	149 W	19	90
12 22	2 36.01	+ 3 49.4	1.104	1.870	24.8	19.7	127 E	49	60	7 30	22 23.80	-27 41.2	1.526	2.477	10.4	19.2	154 W	17	88
12 27	2 38.21	+ 4 31.4	1.161	1.885	26.0	19.9	123 E	50	59	8 4	22 19.33	-29 0.4	1.525	2.493	8.9	19.1	158 W	16	87
1 1	2 41.14	+ 5 15.9	1.220	1.900	27.0	20.0	119 E	50	59	8 9	22 14.36	-30 16.2	1.531	2.509	7.8	19.1	160 W	15	86
1 6	2 44.77	+ 6 2.4	1.281	1.916	27.7	20.2	115 E	51	58	8 14	22 9.05	-31 26.7	1.545	2.525	7.4	19.1	161 W	14	85
1 11	2 49.02	+ 6 50.3	1.344	1.932	28.3	20.3	111 E	52	57	8 19	22 3.55	-32 30.6	1.565	2.540	7.8	19.1	160 W	12	83
1 16	2 53.85	+ 7 39.0	1.409	1.948	28.8	20.5	108 E	53	56*	8 24	21 58.05	-33 26.9	1.592	2.555	8.7	19.2	158 E	12	83
1 21	2 59.20	+ 8 28.1	1.476	1.963	29.1	20.6	104 E	53	55*	8 29	21 52.71	-34 14.8	1.625	2.570	10.0	19.4	154 E	11	82
147997 1996 RH₂₆										101430 1998 VE₃₂									
12 27	17 22.79	-25 51.3	2.817	1.878	7.3	20.8	14 W	1*	7*	12 27	17 23.21	-18 18.8	2.577	1.646	8.9	19.1	15 W	7*	4*
1 6	17 50.32	-26 10.8	2.763	1.852	9.4	20.9	18 W	3*	11*	1 6	17 51.64	-17 13.4	2.510	1.609	11.3	19.1	19 W	10*	7*
1 16	18 18.35	-26 12.0	2.703	1.827	11.6	20.9	22 W	4*	15*	1 16	18 20.60	-15 45.2	2.439	1.572	13.6	19.1	22 W	12*	11*
1 26	18 46.70	-25 54.1	2.640	1.803	13.7	20.9	26 W	4*	19*	1 26	18 49.97	-13 53.0	2.367	1.535	15.9	19.1	25 W	14*	14*
2 5	19 15.18	-25 16.7	2.573	1.780	15.7	20.9	29 W	5*	23*	2 5	19 19.67	-11 36.5	2.296	1.501	18.0	19.0	28 W	16*	17*
2 15	19 43.61	-24 20.0	2.504	1.758	17.7	20.8	33 W	5*	27*	2 15	19 49.67	- 8 56.2	2.227	1.468	20.1	19.0	31 W	17*	20*
2 25	20 11.83	-23 4.5	2.433	1.738	19.7	20.8	36 W	6*	30*	2 25	20 19.89	- 5 53.7	2.162	1.437	22.0	18.9	33 W	19*	22*
3 7	20 39.68	-21 31.5	2.361	1.719	21.7	20.8	40 W	6*	34*	3 7	20 50.35	- 2 31.6	2.103	1.409	23.8	18.9	35 W	20*	24*
3 17	21 7.06	-19 42.2	2.288	1.702	23.5	20.8	43 W	7*	37*	3 17	21 21.06	+ 1 6.1	2.051	1.383	25.3	18.8	36 W	21*	25*
3 27	21 33.89	-17 38.8	2.215	1.687	25.3	20.7	46 W	8*	40*	3 22	21 36.52	+ 2 59.3	2.028	1.372	26.0	18.8	37 W	22*	26*
4 6	22 0.11	-15 23.2	2.142	1.673	27.0	20.7	49 W	9*	43*	3 27	21 52.05	+ 4 54.4	2.007	1.362	26.6	18.8	38 W	22*	26*
4 16	22 25.71	-12 57.6	2.069	1.662	28.6	20.6	53 W	10*	47*	4 1	22 7.67	+ 6 50.7	1.987	1.353	27.2	18.8	38 W	23*	26*
4 26	22 50.67	-10 24.7	1.997	1.654	30.2	20.6	56 W	11*	50*	4 6	22 23.40	+ 8 47.3	1.970	1.344	27.8	18.7	39 W	23*	27*
5 6	23 15.01	- 7 46.6	1.925	1.647	31.6	20.6	59 W	13*	52*	4 11	22 39.23	+10 43.5	1.955	1.337	28.2	18.7	39 W	23*	27*
5 16	23 38.72	- 5 6.0	1.855	1.644	32.9	20.5	62 W	16*	55*	4 16	22 55.17	+12 38.3	1.942	1.331	28.7	18.7	40 W	24*	27*
5 26	0 1.80	- 2 25.1	1.784	1.642	34.1	20.5	65 W	18*	57*	4 21	23 11.23	+14 31.0	1.930	1.326	29.1	18.7	40 W	24*	27*
6 5	0 24.24	+ 0 13.8	1.714	1.643	35.1	20.4	69 W	22*	58*	4 26	23 27.40	+16 20.7	1.921	1.322	29.4	18.7	40 W	25*	27*
6 15	0 46.00	+ 2 48.6	1.644	1.647	36.0	20.3	72 W	26*	58*	5 1	23 43.70	+18 6.5	1.912	1.320	29.7	18.7	40 W	25*	26*
6 25	1 6.98	+ 5 17.4	1.574	1.653	36.6	20.3	76 W	32*	58*	5 6	0 0.12	+19 47.9	1.905	1.319	30.0	18.7	41 W	25*	26*
7 5	1 27.10	+ 7 38.6	1.504	1.662	37.0	20.2	80 W	37*	56*	5 11	0 16.66	+21 24.1	1.900	1.319	30.3	18.7	41 W	25*	26*
7 15	1 46.15	+ 9 50.8	1.433	1.672	37.2	20.1	84 W	43*	54	5 16	0 33.31	+22 54.5	1.895	1.320	30.5	18.7	41 W	26*	26*
7 25	2 3.90	+11 52.9	1.362	1.685	37.1	20.0	89 W	49*	52	5 21	0 50.04	+24 18.4	1.890	1.322	30.7	18.7	42 W	26*	26*
8 4	2 20.06	+13 44.1	1.291	1.700	36.5	19.9	94 W	55*	50	5 26	1 6.85	+25 35.5	1.886	1.326	30.9	18.7	42 W	27*	25*
8 14	2 34.20	+15 23.8	1.221	1.717	35.5	19.8	100 W	59*	49	5 31	1 23.71	+26 45.3	1.883	1.331	31.2	18.7	43 W	27*	25*
8 24	2 45.84	+16 51.6	1.152	1.736	33.9	19.6	107 W	62	47	6 5	1 40.60	+27 47.6	1.879	1.336	31.4	18.7	43 W	28*	25*
9 3	2 54.42	+18 7.1	1.086	1.756	31.7	19.4	114 W	63	46	6 15	2 14.29	+29 28.6	1.871	1.352	31.9	18.8	45 W	29*	25*
9 13	2 59.32	+19 9.3	1.024	1.778	28.6	19.3	122 W	64	45	6 25	2 47.61	+30 37.2	1.860	1.371	32.4	18.8	46 W	31*	25*
9 23	3 0.04	+19 56.9	0.971	1.801	24.6	19.1	132 W	65	44	7 5	3 20.24	+31 13.7	1.845	1.394	33.0	18.8	48 W	34*	25*
10 3	2 56.33	+20 27.6	0.929	1.825	19.7	18.8	142 W	65	44	7 15	3 51.81	+31 19.1	1.825	1.421	33.7	18.9	51 W	37*	26*
10 13	2 48.47	+20 38.8	0.903	1.850	14.0	18.6	153 W	66	43	7 25	4 21.97	+30 54.8	1.799	1.451	34.4	18.9	54 W	40*	27*
10 18	2 43.30	+20 36.9	0.897	1.863	10.9	18.5	159 W	66	43	8 4	4 50.47	+30 3.0	1.766	1.482	35.0	18.9	57 W	44*	28*
10 23	2 37.58	+20 30.0	0.896	1.876	7.7	18.4	165 W	66	43	8 14	5 17.03	+28 46.0	1.727	1.516	35.7	19.0	61 W	48*	30*
10 28	2 31.55	+20 18.8	0.901	1.889	4.8	18.3	171 W	65	44	8 24	5 41.46	+27 5.8	1.680	1.552	36.2	19.0	65 W	52*	32*
11 2	2 25.46	+20 3.9	0.912	1.902	2.8	18.2	175 E	65	44	9 3	6 3.61	+25 4.6	1.627	1.588	36.5	18.9	70 W	55*	35*
11 7	2 19.59	+19 46.4	0.929	1.916	4.0	18.3	172 E	65	44	9 13	6 23.30	+22 43.9	1.568	1.626	36.7	18.9	75 W	58*	38*
11 12	2 14.18	+19 27.6	0.952	1.929	6.6	18.5	167 E	64	45	9 23	6 40.34	+20 5.4	1.504	1.664	36.5	18.9	80 W	61*	41*
11 17	2 9.45	+19 8.8	0.980	1.943	9.4	18.7	161 E	64	45	10 3	6 54.56	+17 10.0	1.437	1.702	35.9	18.8	87 W	61*	45*
11 22	2 5.53	+18 51.2	1.014	1.956	12.1	18.9	155 E	64	45	10 13	7 5.66	+13 59.1	1.367	1.740	34.9	18.7	93 W	59	49
11 27	2 2.52	+18 35.6	1.054	1.970	14.6	19.1	150 E	64	45	10 23	7 13.31	+10 34.1	1.298	1.778	33.3	18.6	101 W	56	53*
12 2	2 0.46	+18 22.9	1.098	1.984	16.9	19.3	144 E	63	46	11 2	7 17.17	+ 6 57.5	1.233	1.816	31.1	18.5	109 W	52	57
12 12	1 59.24	+18 8.1	1.199	2.011	20.6	19.6	134 E	63	46										
12 22	2 1.67	+18 8.8	1.315	2.039	23.5	19.9	124 E	63	46										
1 1	2 7.27	+18 23.9	1.442	2.067	25.4	20.2	116 E	63	46										
1 11	2 15.56	+18 51.7	1.577	2.094	26.6	20.5	107 E	64	45*										
1 21	2 26.09	+19 29.2	1.718	2.121	27.2	20.7	100 E	64	43*										
145962 Lacchini																			
12 27	17 22.87	-11 29.1	2.587	1.685	10.8	19.5	19 W	12*	1*										
1 6	17 49.34	-12 32.8	2.597	1.717	11.9	19.6	21 W	14*	6*										
1 16	18 15.14	-13 20.6	2.602	1.751	13.3	19.7	24 W	15*	11*										
1 26	18 40.18	-13 53.9	2.601	1.787	14.8	19.8	28 W	15*	16*										
2 5	19 4.38	-14 14.3	2.592	1.824	16.3	19.9	31 W	16*	22*										
2 15	19 27.67	-14 23.7	2.574	1.861	18.0	19.9	36 W	16*	27*										
2 25	19 49.97	-14 24.3	2.548	1.900	19.6	20.0	40 W	16*	32*										
3 7	20 11.25	-14 18.5	2.513	1.939	21.1	20.1	45 W	16*	38*										
3 17	20 31.46	-14 8.7	2.468	1.978	22.6	20.1	50 W	16*	43*										
3 27	20 50.54	-13 57.5	2.414	2.017	23.9	20.2	55 W	17*	49*										
4 6	21 8.44	-13 47.4	2.352	2.057	25.1	20.2	61 W	17*	54*										
4 16	21 25.10	-13 41.2	2.281	2.096	26.1	20.2	67 W	18*	60*										

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

20/22	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°	20/22	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°
101430 1998 VE₃₂										326113 2011 UG₁₀₈									
<i>(continuation)</i>										<i>(continuation)</i>									
11 7	7 17.54	+ 5 6.1	1.202	1.834	29.8	18.4	113 W	50	59	2 15	19 49.58	-21 29.8	2.448	1.679	17.6	21.3	31 W	7*	25*
11 12	7 16.83	+ 3 13.8	1.174	1.853	28.3	18.3	117 W	48	61	2 25	20 19.04	-20 32.4	2.388	1.663	19.5	21.3	34 W	7*	28*
11 17	7 15.02	+ 1 21.6	1.149	1.871	26.6	18.3	122 W	46	63	3 7	20 48.23	-19 18.0	2.327	1.649	21.3	21.3	37 W	7*	31*
11 22	7 12.11	- 0 29.1	1.128	1.889	24.9	18.2	126 W	45	64	3 17	21 17.04	-17 48.4	2.268	1.638	23.1	21.2	40 W	7*	34*
11 27	7 8.12	- 2 16.7	1.110	1.907	23.1	18.1	131 W	43	66	3 27	21 45.32	-16 6.0	2.208	1.630	24.7	21.2	43 W	7*	37*
12 2	7 3.11	- 3 59.5	1.097	1.925	21.3	18.1	135 W	41	68	4 6	22 13.03	-14 13.2	2.150	1.625	26.3	21.2	46 W	8*	40*
12 7	6 57.19	- 5 35.2	1.089	1.942	19.5	18.0	139 W	39	70	4 16	22 40.10	-12 12.9	2.093	1.623	27.8	21.2	49 W	8*	43*
12 12	6 50.52	- 7 1.9	1.087	1.959	18.0	18.0	142 W	38	71	4 26	23 6.48	-10 8.1	2.036	1.624	29.2	21.2	52 W	9*	46*
12 17	6 43.30	- 8 17.9	1.090	1.976	16.8	18.0	145 W	37	72	5 6	23 32.17	- 8 1.5	1.979	1.628	30.5	21.2	55 W	10*	49*
12 22	6 35.76	- 9 21.6	1.099	1.993	16.0	18.0	146 W	36	73	5 16	23 57.14	- 5 56.0	1.923	1.635	31.7	21.1	58 W	12*	52*
12 27	6 28.14	-10 12.2	1.115	2.009	15.7	18.0	146 W	35	74	5 26	0 21.33	- 3 54.4	1.867	1.645	32.8	21.1	62 W	14*	55*
1 1	6 20.70	-10 49.3	1.136	2.025	15.9	18.1	146 E	34	75	6 5	0 44.74	- 1 58.9	1.810	1.658	33.7	21.1	65 W	17*	57*
1 6	6 13.66	-11 13.0	1.163	2.041	16.5	18.2	144 E	34	75	6 15	1 7.26	- 0 11.9	1.751	1.673	34.4	21.1	69 W	21*	58*
1 11	6 7.26	-11 24.2	1.195	2.056	17.4	18.3	141 E	34	75	6 25	1 28.80	+ 1 24.8	1.692	1.691	35.0	21.0	72 W	25*	60*
1 16	6 1.63	-11 24.1	1.233	2.072	18.5	18.4	138 E	34	75	7 5	1 49.23	+ 2 49.6	1.631	1.711	35.3	21.0	77 W	30*	60*
1 21	5 56.89	-11 14.3	1.275	2.086	19.7	18.5	135 E	34	75	7 15	2 8.35	+ 4 1.1	1.567	1.733	35.4	20.9	81 W	35*	60*
1864 Daedalus										420187 2011 GA₅₅									
12 27	17 24.10	-32 30.9	1.756	0.855	18.5	16.5	16 W	—	10*	7 25	2 25.93	+ 4 58.4	1.502	1.757	35.2	20.9	86 W	41*	59
1 1	17 54.72	-32 54.6	1.709	0.800	18.5	16.3	15 W	—	9*	8 4	2 41.68	+ 5 41.0	1.436	1.783	34.7	20.8	92 W	45*	58
1 6	18 27.31	-32 46.8	1.666	0.747	18.0	16.1	14 W	—	7*	8 14	2 55.24	+ 6 8.5	1.369	1.810	33.7	20.7	98 W	49*	58
1 11	19 1.44	-32 1.0	1.629	0.697	17.0	15.9	12 W	—	4*	8 24	3 6.19	+ 6 21.0	1.302	1.839	32.1	20.6	105 W	51*	58
1 16	19 36.46	-30 32.1	1.597	0.651	15.3	15.6	10 W	—	2*	9 3	3 14.09	+ 6 19.3	1.238	1.868	30.0	20.4	112 W	51	58
1 21	20 11.61	-28 17.3	1.570	0.613	13.4	15.4	8 W	—	—	9 13	3 18.47	+ 6 4.5	1.178	1.899	27.2	20.3	121 W	51	58
1 26	20 46.14	-25 16.8	1.548	0.584	12.1	15.2	7 E	—	—	9 23	3 18.95	+ 5 39.0	1.126	1.930	23.5	20.1	130 W	51	58
1 31	21 19.40	-21 35.2	1.530	0.567	12.7	15.1	7 E	—	1*	10 3	3 15.40	+ 5 6.1	1.085	1.962	19.1	19.9	140 W	50	59
2 5	21 51.00	-17 20.2	1.517	0.564	15.7	15.2	9 E	—	2*	10 8	3 12.17	+ 4 48.3	1.071	1.978	16.6	19.8	146 W	50	59
2 10	22 20.80	-12 42.1	1.507	0.575	19.9	15.4	11 E	3*	10 13	3 8.08	+ 4 30.8	1.061	1.994	14.0	19.7	151 W	50	59	
2 15	22 48.85	- 7 52.0	1.503	0.599	24.2	15.6	14 E	7*	10 18	3 3.27	+ 4 14.3	1.056	2.010	11.4	19.6	156 W	49	60	
2 20	23 15.39	- 2 59.7	1.504	0.633	27.8	15.8	17 E	10*	10 23	2 57.90	+ 3 59.8	1.057	2.026	8.9	19.6	162 W	49	60	
2 25	23 40.71	+ 1 46.5	1.511	0.676	30.5	16.1	20 E	14*	10 28	2 52.16	+ 3 47.9	1.064	2.042	6.8	19.5	166 W	49	60	
3 2	0 5.09	+ 6 20.8	1.525	0.724	32.3	16.3	23 E	17*	11 2	2 46.26	+ 3 39.5	1.077	2.058	5.7	19.5	168 W	49	60	
3 7	0 28.78	+10 38.9	1.546	0.776	33.2	16.5	25 E	19*	11 12	2 34.88	+ 3 35.4	1.122	2.091	7.6	19.7	164 E	49	60	
3 12	0 51.95	+14 37.9	1.573	0.830	33.6	16.7	28 E	23*	11 22	2 25.33	+ 3 50.2	1.192	2.123	11.8	20.0	154 E	49	60	
3 17	1 14.74	+18 16.3	1.606	0.885	33.4	16.9	29 E	23*	12 2	2 18.60	+ 4 23.5	1.284	2.156	15.9	20.4	143 E	49	60	
3 27	1 59.46	+24 28.7	1.690	0.996	32.1	17.2	32 E	26*	12 12	2 15.16	+ 5 13.0	1.394	2.188	19.2	20.7	133 E	50	59	
4 6	2 43.13	+29 17.1	1.790	1.104	30.0	17.5	34 E	28*	12 22	2 15.00	+ 6 15.5	1.521	2.219	21.7	21.0	123 E	51	58	
4 16	3 25.63	+32 49.0	1.902	1.208	27.7	17.7	34 E	28*	1 1	2 17.81	+ 7 27.5	1.659	2.250	23.5	21.3	114 E	52	57	
4 21	3 46.33	+34 9.4	1.961	1.258	26.4	17.9	34 E	28*	307984 2004 QV₁₃										
4 26	4 6.59	+35 14.6	2.022	1.307	25.2	18.0	34 E	27*	12 27	17 25.17	-27 42.2	2.087	1.156	11.8	20.7	14 W	—	8*	
5 1	4 26.37	+36 6.0	2.083	1.354	23.9	18.1	33 E	27*	1 1	17 47.81	-27 43.6	2.074	1.144	11.9	20.7	14 W	—	8*	
5 6	4 45.63	+36 44.9	2.145	1.400	22.7	18.2	32 E	26*	1 6	18 10.59	-27 31.4	2.063	1.133	12.0	20.7	14 W	—	8*	
5 11	5 4.36	+37 12.5	2.207	1.445	21.4	18.3	32 E	25*	1 11	18 33.37	-27 5.3	2.056	1.125	12.0	20.6	14 W	—	8*	
5 16	5 22.52	+37 30.2	2.268	1.489	20.2	18.3	31 E	24*	1 16	18 55.98	-26 25.8	2.052	1.121	12.0	20.6	14 W	—	8*	
5 21	5 40.10	+37 38.9	2.329	1.531	19.0	18.4	29 E	23*	1 21	19 18.29	-25 33.3	2.050	1.118	12.0	20.6	14 W	—	8*	
5 26	5 57.09	+37 39.8	2.389	1.572	17.8	18.5	28 E	22*	1 26	19 40.16	-24 28.8	2.052	1.119	11.9	20.6	14 W	—	8*	
5 31	6 13.50	+37 33.6	2.447	1.612	16.6	18.6	27 E	20*	1 31	20 1.50	-23 13.3	2.056	1.123	11.9	20.6	14 W	—	8*	
6 5	6 29.33	+37 21.3	2.505	1.650	15.5	18.6	26 E	19*	2 5	20 22.24	-21 48.1	2.063	1.129	11.8	20.7	14 W	—	8*	
6 10	6 44.61	+37 3.6	2.560	1.687	14.3	18.7	24 E	18*	2 10	20 42.33	-20 14.7	2.073	1.138	11.8	20.7	14 W	—	8*	
6 15	6 59.34	+36 41.1	2.613	1.723	13.2	18.7	23 E	16*	2 15	21 1.74	-18 34.3	2.085	1.150	11.8	20.7	14 W	—	8*	
6 20	7 13.55	+36 14.6	2.665	1.758	12.2	18.8	21 E	15*	2 20	21 20.46	-16 48.5	2.098	1.164	11.9	20.8	14 W	—	8*	
6 25	7 27.25	+35 44.4	2.713	1.792	11.2	18.8	20 E	13*	2 25	21 38.49	-14 58.5	2.114	1.181	12.0	20.8	14 W	—	8*	
7 5	7 53.25	+34 35.1	2.803	1.856	9.3	18.9	17 E	11*	3 2	21 55.86	-13 5.5	2.131	1.199	12.2	20.9	15 W	—	9*	
7 15	8 17.55	+33 16.4	2.881	1.916	7.8	19.0	15 E	9*	3 7	22 12.61	-11 10.8	2.149	1.220	12.4	20.9	15 W	—	9*	
7 25	8 40.30	+31 50.9	2.946	1.971	6.8	19.0	13 E	7*	3 12	22 28.76	- 9 15.2	2.168	1.243	12.6	21.0	16 W	—	10*	
8 4	9 1.70	+30 20.6	2.998	2.022	6.5	19.1	13 E	5*	3 17	22 44.35	- 7 19.6	2.188	1.267	12.9	21.1	17 W	1*	10*	
8 14	9 21.89	+28 47.1	3.034	2.070	7.1	19.2	15 W	7*	3 22	22 59.42	- 5 24.7	2.208	1.292	13.3	21.2	17 W	1*	11*	
8 24	9 40.99	+27 12.0	3.055	2.113	8.3	19.3	18 W	11*	3 27	23 13.99	- 3 31.3	2.229	1.319	13.7	21.2	18 W	2*	12*	
9 3	9 59.11	+25 36.3	3.061	2.153	9.8	19.4	21 W	15*	4 1	23 28.12	- 1 39.8	2.249	1.347	14.1	21.3	19 W	3*	13*	
9 13	10 16.34	+24 1.2	3.050	2.189	11.6	19.5	26 W	20*	4 6	23 41.84	+ 0 9.5	2.269	1.376	14.6	21.4	20 W	3*	14*	
9 23	10 32.74	+22 27.9	3.023	2.221	13.4	19.6	31 W	25*	4 11	23 55.17	+ 1 56.1	2.289	1.405	15.1	21.5	21 W	4*	15*	
10 3	10 48.35	+20 57.1	2.979	2.250	15.2	19.7	36 W	30*	326113 2011 UG₁₀₈										
10 13	11 3.18	+19 30.1	2.920	2.275	17.0	19.7	42 W	36*	12 27	17 25.93	-33 24.8	3.429	2.499	6.3	21.1	16 W	—	10*	
10 23	11 17.22	+18 7.9	2.845	2.297	18.7	19.7	48 W	41*	1 6	17 47.34	-33 7.0	3.364	2.468	8.1	21.2	21 W	—	15*	
11 2	11 30.43	+16 51.6	2.755	2.316	20.3	19.7	54 W	47*	1 16	18 8.73	-32 39.0	3.287	2.437	10.0	21.2	26 W	—	20*	

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

20/22	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°	21/22	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°
307984 2004 QV ₁₃ (continuation)										66391 Moshup (continuation)									
7 5	22 25.82	+ 5 1.6	1.087	1.838	28.1	18.7	122 W	50	59	5 1	3 44.44	- 2 56.1	0.632	0.513	123.0	19.2	25 E	-	18*
7 15	22 25.63	+ 9 26.0	0.990	1.805	26.2	18.4	128 W	54	55	5 6	4 9.32	- 5 2.7	0.538	0.597	125.4	19.4	29 E	-	21*
7 20	22 24.11	+11 42.6	0.946	1.789	25.2	18.3	131 W	57	52	5 11	4 39.21	- 6 35.3	0.458	0.671	125.7	19.4	33 E	-	24*
7 25	22 21.58	+14 0.3	0.908	1.774	24.1	18.2	134 W	59	50	5 16	5 16.75	- 7 30.0	0.392	0.738	124.1	19.1	37 E	-	29*
7 30	22 18.02	+16 17.6	0.873	1.759	23.1	18.0	137 W	61	48	5 18	5 34.44	- 7 39.0	0.370	0.762	122.8	18.9	39 E	-	32*
8 4	22 13.41	+18 32.1	0.844	1.744	22.2	17.9	139 W	64	45	5 20	5 53.82	- 7 39.3	0.350	0.786	121.1	18.7	42 E	-	35*
8 9	22 7.82	+20 41.2	0.819	1.730	21.6	17.8	141 W	66	43	5 22	6 14.90	- 7 30.0	0.333	0.808	119.0	18.5	44 E	-	38*
8 14	22 1.35	+22 42.1	0.799	1.716	21.2	17.7	142 W	68	41	5 24	6 37.57	- 7 10.1	0.319	0.829	116.5	18.3	47 E	-	41*
8 19	21 54.21	+24 32.1	0.784	1.703	21.2	17.7	143 W	70	39	5 26	7 1.61	- 6 39.4	0.308	0.850	113.6	18.1	50 E	-	44*
8 24	21 46.62	+26 9.2	0.774	1.690	21.5	17.6	142 E	71	38	5 28	7 26.64	- 5 58.0	0.301	0.869	110.3	17.9	54 E	-	48*
8 29	21 38.87	+27 31.4	0.768	1.678	22.2	17.6	141 E	73	36	5 30	7 52.18	- 5 7.4	0.297	0.887	106.8	17.7	57 E	-	51*
9 3	21 31.28	+28 37.8	0.766	1.666	23.3	17.6	139 E	74	35	6 1	8 17.67	- 4 9.4	0.297	0.905	103.2	17.5	60 E	-	54*
9 8	21 24.17	+29 28.2	0.768	1.655	24.5	17.7	137 E	74	35	6 3	8 42.57	- 3 6.8	0.300	0.921	99.5	17.4	64 E	-	56*
9 13	21 17.88	+30 3.4	0.774	1.645	25.8	17.7	135 E	75	34	6 5	9 6.39	- 2 2.3	0.306	0.937	95.9	17.3	67 E	-	58*
9 18	21 12.65	+30 25.1	0.783	1.636	27.2	17.8	132 E	75	34	6 7	9 28.81	- 0 58.5	0.316	0.951	92.4	17.3	69 E	-	59*
9 23	21 8.66	+30 35.3	0.795	1.627	28.6	17.8	129 E	76	33	6 9	9 49.61	- 0 2.7	0.327	0.965	89.3	17.2	72 E	-	60*
9 28	21 6.05	+30 35.9	0.809	1.619	29.9	17.9	126 E	76	33	6 11	10 8.71	- 0 59.9	0.342	0.978	86.4	17.3	74 E	-	61*
10 3	21 4.86	+30 29.0	0.825	1.612	31.1	17.9	124 E	75	34	6 13	10 26.13	- 1 52.4	0.358	0.990	83.7	17.3	76 E	-	61*
10 8	21 5.13	+30 16.5	0.842	1.605	32.2	18.0	121 E	75	34	6 15	10 41.96	- 2 40.0	0.375	1.002	81.4	17.3	77 E	-	60*
10 13	21 6.84	+30 0.3	0.861	1.600	33.2	18.1	119 E	75	34	6 20	11 15.43	- 4 18.1	0.424	1.027	76.6	17.5	79 E	-	59*
10 18	21 9.94	+29 42.2	0.882	1.595	34.1	18.2	116 E	75	34	6 25	11 41.88	- 5 30.8	0.477	1.047	73.0	17.6	80 E	-	58*
10 23	21 14.34	+29 23.2	0.903	1.591	34.9	18.2	114 E	74	35	6 30	12 3.23	- 6 24.1	0.532	1.063	70.4	17.8	80 E	-	57*
10 28	21 19.95	+29 4.3	0.925	1.588	35.5	18.3	112 E	74	35	7 5	12 20.91	- 7 3.0	0.588	1.075	68.3	18.0	79 E	-	57*
11 2	21 26.71	+28 46.3	0.949	1.586	36.1	18.4	110 E	74	35	7 10	12 35.94	- 7 31.0	0.643	1.082	66.7	18.2	78 E	-	56*
11 7	21 34.54	+28 29.7	0.973	1.585	36.6	18.4	108 E	73	35*	7 15	12 49.03	- 7 51.0	0.696	1.085	65.4	18.3	76 E	-	55*
11 12	21 43.34	+28 15.1	0.998	1.585	37.0	18.5	106 E	73	35*	7 20	13 0.67	- 8 4.9	0.747	1.083	64.4	18.4	74 E	-	54*
11 17	21 53.04	+28 2.9	1.024	1.585	37.3	18.6	104 E	73	35*	7 25	13 11.19	- 8 14.5	0.795	1.077	63.6	18.5	72 E	-	53*
11 22	22 3.53	+27 53.0	1.051	1.587	37.5	18.6	102 E	73	34*	7 30	13 20.83	- 8 20.7	0.840	1.067	63.0	18.6	69 E	-	52*
11 27	22 14.75	+27 45.6	1.079	1.589	37.6	18.7	100 E	73	34*	8 4	13 29.77	- 8 24.6	0.880	1.052	62.6	18.7	67 E	-	51*
12 2	22 26.62	+27 40.5	1.109	1.593	37.7	18.8	99 E	73	33*	8 9	13 38.15	- 8 26.7	0.916	1.032	62.4	18.7	64 E	-	49*
12 7	22 39.08	+27 37.8	1.140	1.597	37.7	18.8	97 E	73	32*	8 14	13 46.03	- 8 27.7	0.946	1.008	62.3	18.7	62 E	-	47*
12 12	22 52.06	+27 37.3	1.172	1.602	37.7	18.9	96 E	73	31*	8 24	14 0.36	- 8 28.7	0.989	0.946	63.0	18.7	56 E	-	42*
12 17	23 5.48	+27 38.9	1.206	1.608	37.6	19.0	94 E	73	30*	9 3	14 12.55	- 8 30.3	1.005	0.862	64.9	18.6	51 E	-	37*
12 22	23 19.27	+27 42.2	1.241	1.615	37.5	19.0	92 E	73	29*	9 13	14 21.48	- 8 32.5	0.987	0.753	69.2	18.4	44 E	-	28*
12 27	23 33.38	+27 47.0	1.278	1.622	37.3	19.1	91 E	73	28*	9 18	14 23.83	- 8 31.9	0.964	0.688	72.8	18.3	41 E	-	27*
1 1	23 47.75	+27 53.0	1.317	1.630	37.1	19.2	89 E	73	27*	9 23	14 23.79	- 8 26.7	0.930	0.616	78.0	18.1	37 E	-	25*
1 6	0 2.33	+28 0.0	1.357	1.639	36.8	19.2	87 E	73*	26*	9 28	14 19.94	- 8 9.1	0.888	0.534	85.8	18.0	32 E	-	23*
1 11	0 17.08	+28 7.7	1.399	1.649	36.5	19.3	86 E	73*	25*	10 3	14 9.81	- 7 21.4	0.838	0.443	98.0	18.0	26 E	-	19*
1 16	0 31.94	+28 15.9	1.443	1.660	36.1	19.4	84 E	73*	25*	10 5	14 3.15	- 6 45.5	0.818	0.404	104.7	18.1	23 E	-	16*
1 21	0 46.86	+28 24.1	1.489	1.671	35.7	19.4	82 E	72*	24*	10 7	13 54.55	- 5 53.7	0.800	0.364	112.9	18.3	20 E	-	13*
12 27	17 26.32	-21 2.6	2.003	1.071	12.3	19.0	13 W	4*	5*	10 9	13 43.75	- 4 39.4	0.786	0.324	122.8	18.7	16 E	-	10*
1 6	17 55.65	-19 33.2	1.985	1.084	15.4	19.1	17 W	7*	7*	10 11	13 30.77	- 2 54.5	0.780	0.283	134.2	19.5	12 E	-	5*
1 16	18 24.99	-17 42.2	1.944	1.080	18.7	19.2	21 W	10*	11*	10 13	13 16.25	- 0 31.1	0.787	0.246	144.5	20.5	8 E	-	-
1 26	18 54.91	-15 27.0	1.882	1.058	22.0	19.2	24 W	12*	14*	10 15	13 2.08	- 2 32.9	0.813	0.217	144.1	20.3	7 W	-	1*
1 31	19 10.30	-14 9.3	1.845	1.041	23.7	19.1	25 W	13*	15*	10 17	12 51.52	- 6 5.2	0.864	0.201	126.4	18.2	9 W	-	2*
2 5	19 26.13	-12 44.1	1.803	1.018	25.5	19.1	26 W	14*	16*	10 19	12 47.51	- 9 37.2	0.934	0.205	101.7	16.7	12 W	-	2*
2 10	19 42.52	-11 10.8	1.757	0.991	27.3	19.0	27 W	14*	17*	10 21	12 50.16	-12 42.0	1.012	0.226	79.3	16.2	13 W	-	1*
2 15	19 59.61	- 9 28.8	1.709	0.960	29.1	18.9	28 W	15*	18*	10 23	12 57.29	-15 11.0	1.089	0.259	62.3	16.1	13 W	-	7*
2 20	20 17.59	- 7 37.4	1.658	0.922	31.0	18.9	29 W	16*	18*	10 24	13 1.82	-16 13.2	1.125	0.278	55.6	16.1	13 W	-	7*
2 25	20 36.67	- 5 36.2	1.605	0.880	32.9	18.7	29 W	16*	18*	10 25	13 6.74	-17 8.3	1.159	0.298	50.1	16.2	13 W	-	7*
3 7	21 19.33	- 1 2.9	1.499	0.776	36.7	18.4	28 W	16*	17*	10 26	13 11.89	-17 57.3	1.192	0.318	45.3	16.2	13 W	-	7*
3 17	22 10.79	+ 4 6.0	1.400	0.645	39.9	18.0	25 W	15*	13*	10 27	13 17.18	-18 41.0	1.223	0.338	41.3	16.3	13 W	-	7*
3 27	23 16.16	+ 9 18.1	1.318	0.480	39.8	17.2	18 W	11*	6*	10 28	13 22.54	-19 20.0	1.252	0.359	37.8	16.4	13 W	-	7*
3 29	23 31.59	+10 13.3	1.304	0.442	38.8	17.0	16 W	9*	4*	10 29	13 27.93	-19 55.0	1.281	0.379	34.8	16.5	13 W	-	7*
3 31	23 48.00	+11 2.9	1.290	0.403	37.2	16.7	14 W	8*	2*	10 30	13 33.31	-20 26.5	1.308	0.399	32.2	16.6	12 W	-	6*
4 2	0 5.51	+11 44.5	1.277	0.363	34.7	16.4	12 W	6*	-	10 31	13 38.65	-20 54.9	1.334	0.419	29.9	16.6	12 W	-	6*
4 4	0 24.21	+12 15.2	1.262	0.323	31.1	16.0	10 W	4*	-	11 1	13 43.95	-21 20.6	1.358	0.438	27.9	16.7	12 W	-	6*
4 6	0 44.20	+12 30.6	1.246	0.283	26.4	15.5	7 W	1*	-	11 2	13 49.18	-21 43.8	1.382	0.457	26.1	16.8	12 W	-	6*
4 7	0 54.67	+12 30.8	1.236	0.264	24.0	15.3	6 W	-	-	11 4	13 59.44	-22 23.9	1.427	0.494	23.0	16.9	11 W	-	5*
4 8	1 5.43	+12 25.0	1.224	0.246	22.3	15.1	5 W	-	-	11 6	14 9.41	-22 57.0	1.469	0.529	20.6	17.1	11 W	-	5*
4 9	1 16.42	+12 12.3	1.210	0.230	22.2	14.9	5 E	-	-	11 8	14 19.07	-23 24.3	1.509	0.563	18.5	17.2	10 W	-	4*
4 10	1 27.53	+11 51.8	1.194	0.216	24.9	14.8	5 E	-	-	11 10	14 28.43	-23 46.7	1.545	0.596	16.8	17.3	1		

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

20/22	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°	20/21	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°
326333 2000 KX₄										376764 1999 XS₁₆ (continuation)									
12 27	17 26.71	-23 24.5	2.651	1.708	7.5	20.0	13 W	2*	5*	9 3	20 10.00	-30 56.8	2.527	3.332	12.0	20.8	136 E	14	85
1 6	17 57.06	-24 15.0	2.580	1.659	9.6	20.0	16 W	3*	9*	9 8	20 7.98	-30 53.3	2.602	3.355	13.0	20.9	131 E	14	85
1 16	18 28.79	-24 44.5	2.509	1.614	11.6	19.9	19 W	3*	13*	9 13	20 6.57	-30 47.4	2.682	3.378	13.9	21.0	126 E	14	85
1 26	19 1.72	-24 50.3	2.439	1.571	13.6	19.9	22 W	3*	16*	9 18	20 5.77	-30 39.4	2.765	3.400	14.6	21.1	122 E	14	85
2 5	19 35.59	-24 30.2	2.372	1.531	15.5	19.9	25 W	3*	19*	9 23	20 5.56	-30 29.6	2.851	3.422	15.2	21.2	117 E	15	86
2 15	20 10.10	-23 43.1	2.309	1.496	17.4	19.8	27 W	2*	21*	9 28	20 5.91	-30 18.1	2.940	3.444	15.6	21.3	112 E	15	86
2 25	20 44.86	-22 28.7	2.251	1.466	19.1	19.8	29 W	2*	23*	10 3	20 6.79	-30 5.2	3.031	3.466	16.0	21.4	107 E	15	86
3 7	21 19.56	-20 48.3	2.200	1.441	20.7	19.7	31 W	1*	25*	10 8	20 8.18	-29 51.0	3.124	3.487	16.2	21.5	103 E	15	86
3 17	21 53.86	-18 44.2	2.156	1.422	22.1	19.7	33 W	1*	26*										
3 27	22 27.51	-16 20.2	2.119	1.409	23.4	19.7	34 W	1*	28*										
4 6	23 0.30	-13 40.9	2.089	1.403	24.6	19.7	36 W	—	29*										
4 16	23 32.14	-10 51.2	2.065	1.404	25.6	19.7	37 W	1*	31*										
4 26	0 2.93	-7 56.4	2.046	1.412	26.5	19.7	39 W	1*	33*										
5 6	0 32.66	-5 1.3	2.032	1.426	27.4	19.7	41 W	2*	34*										
5 16	1 1.33	-2 10.2	2.021	1.446	28.1	19.8	42 W	4*	36*										
5 26	1 28.93	+0 32.9	2.011	1.472	28.9	19.8	45 W	6*	38*										
6 5	1 55.47	+3 5.6	2.001	1.503	29.5	19.9	47 W	9*	40*										
6 15	2 20.95	+5 25.6	1.990	1.539	30.2	19.9	50 W	12*	42*										
6 25	2 45.31	+7 31.8	1.975	1.579	30.7	20.0	53 W	17*	44*										
7 5	3 8.51	+9 23.5	1.956	1.623	31.3	20.0	56 W	22*	45*										
7 15	3 30.45	+11 0.8	1.931	1.669	31.7	20.1	60 W	27*	46*										
7 25	3 51.00	+12 24.1	1.901	1.718	32.1	20.1	64 W	34*	47*										
8 4	4 10.04	+13 34.7	1.864	1.768	32.3	20.2	69 W	40*	47*										
8 14	4 27.35	+14 33.7	1.820	1.820	32.3	20.2	74 W	46*	48*										
8 24	4 42.71	+15 22.9	1.770	1.873	32.1	20.2	80 W	52*	48*										
9 3	4 55.85	+16 4.2	1.715	1.927	31.5	20.1	86 W	57*	48*										
9 13	5 6.43	+16 39.6	1.654	1.981	30.5	20.1	93 W	61*	47*										
9 23	5 14.09	+17 11.5	1.592	2.036	29.0	20.0	101 W	62	47										
10 3	5 18.46	+17 41.7	1.530	2.090	26.8	19.9	110 W	63	46										
10 13	5 19.14	+18 12.0	1.473	2.144	24.0	19.8	119 W	63	46										
10 23	5 15.94	+18 43.1	1.424	2.198	20.3	19.7	130 W	64	45										
11 2	5 8.90	+19 14.9	1.390	2.252	16.0	19.5	141 W	64	45										
11 12	4 58.52	+19 45.8	1.375	2.305	10.9	19.4	154 W	65	44										
11 17	4 52.41	+20 0.3	1.377	2.331	8.2	19.3	160 W	65	44										
11 22	4 45.90	+20 14.0	1.385	2.357	5.5	19.2	167 W	65	44										
11 27	4 39.21	+20 26.6	1.400	2.383	2.8	19.1	173 W	65	44										
12 2	4 32.53	+20 38.1	1.423	2.409	0.5	19.0	179 W	66	43										
12 7	4 26.08	+20 48.7	1.453	2.435	2.7	19.2	173 E	66	43										
12 12	4 20.04	+20 58.5	1.491	2.460	5.2	19.5	167 E	66	43										
12 17	4 14.57	+21 7.8	1.535	2.485	7.6	19.7	161 E	66	43										
12 22	4 9.78	+21 17.0	1.586	2.510	9.7	19.8	154 E	66	43										
12 27	4 5.76	+21 26.2	1.644	2.535	11.7	20.0	148 E	66	43										
1 1	4 2.54	+21 35.8	1.707	2.559	13.5	20.2	143 E	67	42										
1 6	4 0.15	+21 46.0	1.775	2.583	15.0	20.3	137 E	67	42										
1 11	3 58.59	+21 57.0	1.848	2.607	16.4	20.5	132 E	67	42										
1 16	3 57.84	+22 8.9	1.925	2.631	17.5	20.6	126 E	67	42										
1 21	3 57.85	+22 21.6	2.006	2.654	18.5	20.8	121 E	67	42										
376764 1999 XS₁₆										42286 2001 TN₄₁									
12 27	17 26.92	-23 1.5	2.850	1.905	6.7	19.6	13 W	3*	5*	12 27	17 27.41	-26 11.4	1.868	0.937	13.7	18.6	13 W	—	7*
1 6	17 51.72	-23 40.8	2.883	1.968	8.6	19.8	17 W	4*	10*	1 1	17 50.51	-27 36.3	1.889	0.959	13.6	18.7	13 W	—	7*
1 16	18 15.54	-24 5.3	2.907	2.031	10.6	19.9	22 W	6*	15*	1 6	18 13.64	-28 45.0	1.911	0.983	13.7	18.8	14 W	—	8*
1 26	18 38.28	-24 17.0	2.921	2.095	12.4	20.1	27 W	7*	21*	1 11	18 36.68	-29 37.6	1.934	1.010	13.8	18.8	14 W	—	8*
2 5	18 59.85	-24 18.1	2.923	2.158	14.2	20.2	33 W	8*	26*	1 16	18 59.50	-30 14.5	1.957	1.037	14.1	18.9	15 W	—	9*
2 15	19 20.19	-24 11.0	2.915	2.222	15.9	20.3	38 W	9*	32*	1 21	19 21.97	-30 36.4	1.980	1.066	14.3	19.0	16 W	—	9*
2 25	19 39.23	-23 57.9	2.894	2.285	17.4	20.4	44 W	9*	38*	1 26	19 43.98	-30 44.2	2.004	1.095	14.7	19.1	16 W	—	9*
3 7	19 56.90	-23 41.1	2.862	2.348	18.8	20.5	50 W	10*	44*	1 31	20 5.42	-30 39.1	2.028	1.125	15.0	19.2	17 W	—	10*
3 17	20 13.14	-23 23.0	2.819	2.410	20.0	20.6	56 W	11*	50*	2 5	20 26.23	-30 22.4	2.051	1.156	15.4	19.3	18 W	—	10*
3 27	20 27.87	-23 5.7	2.765	2.471	21.0	20.6	63 W	12*	57*	2 10	20 46.34	-29 55.3	2.075	1.186	15.7	19.4	19 W	—	11*
4 6	20 40.99	-22 51.6	2.702	2.532	21.7	20.6	70 W	13*	63*	2 15	21 5.73	-29 19.3	2.098	1.217	16.1	19.5	20 W	—	11*
4 16	20 52.41	-22 42.7	2.631	2.592	22.1	20.6	77 W	14*	71*	2 20	21 24.37	-28 35.7	2.120	1.248	16.5	19.6	21 W	—	12*
4 26	21 1.96	-22 41.3	2.553	2.651	22.2	20.6	84 W	15*	78*	2 25	21 42.26	-27 45.6	2.141	1.278	16.9	19.7	22 W	—	13*
5 6	21 9.50	-22 49.2	2.473	2.709	21.8	20.6	92 W	16*	86*	3 2	21 59.42	-26 50.2	2.161	1.308	17.3	19.8	23 W	—	14*
5 16	21 14.84	-23 8.0	2.391	2.766	21.0	20.5	101 W	18*	87	3 7	22 15.89	-25 50.7	2.180	1.338	17.7	19.8	24 W	—	14*
5 26	21 17.77	-23 38.9	2.312	2.823	19.7	20.5	110 W	19*	88	3 12	22 31.68	-24 47.8	2.198	1.368	18.1	19.9	25 W	—	15*
6 5	21 18.14	-24 21.9	2.240	2.878	17.9	20.4	119 W	20*	88	3 17	22 46.84	-23 42.5	2.214	1.397	18.6	20.0	27 W	—	16*
6 15	21 15.83	-25 16.2	2.179	2.932	15.5	20.3	130 W	20*	89										
6 25	21 10.87	-26 18.7	2.134	2.986	12.6	20.2	140 W	19	90										
6 30	21 7.47	-26 51.7	2.119	3.012	11.0	20.1	145 W	18	89	3 27	23 15.40	-21 27.4	2.241	1.453	19.5	20.1	29 W	—	19*
7 5	21 3.52	-27 25.1	2.109	3.038	9.4	20.1	151 W	18	89	4 6	23 41.88	-19 10.4	2.261	1.507	20.5	20.3	32 W	—	22*
7 10	20 59.08	-27 58.0	2.106	3.064	7.7	20.0	156 W	17	88	4 16	0 6.57	-16 54.9	2.272	1.558	21.6	20.4	35 W	—	25*
7 15	20 54.27	-28 29.6	2.110	3.090	6.1	19.9	161 W	17	88	4 26	0 29.71	-14 43.9	2.273	1.606	22.7	20.5	38 W	—	29*
7 20	20 49.18	-28 59.3	2.121	3.115	4.7	19.9	166 W	16	87	5 6	0 51.49	-12 39.1	2.265	1.652	23.9	20.6	42 W	—	34*
7 25	20 43.93	-29 26.4	2.138	3.140	3.7	19.9	169 W	16	87	5 16	1 12.07	-10 42.2	2.246	1.695	25.1	20.7	45 W	—	38*
7 30	20 38.65	-29 50.4	2.163	3.165	3.6	19.9	169 W	15	86	5 26	1 31.56	-8 54.4	2.216	1.734	26.3	20.7	49 W	—	43*
8 4	20 33.46	-30 10.8	2.195	3.190	4.4	20.0	166 E	15	86	6 5	1 50.02	-7 16.3	2.175	1.771	27.4	20.8	54 W	2*	47*
8 9	20 28.48	-30 27.6	2.235	3.214	5.6	20.1	162 E	15	86	6 15	2 7.49	-5 48.6	2.124	1.805	28.5	20.8	58 W	6*	52*
8 14	20 23.82	-30 40.5	2.281	3.238	7.0	20.3	157 E	14	85	6 25	2 23.93	-4 31.9	2.062	1.835	29.5	20.8	63 W	12*	56*
8 19	20 19.58	-30 49.6	2.334	3.262	8.4	20.4	152 E	14	85	7 5	2 39.30	-3 26.5	1.991	1.863	30.4	20.8	68 W	17*	60*
8 24	20 15.83	-30 55.2	2.393	3.286	9.7	20.5	147 E	14	85	7 15	2 53.47	-2 32.6	1.910	1.887	31.0	20.7	73 W	23*	62*
8 29	20 12.63	-30 57.5	2.457	3.309	10.9	20.6	142 E	14	85	7 25	3 6.27	-1 50.5	1.820	1.909	31.5	20.6	79 W	29*	64*
										8 4	3 17.47	-1 20.2	1.724	1.927	31.				

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

20/22	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°	20/22	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°
42286 2001 TN₄₁										72204 2000 YV₁₃₃									
<i>(continuation)</i>										<i>(continuation)</i>									
8 14	3 26.75	-1 1.5	1.622	1.943	31.4	20.4	92 W	40*	65	5 26	23 31.04	-7 18.7	1.690	1.719	34.6	19.4	74 W	19*	66*
8 24	3 33.67	-0 54.1	1.516	1.955	30.7	20.3	99 W	43*	65	6 5	23 54.19	-5 21.2	1.596	1.700	35.7	19.3	78 W	22*	67*
9 3	3 37.73	-0 57.2	1.410	1.965	29.3	20.1	107 W	44	65	6 15	0 16.96	-3 26.7	1.505	1.684	36.6	19.2	81 W	26*	67*
9 13	3 38.27	-1 9.3	1.306	1.971	27.2	19.9	116 W	44	65	6 25	0 39.23	-1 37.7	1.417	1.671	37.3	19.1	85 W	30*	66*
9 23	3 34.63	-1 27.5	1.208	1.975	24.2	19.6	126 W	44	65	7 5	1 0.86	+0 3.7	1.333	1.661	37.7	18.9	89 W	35*	64
9 28	3 31.04	-1 37.6	1.163	1.975	22.3	19.5	132 W	43	66	7 15	1 21.62	+1 34.9	1.252	1.653	37.9	18.8	93 W	39*	62
10 3	3 26.19	-1 47.6	1.122	1.975	20.2	19.3	137 W	43	66	7 25	1 41.21	+2 53.8	1.175	1.649	37.6	18.7	97 W	44*	61
10 8	3 20.07	-1 56.3	1.084	1.975	17.9	19.2	143 W	43	66	8 4	1 59.29	+3 58.9	1.101	1.648	37.0	18.5	102 W	47*	60
10 13	3 12.71	-2 2.9	1.052	1.973	15.3	19.0	148 W	43	66	8 14	2 15.37	+4 48.6	1.031	1.651	35.8	18.3	108 W	50*	59
10 18	3 4.21	-2 6.0	1.026	1.971	12.8	18.9	154 W	43	66	8 24	2 28.93	+5 22.2	0.966	1.656	34.0	18.1	114 W	50	59
10 23	2 54.75	-2 4.7	1.006	1.968	10.4	18.7	159 W	43	66	9 3	2 39.39	+5 39.8	0.906	1.665	31.4	17.9	121 W	51	58
10 28	2 44.57	-1 58.0	0.993	1.964	8.7	18.6	163 W	43	66	9 13	2 46.09	+5 42.4	0.853	1.676	28.0	17.7	129 W	51	58
11 2	2 33.96	-1 45.1	0.987	1.959	8.3	18.6	164 W	43	66	9 23	2 48.59	+5 32.4	0.809	1.691	23.7	17.5	137 W	51	58
11 12	2 12.85	-0 59.1	0.998	1.948	11.5	18.7	157 E	44	65	10 3	2 46.74	+5 14.2	0.778	1.708	18.4	17.3	147 W	50	59
11 22	1 54.12	+0 12.8	1.037	1.934	16.8	19.0	145 E	45	64	10 8	2 44.27	+5 3.7	0.768	1.718	15.6	17.2	153 W	50	59
12 2	1 39.57	+1 45.8	1.099	1.916	21.9	19.3	133 E	47	62	10 13	2 40.91	+4 53.5	0.762	1.728	12.6	17.0	158 W	50	59
12 7	1 34.15	+2 38.4	1.138	1.907	24.1	19.4	128 E	48	61	10 18	2 36.87	+4 44.7	0.761	1.739	9.7	16.9	163 W	50	59
12 12	1 30.01	+3 34.3	1.179	1.896	26.1	19.5	122 E	49	60	10 23	2 32.34	+4 38.3	0.765	1.750	7.1	16.9	168 W	50	59
12 17	1 27.09	+4 32.8	1.224	1.885	27.8	19.7	117 E	50	59	10 28	2 27.55	+4 34.9	0.774	1.762	5.4	16.8	170 W	50	59
12 22	1 25.35	+5 33.4	1.270	1.873	29.2	19.8	112 E	51	58	11 2	2 22.76	+4 35.4	0.789	1.774	5.7	16.9	170 E	50	59
12 27	1 24.69	+6 35.8	1.319	1.860	30.4	19.9	107 E	52	57*	11 12	2 14.11	+4 50.2	0.834	1.800	10.0	17.2	162 E	50	59
1 1	1 25.05	+7 39.8	1.367	1.846	31.4	19.9	102 E	53	55*	11 22	2 7.99	+5 24.5	0.899	1.828	15.0	17.6	151 E	50	59
1 6	1 26.35	+8 45.1	1.417	1.832	32.1	20.0	98 E	54	53*	12 2	2 5.17	+6 16.5	0.983	1.858	19.4	18.0	141 E	51	58
1 11	1 28.52	+9 51.6	1.466	1.817	32.7	20.1	94 E	55	50*	12 12	2 5.88	+7 23.5	1.083	1.888	22.9	18.3	132 E	52	57
1 16	1 31.49	+10 59.2	1.514	1.801	33.1	20.2	90 E	56	47*	12 22	2 9.91	+8 41.7	1.197	1.920	25.4	18.7	123 E	54	55
1 21	1 35.18	+12 7.6	1.561	1.784	33.4	20.2	86 E	57	44*	1 1	2 16.84	+10 7.3	1.321	1.953	27.1	19.0	115 E	55	54
12 27	17 27.66	-26 25.4	1.827	0.897	14.3	21.3	13 W	-	7*	1 11	2 26.22	+11 37.4	1.454	1.986	28.2	19.2	108 E	57	52*
1 1	17 48.50	-25 34.5	1.862	0.933	14.0	21.4	13 W	1*	7*	1 21	2 37.66	+13 9.2	1.593	2.020	28.6	19.5	101 E	58	49*
1 6	18 8.35	-24 35.0	1.894	0.967	14.0	21.5	14 W	1*	7*	142563 2002 TR₆₉									
1 11	18 27.26	-23 28.2	1.922	1.001	14.2	21.6	14 W	2*	7*	12 27	17 29.12	-35 26.4	2.295	1.384	11.9	20.3	17 W	-	10*
1 16	18 45.33	-22 15.1	1.948	1.032	14.6	21.7	15 W	3*	8*	1 1	17 48.07	-35 39.7	2.312	1.408	12.3	20.4	18 W	-	11*
482505 2012 TQ₇₈										1 6	18 6.67	-35 43.5	2.329	1.432	12.7	20.5	19 W	-	12*
12 27	17 27.67	+37 33.9	0.149	0.924	109.5	19.3	62 W	45*	-	1 11	18 24.86	-35 38.4	2.344	1.457	13.2	20.5	20 W	-	13*
12 29	17 30.02	+33 41.6	0.159	0.911	112.6	19.6	59 W	44*	-	1 16	18 42.59	-35 25.1	2.359	1.481	13.6	20.6	21 W	-	14*
12 31	17 32.03	+30 12.3	0.170	0.899	115.2	19.9	56 W	43*	-	1 21	18 59.81	-35 4.3	2.372	1.506	14.2	20.7	22 W	-	15*
1 2	17 33.84	+27 2.6	0.181	0.887	117.3	20.2	53 W	42*	-	1 26	19 16.49	-34 36.8	2.384	1.530	14.7	20.7	23 W	-	16*
1 4	17 35.52	+24 9.5	0.193	0.875	119.0	20.4	51 W	42*	-	1 31	19 32.60	-34 3.4	2.394	1.554	15.3	20.8	25 W	-	18*
1 6	17 37.16	+21 30.4	0.205	0.863	120.4	20.6	49 W	41*	-	2 5	19 48.16	-33 24.6	2.403	1.578	15.9	20.9	26 W	-	19*
1 8	17 38.80	+19 3.2	0.218	0.852	121.4	20.8	48 W	41*	-	2 10	20 3.15	-32 41.3	2.409	1.602	16.6	20.9	28 W	-	20*
1 10	17 40.48	+16 46.0	0.231	0.841	122.1	20.9	46 W	40*	-	2 15	20 17.57	-31 53.9	2.414	1.625	17.3	21.0	29 W	-	22*
1 12	17 42.24	+14 37.5	0.244	0.831	122.4	21.1	45 W	39*	2*	2 20	20 31.44	-31 3.3	2.416	1.648	17.9	21.0	31 W	-	24*
1 14	17 44.10	+12 36.5	0.258	0.821	122.5	21.2	45 W	39*	4*	2 25	20 44.76	-30 9.8	2.416	1.671	18.7	21.1	33 W	-	25*
1 16	17 46.09	+10 42.0	0.272	0.811	122.4	21.2	44 W	38*	7*	3 2	20 57.57	-29 14.0	2.414	1.694	19.4	21.1	35 W	-	27*
1 21	17 51.77	+6 19.2	0.309	0.789	120.9	21.4	43 W	36*	13*	3 7	21 9.87	-28 16.3	2.409	1.716	20.1	21.2	36 W	-	29*
1 26	17 58.68	+2 23.9	0.349	0.770	118.3	21.4	44 W	34*	18*	3 12	21 21.69	-27 17.2	2.402	1.738	20.8	21.2	38 W	-	31*
1 31	18 7.00	-1 8.3	0.390	0.756	114.8	21.3	44 W	32*	24*	3 17	21 33.04	-26 17.0	2.392	1.760	21.6	21.3	41 W	-	33*
2 5	18 16.82	-4 19.5	0.434	0.746	110.6	21.3	45 W	30*	28*	3 22	21 43.93	-25 16.1	2.380	1.781	22.3	21.3	43 W	-	35*
2 10	18 28.12	-7 10.7	0.479	0.741	106.0	21.2	46 W	28*	32*	3 27	21 54.39	-24 14.7	2.365	1.801	23.0	21.3	45 W	-	38*
2 15	18 40.78	-9 42.1	0.525	0.741	101.2	21.1	47 W	26*	36*	4 1	22 4.44	-23 13.3	2.347	1.822	23.7	21.4	47 W	-	40*
2 20	18 54.62	-11 54.1	0.571	0.746	96.4	21.1	49 W	24*	39*	4 6	22 14.08	-22 11.9	2.326	1.841	24.4	21.4	50 W	-	42*
2 25	19 9.45	-13 47.3	0.616	0.757	91.7	21.1	50 W	22*	41*	4 11	22 23.33	-21 10.8	2.303	1.861	25.1	21.4	52 W	-	44*
3 2	19 25.03	-15 22.2	0.660	0.771	87.3	21.1	51 W	20*	43*	4 16	22 32.20	-20 10.2	2.277	1.880	25.7	21.4	54 W	-	46*
3 7	19 41.12	-16 39.9	0.702	0.790	83.1	21.1	52 W	18*	45*	4 21	22 40.68	-19 10.5	2.249	1.898	26.3	21.4	57 W	-	50*
3 12	19 57.51	-17 41.6	0.741	0.813	79.3	21.2	53 W	16*	47*	4 26	22 48.79	-18 11.6	2.218	1.916	26.9	21.5	60 W	-	53*
3 17	20 13.96	-18 29.1	0.778	0.838	75.9	21.2	55 W	15*	49*	5 1	22 56.52	-17 13.8	2.185	1.934	27.5	21.5	62 W	-	56*
3 22	20 30.30	-19 3.8	0.811	0.866	72.8	21.3	56 W	14*	50*	5 6	23 3.89	-16 17.1	2.149	1.951	28.0	21.5	65 W	-	59*
3 27	20 46.40	-19 27.7	0.841	0.895	70.0	21.3	57 W	13*	51*	5 11	23 10.87	-15 21.9	2.111	1.967	28.4	21.4	68 W	-	62*
4 1	21 2.17	-19 42.2	0.868	0.926	67.6	21.4	59 W	12*	53*	5 16	23 17.45	-14 28.1	2.071	1.983	28.8	21.4	71 W	-	65*
4 6	21 17.53	-19 49.1	0.891	0.958	65.4	21.5	60 W	11*	54*	5 21	23 23.63	-13 36.1	2.029	1.999	29.1	21.4	74 W	-	67*
72204 2000 YV₁₃₃										5 26	23 29.39	-12 45.8	1.985	2.014	29.3	21.4	77 W	-	70*
12 27	17 28.92	-22 31.3	3.128	2.178	5.6	20.3	13 W	3*	5*	5 31	23 34.72	-11 57.3	1.939	2.029	29.5	21.4	80 W	-	72*
1 6	17 51.99	-22 53.4	3.061	2.144	7.9	20.3	17 W	5*	10*	6 5	23 39.58	-11 10.9	1.892	2.043	29.6	21.3	83 W	-	74*
1 16	18 15.57	-23 3.0	2.987	2.109	10.2	20.3	22 W	7*	15*	6 10									

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

20/21	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°	20/22	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°
142563 2002 TR₆₉										5381 Sekhmet									
<i>(continuation)</i>										<i>(continuation)</i>									
9 8	22 56.49	-5 4.0	1.207	2.214	1.1	19.4	178 E	40	69	3 17	23 6.59	-35 24.1	1.798	1.140	30.2	19.5	35 W	-	17*
9 13	22 48.16	-5 5.8	1.218	2.218	4.0	19.6	171 E	40	69	3 22	23 28.58	-33 36.2	1.780	1.123	30.7	19.4	35 W	-	16*
9 18	22 40.23	-5 6.8	1.237	2.221	7.0	19.8	164 E	40	69	3 27	23 49.96	-31 34.4	1.764	1.105	31.1	19.4	35 W	-	15*
9 23	22 32.90	-5 6.4	1.262	2.224	9.8	20.0	158 E	40	69	4 1	0 10.70	-29 19.4	1.750	1.086	31.4	19.3	35 W	-	15*
10 3	22 20.65	-5 0.4	1.332	2.228	14.9	20.3	145 E	40	69	4 6	0 30.78	-26 52.5	1.738	1.066	31.6	19.3	34 W	-	14*
10 13	22 12.20	-4 45.5	1.424	2.230	19.0	20.6	133 E	40	69	4 11	0 50.20	-24 14.7	1.728	1.044	31.6	19.2	33 W	-	14*
10 23	22 7.70	-4 20.6	1.531	2.230	22.1	20.8	123 E	41	68	4 16	1 9.00	-21 27.1	1.720	1.021	31.5	19.2	32 W	-	13*
11 2	22 6.86	-3 45.7	1.649	2.229	24.3	21.1	113 E	41	68	4 21	1 27.21	-18 30.9	1.713	0.997	31.3	19.1	31 W	-	13*
11 12	22 9.26	-3 0.8	1.774	2.225	25.6	21.3	104 E	42	67*	4 26	1 44.92	-15 27.0	1.708	0.972	30.9	19.0	30 W	-	13*
11 22	22 14.39	-2 6.1	1.901	2.219	26.3	21.4	95 E	43	64*	5 1	2 2.20	-12 16.2	1.705	0.946	30.3	18.9	28 W	-	13*
452474 2004 BG₁₁										5381 Sekhmet									
12 27	17 29.33	-10 56.7	1.930	1.039	16.9	21.0	18 W	12*	-	5 6	2 19.15	-8 59.3	1.702	0.920	29.5	18.9	27 W	-	12*
1 6	18 6.36	-13 18.3	1.998	1.099	15.4	21.2	17 W	10*	2*	5 11	2 35.89	-5 36.9	1.700	0.893	28.5	18.8	25 W	-	12*
1 16	18 41.35	-15 10.1	2.064	1.164	14.8	21.3	18 W	9*	6*	5 16	2 52.54	-2 9.7	1.698	0.865	27.4	18.7	23 W	-	12*
1 26	19 14.39	-16 34.6	2.123	1.234	15.0	21.5	19 W	8*	10*	6 20	3 26.16	+4 56.9	1.693	0.811	24.6	18.4	19 W	-	11*
2 5	19 45.63	-17 35.6	2.174	1.305	15.9	21.7	21 W	7*	14*	6 5	4 1.50	+12 15.4	1.684	0.760	21.3	18.2	16 W	-	9*
162161 1999 DK₃										5381 Sekhmet									
12 27	17 29.38	+1 3.1	1.960	1.182	22.8	20.2	28 W	21*	-	6 15	4 40.57	+19 35.3	1.670	0.715	18.3	17.9	13 W	-	7*
1 6	18 9.85	-0 3.0	1.973	1.178	21.9	20.2	27 W	20*	-	6 20	5 2.28	+23 9.6	1.660	0.698	17.4	17.8	12 W	1*	5*
1 16	18 49.21	-0 59.2	1.998	1.183	20.6	20.2	25 W	19*	-	6 25	5 25.92	+26 34.8	1.648	0.683	17.3	17.8	12 W	3*	2*
1 26	19 27.01	-1 44.6	2.034	1.198	19.2	20.2	24 W	18*	1*	6 30	5 51.86	+29 45.3	1.636	0.673	17.3	17.7	12 W	5*	-
2 5	20 3.03	-2 19.2	2.075	1.221	17.8	20.2	22 W	16*	3*	7 5	6 20.34	+32 33.8	1.622	0.668	19.3	17.8	13 W	7*	-
2 15	20 37.18	-2 43.6	2.118	1.252	16.8	20.3	21 W	14*	6*	7 10	6 51.45	+34 52.2	1.609	0.667	21.2	17.8	14 W	7*	-
2 25	21 9.49	-2 59.4	2.158	1.289	16.3	20.4	21 W	13*	10*	7 15	7 24.94	+36 32.2	1.597	0.671	23.4	17.9	15 W	8*	-
3 7	21 40.06	-3 8.5	2.195	1.333	16.5	20.5	22 W	11*	13*	7 17	7 38.88	+36 59.6	1.593	0.674	24.2	17.9	16 W	7*	-
3 17	22 9.05	-3 13.0	2.224	1.381	17.3	20.6	24 W	10*	17*	7 19	7 53.04	+37 19.4	1.589	0.678	25.1	17.9	16 W	7*	-
3 27	22 36.59	-3 15.3	2.245	1.432	18.6	20.8	27 W	9*	20*	7 21	8 7.37	+37 31.2	1.586	0.683	25.9	18.0	17 E	8*	-
4 6	23 2.83	-3 17.8	2.257	1.487	20.1	20.9	31 W	8*	24*	7 23	8 21.79	+37 34.8	1.583	0.688	26.6	18.0	18 E	9*	-
4 16	23 27.91	-3 22.7	2.259	1.543	21.7	21.1	35 W	7*	29*	7 25	8 36.23	+37 30.2	1.581	0.694	27.3	18.0	18 E	11*	-
4 26	23 51.92	-3 32.5	2.251	1.600	23.3	21.2	39 W	6*	33*	7 27	8 50.62	+37 17.3	1.579	0.700	28.0	18.1	19 E	12*	-
5 6	0 14.95	-3 49.7	2.234	1.658	24.9	21.3	44 W	6*	38*	7 29	9 4.87	+36 56.4	1.578	0.707	28.6	18.1	19 E	12*	-
5 16	0 37.04	-4 16.7	2.207	1.717	26.3	21.4	49 W	6*	43*	7 31	9 18.92	+36 27.7	1.578	0.715	29.1	18.1	20 E	13*	-
5 26	0 58.19	-4 55.8	2.172	1.775	27.5	21.5	54 W	7*	48*	8 2	9 32.71	+35 51.5	1.579	0.723	29.5	18.2	21 E	14*	-
306459 1999 GS₃										5381 Sekhmet									
12 27	17 29.42	-35 24.1	3.434	2.509	6.5	21.3	17 W	-	10*	8 9	10 18.23	+32 52.7	1.589	0.754	30.5	18.3	22 E	16*	-
1 6	17 50.40	-36 22.7	3.443	2.555	8.2	21.4	22 W	-	15*	8 14	10 47.67	+30 4.8	1.602	0.778	30.6	18.4	23 E	17*	2*
1 16	18 11.11	-37 13.7	3.438	2.601	9.9	21.5	27 W	-	21*	8 19	11 14.40	+26 53.7	1.621	0.804	30.6	18.5	24 E	17*	4*
1 26	18 31.44	-37 58.3	3.420	2.646	11.6	21.6	33 W	-	26*	8 24	11 38.59	+23 27.3	1.644	0.831	29.8	18.6	24 E	17*	7*
2 5	18 51.25	-38 37.9	3.389	2.690	13.2	21.7	39 W	-	31*	8 29	12 0.52	+19 52.5	1.672	0.859	28.9	18.7	24 E	17*	9*
358744 2008 CR₁₁₈										5381 Sekhmet									
12 27	17 29.76	-21 42.8	1.874	0.939	13.1	20.9	13 W	3*	4*	9 3	12 20.50	+16 14.7	1.703	0.886	27.9	18.7	24 E	16*	10*
1 1	17 55.38	-22 3.6	1.864	0.922	12.4	20.8	12 W	2*	4*	9 8	12 38.85	+12 37.8	1.737	0.913	26.6	18.8	24 E	15*	11*
1 6	18 21.35	-22 9.5	1.858	0.910	11.6	20.7	11 W	1*	3*	9 13	12 55.85	+9 4.8	1.774	0.940	25.2	18.9	23 E	14*	12*
1 11	18 47.46	-22 0.0	1.856	0.903	10.6	20.7	10 W	-	3*	9 18	13 11.76	+5 37.5	1.811	0.966	23.7	18.9	23 E	12*	12*
1 16	19 13.50	-21 34.9	1.859	0.900	9.6	20.6	9 W	-	2*	9 23	13 26.79	+2 17.1	1.849	0.991	22.2	19.0	22 E	11*	13*
1 21	19 39.26	-20 55.1	1.866	0.901	8.5	20.6	8 W	-	1*	10 3	13 54.98	-4 1.2	1.923	1.038	19.0	19.1	20 E	8*	12*
1 26	20 4.55	-20 1.4	1.877	0.907	7.5	20.6	7 W	-	1*	10 13	14 21.61	-9 48.9	1.993	1.081	15.9	19.1	17 E	4*	10*
1 31	20 29.20	-18 55.3	1.892	0.918	6.5	20.6	6 W	-	-	10 23	14 47.60	-15 7.5	2.054	1.119	12.9	19.2	15 E	1*	8*
2 5	20 53.12	-17 38.6	1.910	0.933	5.6	20.6	5 W	-	-	11 2	15 13.67	-19 59.4	2.103	1.151	10.4	19.2	12 E	-	6*
2 10	21 16.21	-16 13.0	1.932	0.952	4.9	20.6	5 W	-	-	11 12	15 40.46	-24 26.8	2.140	1.178	8.5	19.2	10 E	-	4*
2 15	21 38.42	-14 40.5	1.956	0.974	4.3	20.7	4 W	-	-	11 22	16 8.51	-28 30.7	2.162	1.199	7.8	19.2	9 E	-	2*
2 20	21 59.75	-13 2.9	1.983	0.999	3.8	20.7	4 W	-	-	12 2	16 38.39	-32 11.3	2.172	1.215	8.4	19.3	10 E	-	-
2 25	22 20.19	-11 21.9	2.013	1.027	3.5	20.8	4 W	-	-	12 12	17 10.62	-35 27.1	2.167	1.224	10.0	19.4	12 W	-	1*
3 2	22 39.78	-9 39.0	2.045	1.057	3.4	20.9	4 W	-	-	12 17	17 27.75	-36 54.7	2.160	1.227	11.0	19.4	14 W	-	3*
3 7	22 58.56	-7 55.5	2.078	1.090	3.4	21.0	4 W	-	-	12 22	17 45.64	-38 14.6	2.151	1.228	12.1	19.4	15 W	-	4*
3 12	23 16.57	-6 12.4	2.112	1.123	3.5	21.1	4 W	-	-	12 27	18 4.33	-39 26.2	2.138	1.228	13.2	19.5	17 W	-	6*
3 17	23 33.88	-4 30.7	2.148	1.158	3.8	21.2	4 W	-	-	1 1	18 23.84	-40 28.6	2.123	1.226	14.3	19.5	18 W	-	7*
3 22	23 50.52	-2 51.2	2.184	1.194	4.1	21.4	5 W	-	-	1 6	18 44.18	-41 20.8	2.106	1.223	15.5	19.5	19 W	-	8*
3 27	0 6.55	-1 14.3	2.220	1.231	4.5	21.5	6 W	-	-	1 11	19 5.32	-42 1.7	2.087	1.218	16.6	19.5	21 W	-	8*
5381 Sekhmet										45164 1999 XK₁₂₇									
12 27	17 29.95	-32 36.8	2.133	1.211	12.2	19.4	15 W	-	9*	12 27	17 30.44	-16 56.3	3.066	2.125	6.4	20.4	14 W	7*	2*
1 1	17 46.64	-34 5.6	2.123	1.217	13.7	19.4	17 W	-	11*	1 6	17 53.44	-17 7.3	2.994	2.083	8.5	20.4	18 W	9*	7*
1 6	18 3.99	-35 27.6	2.109	1.222	15.2	19.5	19 W	-	12*	1 16	18 17.00	-17 5.2	2.915	2.042	10.6	20.3	23 W	11*	12*
1 11	18 22.04	-36 42.2	2.094	1.226	16.6	19.5	21 W	-	14*	1 26	18 41.05	-16 49.3	2.829	2.000	12.8	20.3	27 W	13*	17*
1 16	18 40.82	-37 48.8	2.075	1.228	18.0	19.6	23 W	-	15*	2 5	19 5.50	-16 19.1	2.738	1.958	15.0	20.3	31 W	14*	22*
1 21	19 0.34	-38 46.4	2.055	1.228	19.3	19.6	24 W	-	16*	2 15	19 30.29	-15 34.5	2.643	1.918	17.1	20.2	35 W	14*	27*
1 26	19 20.61	-39 3																	

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

20/22	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°-26°	20/22	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°-26°
45164 1999 XK₁₂₇ (continuation)									119039 2001 FZ₉₁ (continuation)								
6 25	1 8.34	+7 54.0	1.469	1.549	39.3	19.1	75 W	33* 55*	2 5	18 31.77	-31 43.1	4.293	3.595	10.2	20.1	40 W	4* 34*
7 5	1 34.88	+9 26.2	1.401	1.543	40.0	19.1	77 W	37* 54*	2 15	18 45.84	-31 51.4	4.211	3.611	11.5	20.1	47 W	5* 41*
7 15	2 1.01	+10 41.1	1.337	1.542	40.6	19.0	81 W	42* 53*	2 25	18 59.15	-31 58.5	4.118	3.628	12.8	20.1	54 W	6* 48*
7 25	2 26.43	+11 36.1	1.276	1.545	40.8	18.9	84 W	46* 52	3 7	19 11.59	-32 5.4	4.014	3.646	13.8	20.1	61 W	7* 55*
8 4	2 50.81	+12 9.6	1.217	1.552	40.8	18.8	88 W	50* 52	3 17	19 23.00	-32 13.2	3.901	3.663	14.7	20.1	69 W	8* 62*
8 14	3 13.69	+12 20.3	1.160	1.564	40.4	18.7	92 W	53* 52	3 27	19 33.24	-32 23.2	3.781	3.681	15.3	20.1	77 W	8* 69*
8 24	3 34.58	+12 8.0	1.105	1.579	39.5	18.6	96 W	56* 52	4 6	19 42.14	-32 36.4	3.658	3.699	15.6	20.0	85 W	9* 76*
9 3	3 52.98	+11 33.7	1.052	1.599	38.2	18.5	102 W	56* 52	4 16	19 49.55	-32 53.8	3.533	3.717	15.6	19.9	93 W	9* 82*
9 13	4 8.28	+10 38.5	1.001	1.621	36.2	18.3	108 W	56 53	4 26	19 55.27	-33 16.3	3.409	3.736	15.3	19.9	101 W	10* 83
9 23	4 19.93	+9 25.3	0.955	1.647	33.6	18.2	115 W	54 55	5 6	19 59.17	-33 44.2	3.291	3.754	14.6	19.8	110 W	10* 82
10 3	4 27.41	+7 58.0	0.913	1.676	30.3	18.0	122 W	53 56	5 16	20 1.07	-34 17.3	3.180	3.773	13.6	19.7	119 W	10* 82
10 8	4 29.45	+7 10.7	0.895	1.692	28.4	18.0	126 W	52 57	5 26	20 0.88	-34 54.7	3.083	3.792	12.1	19.6	128 W	10* 81
10 13	4 30.31	+6 22.2	0.879	1.708	26.2	17.9	131 W	51 58	6 5	19 58.60	-35 34.5	3.001	3.812	10.3	19.5	138 W	9 80
10 18	4 30.01	+5 33.6	0.866	1.725	23.9	17.8	135 W	51 58	6 15	19 54.33	-36 14.0	2.939	3.831	8.3	19.3	147 W	9 80
10 23	4 28.59	+4 46.1	0.857	1.742	21.5	17.7	140 W	50 59	6 25	19 48.38	-36 49.9	2.901	3.851	6.2	19.2	156 W	8 79
10 28	4 26.13	+4 0.9	0.851	1.759	18.9	17.6	145 W	49 60	6 30	19 44.92	-37 5.4	2.891	3.860	5.3	19.2	160 W	8 79
11 2	4 22.73	+3 19.3	0.849	1.777	16.4	17.6	150 W	48 61	7 5	19 41.22	-37 18.8	2.888	3.870	4.5	19.1	163 W	8 79
11 7	4 18.55	+2 42.8	0.852	1.796	14.0	17.5	154 W	48 61	7 10	19 37.37	-37 29.7	2.892	3.880	4.1	19.1	164 W	8 79
11 12	4 13.81	+2 12.7	0.859	1.815	11.9	17.5	158 W	47 62	7 15	19 33.47	-37 38.0	2.903	3.890	4.2	19.1	164 E	7 78
11 17	4 8.75	+1 49.9	0.872	1.834	10.5	17.5	160 W	47 62	7 20	19 29.61	-37 43.4	2.921	3.900	4.6	19.2	162 E	7 78
11 22	4 3.61	+1 35.1	0.891	1.853	9.9	17.5	161 W	47 62	7 25	19 25.88	-37 45.8	2.946	3.910	5.4	19.2	159 E	7 78
12 2	3 53.95	+1 30.2	0.944	1.893	11.5	17.8	158 E	47 62	7 30	19 22.36	-37 45.5	2.977	3.920	6.3	19.3	155 E	7 78
12 12	3 46.41	+1 56.6	1.018	1.933	14.9	18.1	150 E	47 62	8 4	19 19.12	-37 42.4	3.015	3.930	7.3	19.4	151 E	7 78
12 22	3 41.93	+2 48.5	1.112	1.974	18.4	18.5	141 E	48 61	8 9	19 16.24	-37 36.7	3.059	3.940	8.3	19.5	146 E	7 78
12 27	3 40.94	+3 21.8	1.166	1.995	19.9	18.6	136 E	48 61	8 14	19 13.77	-37 28.6	3.108	3.950	9.2	19.6	141 E	8 79
1 1	3 40.79	+3 58.7	1.223	2.016	21.3	18.8	132 E	49 60	8 24	19 10.21	-37 6.6	3.223	3.970	10.9	19.7	132 E	8 79
1 6	3 41.46	+4 38.5	1.284	2.037	22.6	19.0	127 E	50 59	9 3	19 8.63	-36 38.4	3.356	3.991	12.3	19.9	123 E	8 79
1 11	3 42.90	+5 20.4	1.348	2.058	23.6	19.1	123 E	50 59	9 13	19 9.07	-36 5.8	3.503	4.011	13.3	20.0	113 E	9 80
1 16	3 45.07	+6 3.8	1.415	2.079	24.4	19.3	119 E	51 58	9 23	19 11.44	-35 30.3	3.660	4.031	13.9	20.1	105 E	9 80
1 21	3 47.92	+6 48.0	1.485	2.100	25.1	19.4	115 E	52 57	10 3	19 15.58	-34 52.8	3.824	4.052	14.2	20.3	96 E	10 81
301964 2000 EJ₃₇									10 13	19 21.31	-34 13.8	3.991	4.072	14.2	20.4	88 E	11 79*
12 27	17 30.49	-17 15.0	2.437	1.500	9.0	16.8	14 W	7* 2*	10 23	19 28.41	-33 33.6	4.157	4.093	13.8	20.4	79 E	11* 73*
1 6	18 5.67	-17 20.2	2.377	1.454	10.4	16.8	15 W	7* 4*	11 2	19 36.67	-32 52.0	4.321	4.113	13.2	20.5	71 E	12* 65*
1 16	18 41.92	-16 58.3	2.328	1.415	11.6	16.7	17 W	8* 7*	11 12	19 45.91	-32 9.0	4.478	4.133	12.4	20.6	64 E	12* 58*
1 26	19 18.75	-16 8.2	2.289	1.386	12.7	16.7	18 W	8* 9*	11 22	19 55.95	-31 24.5	4.626	4.154	11.4	20.6	56 E	12* 50*
2 5	19 55.62	-14 50.8	2.262	1.368	13.6	16.6	19 W	8* 10*	12 2	20 6.60	-30 38.3	4.763	4.174	10.2	20.6	48 E	12* 42*
2 15	20 32.04	-13 9.0	2.246	1.360	14.3	16.6	20 W	7* 12*	12 12	20 17.74	-29 50.4	4.888	4.195	8.9	20.7	41 E	11* 34*
2 25	21 7.57	-11 7.2	2.242	1.364	15.0	16.7	21 W	7* 14*	12 22	20 29.22	-29 0.9	4.997	4.215	7.4	20.7	34 E	9* 27*
3 7	21 41.87	-8 51.0	2.247	1.379	15.7	16.7	22 W	7* 15*	1 1	20 40.92	-28 9.8	5.091	4.235	6.0	20.6	27 E	6* 20*
3 17	22 14.75	-6 26.2	2.260	1.404	16.4	16.8	23 W	7* 17*	1 11	20 52.73	-27 17.3	5.167	4.256	4.5	20.6	20 E	2* 14*
3 27	22 46.07	-3 58.2	2.280	1.439	17.1	16.9	25 W	6* 19*	1 21	21 4.54	-26 23.9	5.225	4.276	3.1	20.6	14 E	- 8*
4 6	23 15.81	-1 31.9	2.303	1.483	17.9	17.0	27 W	7* 21*	1566 Icarus								
4 16	23 44.00	+0 48.7	2.328	1.535	18.7	17.1	29 W	7* 23*	12 27	17 30.72	-19 9.4	1.500	0.585	22.2	17.7	13 W	5* 3*
4 26	0 10.65	+3 0.7	2.353	1.593	19.6	17.3	32 W	8* 26*	1 1	17 49.23	-19 59.4	1.603	0.686	19.5	18.1	13 W	5* 4*
5 6	0 35.82	+5 1.9	2.375	1.656	20.6	17.4	35 W	9* 29*	1 6	18 6.31	-20 39.5	1.692	0.779	18.3	18.4	14 W	5* 6*
5 16	0 59.56	+6 50.9	2.392	1.724	21.5	17.5	39 W	10* 32*	1 11	18 22.17	-21 10.9	1.770	0.865	17.9	18.8	16 W	5* 8*
5 26	1 21.88	+8 26.7	2.404	1.795	22.5	17.7	43 W	13* 35*	1 16	18 37.00	-21 35.1	1.838	0.945	18.0	19.0	17 W	5* 10*
6 5	1 42.78	+9 48.9	2.408	1.868	23.4	17.8	47 W	16* 38*	1 21	18 50.94	-21 53.1	1.898	1.020	18.4	19.3	19 W	5* 12*
6 15	2 2.24	+10 57.3	2.405	1.944	24.2	17.9	52 W	19* 41*	1 26	19 4.10	-22 6.2	1.949	1.090	19.0	19.5	21 W	5* 14*
6 25	2 20.20	+11 51.8	2.393	2.022	24.8	18.0	57 W	24* 44*	1 31	19 16.58	-22 15.1	1.992	1.156	19.8	19.7	23 W	5* 17*
7 5	2 36.59	+12 32.7	2.372	2.100	25.4	18.1	62 W	29* 47*	2 5	19 28.46	-22 20.5	2.028	1.217	20.6	19.9	26 W	6* 19*
7 15	2 51.28	+13 0.3	2.342	2.179	25.7	18.1	68 W	36* 48*	2 15	19 50.64	-22 23.6	2.078	1.330	22.4	20.2	31 W	6* 25*
7 25	3 4.12	+13 14.6	2.304	2.259	25.7	18.2	75 W	42* 50*	2 25	20 10.97	-22 19.7	2.103	1.431	24.2	20.4	36 W	7* 30*
8 4	3 14.96	+13 16.2	2.259	2.339	25.4	18.2	82 W	48* 51*	3 7	20 29.69	-22 12.3	2.103	1.520	26.0	20.6	42 W	7* 36*
8 14	3 23.57	+13 5.2	2.209	2.418	24.8	18.2	89 W	53* 51	3 17	20 46.94	-22 4.6	2.080	1.600	27.6	20.7	48 W	8* 42*
8 24	3 29.77	+12 42.1	2.157	2.498	23.7	18.2	97 W	57* 51	3 27	21 2.78	-21 59.5	2.036	1.670	29.2	20.8	55 W	9* 49*
9 3	3 33.35	+12 7.5	2.105	2.577	22.1	18.1	106 W	57 52	4 6	21 17.23	-22 0.2	1.974	1.732	30.4	20.9	61 W	9* 55*
9 13	3 34.18	+11 22.1	2.057	2.656	19.9	18.1	116 W	56 53	4 16	21 30.23	-22 9.9	1.895	1.786	31.5	20.9	68 W	10* 62*
9 23	3 32.22	+10 27.4	2.019	2.734	17.2	18.0	126 W	55 54	4 26	21 41.64	-22 32.5	1.801	1.833	32.1	20.9	76 W	11* 69*
10 3	3 27.62	+9 25.6	1.996	2.811	14.1	17.9	137 W	54 55	5 6	21 51.27	-23 12.5	1.697	1.872	32.4	20.8	83 W	12* 77*
10 13	3 20.75	+8 20.0	1.992	2.888	10.5	17.9	148 W	53 56	5 16	21 58.75	-24 14.9	1.585	1.905	32.0	20.7	92 W	13* 86*
10 23	3 12.27	+7 14.9	2.013	2.964	6.8	17.8	159 W	52 57	5 26	22 3.58	-25 45.9	1.468	1.930	31.1	20.5	101 W	14* 90
10 28	3 7.68	+6 44.1	2.034	3.002	5.2	17.8	164 W	52 57	5 31	22 4.78	-26 44.0	1.410	1.941	30.3	20.4	105 W	14* 89
11 2	3 3.00	+6 15.2	2.062	3.040	3.9	17.7	168 W	51 58	6 5	22 5.03	-27 51.5	1.352	1.950	29.2	20.3	110 W	14* 88
11 7	2 58.36	+5 48.7	2.098	3.077	3.4	17.8	169 W	51 58	6 10	22 4.17	-29 9.						

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

20/22	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°-26°	20/22	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°-26°	
1566 Icarus (continuation)									192686 Aljuroma (continuation)									
8 2	20 7.48	-47 29.1	0.993	1.936	15.6	19.2	149 E	69	9 8	3 1.48	+31 57.9	1.184	1.824	30.7	18.4	112 W	77	32
8 4	19 59.74	-47 48.0	0.997	1.931	16.4	19.2	147 E	68	9 13	3 4.59	+32 12.5	1.157	1.841	29.3	18.3	116 W	77	32
8 6	19 52.06	-48 3.2	1.003	1.927	17.4	19.2	145 E	68	9 18	3 6.65	+32 20.8	1.132	1.858	27.7	18.2	121 W	77	32
8 8	19 44.52	-48 14.7	1.010	1.922	18.4	19.3	143 E	68	9 23	3 7.65	+32 22.5	1.109	1.876	25.9	18.2	125 W	77	32
8 10	19 37.17	-48 22.6	1.019	1.917	19.4	19.3	141 E	68	10 3	3 6.38	+32 4.1	1.070	1.912	21.8	18.0	135 W	77	32
8 12	19 30.04	-48 27.2	1.028	1.911	20.4	19.4	139 E	68	10 13	3 1.08	+31 13.9	1.045	1.950	16.9	17.8	145 W	76	33
8 14	19 23.19	-48 28.6	1.038	1.906	21.4	19.4	137 E	68	10 23	2 52.80	+29 51.5	1.038	1.989	11.6	17.7	156 W	75	34
8 19	19 7.49	-48 20.0	1.067	1.890	23.9	19.5	131 E	68	10 28	2 48.03	+28 59.6	1.042	2.010	9.0	17.6	162 W	74	35
8 24	18 54.07	-47 57.7	1.101	1.874	26.3	19.7	125 E	68	11 2	2 43.13	+28 2.0	1.052	2.030	6.7	17.6	166 W	73	36
8 29	18 43.05	-47 25.7	1.139	1.855	28.4	19.8	119 E	69	11 7	2 38.33	+27 0.3	1.069	2.051	5.3	17.5	169 E	72	37
9 3	18 34.40	-46 47.6	1.180	1.834	30.2	19.9	114 E	69	11 12	2 33.86	+25 56.2	1.092	2.071	5.5	17.6	168 E	71	38
9 8	18 27.99	-46 6.4	1.222	1.812	31.9	20.0	108 E	70	11 17	2 29.90	+24 51.9	1.121	2.092	7.0	17.8	165 E	70	39
9 13	18 23.62	-45 23.9	1.265	1.788	33.2	20.1	103 E	71	11 22	2 26.58	+23 49.1	1.157	2.113	9.0	17.9	160 E	69	40
9 18	18 21.07	-44 41.8	1.309	1.762	34.3	20.1	98 E	71	11 27	2 23.99	+22 49.3	1.198	2.135	11.2	18.1	155 E	68	41
9 23	18 20.12	-44 0.9	1.351	1.734	35.3	20.2	94 E	71*	12 2	2 22.17	+21 53.7	1.246	2.156	13.3	18.3	150 E	67	42
9 28	18 20.58	-43 21.5	1.392	1.705	36.0	20.2	89 E	72*	12 7	2 21.17	+21 3.4	1.298	2.178	15.2	18.5	145 E	66	43
10 3	18 22.27	-42 43.7	1.432	1.673	36.6	20.3	85 E	72*	12 12	2 20.98	+20 18.9	1.356	2.199	16.9	18.7	139 E	65	44
10 8	18 25.07	-42 7.6	1.469	1.639	37.0	20.3	81 E	73*	12 22	2 22.88	+19 8.1	1.484	2.242	19.8	19.0	129 E	64	45
10 13	18 28.84	-41 33.0	1.502	1.603	37.3	20.3	77 E	73*	1 1	2 27.52	+18 20.5	1.627	2.286	21.8	19.3	120 E	63	46
10 18	18 33.48	-40 59.5	1.532	1.564	37.5	20.3	73 E	74*	1 11	2 34.52	+17 53.7	1.782	2.329	23.1	19.6	111 E	63	46*
10 23	18 38.89	-40 26.9	1.559	1.523	37.6	20.3	69 E	74*	1 21	2 43.46	+17 43.7	1.944	2.372	23.8	19.8	103 E	63	45*
10 28	18 45.00	-39 54.8	1.580	1.480	37.7	20.3	66 E	74*	119147 2001 PF₇₇									
11 2	18 51.75	-39 22.6	1.597	1.434	37.7	20.2	62 E	74*	12 27	17 32.81	-39 23.6	3.761	2.852	6.6	21.0	19 W	—	11*
11 12	19 7.00	-38 16.5	1.615	1.334	37.7	20.1	56 E	5* 49*	1 6	17 52.88	-39 22.2	3.733	2.855	7.8	21.1	23 W	—	16*
11 22	19 24.28	-37 4.8	1.607	1.222	37.9	19.9	49 E	5* 43*	1 16	18 12.61	-39 15.0	3.691	2.858	9.3	21.1	28 W	—	21*
12 2	19 43.34	-35 42.3	1.572	1.095	38.4	19.6	44 E	5* 38*	1 26	18 31.85	-39 2.4	3.633	2.860	10.8	21.2	33 W	—	26*
12 7	19 53.48	-34 55.1	1.542	1.025	39.0	19.4	41 E	5* 35*	2 5	18 50.49	-38 45.1	3.562	2.861	14.1	21.2	39 W	—	32*
12 12	20 3.96	-34 2.6	1.504	0.951	39.8	19.3	38 E	6* 32*	2 15	19 8.41	-38 24.0	3.478	2.861	15.1	21.2	45 W	—	37*
12 17	20 14.72	-33 3.3	1.456	0.871	41.2	19.0	36 E	6* 29*	2 25	19 25.48	-38 0.0	3.381	2.860	15.6	21.2	51 W	—	43*
12 22	20 25.63	-31 55.3	1.397	0.786	43.2	18.8	33 E	6* 27*	3 7	19 41.58	-37 34.2	3.272	2.858	17.0	21.2	57 W	—	49*
12 27	20 36.47	-30 36.0	1.325	0.693	46.3	18.5	31 E	6* 24*	3 17	19 56.59	-37 8.1	3.154	2.855	18.2	21.1	64 W	—	55*
1 1	20 46.77	-29 1.2	1.240	0.593	51.2	18.1	28 E	6* 21*	3 27	20 10.34	-36 42.8	3.027	2.851	19.2	21.1	70 W	1*	61*
1 3	20 50.52	-28 17.6	1.201	0.551	53.9	18.0	27 E	6* 20*	4 6	20 22.70	-36 20.0	2.893	2.847	20.1	21.0	77 W	2*	67*
1 5	20 53.90	-27 30.0	1.159	0.507	57.4	17.8	26 E	6* 19*	4 16	20 33.47	-36 0.9	2.754	2.841	20.6	20.9	85 W	4*	73*
1 7	20 56.71	-26 37.6	1.114	0.461	61.7	17.7	24 E	6* 17*	4 26	20 42.40	-35 47.0	2.613	2.834	20.8	20.8	92 W	5*	78*
1 9	20 58.66	-25 39.4	1.066	0.414	67.3	17.5	23 E	6* 16*	5 6	20 49.26	-35 39.5	2.471	2.827	20.6	20.6	100 W	6*	80*
1 11	20 59.28	-24 34.2	1.014	0.366	74.8	17.4	21 E	5* 14*	5 16	20 53.71	-35 39.1	2.332	2.818	19.9	20.5	108 W	7*	80
1 12	20 58.88	-23 58.5	0.987	0.342	79.4	17.3	20 E	5* 13*	5 26	20 55.41	-35 45.9	2.199	2.808	18.7	20.3	117 W	8*	80
1 13	20 57.84	-23 20.4	0.960	0.317	84.9	17.3	19 E	5* 11*	6 5	20 54.04	-35 58.6	2.075	2.798	17.0	20.1	126 W	9*	80
1 14	20 55.99	-22 39.8	0.932	0.293	91.5	17.3	17 E	4* 10*	6 15	20 49.31	-36 14.6	1.965	2.787	14.7	19.9	136 W	9	80
1 15	20 53.13	-21 56.3	0.904	0.270	99.3	17.4	16 E	4* 8*	6 25	20 41.16	-36 29.0	1.873	2.774	11.8	19.7	146 W	9	80
1 16	20 49.02	-21 10.0	0.876	0.247	108.7	17.7	14 E	3* 6*	6 30	20 35.89	-36 33.6	1.835	2.768	10.3	19.6	151 W	8	79
1 17	20 43.40	-20 20.9	0.851	0.227	120.0	18.2	12 E	2* 4*	7 5	20 29.90	-36 35.4	1.803	2.761	8.8	19.5	156 W	8	79
1 18	20 36.08	-19 29.8	0.829	0.209	133.3	19.1	9 E	1* 1*	7 10	20 23.31	-36 33.4	1.778	2.754	7.4	19.4	160 W	8	79
1 19	20 27.09	-18 38.2	0.812	0.196	148.3	21.0	6 E	—	7 15	20 16.28	-36 27.0	1.759	2.747	6.3	19.3	163 W	9	80
192686 Aljuroma									7 20	20 8.98	-36 15.4	1.747	2.739	5.8	19.3	164 W	9	80
12 27	17 31.64	-22 54.7	3.018	2.066	5.6	19.8	12 W	2* 4*	7 25	20 1.61	-35 58.5	1.743	2.732	6.1	19.3	163 E	9	80
1 6	17 56.52	-22 35.6	2.949	2.025	7.9	19.8	16 W	5* 9*	7 30	19 54.35	-35 36.2	1.745	2.724	7.1	19.3	161 E	9	80
1 16	18 21.84	-21 59.9	2.873	1.984	10.1	19.8	21 W	7* 13*	8 4	19 47.41	-35 8.7	1.755	2.715	8.6	19.4	157 E	10	81
1 26	18 47.45	-21 6.9	2.793	1.945	12.3	19.8	25 W	8* 17*	8 9	19 40.95	-34 36.5	1.771	2.707	10.2	19.5	152 E	10	81
2 5	19 13.24	-19 55.8	2.709	1.907	14.5	19.8	29 W	10* 22*	8 14	19 35.12	-34 0.3	1.793	2.699	11.9	19.5	147 E	11	82
2 15	19 39.10	-18 26.4	2.622	1.871	16.7	19.7	33 W	11* 26*	8 19	19 30.04	-33 20.8	1.822	2.690	13.5	19.6	142 E	12	83
2 25	20 4.89	-16 39.0	2.533	1.837	18.8	19.7	37 W	12* 30*	8 24	19 25.77	-32 38.8	1.856	2.681	15.1	19.7	136 E	12	83
3 7	20 30.55	-14 34.1	2.445	1.804	20.8	19.6	40 W	13* 33*	9 3	19 19.83	-31 10.4	1.938	2.662	17.8	19.9	126 E	14	85
3 17	20 55.99	-12 12.8	2.357	1.774	22.7	19.6	44 W	15* 37*	9 13	19 17.36	-29 39.9	2.035	2.642	19.9	20.1	116 E	15	86
3 27	21 21.18	-9 36.5	2.271	1.747	24.6	19.5	47 W	16* 40*	9 23	19 18.14	-28 10.1	2.143	2.622	21.4	20.2	107 E	17	88
4 6	21 46.08	-6 47.0	2.187	1.723	26.4	19.5	50 W	18* 43*	10 3	19 21.76	-26 42.4	2.257	2.601	22.4	20.3	99 E	18	89
4 16	22 10.70	-3 46.6	2.105	1.702	28.1	19.4	53 W	19* 45*	10 13	19 27.87	-25 16.5	2.374	2.579	22.8	20.4	90 E	20	84*
4 26	22 35.02	-0 37.9	2.028	1.684	29.7	19.4	56 W	21* 47*	10 23	19 36.05	-23 51.6	2.490	2.556	22.7	20.5	82 E	21*	75*
5 6	22 59.08	+ 2 36.3	1.953	1.671	31.1	19.3	59 W	24* 49*	11 2	19 45.97	-22 26.4	2.603	2.532	22.2	20.6	75 E	22*	67*
5 16	23 22.86	+ 5 53.1	1.882	1.661	32.4	19.2	62 W	26* 50*	11 12	19 57.33	-20 59.7	2.710	2.507	21.4	20.6	68 E	24*	59*
5 26	23 46.37	+ 9 9.2	1.815	1.655	33.6	19.2	65 W	30* 50*	11 22	20 9.86	-19 30.2	2.809	2.482	20.3	20.6	61 E	24*	50*
6 5	0 9.59	+12 21.5	1.750	1.653	34.5	19.1	68 W	34* 49*	12 2	20 23.37	-17 56.8	2.900	2.456	19.0	20.6	54 E	25*	42*
6 15	0 32.46	+15 27.0	1.687	1.655	35.4	19.1	71 W	38* 47*	12 12	20 37.67	-16 18.4	2.980	2.429					

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

20/22	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°	20/22	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°		
307523 2003 AV₇₂										6909 Levison											
<i>(continuation)</i>										<i>(continuation)</i>											
3	7	19 41.79	-40 1.0	3.355	2.952	16.6	21.3	58 W	—	48*	2	15	19 17.99	-43 24.0	3.395	2.791	14.6	19.5	45 W	—	36*
3	17	19 57.28	-40 39.3	3.273	2.987	17.5	21.3	65 W	—	54*	2	25	19 37.19	-42 36.1	3.260	2.743	16.2	19.4	51 W	—	41*
3	27	20 11.62	-41 22.6	3.183	3.022	18.3	21.3	72 W	—	59*	3	7	19 55.62	-41 43.3	3.115	2.694	17.8	19.3	56 W	—	46*
4	6	20 24.65	-42 12.8	3.088	3.057	18.7	21.2	79 W	—	64*	3	17	20 13.18	-40 46.3	2.961	2.645	19.4	19.2	62 W	—	51*
4	16	20 36.15	-43 11.8	2.990	3.090	18.9	21.2	86 W	—	68*	3	27	20 29.73	-39 45.7	2.799	2.594	20.9	19.1	68 W	—	56*
4	26	20 45.87	-44 21.1	2.891	3.122	18.8	21.1	94 W	—	70*	4	6	20 45.15	-38 42.3	2.630	2.543	22.2	19.0	74 W	—	62*
5	6	20 53.55	-45 41.5	2.796	3.154	18.3	21.1	101 W	—	70	4	16	20 59.30	-37 36.5	2.457	2.491	23.4	18.8	80 W	—	68*
5	16	20 58.83	-47 13.4	2.705	3.185	17.4	21.0	109 W	—	69	4	26	21 11.96	-36 29.1	2.281	2.438	24.3	18.7	87 W	2*	74*
5	26	21 1.32	-48 55.1	2.625	3.214	16.3	20.9	117 W	—	67	5	6	21 22.93	-35 20.2	2.104	2.385	25.0	18.5	93 W	4*	79*
6	5	21 0.65	-50 43.6	2.557	3.243	14.9	20.8	125 W	—	65	5	16	21 31.89	-34 9.9	1.927	2.331	25.3	18.2	100 W	6*	82
6	15	20 56.46	-52 33.6	2.505	3.271	13.4	20.7	132 W	—	63	5	26	21 38.42	-32 57.5	1.752	2.277	25.1	18.0	108 W	9*	83
6	25	20 48.62	-54 17.5	2.473	3.298	11.9	20.7	138 W	—	62	5	31	21 40.63	-32 20.1	1.667	2.249	24.7	17.8	112 W	10*	84
7	5	20 37.40	-55 46.7	2.463	3.324	10.8	20.6	142 W	—	60	6	5	21 42.04	-31 41.5	1.583	2.222	24.3	17.7	116 W	12*	84
7	15	20 23.54	-56 52.9	2.476	3.350	10.4	20.7	144 W	—	59	6	15	21 42.56	-31 1.4	1.501	2.195	23.6	17.5	120 W	13*	85
7	25	20 8.47	-57 30.0	2.514	3.374	10.6	20.7	142 E	—	58	6	25	21 42.10	-30 19.1	1.422	2.167	22.7	17.3	125 W	14*	86
8	4	19 53.83	-57 36.6	2.575	3.398	11.5	20.8	138 E	—	58	6	30	21 40.56	-29 33.9	1.345	2.140	21.5	17.1	129 W	15*	86
8	14	19 41.22	-57 15.1	2.657	3.420	12.7	20.9	132 E	—	59	6	25	21 37.88	-28 44.9	1.272	2.112	20.1	16.9	134 W	16	87
8	24	19 31.73	-56 31.1	2.758	3.442	13.9	21.1	125 E	—	59	6	30	21 33.95	-27 51.0	1.203	2.085	18.4	16.7	140 W	17	88
9	3	19 25.84	-55 31.3	2.875	3.463	14.9	21.2	118 E	—	60	7	5	21 28.72	-26 51.0	1.138	2.057	16.4	16.5	145 W	18	89
9	13	19 23.56	-54 21.3	3.005	3.483	15.7	21.4	110 E	—	62	7	10	21 22.14	-25 43.5	1.079	2.030	14.0	16.3	151 W	19	90
9	23	19 24.58	-53 5.9	3.144	3.502	16.2	21.5	103 E	—	63	7	15	21 14.23	-24 27.2	1.025	2.002	11.2	16.1	157 W	21	88
12	27	17 33.20	-28 26.4	2.499	1.553	7.8	20.4	12 W	—	6*	7	20	21 5.10	-23 0.7	0.978	1.975	8.1	15.8	164 W	22	87
1	6	18 1.03	-28 30.5	2.487	1.567	10.1	20.5	16 W	—	10*	7	25	20 54.91	-21 23.4	0.938	1.948	4.7	15.5	171 W	24	85
1	16	18 28.61	-28 16.1	2.462	1.575	12.4	20.6	20 W	1*	14*	7	30	20 43.90	-19 35.1	0.906	1.921	1.0	15.2	178 W	25	84
1	26	18 55.88	-27 43.9	2.424	1.577	14.7	20.6	24 W	2*	18*	8	4	20 32.41	-17 36.9	0.882	1.895	3.0	15.2	174 E	27	82
2	5	19 22.84	-26 54.1	2.374	1.573	17.1	20.7	28 W	3*	22*	8	9	20 20.81	-15 30.7	0.866	1.868	7.1	15.4	167 E	29	80
2	15	19 49.51	-25 47.1	2.311	1.564	19.6	20.7	32 W	4*	26*	8	14	20 9.53	-13 19.1	0.859	1.842	11.1	15.5	159 E	32	77
2	25	20 15.91	-24 23.2	2.238	1.548	22.0	20.7	36 W	4*	30*	8	19	19 58.93	-11 5.4	0.859	1.816	15.1	15.6	152 E	34	75
3	7	20 42.13	-22 42.3	2.155	1.527	24.5	20.6	40 W	5*	34*	8	24	19 49.32	-8 52.9	0.866	1.791	18.9	15.7	145 E	36	73
3	17	21 8.29	-20 44.2	2.063	1.500	27.0	20.6	43 W	6*	37*	8	29	19 40.94	-6 44.2	0.880	1.766	22.4	15.8	138 E	38	71
3	27	21 34.54	-18 28.3	1.964	1.467	29.5	20.5	46 W	7*	40*	9	3	19 33.92	-4 41.6	0.899	1.742	25.6	15.9	132 E	40	69
4	6	22 1.11	-15 53.5	1.860	1.428	32.2	20.4	49 W	8*	43*	9	8	19 28.34	-2 46.1	0.922	1.718	28.4	16.1	126 E	42	67
4	16	22 28.30	-12 58.0	1.752	1.382	34.9	20.3	52 W	9*	46*	9	13	19 24.21	-0 58.3	0.949	1.694	30.9	16.2	120 E	44	65
4	26	22 56.49	-9 39.8	1.642	1.331	37.8	20.1	54 W	11*	48*	9	23	19 20.13	+ 2 16.1	1.009	1.650	34.8	16.3	110 E	47	62
5	6	23 26.21	- 5 56.2	1.534	1.272	40.8	20.0	56 W	13*	49*	10	3	19 21.05	+ 5 6.6	1.074	1.609	37.5	16.5	102 E	50	59
5	16	23 58.15	- 1 44.4	1.430	1.208	44.1	19.8	56 W	15*	49*	10	13	19 26.34	+ 7 41.0	1.138	1.571	39.3	16.6	94 E	53	56*
5	26	0 33.17	+ 2 56.8	1.334	1.136	47.6	19.6	56 W	17*	48*	10	18	19 30.42	+ 8 54.6	1.169	1.554	39.9	16.7	91 E	54	53*
6	5	1 12.46	+ 8 5.8	1.251	1.058	51.3	19.4	54 W	20*	45*	10	23	19 35.37	+10 6.9	1.198	1.537	40.3	16.7	89 E	55*	51*
6	10	1 34.13	+10 48.2	1.216	1.017	53.2	19.3	53 W	21*	43*	10	28	19 41.13	+11 18.5	1.227	1.523	40.6	16.8	86 E	56*	48*
6	15	1 57.38	+13 33.1	1.187	0.975	55.0	19.2	52 W	22*	40*	11	2	19 47.66	+12 30.1	1.253	1.509	40.8	16.8	84 E	57*	45*
6	20	2 22.40	+16 17.3	1.164	0.931	56.7	19.1	50 W	23*	37*	11	7	19 54.94	+13 42.2	1.278	1.497	40.9	16.8	81 E	58*	42*
6	25	2 49.34	+18 56.5	1.148	0.886	58.3	19.0	48 W	24*	34*	11	12	20 2.94	+14 55.4	1.302	1.486	40.9	16.8	80 E	59*	38*
6	30	3 18.30	+21 25.4	1.139	0.840	59.5	18.9	45 W	24*	31*	11	22	20 20.99	+17 26.3	1.343	1.468	40.8	16.9	76 E	61*	32*
7	5	3 49.27	+23 37.7	1.139	0.794	60.3	18.8	43 W	24*	28*	12	2	20 41.76	+20 4.4	1.379	1.457	40.6	16.9	74 E	63*	26*
7	10	4 22.12	+25 27.0	1.149	0.748	60.5	18.7	40 W	24*	24*	12	12	21 5.31	+22 50.4	1.410	1.452	40.2	16.9	72 E	64*	20*
7	15	4 56.57	+26 47.1	1.167	0.704	59.9	18.6	37 W	23*	21*	12	22	21 31.71	+25 43.0	1.439	1.454	39.8	17.0	71 E	64*	15*
7	20	5 32.18	+27 32.6	1.194	0.662	58.3	18.5	34 W	22*	18*	1	1	22 1.10	+28 38.7	1.468	1.462	39.2	17.0	70 E	64*	10*
7	25	6 8.43	+27 40.1	1.230	0.624	55.5	18.3	30 W	20*	15*	1	11	22 33.59	+31 32.2	1.500	1.477	38.6	17.1	69 E	63*	7*
7	30	6 44.72	+27 8.2	1.272	0.591	51.4	18.2	27 W	18*	12*	1	21	23 9.12	+34 16.2	1.539	1.497	37.8	17.1	69 E	62*	5*
8	4	7 20.47	+25 57.9	1.321	0.567	46.2	18.0	24 W	15*	9*	12	27	17 35.12	-44 31.5	2.580	1.723	13.1	19.3	23 W	—	13*
8	9	7 55.17	+24 12.4	1.373	0.553	40.0	17.9	20 W	13*	7*	1	1	17 53.86	-44 42.8	2.595	1.745	13.3	19.4	24 W	—	14*
8	14	8 28.39	+21 56.9	1.427	0.550	33.2	17.8	17 W	10*	4*	1	6	18 12.31	-44 45.6	2.609	1.767	13.6	19.4	25 W	—	14*
8	19	8 59.83	+19 18.4	1.481	0.559	26.5	17.7	14 W	7*	2*	1	11	18 30.39	-44 40.5	2.623	1.790	13.9	19.5	26 W	—	15*
8	24	9 29.35	+16 24.4	1.533	0.578	20.3	17.6	11 W	5*	1*	1	16	18 48.02	-44 28.1	2.635	1.812	14.2	19.5	27 W	—	16*
8	29	9 56.96	+13 21.8	1.584	0.607	14.9	17.6	9 W	2*	—	1	21	19 5.14	-44 9.2	2.646	1.835	14.6	19.5	28 W	—	17*
9	3	10 22.76	+10 16.5	1.633	0.642	10.5	17.7	7 W	—	—	1	26	19 21.71	-43 44.3	2.655	1.858	14.9	19.6	29 W	—	18*
9	8	10 46.92	+ 7 13.0	1.681	0.683	7.2	17.7	5 W	—	—	2	5	19 53.07	-42 39.6	2.669	1.904	15.8	19.7	32 W	—	21*
9	13	11 9.63	+ 4 14.2	1.728	0.726	4.9	17.8	4 W	—	—	2	15	20 22.01	-41 19.5	2.676	1.950	16.8	19.8	35 W	—	24*
9	18	11 31.09	+ 1 22.4	1.774	0.771	3.5	17.9	3 W	—	—	2	25	20 48.53	-39 49.2	2.674	1.995	17.9	19.9	38 W	—	27*
9	23	11 51.48	- 1																		

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

20/22	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°	20/22	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°
283450 2001 AW₁										513529 2010 CR₁									
<i>(continuation)</i>										<i>(continuation)</i>									
8 9	22 48.11	-27 12.2	1.672	2.629	9.1	19.1	156 W	18	89	1 31	20 16.22	-25 16.1	1.665	0.728	16.0	19.8	12 W	—	5*
8 14	22 40.34	-27 11.9	1.669	2.644	7.5	19.1	160 W	18	89	2 5	20 42.91	-21 58.5	1.601	0.650	14.5	19.4	10 W	—	3*
8 19	22 32.30	-27 7.0	1.674	2.658	6.4	19.0	163 W	18	89	2 10	21 10.75	-18 3.0	1.539	0.571	11.6	18.9	7 W	—	1*
8 24	22 24.19	-26 57.1	1.686	2.672	6.0	19.0	164 W	18	89	2 15	21 40.02	-13 27.2	1.477	0.494	6.9	18.3	3 W	—	—
8 29	22 16.20	-26 42.0	1.705	2.686	6.5	19.1	162 E	18	89	2 20	22 11.11	-8 12.1	1.412	0.427	6.7	17.9	3 W	—	—
9 3	22 8.52	-26 21.7	1.733	2.699	7.7	19.2	159 E	19	90	2 25	22 44.50	-2 27.1	1.340	0.380	19.6	18.0	7 E	—	1*
9 8	22 1.32	-25 56.5	1.767	2.712	9.2	19.3	155 E	19	90	2 27	22 58.56	-0 5.8	1.308	0.370	26.4	18.1	10 E	—	3*
9 13	21 54.75	-25 26.8	1.809	2.725	10.7	19.4	150 E	20	89	3 1	23 13.03	+2 14.2	1.274	0.366	33.7	18.2	12 E	—	6*
9 18	21 48.91	-24 53.3	1.857	2.738	12.3	19.6	144 E	20	89	3 3	23 27.87	+4 30.5	1.239	0.368	41.0	18.4	14 E	—	8*
9 23	21 43.87	-24 16.7	1.911	2.750	13.8	19.7	139 E	21	88	3 5	23 43.07	+6 41.0	1.204	0.377	47.9	18.6	16 E	—	10*
10 3	21 36.28	-22 56.3	2.035	2.773	16.4	19.9	129 E	22	87	3 7	23 58.61	+8 44.3	1.169	0.391	54.2	18.8	19 E	—	13*
10 13	21 32.00	-21 29.9	2.177	2.795	18.3	20.2	119 E	24	85	3 9	0 14.48	+10 39.2	1.135	0.410	59.6	19.0	21 E	—	15*
10 23	21 30.74	-20 0.4	2.330	2.816	19.5	20.4	109 E	25	84	3 11	0 30.68	+12 25.2	1.103	0.433	64.1	19.2	23 E	—	17*
11 2	21 32.11	-18 29.4	2.492	2.836	20.2	20.6	100 E	27	82	3 13	0 47.21	+14 2.1	1.073	0.459	67.6	19.3	25 E	—	19*
11 12	21 35.70	-16 57.4	2.657	2.855	20.3	20.7	91 E	28	78*	3 15	1 4.07	+15 29.7	1.047	0.487	70.3	19.5	27 E	—	21*
11 22	21 41.12	-15 24.4	2.823	2.872	20.0	20.8	83 E	30	69*	3 17	1 21.23	+16 48.0	1.023	0.517	72.2	19.6	30 E	—	23*
12 2	21 48.02	-13 50.3	2.985	2.888	19.2	21.0	75 E	31	60*	3 22	2 5.22	+19 22.5	0.979	0.595	74.1	19.9	35 E	—	28*
12 12	21 56.13	-12 14.7	3.142	2.903	18.2	21.0	67 E	33*	50*	3 27	2 49.81	+20 58.0	0.958	0.674	73.1	20.1	40 E	—	33*
12 22	22 5.18	-10 37.4	3.290	2.917	16.9	21.1	60 E	33*	42*	4 1	3 33.49	+21 37.5	0.958	0.752	70.4	20.3	45 E	—	36*
1 1	22 14.99	-8 58.0	3.427	2.929	15.4	21.2	52 E	32*	34*	4 6	4 14.74	+21 29.1	0.976	0.828	66.8	20.4	50 E	—	39*
1 11	22 25.40	-7 16.5	3.552	2.941	13.7	21.2	45 E	30*	26*	4 8	4 30.30	+21 15.0	0.989	0.858	65.2	20.4	51 E	—	39*
1 21	22 36.25	-5 32.7	3.662	2.951	11.9	21.2	38 E	27*	19*	4 10	4 45.26	+20 55.9	1.003	0.887	63.6	20.5	53 E	—	40*
14222 1999 WS₁										277172 2005 OB									
12 27	17 35.54	-18 0.9	2.608	1.661	7.3	17.7	12 W	5*	1*	12 27	17 35.73	-25 58.2	2.499	1.546	7.1	20.9	11 W	—	5*
1 6	18 6.14	-17 17.0	2.538	1.611	9.3	17.7	15 W	7*	4*	1 6	18 9.45	-25 44.1	2.449	1.511	8.8	20.8	14 W	—	7*
1 16	18 37.59	-16 8.9	2.469	1.564	11.2	17.6	18 W	9*	7*	1 16	18 43.77	-25 0.5	2.400	1.479	10.6	20.8	16 W	—	10*
1 26	19 9.67	-14 35.8	2.405	1.522	13.1	17.6	20 W	10*	10*	1 26	19 18.30	-23 46.6	2.353	1.451	12.2	20.8	18 W	—	12*
2 5	19 42.13	-12 37.9	2.347	1.486	14.7	17.5	23 W	11*	13*	2 5	19 52.67	-22 2.6	2.310	1.426	13.8	20.8	20 W	—	14*
2 15	20 14.75	-10 16.9	2.297	1.456	16.3	17.5	24 W	12*	15*	2 15	20 26.58	-19 50.5	2.271	1.406	15.3	20.8	22 W	—	16*
2 25	20 47.31	-7 35.7	2.254	1.432	17.6	17.5	26 W	13*	17*	2 25	20 59.78	-17 13.2	2.237	1.391	16.7	20.8	24 W	—	18*
3 7	21 19.62	-4 38.7	2.221	1.416	18.8	17.5	27 W	14*	18*	3 7	21 32.11	-14 14.7	2.208	1.381	18.1	20.8	26 W	—	19*
3 17	21 51.56	-1 30.8	2.197	1.408	19.9	17.4	29 W	14*	20*	3 17	22 3.52	-10 59.7	2.184	1.377	19.3	20.8	27 W	—	21*
3 22	22 7.34	+0 5.5	2.188	1.407	20.3	17.5	29 W	14*	20*	3 27	22 33.97	-7 33.2	2.164	1.379	20.5	20.8	29 W	—	23*
3 27	22 22.99	+1 42.4	2.181	1.408	20.7	17.5	30 W	15*	21*	4 6	23 3.53	-4 0.3	2.148	1.386	21.6	20.8	31 W	—	25*
4 1	22 38.50	+3 19.2	2.176	1.412	21.1	17.5	31 W	15*	22*	4 16	23 32.28	-0 25.6	2.135	1.398	22.7	20.9	33 W	—	26*
4 6	22 53.86	+4 55.2	2.173	1.417	21.5	17.5	31 W	15*	22*	4 26	0 0.30	+3 6.3	2.125	1.415	23.7	20.9	34 W	—	28*
4 16	23 24.12	+8 2.6	2.171	1.433	22.2	17.5	33 W	16*	24*	5 6	0 27.67	+6 31.9	2.115	1.437	24.7	21.0	37 W	—	29*
4 26	23 53.70	+11 0.1	2.174	1.456	22.9	17.6	34 W	16*	25*	5 16	0 54.47	+9 47.9	2.106	1.464	25.7	21.0	39 W	—	31*
5 6	0 22.58	+13 44.3	2.178	1.487	23.5	17.7	36 W	17*	26*	5 26	1 20.73	+12 51.7	2.096	1.494	26.6	21.1	41 W	—	32*
5 16	0 50.69	+16 12.5	2.184	1.523	24.2	17.7	38 W	18*	28*	6 5	1 46.48	+15 41.5	2.083	1.528	27.5	21.1	44 W	—	33*
5 26	1 17.96	+18 23.1	2.188	1.565	24.9	17.8	41 W	20*	29*	6 15	2 11.70	+18 15.9	2.067	1.564	28.4	21.2	47 W	—	34*
6 5	1 44.31	+20 15.2	2.189	1.612	25.7	17.9	44 W	22*	30*	6 25	2 36.33	+20 34.0	2.046	1.603	29.2	21.3	50 W	—	35*
6 15	2 9.64	+21 48.5	2.185	1.663	26.4	18.0	47 W	25*	32*	7 5	3 0.29	+22 35.8	2.021	1.644	30.0	21.3	54 W	—	36*
6 25	2 33.80	+23 3.1	2.175	1.717	27.1	18.1	50 W	29*	33*	7 15	3 23.43	+24 21.4	1.990	1.686	30.7	21.3	58 W	—	38*
7 5	2 56.67	+23 59.7	2.159	1.774	27.8	18.2	55 W	34*	34*	7 25	3 45.57	+25 51.5	1.952	1.730	31.3	21.4	62 W	—	44*
7 15	3 18.08	+24 39.2	2.135	1.833	28.4	18.2	59 W	39*	35*	8 4	4 6.54	+27 7.1	1.907	1.774	31.7	21.4	67 W	—	50*
7 25	3 37.84	+25 2.4	2.102	1.893	28.8	18.3	64 W	44*	36*	8 14	4 26.06	+28 9.6	1.856	1.819	32.0	21.4	72 W	—	56*
8 4	3 55.75	+25 10.6	2.062	1.955	29.1	18.3	70 W	50*	37*	8 24	4 43.84	+29 0.8	1.799	1.864	32.0	21.4	78 W	—	62*
8 14	4 11.58	+25 4.9	2.015	2.018	29.1	18.3	76 W	56*	38*	9 3	4 59.57	+29 42.4	1.736	1.909	31.7	21.3	84 W	—	68*
8 24	4 25.09	+24 46.2	1.960	2.081	28.8	18.3	82 W	62*	39*	9 13	5 12.84	+30 16.5	1.668	1.954	31.0	21.3	90 W	—	73*
9 3	4 36.00	+24 15.6	1.901	2.144	28.1	18.3	90 W	67*	40*	9 23	5 23.22	+30 44.7	1.597	1.998	29.8	21.2	98 W	—	76
9 13	4 44.02	+23 33.6	1.838	2.208	26.9	18.3	97 W	68*	40	10 3	5 30.24	+31 8.5	1.526	2.042	28.1	21.1	106 W	—	76
9 23	4 48.88	+22 40.8	1.776	2.271	25.1	18.2	106 W	68*	40	10 13	5 33.39	+31 28.2	1.458	2.086	25.7	21.0	115 W	—	76
10 3	4 50.35	+21 37.8	1.718	2.335	22.7	18.1	116 W	67	42	10 23	5 32.28	+31 42.9	1.396	2.129	22.5	20.8	125 W	—	77
10 13	4 48.32	+20 24.8	1.668	2.398	19.6	18.0	126 W	65	44	11 2	5 26.74	+31 49.9	1.345	2.171	18.5	20.7	136 W	—	77
10 23	4 42.95	+19 3.2	1.632	2.460	15.8	17.9	138 W	64	45	11 12	5 17.03	+31 44.9	1.311	2.212	13.8	20.5	148 W	—	77
11 2	4 34.72	+17 35.2	1.616	2.522	11.5	17.8	150 W	63	46	11 22	5 4.17	+31 23.7	1.299	2.252	8.7	20.3	160 W	—	76
11 7	4 29.79	+16 49.																	

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

20/22	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°	20/22	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°
461506 2003 QE₂₉										422679 1999 VU₂₂₅ (continuation)									
12 27	17 36.20	-32 25.6	2.949	2.008	6.7	21.4	14 W	—	8*	2 15	19 45.59	-21 20.6	2.635	1.869	16.2	21.3	32 W	8*	25*
1 6	18 4.07	-32 32.9	2.891	1.974	8.5	21.4	17 W	—	11*	2 25	20 12.39	-20 30.2	2.540	1.828	18.3	21.3	36 W	8*	29*
1 16	18 32.46	-32 21.5	2.828	1.941	10.4	21.4	21 W	—	15*	3 7	20 39.49	-19 24.5	2.444	1.788	20.5	21.2	39 W	8*	33*
1 26	19 1.14	-31 50.5	2.760	1.909	12.4	21.3	25 W	—	18*	3 17	21 6.84	-18 3.8	2.348	1.750	22.6	21.1	43 W	8*	37*
2 5	19 29.90	-30 59.3	2.689	1.877	14.3	21.3	28 W	—	22*	3 27	21 34.34	-16 29.2	2.253	1.713	24.7	21.1	46 W	9*	40*
2 15	19 58.53	-29 47.8	2.614	1.847	16.3	21.3	32 W	—	25*	4 6	22 1.99	-14 41.8	2.160	1.678	26.6	21.0	49 W	9*	43*
2 25	20 26.81	-28 16.7	2.537	1.818	18.2	21.3	35 W	—	29*	4 16	22 29.74	-12 43.0	2.070	1.646	28.5	20.9	52 W	9*	46*
3 7	20 54.61	-26 26.7	2.458	1.791	20.2	21.2	38 W	—	32*	4 26	22 57.55	-10 34.9	1.984	1.617	30.3	20.8	54 W	10*	48*
3 17	21 21.81	-24 19.2	2.379	1.766	22.0	21.2	42 W	1*	35*	5 6	23 25.42	-8 19.7	1.902	1.590	32.0	20.8	57 W	11*	51*
3 27	21 48.31	-21 55.9	2.299	1.742	23.9	21.1	45 W	2*	38*	5 16	23 53.32	-6 0.0	1.824	1.568	33.6	20.7	59 W	12*	53*
4 6	22 14.09	-19 18.7	2.219	1.721	25.7	21.1	48 W	4*	42*	5 26	0 21.19	-3 38.8	1.752	1.549	35.1	20.6	61 W	14*	54*
4 16	22 39.14	-16 29.4	2.140	1.701	27.4	21.0	51 W	5*	45*	6 5	0 49.01	+1 19.0	1.685	1.534	36.4	20.5	64 W	17*	56*
4 26	23 3.46	-13 30.3	2.062	1.685	29.0	21.0	54 W	7*	48*	6 15	1 16.69	+0 56.3	1.622	1.523	37.5	20.5	66 W	20*	56*
5 6	23 27.10	-10 23.3	1.985	1.671	30.5	20.9	57 W	9*	51*	6 25	1 44.10	+3 4.0	1.563	1.517	38.5	20.4	68 W	24*	56*
5 16	23 50.07	-7 10.5	1.909	1.660	32.0	20.9	60 W	12*	54*	7 5	2 11.12	+5 1.6	1.507	1.515	39.3	20.4	71 W	28*	56*
5 26	0 12.39	-3 54.0	1.834	1.653	33.3	20.8	63 W	16*	56*	7 15	2 37.55	+6 46.8	1.454	1.519	39.9	20.3	73 W	33*	55*
6 5	0 34.10	-0 35.4	1.760	1.648	34.4	20.7	67 W	20*	57*	7 25	3 3.14	+8 17.8	1.403	1.526	40.3	20.2	76 W	38*	55*
6 15	0 55.18	+2 43.5	1.686	1.646	35.5	20.7	70 W	25*	57*	8 4	3 27.67	+9 34.0	1.352	1.539	40.4	20.2	80 W	43*	54*
6 25	1 15.59	+6 1.2	1.614	1.648	36.3	20.6	74 W	31*	56*	8 14	3 50.78	+10 35.0	1.302	1.555	40.3	20.1	83 W	48*	53*
7 5	1 35.26	+9 16.5	1.542	1.653	36.9	20.5	77 W	37*	54*	8 24	4 12.13	+11 21.5	1.252	1.576	39.9	20.1	88 W	52*	53*
7 15	1 54.05	+12 28.4	1.471	1.661	37.3	20.4	82 W	44*	52*	9 3	4 31.34	+11 55.0	1.200	1.600	39.1	20.0	92 W	55*	52
7 25	2 11.77	+15 36.2	1.401	1.672	37.3	20.4	86 W	51*	48*	9 13	4 47.94	+12 17.5	1.148	1.627	37.8	19.9	98 W	57*	52
8 4	2 28.16	+18 39.6	1.332	1.686	37.0	20.3	91 W	58*	45	9 23	5 1.44	+12 32.1	1.097	1.658	35.9	19.8	104 W	58	51
8 14	2 42.84	+21 38.3	1.263	1.702	36.3	20.1	96 W	65*	42	10 3	5 11.35	+12 41.8	1.046	1.691	33.4	19.6	111 W	58	51
8 24	2 55.31	+24 32.2	1.198	1.722	35.0	20.0	102 W	70*	39	10 13	5 17.10	+12 50.4	0.999	1.726	30.1	19.5	120 W	58	51
8 29	3 0.55	+25 57.4	1.166	1.732	34.2	19.9	105 W	71	38	10 23	5 18.30	+13 1.6	0.958	1.764	26.0	19.3	129 W	58	51
9 3	3 5.01	+27 21.1	1.135	1.743	33.2	19.9	109 W	72	37	11 2	5 14.80	+13 18.6	0.928	1.803	20.9	19.1	140 W	58	51
9 8	3 8.58	+28 43.2	1.105	1.755	32.1	19.8	112 W	74	35	11 12	5 6.95	+13 43.3	0.913	1.843	15.0	19.0	151 W	59	50
9 13	3 11.18	+30 3.3	1.077	1.767	30.8	19.7	116 W	75	34	11 17	5 1.72	+13 58.8	0.912	1.864	11.9	18.9	157 W	59	50
9 18	3 12.72	+31 20.9	1.051	1.780	29.3	19.6	120 W	76	33	11 22	4 55.90	+14 16.3	0.917	1.884	8.7	18.8	163 W	59	50
9 23	3 13.12	+32 35.4	1.027	1.793	27.7	19.6	124 W	78	31	11 27	4 49.71	+14 35.5	0.928	1.905	5.8	18.7	169 W	60	49
9 28	3 12.32	+33 46.0	1.005	1.806	25.8	19.5	128 W	79	30	12 2	4 43.41	+14 56.4	0.945	1.926	3.8	18.7	173 W	60	49
10 3	3 10.26	+34 51.3	0.986	1.820	23.8	19.4	133 W	80	29	12 7	4 37.28	+15 18.6	0.968	1.948	4.2	18.8	172 E	60	49
10 8	3 6.96	+35 50.2	0.971	1.834	21.7	19.3	137 W	81	28	12 12	4 31.56	+15 42.0	0.997	1.969	6.3	19.0	167 E	61	48
10 13	3 2.46	+36 41.2	0.960	1.849	19.6	19.2	142 W	82	27	12 17	4 26.45	+16 6.4	1.032	1.991	8.9	19.2	162 E	61	48
10 18	2 56.93	+37 22.9	0.952	1.864	17.4	19.2	146 W	82	27	12 22	4 22.12	+16 31.7	1.073	2.012	11.5	19.4	156 E	62	47
10 23	2 50.56	+37 54.3	0.950	1.879	15.3	19.1	150 W	83	26	12 27	4 18.65	+16 57.6	1.120	2.034	13.8	19.6	150 E	62	47
10 28	2 43.62	+38 14.5	0.952	1.895	13.5	19.1	154 W	83	26	1 1	4 16.10	+17 24.2	1.172	2.055	16.0	19.8	145 E	62	47
11 2	2 36.40	+38 23.2	0.960	1.910	12.1	19.0	156 W	83	26	1 6	4 14.52	+17 51.3	1.229	2.077	17.9	20.0	140 E	63	46
11 7	2 29.26	+38 20.9	0.973	1.926	11.4	19.1	157 E	83	26	1 11	4 13.88	+18 18.8	1.290	2.099	19.6	20.1	134 E	63	46
11 12	2 22.53	+38 8.7	0.992	1.943	11.4	19.1	157 E	83	26	1 16	4 14.15	+18 46.6	1.354	2.120	21.0	20.3	129 E	64	45
11 17	2 16.49	+37 48.3	1.016	1.959	12.1	19.2	155 E	83	26	1 21	4 15.28	+19 14.4	1.423	2.142	22.2	20.5	125 E	64	45
11 22	2 11.36	+37 21.6	1.046	1.976	13.3	19.4	153 E	82	27	163454 2002 RN₁₂₉									
11 27	2 7.28	+36 50.7	1.081	1.992	14.8	19.5	149 E	82	27	12 27	17 39.98	-34 42.4	1.880	0.962	15.1	21.0	15 W	—	8*
12 2	2 4.32	+36 17.5	1.121	2.009	16.4	19.6	145 E	81	28	1 1	18 4.44	-34 40.6	1.913	0.994	14.6	21.1	15 W	—	8*
12 7	2 2.53	+35 43.7	1.165	2.026	17.9	19.8	141 E	81	28	1 6	18 27.96	-34 21.5	1.946	1.026	14.1	21.2	15 W	—	7*
12 12	2 1.88	+35 10.9	1.214	2.043	19.4	20.0	136 E	80	29	1 11	18 50.45	-33 47.5	1.979	1.057	13.7	21.3	15 W	—	7*
12 17	2 2.33	+34 40.2	1.267	2.060	20.8	20.1	132 E	80	29	1 16	19 11.85	-33 0.8	2.010	1.089	13.4	21.4	15 W	—	7*
12 22	2 3.78	+34 12.4	1.324	2.078	22.0	20.3	128 E	79	30	1 21	19 32.16	-32 3.3	2.040	1.119	13.2	21.5	15 W	—	8*
12 27	2 6.17	+33 47.8	1.383	2.095	23.0	20.4	124 E	79	30	362310 2009 UM₃									
1 1	2 9.40	+33 26.8	1.446	2.112	23.9	20.5	120 E	78	31	12 27	17 40.59	-18 28.5	1.524	0.590	18.8	18.7	11 W	4*	—
1 6	2 13.42	+33 9.3	1.511	2.129	24.6	20.7	116 E	78	31*	1 1	18 18.56	-18 50.4	1.508	0.549	13.7	18.4	8 W	1*	—
1 11	2 18.13	+32 55.5	1.578	2.147	25.2	20.8	112 E	78	31*	1 6	18 57.81	-18 48.8	1.500	0.525	8.2	18.1	4 W	—	—
1 16	2 23.47	+32 45.0	1.648	2.164	25.6	20.9	108 E	78	31*	1 11	19 37.48	-18 22.3	1.498	0.521	7.5	18.0	4 E	—	—
1 21	2 29.37	+32 37.7	1.719	2.181	25.9	21.1	104 E	78	30*	1 16	20 16.59	-17 31.4	1.502	0.539	12.8	18.3	7 E	1*	—
482796 2013 QJ₁₀										1 21	20 54.28	-16 18.9	1.512	0.574	18.4	18.6	11 E	3*	1*
12 27	17 37.76	-30 11.6	1.505	0.583	21.0	20.2	12 W	—	6*	1 26	21 29.96	-14 48.9	1.531	0.624	22.6	19.0	14 E	6*	4*
12 29	17 51.90	-30 10.9	1.524	0.593															

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

20/22	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°	20/22	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°
360436 2002 JE₇₀										5693 1993 EA									
<i>(continuation)</i>										<i>(continuation)</i>									
3 17	22 1.53	-13 50.9	2.328	1.532	18.2	21.3	29 W	3*	23*	5 26	7 3.53	+24 37.9	2.058	1.434	26.9	20.3	40 E	24*	24*
3 27	22 29.90	-11 40.3	2.317	1.556	19.6	21.4	31 W	4*	25*	5 31	7 19.17	+24 17.6	2.122	1.472	25.4	20.3	39 E	22*	24*
4 6	22 57.06	-9 25.5	2.306	1.583	20.9	21.4	34 W	4*	28*	6 5	7 34.14	+23 52.4	2.186	1.508	24.0	20.4	37 E	20*	24*
9572 1988 RS₆										68031 2000 YK₂₉									
12 27	17 41.43	-22 38.5	2.869	1.907	5.0	19.7	10 W	1*	2*	12 27	17 41.88	-22 3.2	2.392	1.432	6.6	21.2	10 W	1*	2*
1 6	18 7.98	-22 41.0	2.819	1.879	7.2	19.7	14 W	3*	6*	1 6	18 15.57	-22 38.4	2.422	1.474	8.0	21.3	12 W	2*	5*
1 16	18 34.94	-22 26.3	2.764	1.851	9.3	19.8	18 W	4*	10*	1 16	18 48.16	-22 47.3	2.451	1.520	9.4	21.5	15 W	2*	8*
1 26	19 2.17	-21 53.8	2.704	1.825	11.4	19.8	22 W	6*	15*	1 26	19 19.42	-22 33.0	2.478	1.569	11.0	21.6	18 W	3*	11*
2 5	19 29.52	-21 3.5	2.641	1.799	13.5	19.8	25 W	7*	19*	2 5	19 49.15	-21 59.2	2.503	1.621	12.6	21.8	21 W	3*	15*
2 15	19 56.86	-19 55.6	2.574	1.775	15.6	19.8	29 W	7*	22*	68031 2000 YK₂₉									
2 25	20 24.05	-18 30.8	2.506	1.753	17.6	19.7	32 W	8*	26*	12 27	17 42.07	-16 56.9	2.340	1.391	8.2	21.2	12 W	5*	—
3 7	20 50.99	-16 50.5	2.436	1.732	19.6	19.7	36 W	9*	30*	1 6	18 13.53	-17 35.0	2.346	1.410	9.5	21.3	14 W	6*	3*
3 17	21 17.62	-14 55.9	2.366	1.713	21.5	19.7	39 W	9*	33*	1 16	18 44.62	-17 51.9	2.347	1.428	10.9	21.4	16 W	7*	6*
3 27	21 43.87	-12 49.1	2.295	1.697	23.3	19.7	42 W	10*	36*	1 26	19 15.21	-17 48.6	2.343	1.445	12.5	21.5	19 W	7*	10*
4 6	22 9.72	-10 32.1	2.225	1.682	25.1	19.6	45 W	11*	39*	2 5	19 45.22	-17 26.7	2.334	1.461	14.2	21.6	21 W	7*	14*
4 16	22 35.17	-8 7.1	2.155	1.670	26.8	19.6	49 W	12*	42*	16851 1997 YU₁									
4 26	23 0.20	-5 36.7	2.085	1.660	28.4	19.5	52 W	13*	45*	12 27	17 42.18	-31 10.7	3.439	2.486	4.7	20.4	12 W	—	6*
5 6	23 24.84	-3 3.2	2.017	1.653	29.9	19.5	55 W	15*	48*	1 6	18 3.13	-30 45.3	3.374	2.448	6.6	20.4	17 W	—	11*
5 16	23 49.10	-0 29.3	1.949	1.649	31.2	19.5	58 W	17*	50*	1 16	18 24.18	-30 9.6	3.297	2.409	8.6	20.4	22 W	—	16*
5 26	0 12.95	+2 2.5	1.882	1.647	32.5	19.4	61 W	20*	52*	1 26	18 45.20	-29 22.9	3.207	2.370	10.8	20.4	27 W	2*	21*
6 5	0 36.40	+4 29.9	1.815	1.648	33.6	19.4	64 W	23*	53*	2 5	19 6.12	-28 24.9	3.106	2.329	13.0	20.4	32 W	3*	26*
6 15	0 59.40	+6 50.6	1.748	1.652	34.6	19.3	68 W	27*	53*	2 15	19 26.85	-27 15.1	2.994	2.288	15.2	20.3	37 W	5*	31*
6 25	1 21.85	+9 2.4	1.681	1.659	35.4	19.3	71 W	32*	53*	2 25	19 47.31	-25 53.3	2.874	2.246	17.3	20.3	42 W	7*	36*
7 5	1 43.67	+11 3.7	1.614	1.668	36.0	19.2	75 W	37*	52*	3 7	20 7.42	-24 19.3	2.746	2.203	19.4	20.2	48 W	8*	42*
7 15	2 4.66	+12 52.7	1.546	1.680	36.4	19.2	79 W	43*	51*	3 17	20 27.15	-22 32.8	2.611	2.160	21.5	20.1	53 W	10*	47*
7 25	2 24.60	+10 28.3	1.477	1.694	36.6	19.1	83 W	49*	50	3 27	20 46.43	-20 33.5	2.472	2.116	23.5	20.0	58 W	12*	52*
8 4	2 43.23	+15 49.6	1.408	1.710	36.4	19.0	88 W	54*	48	4 6	21 5.25	-18 21.1	2.329	2.072	25.4	19.9	63 W	14*	57*
8 14	3 0.15	+16 56.1	1.338	1.729	35.8	18.9	94 W	59*	47	4 16	21 23.57	-15 55.1	2.183	2.027	27.3	19.8	68 W	16*	61*
8 24	3 14.95	+17 47.5	1.268	1.749	34.7	18.8	100 W	62*	46	5 6	22 15.29	-7 6.9	1.749	1.894	31.9	19.3	82 W	26*	69*
9 3	3 27.14	+18 24.0	1.200	1.772	33.1	18.6	106 W	63	46	5 16	22 15.29	-7 6.9	1.749	1.894	31.9	19.3	82 W	26*	69*
9 13	3 36.12	+18 45.4	1.134	1.795	30.8	18.5	114 W	64	45	5 26	22 31.37	-3 36.9	1.610	1.850	33.1	19.1	87 W	31*	68*
9 23	3 41.38	+18 52.1	1.073	1.821	27.7	18.3	122 W	64	45	6 5	22 46.82	+0 12.9	1.476	1.806	34.2	18.8	91 W	36*	64
10 3	3 42.47	+18 44.2	1.021	1.847	23.7	18.1	132 W	64	45										
10 13	3 39.20	+18 21.7	0.980	1.874	18.8	17.9	143 W	63	46										
10 23	3 32.00	+17 46.0	0.956	1.902	13.0	17.7	154 W	63	46										
10 28	3 27.22	+17 24.0	0.951	1.917	9.9	17.5	161 W	62	47										
11 2	3 21.91	+17 0.0	0.952	1.931	6.7	17.4	167 W	62	47										
11 7	3 16.29	+16 34.8	0.958	1.946	3.4	17.3	173 W	62	47										
11 12	3 10.63	+16 9.5	0.971	1.961	0.8	17.1	178 W	61	48										
11 17	3 5.16	+15 45.1	0.990	1.976	3.2	17.4	174 E	61	48										
11 22	3 0.10	+15 22.6	1.015	1.991	6.2	17.6	167 E	60	49										
11 27	2 55.63	+15 2.8	1.046	2.006	9.1	17.8	161 E	60	49										
12 2	2 51.89	+14 46.4	1.083	2.021	11.8	18.0	155 E	60	49										
12 12	2 46.93	+14 25.9	1.172	2.051	16.5	18.4	144 E	59	50										
12 22	2 45.55	+14 22.8	1.280	2.081	20.1	18.7	133 E	59	50										
1 1	2 47.55	+14 35.7	1.402	2.112	22.8	19.0	124 E	60	49										
1 11	2 52.59	+15 2.3	1.535	2.142	24.6	19.3	115 E	60	49										
1 21	3 0.21	+15 39.4	1.676	2.172	25.7	19.6	107 E	61	48*										

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

20/22	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°-26°	20/22	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°-26°
16851 1997 YU₁ (continuation)									418073 2007 VT₂₂₆ (continuation)								
6 15	23 1.56	+4 24.1	1.348	1.764	35.0	18.6	95 W	42* 60	9 28	4 7.97	+30 27.0	1.132	1.836	28.6	20.1	119 W	75 34
6 25	23 15.50	+8 58.4	1.229	1.723	35.6	18.4	100 W	49* 55	10 3	4 9.41	+30 11.9	1.104	1.852	26.9	20.1	123 W	75 34
7 5	23 28.51	+13 57.2	1.119	1.683	35.9	18.1	104 W	57* 50	10 13	4 8.79	+29 24.6	1.055	1.885	22.7	19.9	133 W	74 35
7 15	23 40.38	+19 20.2	1.020	1.645	36.0	17.9	108 W	64* 45	10 23	4 3.70	+28 13.2	1.019	1.918	17.6	19.7	144 W	73 36
7 20	23 45.79	+22 10.0	0.974	1.627	36.0	17.8	110 W	67 42	11 2	3 54.93	+26 37.8	1.001	1.952	11.7	19.5	157 W	72 37
7 25	23 50.82	+25 4.8	0.932	1.610	36.0	17.7	111 W	70 39	11 7	3 49.60	+25 42.2	1.001	1.969	8.6	19.4	163 W	71 38
7 30	23 55.40	+28 3.8	0.893	1.593	35.9	17.5	113 W	73 36	11 12	3 43.96	+24 42.6	1.006	1.987	5.4	19.2	169 W	70 39
8 4	23 59.46	+31 5.8	0.857	1.577	35.8	17.4	115 W	76 33	11 17	3 38.27	+23 40.7	1.018	2.004	2.6	19.1	175 W	69 40
8 9	0 2.94	+34 9.4	0.824	1.562	35.7	17.3	116 W	79 30	11 22	3 32.78	+22 38.0	1.036	2.022	2.3	19.2	175 E	68 41
8 14	0 5.74	+37 12.9	0.795	1.547	35.6	17.2	117 W	82 27	11 27	3 27.69	+21 36.2	1.061	2.040	4.8	19.4	170 E	67 42
8 19	0 7.81	+40 14.1	0.768	1.534	35.5	17.1	118 W	85 24	12 2	3 23.19	+20 37.0	1.092	2.057	7.6	19.6	164 E	66 43
8 24	0 9.06	+43 11.0	0.744	1.521	35.4	17.0	119 W	88 21	12 7	3 19.41	+19 41.8	1.129	2.075	10.3	19.8	158 E	65 44
8 29	0 9.39	+46 1.2	0.724	1.510	35.3	16.9	120 W	89 18	12 12	3 16.45	+18 51.7	1.173	2.093	12.8	20.0	152 E	64 45
9 3	0 8.73	+48 42.1	0.706	1.499	35.3	16.9	121 W	86 15	12 22	3 13.17	+17 29.4	1.275	2.128	17.1	20.4	141 E	62 47
9 8	0 7.03	+51 10.8	0.690	1.489	35.2	16.8	122 W	84 13	1 1	3 13.30	+16 31.8	1.395	2.164	20.3	20.7	130 E	62 47
9 13	0 4.31	+53 24.9	0.677	1.481	35.2	16.8	122 W	82 11	1 11	3 16.58	+15 57.2	1.530	2.199	22.7	21.0	121 E	61 48
9 18	0 0.69	+55 22.1	0.666	1.474	35.1	16.7	123 W	80 9	1 21	3 22.56	+15 41.9	1.675	2.234	24.2	21.3	112 E	61 48
9 23	23 56.36	+57 0.6	0.656	1.468	35.0	16.7	123 E	78 7	285638 2000 SO₁₀								
9 28	23 51.58	+58 18.9	0.649	1.463	34.9	16.6	123 E	77 6	12 27	17 43.69	-38 31.9	1.571	0.698	24.9	18.9	17 W	— 9*
10 3	23 46.75	+59 16.1	0.642	1.459	34.8	16.6	124 E	76 5	12 29	17 58.00	-38 56.2	1.590	0.714	24.2	18.9	17 W	— 8*
10 5	23 44.92	+59 33.0	0.640	1.458	34.7	16.6	124 E	75 4	12 31	18 12.16	-39 12.3	1.609	0.731	23.5	19.0	17 W	— 7*
10 7	23 43.18	+59 46.4	0.639	1.457	34.6	16.6	124 E	75 4	1 2	18 26.10	-39 20.8	1.629	0.748	22.8	19.0	17 W	— 7*
10 9	23 41.59	+59 56.4	0.637	1.456	34.5	16.6	124 E	75 4	1 4	18 39.77	-39 22.1	1.649	0.766	22.2	19.1	17 W	— 6*
10 11	23 40.16	+60 3.1	0.636	1.456	34.4	16.6	124 E	75 4	1 6	18 53.11	-39 16.8	1.669	0.784	21.6	19.1	17 W	— 5*
10 13	23 38.94	+60 6.6	0.635	1.456	34.3	16.6	125 E	75 4	1 8	19 6.09	-39 5.5	1.690	0.802	20.9	19.2	17 W	— 5*
10 15	23 37.94	+60 6.8	0.634	1.456	34.2	16.5	125 E	75 4	1 10	19 18.67	-38 48.6	1.711	0.821	20.3	19.2	17 W	— 4*
10 17	23 37.19	+60 4.0	0.633	1.456	34.1	16.5	125 E	75 4	1 12	19 30.84	-38 26.9	1.732	0.840	19.7	19.3	17 W	— 3*
10 19	23 36.72	+59 58.3	0.632	1.456	34.0	16.5	125 E	75 4	1 14	19 42.58	-38 0.7	1.754	0.859	19.2	19.4	17 E	— 3*
10 21	23 36.53	+59 49.6	0.632	1.457	33.8	16.5	125 E	75 4	1 16	19 53.89	-37 30.7	1.776	0.879	18.6	19.4	17 E	— 3*
10 23	23 36.63	+59 38.2	0.632	1.457	33.7	16.5	126 E	75 4	1 21	20 20.30	-36 1.9	1.831	0.927	17.2	19.6	16 E	— 4*
10 28	23 38.26	+58 58.1	0.633	1.460	33.3	16.5	126 E	77 5	1 26	20 44.15	-34 18.4	1.886	0.975	15.9	19.7	16 E	— 4*
11 2	23 41.86	+58 2.8	0.636	1.464	32.9	16.5	127 E	76 6	1 31	21 5.70	-32 25.4	1.941	1.023	14.6	19.8	15 E	— 4*
11 7	23 47.40	+56 53.9	0.641	1.469	32.6	16.5	127 E	78 7	2 5	21 25.23	-30 26.8	1.995	1.070	13.5	19.9	15 E	— 3*
11 12	23 54.75	+55 33.6	0.647	1.476	32.2	16.6	127 E	79 8	2 10	21 43.01	-28 25.4	2.047	1.117	12.5	20.0	14 E	— 3*
11 17	0 3.66	+54 3.6	0.656	1.483	31.9	16.6	128 E	81 10	2 15	21 59.28	-26 23.1	2.098	1.162	11.6	20.1	14 E	— 2*
11 22	0 13.87	+52 25.7	0.668	1.492	31.7	16.6	128 E	83 12	2 20	22 14.27	-24 21.4	2.146	1.206	10.9	20.2	13 E	— 1*
11 27	0 25.12	+50 41.9	0.683	1.502	31.5	16.7	127 E	84 13	2 25	22 28.17	-22 21.1	2.192	1.249	10.4	20.4	13 W	— 1*
12 2	0 37.16	+48 53.8	0.701	1.513	31.5	16.8	127 E	86 15	3 2	22 41.13	-20 22.8	2.235	1.291	10.2	20.5	13 W	— 2*
12 7	0 49.80	+47 3.6	0.722	1.525	31.6	16.9	126 E	88 17	3 7	22 53.29	-18 26.9	2.274	1.331	10.1	20.6	14 W	— 3*
12 12	1 2.84	+45 13.3	0.747	1.538	31.8	16.9	125 E	90 19	3 12	23 4.76	-16 33.6	2.311	1.370	10.3	20.7	14 W	— 5*
12 17	1 16.11	+43 24.8	0.775	1.551	32.0	17.1	123 E	88 21	3 17	23 15.64	-14 42.9	2.343	1.408	10.7	20.8	15 W	— 7*
12 22	1 29.49	+41 39.5	0.807	1.566	32.3	17.2	122 E	87 22	3 22	23 25.99	-12 54.9	2.372	1.444	11.3	20.9	17 W	— 9*
12 27	1 42.87	+39 58.5	0.843	1.581	32.7	17.3	120 E	85 24	3 27	23 35.89	-11 9.4	2.396	1.480	12.0	21.0	18 W	— 10*
1 1	1 56.19	+38 22.9	0.882	1.598	33.0	17.4	118 E	83 26*	4 1	23 45.38	-9 26.6	2.417	1.514	12.8	21.1	20 W	— 13*
1 6	2 9.41	+36 53.4	0.926	1.615	33.3	17.6	115 E	82 27*	4 6	23 54.51	-7 46.1	2.434	1.546	13.7	21.2	21 W	— 15*
1 11	2 22.49	+35 30.2	0.972	1.632	33.6	17.7	113 E	81 28*	4 11	0 3.33	-6 7.8	2.446	1.578	14.6	21.3	23 W	— 17*
1 16	2 35.42	+34 13.6	1.022	1.651	33.9	17.8	111 E	79 29*	4 16	0 11.86	-4 31.8	2.454	1.608	15.6	21.3	26 W	— 19*
1 21	2 48.17	+33 3.2	1.075	1.669	34.0	18.0	108 E	78 30*	4 21	0 20.13	-2 57.8	2.458	1.637	16.6	21.4	28 W	— 22*
12 27	17 42.57	-21 23.5	2.888	1.925	4.9	21.4	10 W	2* 1*	4 26	0 28.15	-1 25.6	2.458	1.665	17.6	21.5	30 W	1* 24*
1 6	18 8.55	-20 55.8	2.832	1.892	7.1	21.5	14 W	4* 5*	136926 1998 MY								
1 16	18 34.87	-20 10.5	2.771	1.859	9.3	21.5	18 W	6* 9*	12 27	17 43.84	-20 4.2	2.703	1.742	5.5	19.9	10 W	3* —
1 26	19 1.39	-19 6.9	2.705	1.827	11.5	21.5	22 W	8* 14*	1 6	18 12.84	-19 46.9	2.656	1.712	7.5	19.9	13 W	4* 4*
2 5	19 27.99	-17 44.8	2.636	1.797	13.6	21.5	25 W	9* 18*	1 16	18 42.26	-19 9.0	2.607	1.685	9.4	19.9	16 W	6* 7*
2 15	19 54.57	-16 4.3	2.565	1.768	15.7	21.4	29 W	11* 22*	1 26	19 11.87	-18 10.1	2.557	1.660	11.3	19.9	19 W	7* 11*
2 25	20 21.02	-14 6.3	2.493	1.741	17.8	21.4	32 W	12* 25*	2 5	19 41.49	-16 50.6	2.508	1.638	13.2	19.9	22 W	8* 14*
3 7	20 47.28	-11 51.7	2.420	1.716	19.8	21.4	36 W	13* 29*	2 15	20 10.94	-15 11.6	2.460	1.620	15.0	19.9	25 W	9* 18*
3 17	21 13.30	-9 22.2	2.347	1.693	21.7	21.3	39 W	14* 32*	2 25	20 40.05	-13 14.8	2.413	1.605	16.7	19.9	28 W	10* 21*
3 27	21 39.05	-6 39.6	2.276	1.672	23.5	21.3	42 W	16* 35*	3 7	21 8.73	-11 2.5	2.368	1.594	18.4	19.9	30 W	10* 23*
4 6	22 4.54	-3 46.4	2.206	1.654	25.2	21.3	45 W	17* 37*	3 17	21 36.89	-8 37.5	2.325	1.587	20.0	19.9	33 W	11* 26*
4 16	22 29.81	-0 44.9	2.139	1.639	26.9	21.2	48 W	19* 40*	3 27	22 4.48	-6 3.0	2.28					

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

20/22	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°	20/21	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°
136926 1998 MY										329838 2004 SM₅₈									
<i>(continuation)</i>										<i>(continuation)</i>									
9 23	3 51.52	+21 11.6	1.363	2.054	25.1	19.5	120 W	66	43	4 16	22 52.81	- 3 50.0	2.243	1.657	24.4	21.2	43 W	12*	36*
10 3	3 51.09	+20 29.5	1.308	2.094	21.6	19.3	130 W	65	44	4 26	23 17.50	- 1 10.0	2.201	1.667	25.7	21.2	46 W	14*	39*
10 13	3 46.82	+19 32.1	1.266	2.134	17.2	19.2	141 W	65	44	5 6	23 41.48	+ 1 28.1	2.158	1.681	27.0	21.2	49 W	16*	42*
10 23	3 39.21	+18 21.1	1.243	2.175	12.1	19.0	153 W	63	46	5 16	0 4.74	+ 4 1.9	2.115	1.699	28.1	21.2	52 W	18*	44*
10 28	3 34.43	+17 41.6	1.239	2.195	9.4	18.9	159 W	63	46	5 26	0 27.25	+ 6 29.0	2.070	1.721	29.2	21.2	56 W	21*	46*
11 2	3 29.21	+17 0.4	1.241	2.215	6.6	18.8	165 W	62	47	6 5	0 48.99	+ 8 47.6	2.022	1.745	30.1	21.2	60 W	24*	48*
11 7	3 23.73	+16 18.5	1.250	2.235	3.8	18.7	171 W	61	48	6 15	1 9.87	+10 56.1	1.972	1.772	30.9	21.2	64 W	28*	49*
11 12	3 18.22	+15 37.0	1.266	2.255	1.4	18.6	177 W	61	48	6 25	1 29.78	+12 53.0	1.919	1.802	31.5	21.2	68 W	33*	49*
11 17	3 12.86	+14 56.8	1.289	2.275	2.4	18.7	175 E	60	49	7 5	1 48.60	+14 37.4	1.862	1.834	31.9	21.2	73 W	39*	49*
11 22	3 7.83	+14 19.1	1.319	2.295	4.9	18.9	168 E	59	50	7 15	2 6.11	+16 8.6	1.802	1.868	32.1	21.2	78 W	45*	48*
11 27	3 3.27	+13 44.7	1.355	2.315	7.4	19.1	162 E	59	50	7 25	2 22.07	+17 26.0	1.738	1.904	32.0	21.2	83 W	51*	47
12 2	2 59.30	+13 14.4	1.398	2.335	9.8	19.3	156 E	58	51	8 4	2 36.19	+18 29.2	1.672	1.942	31.5	21.1	89 W	57*	46
12 12	2 53.48	+12 27.5	1.502	2.374	13.9	19.7	145 E	57	52	8 14	2 48.12	+19 18.0	1.603	1.980	30.6	21.0	96 W	62*	45
12 22	2 50.69	+12 0.3	1.625	2.412	17.2	20.0	134 E	57	52	8 24	2 57.46	+19 51.9	1.535	2.020	29.2	20.9	103 W	65*	44
1 1	2 50.86	+11 51.3	1.765	2.450	19.6	20.3	124 E	57	52	9 3	3 3.82	+20 10.5	1.469	2.060	27.2	20.8	111 W	65	44
1 11	2 53.74	+11 58.3	1.918	2.487	21.2	20.5	114 E	57	52	9 13	3 6.80	+20 13.0	1.407	2.102	24.4	20.7	120 W	65	44
1 21	2 58.98	+12 17.9	2.079	2.523	22.1	20.8	105 E	57	51*	9 23	3 6.18	+19 58.6	1.354	2.143	21.0	20.5	130 W	65	44
355873 2008 VK₂										48570 1994 EA₂									
12 27	17 43.85	-22 53.4	2.818	1.854	4.8	21.1	9 W	-	2*	10 18	2 50.11	+18 8.9	1.290	2.249	9.2	20.1	159 W	63	46
1 6	18 11.12	-22 39.4	2.763	1.819	7.0	21.1	13 W	4*	6*	10 23	2 45.17	+17 36.5	1.294	2.270	6.4	20.0	165 W	63	46
1 16	18 38.86	-22 6.7	2.704	1.785	9.2	21.1	17 W	4*	9*	10 28	2 40.01	+17 2.2	1.304	2.291	3.7	19.9	171 W	62	47
1 26	19 6.91	-21 14.3	2.641	1.752	11.3	21.1	20 W	5*	13*	11 2	2 34.82	+16 26.8	1.321	2.312	1.0	19.8	178 W	61	48
2 5	19 35.12	-20 2.0	2.575	1.721	13.4	21.1	24 W	7*	17*	11 7	2 29.78	+15 51.4	1.344	2.334	1.9	19.9	176 E	61	48
2 15	20 3.36	-18 30.1	2.508	1.691	15.5	21.1	27 W	7*	21*	11 12	2 25.05	+15 17.1	1.375	2.355	4.4	20.1	169 E	60	49
2 25	20 31.50	-16 39.2	2.440	1.663	17.5	21.1	30 W	8*	24*	11 17	2 20.80	+14 45.0	1.412	2.376	6.9	20.3	163 E	60	49
3 7	20 59.45	-14 30.6	2.373	1.637	19.4	21.0	33 W	9*	27*	11 22	2 17.11	+14 15.8	1.455	2.397	9.2	20.5	157 E	59	50
3 17	21 27.16	-12 6.0	2.307	1.614	21.3	21.0	36 W	10*	30*	11 27	2 14.07	+13 50.1	1.505	2.417	11.3	20.7	151 E	59	50
3 27	21 54.59	-9 27.6	2.242	1.593	23.1	21.0	39 W	11*	32*	12 2	2 11.73	+13 28.4	1.560	2.438	13.2	20.9	146 E	58	51
4 6	22 21.73	- 6 38.0	2.179	1.575	24.9	20.9	41 W	12*	35*	12 7	2 10.11	+13 11.0	1.621	2.459	14.9	21.0	140 E	58	51
4 16	22 48.62	- 3 40.0	2.119	1.560	26.5	20.9	44 W	13*	37*	12 12	2 9.22	+12 58.1	1.686	2.480	16.4	21.2	135 E	58	51
4 26	23 15.27	- 0 36.7	2.062	1.549	28.0	20.9	46 W	15*	39*	12 17	2 9.05	+12 49.5	1.756	2.500	17.7	21.3	130 E	58	51
5 6	23 41.73	+ 2 28.8	2.007	1.541	29.5	20.8	49 W	16*	41*	12 22	2 9.55	+12 45.1	1.829	2.520	18.8	21.5	125 E	58	51
5 16	0 8.03	+ 5 33.1	1.954	1.537	30.8	20.8	51 W	18*	42*	48570 1994 EA₂									
5 26	0 34.19	+ 8 32.9	1.903	1.537	32.0	20.8	54 W	21*	43*	12 27	17 44.43	-17 53.8	3.220	2.261	4.6	20.6	11 W	4*	-
6 5	1 0.24	+11 25.3	1.854	1.540	33.2	20.8	56 W	24*	44*	1 6	18 4.95	-17 49.5	3.227	2.294	6.5	20.7	15 W	7*	5*
6 15	1 26.13	+14 7.4	1.806	1.547	34.2	20.7	59 W	28*	44*	1 16	18 24.90	-17 34.7	3.222	2.327	8.6	20.9	21 W	10*	11*
6 25	1 51.80	+16 36.6	1.758	1.557	35.1	20.7	62 W	32*	43*	1 26	18 44.19	-17 10.1	3.204	2.359	10.5	21.0	26 W	12*	17*
7 5	2 17.17	+18 51.1	1.709	1.571	35.8	20.7	65 W	37*	43*	2 5	19 2.74	-16 36.7	3.174	2.390	12.5	21.0	32 W	14*	23*
7 15	2 42.04	+20 49.2	1.659	1.588	36.4	20.7	68 W	43*	42*	2 15	19 20.47	-15 55.4	3.132	2.421	14.3	21.1	37 W	15*	29*
7 25	3 6.22	+22 29.8	1.607	1.609	36.8	20.7	72 W	48*	41*	2 25	19 37.31	-15 7.6	3.078	2.450	16.0	21.2	43 W	17*	35*
8 4	3 29.45	+23 52.8	1.553	1.632	37.1	20.6	76 W	54*	40*	3 7	19 53.17	-14 14.3	3.012	2.479	17.6	21.2	49 W	19*	42*
8 14	3 51.38	+24 58.2	1.496	1.657	37.0	20.6	80 W	59*	39*	3 17	20 7.98	-13 17.0	2.935	2.507	19.1	21.2	55 W	20*	48*
8 24	4 11.65	+25 46.8	1.437	1.684	36.7	20.5	85 W	65*	38*	3 27	20 21.62	-12 17.0	2.849	2.533	20.3	21.2	62 W	22*	54*
9 3	4 29.82	+26 20.0	1.375	1.714	36.1	20.4	91 W	69*	38	4 6	20 34.00	-11 15.8	2.754	2.559	21.3	21.2	68 W	24*	60*
9 13	4 45.40	+26 39.1	1.312	1.745	34.9	20.3	97 W	72*	37	4 16	20 44.99	-10 14.9	2.651	2.584	22.1	21.1	75 W	26*	66*
9 23	4 57.86	+26 45.7	1.248	1.777	33.3	20.2	104 W	72	37	4 26	20 54.44	- 9 16.0	2.543	2.608	22.5	21.1	82 W	28*	71*
10 3	5 6.65	+26 41.5	1.186	1.811	30.9	20.1	112 W	72	37	5 6	21 2.19	- 8 21.0	2.432	2.631	22.5	21.0	90 W	30*	72*
10 13	5 11.20	+26 27.1	1.127	1.846	27.8	19.9	120 W	71	38	5 16	21 8.03	- 7 31.7	2.319	2.653	22.2	20.9	98 W	33*	72*
10 23	5 11.14	+26 2.8	1.077	1.881	23.8	19.7	130 W	71	38	5 26	21 11.75	- 6 50.5	2.207	2.673	21.3	20.8	106 W	36*	71
11 2	5 6.39	+25 27.8	1.038	1.917	18.8	19.6	141 W	70	39	6 5	21 13.17	- 6 19.6	2.100	2.693	19.9	20.7	115 W	38*	70
11 7	5 2.38	+25 6.0	1.024	1.935	16.0	19.5	147 W	70	39	6 15	21 12.10	- 6 1.2	2.002	2.712	17.9	20.5	125 W	39*	70
11 12	4 57.44	+24 41.3	1.016	1.953	13.0	19.3	154 W	70	39	6 25	21 8.48	- 5 57.5	1.917	2.730	15.3	20.3	135 W	39	70
11 17	4 51.79	+24 13.8	1.012	1.971	9.9	19.2	160 W	69	40	7 5	21 2.44	- 6 9.6	1.848	2.746	12.2	20.2	145 W	39	70
11 22	4 45.63	+23 44.0	1.015	1.989	6.7	19.1	166 W	69	40	7 15	20 54.31	- 6 37.8	1.802	2.762	8.6	20.0	156 W	38	71
11 27	4 39.21	+23 12.4	1.024	2.007	3.4	19.0	173 W	68	41	7 25	20 44.78	- 5 20.3	1.780	2.776	5.1	19.8	166 W	38	71
12 2	4 32.80	+22 39.7	1.039	2.025	0.4	18.8	179 W	68	41	8 4	20 34.72	- 4 13.6	1.786	2.790	3.8	19.7	170 E	37	72
12 7	4 26.66	+22 7.0	1.061	2.043	3.0	19.1	174 E	67	42	8 9	20 29.81	- 3 42.9	1.799	2.796	4.8	19.8	167 E	36	73
12 12</																			

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

20/22	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°	20/22	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°
30785 Greeley (continuation)										133554 2003 UN₅ (continuation)									
3 17	22 2.93	-15 21.9	2.242	1.455	19.4	20.0	29 W	2*	23*	12 22	4 8.86	+14 30.6	1.040	1.965	13.5	18.0	152 E	60	49
3 27	22 33.26	-12 21.8	2.207	1.447	20.8	20.0	31 W	2*	25*	1 1	4 5.24	+14 21.8	1.140	2.005	17.8	18.4	141 E	59	50
4 6	23 2.79	-9 11.1	2.177	1.443	22.1	20.1	33 W	3*	27*	1 11	4 5.23	+14 29.4	1.256	2.044	21.2	18.8	131 E	59	50
4 16	23 31.56	-5 54.1	2.149	1.445	23.4	20.1	35 W	4*	29*	1 21	4 8.57	+14 50.0	1.386	2.084	23.6	19.1	122 E	60	49
4 26	23 59.60	-2 35.1	2.124	1.451	24.6	20.1	37 W	6*	31*	46780 1998 HH₅₂									
5 6	0 26.98	+0 42.2	2.102	1.462	25.7	20.1	39 W	7*	33*	12 27	17 45.82	-26 59.9	3.087	2.122	4.3	19.0	9 W	-	3*
5 16	0 53.77	+3 54.4	2.080	1.478	26.8	20.1	41 W	9*	35*	1 6	18 10.18	-27 12.4	3.036	2.094	6.4	19.0	14 W	-	8*
5 26	1 20.00	+6 58.4	2.058	1.498	27.8	20.2	44 W	12*	36*	1 16	18 34.96	-27 11.2	2.975	2.065	8.7	19.0	18 W	1*	12*
6 5	1 45.71	+9 51.8	2.035	1.521	28.8	20.2	46 W	15*	38*	1 26	19 0.04	-26 55.7	2.907	2.037	10.9	19.0	23 W	2*	17*
6 15	2 10.88	+12 32.9	2.011	1.549	29.7	20.3	49 W	19*	39*	2 5	19 25.29	-26 25.9	2.832	2.008	13.0	19.0	27 W	3*	21*
6 25	2 35.47	+15 0.3	1.983	1.579	30.6	20.3	52 W	23*	39*	2 15	19 50.62	-25 41.6	2.750	1.979	15.2	19.0	32 W	3*	26*
7 5	2 59.43	+17 13.2	1.952	1.612	31.3	20.3	56 W	29*	40*	2 25	20 15.91	-24 43.2	2.663	1.951	17.3	19.0	36 W	4*	30*
7 15	3 22.64	+19 11.4	1.917	1.647	32.0	20.4	59 W	34*	40*	3 7	20 41.06	-23 31.3	2.572	1.923	19.4	19.0	40 W	5*	34*
7 25	3 44.94	+20 55.2	1.876	1.685	32.6	20.4	63 W	41*	40*	3 17	21 6.02	-22 6.7	2.478	1.895	21.4	18.9	44 W	5*	38*
8 4	4 6.16	+22 25.3	1.830	1.723	33.0	20.4	68 W	47*	39*	3 27	21 30.72	-20 30.5	2.381	1.868	23.4	18.8	48 W	6*	42*
8 14	4 26.07	+23 43.1	1.779	1.764	33.2	20.4	73 W	53*	39*	4 6	21 55.13	-18 43.7	2.283	1.842	25.3	18.8	52 W	7*	46*
8 24	4 44.38	+24 50.0	1.722	1.805	33.2	20.4	78 W	59*	38*	4 16	22 19.22	-16 47.7	2.184	1.816	27.1	18.7	56 W	8*	49*
9 3	5 0.79	+25 48.1	1.660	1.847	32.9	20.3	84 W	65*	38*	4 26	22 42.99	-14 44.0	2.084	1.792	28.8	18.6	59 W	9*	53*
9 13	5 14.92	+26 39.6	1.595	1.889	32.2	20.3	90 W	70*	37*	5 6	23 6.43	-12 34.1	1.986	1.769	30.5	18.5	63 W	11*	57*
9 23	5 26.32	+27 26.6	1.526	1.931	31.0	20.2	97 W	72*	37	5 16	23 29.54	-10 19.6	1.888	1.747	32.0	18.4	66 W	13*	60*
10 3	5 34.53	+28 11.2	1.458	1.974	29.3	20.1	105 W	73	36	5 26	23 52.30	-8 2.2	1.791	1.727	33.4	18.3	70 W	16*	63*
10 13	5 39.01	+28 54.8	1.391	2.016	26.9	19.9	114 W	74	35	6 5	0 14.72	-5 43.7	1.697	1.709	34.7	18.2	73 W	19*	64*
10 23	5 39.30	+29 37.3	1.331	2.058	23.7	19.8	124 W	75	34	6 15	0 36.75	-3 25.6	1.604	1.692	35.8	18.1	77 W	23*	65*
11 2	5 35.10	+30 16.7	1.282	2.100	19.7	19.6	134 W	75	34	6 25	0 58.30	-1 9.9	1.514	1.678	36.7	18.0	80 W	28*	64*
11 12	5 26.51	+30 48.9	1.248	2.141	15.0	19.5	146 W	76	33	7 5	1 19.32	+1 2.2	1.425	1.666	37.4	17.9	84 W	33*	63*
11 17	5 20.79	+31 0.5	1.238	2.161	12.4	19.4	152 W	76	33	7 15	1 39.61	+3 9.1	1.339	1.656	37.8	17.8	88 W	38*	61
11 22	5 14.34	+31 8.3	1.234	2.182	9.8	19.3	158 W	76	33	7 25	1 58.99	+5 9.4	1.256	1.649	38.0	17.6	92 W	44*	59
11 27	5 7.37	+31 11.8	1.237	2.202	7.2	19.2	164 W	76	33	8 4	2 17.18	+7 2.6	1.174	1.644	37.8	17.4	97 W	49*	57
12 2	5 0.11	+31 10.6	1.246	2.222	4.9	19.1	169 W	76	33	8 14	2 33.79	+8 47.8	1.096	1.642	37.1	17.3	102 W	53*	55
12 7	4 52.83	+31 5.0	1.262	2.241	3.7	19.1	171 E	76	33	8 24	2 48.37	+10 25.1	1.021	1.642	35.9	17.1	108 W	55	54
12 12	4 45.81	+30 55.3	1.285	2.261	4.5	19.2	170 E	76	33	9 3	3 0.36	+11 54.9	0.950	1.645	34.0	16.9	114 W	57	52
12 17	4 39.27	+30 42.4	1.315	2.280	6.4	19.4	165 E	76	33	9 13	3 9.07	+13 17.4	0.885	1.651	31.3	16.7	122 W	58	51
12 22	4 33.41	+30 26.9	1.352	2.299	8.6	19.6	159 E	75	34	9 23	3 13.83	+14 33.4	0.827	1.659	27.7	16.4	130 W	60	49
12 27	4 28.36	+30 10.0	1.395	2.318	10.8	19.7	154 E	75	34	10 3	3 14.09	+15 42.8	0.778	1.670	23.0	16.2	139 W	61	48
1 1	4 24.22	+29 52.5	1.444	2.336	12.9	19.9	148 E	75	34	10 13	3 9.62	+16 44.4	0.743	1.683	17.3	15.9	150 W	62	47
1 6	4 21.05	+29 35.2	1.498	2.355	14.8	20.1	142 E	75	34	10 23	3 1.01	+17 36.3	0.724	1.698	10.6	15.6	162 W	63	46
1 11	4 18.87	+29 18.9	1.558	2.373	16.4	20.2	137 E	74	35	10 28	2 55.58	+17 58.1	0.722	1.706	7.1	15.5	168 W	63	46
1 16	4 17.64	+29 4.0	1.621	2.391	17.9	20.4	132 E	74	35	11 2	2 49.72	+18 16.8	0.725	1.715	3.6	15.3	174 W	63	46
1 21	4 17.34	+28 50.9	1.689	2.408	19.2	20.5	127 E	74	35	11 7	2 43.76	+18 32.8	0.733	1.724	1.5	15.2	177 E	64	45
133554 2003 UN₅										11 12	2 38.00	+18 46.6	0.747	1.734	4.2	15.4	173 E	64	45
12 27	17 45.59	-20 49.0	3.058	2.093	4.3	20.1	9 W	2*	-	11 17	2 32.72	+18 58.7	0.766	1.744	7.5	15.7	167 E	64	45
1 6	18 9.37	-20 42.2	2.995	2.053	6.5	20.1	14 W	4*	5*	11 22	2 28.17	+19 9.9	0.791	1.754	10.7	15.9	161 E	64	45
1 16	18 33.64	-20 21.0	2.925	2.013	8.7	20.1	18 W	6*	10*	11 27	2 24.50	+19 20.9	0.821	1.765	13.6	16.1	155 E	64	45
1 26	18 58.29	-19 44.7	2.848	1.974	11.0	20.1	22 W	8*	15*	12 2	2 21.83	+19 32.4	0.855	1.776	16.4	16.3	149 E	65	44
2 5	19 23.24	-18 52.8	2.765	1.935	13.2	20.1	27 W	9*	19*	12 12	2 19.73	+19 59.3	0.936	1.800	21.0	16.7	139 E	65	44
2 15	19 48.40	-17 45.1	2.678	1.896	15.4	20.1	31 W	10*	24*	12 22	2 21.86	+20 33.7	1.033	1.825	24.5	17.0	130 E	66	43
2 25	20 13.69	-16 21.7	2.588	1.858	17.6	20.0	34 W	11*	28*	1 1	2 27.74	+21 15.8	1.140	1.850	27.1	17.3	121 E	66	43
3 7	20 39.06	-14 43.2	2.495	1.821	19.7	20.0	38 W	12*	32*	1 11	2 36.86	+22 4.7	1.258	1.877	28.8	17.6	113 E	67	42*
3 17	21 4.46	-12 50.1	2.401	1.786	21.8	19.9	42 W	13*	35*	1 21	2 48.65	+22 58.5	1.382	1.904	29.8	17.9	106 E	68	40*
3 27	21 29.87	-10 43.7	2.308	1.751	23.8	19.8	45 W	14*	39*	152739 1998 WC₃₂									
4 6	21 55.29	-8 25.3	2.215	1.719	25.7	19.8	48 W	15*	42*	12 27	17 46.06	-26 48.6	3.036	2.071	4.3	21.0	9 W	-	3*
4 16	22 20.73	-5 56.5	2.125	1.688	27.6	19.7	51 W	16*	44*	1 6	18 11.17	-27 0.2	2.984	2.041	6.5	21.0	14 W	-	7*
4 26	22 46.20	-3 19.6	2.036	1.660	29.4	19.6	54 W	17*	47*	1 16	18 36.75	-26 56.9	2.924	2.011	8.7	21.0	18 W	1*	12*
5 6	23 11.76	+0 36.7	1.951	1.634	31.1	19.6	57 W	19*	49*	1 26	19 2.64	-26 38.3	2.857	1.982	10.9	21.0	22 W	2*	16*
5 16	23 37.43	+2 9.3	1.869	1.612	32.7	19.5	59 W	21*	50*	2 5	19 28.73	-26 4.0	2.785	1.953	13.0	21.0	27 W	3*	21*
5 26	0 3.23	+4 55.6	1.791	1.592	34.2	19.4	62 W	24*	51*	2 15	19 54.90	-25 14.0	2.707	1.924	15.2	21.0	31 W	3*	25*
6 5	0 29.20	+7 39.1	1.717	1.576	35.6	19.3	65 W	27*	51*	2 25	20 21.01	-24 8.8	2.624	1.896	17.3	21.0	35 W	4*	29*
6 15	0 55.29	+10 16.6	1.646	1.564	36.8	19.2	67 W	30*	51*	3 7	20 46.96	-22 48.9	2.539	1.869	19.3	21.0	39 W	4*	32*
6 25	1 21.47	+12 44.5	1.578	1.555	37.8	19.2	70 W	35*	50*	3 17	21 12.69	-21 15.3	2.451	1.842	21.3	20.9	42 W	5*	36*
7 5	1 47.64	+15 0.1	1.513	1.551	38.7	19.1	73 W	40*	48*	3 27	21 38.12	-19 29.2	2.362	1.817	23.3	20.9	46 W	6*	40*
7 15	2 13.62	+17 0.3	1.451	1.550	39.4	19.0	76 W	45*	47*	4 6	22 3.21	-17 32.0	2.271	1.793	25.2	20.8	50 W	7*	43*
7 25	2 39.18	+18 42.8	1.390	1.554	39.9	19.0	79 W	50*	45*	4 16	22 27.95	-15 25.2	2.181	1.771	26.9	20.7	53 W	8*	47*
8 4	3 4.02	+20 5.9	1.330	1.562	40.1	18.9	82 W	55*	44*	4 26	22 52.30	-13 10.6							

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

20/22	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°	20/22	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°
152739 1998 WC₃₂										247760 2003 QN₅									
<i>(continuation)</i>										<i>(continuation)</i>									
10 13	3 24.63	+18 51.8	0.833	1.751	18.6	18.4	146 W	64	45	3 7	19 58.43	-23 14.0	2.970	2.442	18.0	21.3	49 W	10*	43*
10 23	3 16.47	+19 33.5	0.812	1.772	12.4	18.1	158 W	65	44	3 17	20 15.39	-21 43.8	2.834	2.408	19.8	21.3	55 W	12*	49*
10 28	3 11.17	+19 49.5	0.808	1.783	9.1	18.0	164 W	65	44	3 27	20 31.69	-20 4.7	2.691	2.374	21.6	21.2	61 W	14*	55*
11 2	3 5.34	+20 2.0	0.810	1.795	5.7	17.9	170 W	65	44	4 6	20 47.26	-18 16.9	2.543	2.339	23.2	21.1	67 W	16*	61*
11 7	2 59.27	+20 11.2	0.817	1.807	2.6	17.7	175 W	65	44	4 16	21 2.00	-16 20.5	2.392	2.303	24.6	20.9	73 W	18*	66*
11 11	2 53.26	+20 17.6	0.830	1.819	2.4	17.8	176 E	65	44	4 26	21 15.80	-14 15.4	2.238	2.267	25.8	20.8	79 W	21*	71*
11 17	2 47.59	+20 21.9	0.849	1.831	5.3	18.0	170 E	65	44	5 6	21 28.55	-12 1.5	2.083	2.230	26.8	20.6	85 W	24*	74*
11 22	2 42.50	+20 25.0	0.874	1.844	8.3	18.2	164 E	65	44	5 16	21 40.07	-9 38.5	1.929	2.194	27.4	20.5	91 W	28*	74*
11 27	2 38.19	+20 27.5	0.904	1.857	11.3	18.4	158 E	65	44	5 26	21 50.17	-7 6.2	1.779	2.157	27.8	20.3	97 W	32*	71*
12 2	2 34.78	+20 30.4	0.939	1.871	14.0	18.6	153 E	66	43	6 5	21 58.62	-4 24.1	1.632	2.120	27.7	20.0	104 W	37*	68
12 12	2 30.99	+20 40.1	1.024	1.898	18.7	19.0	142 E	66	43	6 15	22 5.06	-1 32.3	1.493	2.083	27.1	19.8	111 W	42*	66
12 22	2 31.30	+20 58.0	1.125	1.926	22.4	19.4	132 E	66	43	6 25	22 9.14	+1 28.9	1.362	2.046	26.1	19.5	118 W	46*	63
1 1	2 35.35	+21 24.9	1.239	1.955	25.0	19.7	123 E	66	43	7 5	22 10.43	+4 38.3	1.243	2.009	24.4	19.2	125 W	50	59
1 11	2 42.66	+22 0.4	1.363	1.984	26.8	20.0	114 E	67	42*	7 15	22 8.48	+7 52.2	1.138	1.973	22.3	18.9	133 W	53	56
1 21	2 52.69	+22 42.7	1.496	2.013	27.9	20.2	107 E	68	41*	7 20	22 6.19	+9 29.1	1.091	1.955	21.1	18.8	136 W	54	55
438990 2010 SG₁₃										247760 2003 QN₅									
12 27	17 46.10	-20 22.9	2.361	1.399	6.4	21.4	9 W	2*	—	7 25	22 3.01	+11 4.4	1.048	1.937	19.8	18.6	140 W	56	53
1 6	18 9.78	-19 6.6	2.431	1.496	9.1	21.7	14 W	5*	4*	7 30	21 58.93	+12 37.0	1.010	1.920	18.7	18.5	143 W	58	51
1 16	18 31.45	-17 41.7	2.482	1.585	11.7	22.0	19 W	9*	9*	8 4	21 54.02	+14 5.1	0.978	1.903	17.6	18.4	145 W	59	50
1 26	18 51.38	-16 9.1	2.512	1.666	14.1	22.2	24 W	12*	15*	8 9	21 48.35	+15 27.0	0.950	1.885	16.8	18.3	148 W	60	49
2 5	19 9.75	-14 29.2	2.522	1.740	16.5	22.4	30 W	15*	20*	8 14	21 42.08	+16 41.0	0.927	1.869	16.3	18.2	149 W	62	47
269780 1999 TF₁₄₅										247760 2003 QN₅									
12 27	17 48.24	-25 23.2	2.649	1.682	4.8	21.2	8 W	—	2*	8 19	21 35.40	+17 45.7	0.909	1.852	16.3	18.1	149 E	63	46
1 6	18 19.00	-25 20.4	2.610	1.658	6.8	21.2	11 W	—	5*	8 24	21 28.56	+18 40.0	0.897	1.836	16.8	18.1	148 E	64	45
1 16	18 50.14	-24 54.2	2.569	1.635	8.7	21.2	15 W	—	8*	8 29	21 21.79	+19 23.1	0.890	1.820	17.8	18.1	147 E	64	45
1 26	19 21.38	-24 4.2	2.527	1.616	10.6	21.2	18 W	1*	11*	9 3	21 15.35	+19 54.9	0.887	1.805	19.1	18.1	144 E	65	44
2 5	19 52.49	-22 50.8	2.485	1.598	12.4	21.2	20 W	2*	14*	9 8	21 9.51	+20 15.8	0.888	1.790	20.6	18.1	141 E	65	44
2 15	20 23.23	-21 15.2	2.442	1.584	14.2	21.2	23 W	2*	17*	9 13	21 4.50	+20 26.7	0.894	1.775	22.3	18.2	138 E	65	44
2 25	20 53.41	-19 19.4	2.401	1.572	16.0	21.3	26 W	3*	20*	9 18	21 0.49	+20 29.1	0.903	1.761	24.0	18.2	135 E	65	44
3 7	21 22.91	-17 5.8	2.360	1.563	17.7	21.3	29 W	4*	23*	9 23	20 57.60	+20 24.5	0.916	1.747	25.7	18.3	131 E	65	44
3 17	21 51.67	-14 37.4	2.320	1.558	19.4	21.3	31 W	4*	25*	9 28	20 55.91	+20 14.6	0.931	1.734	27.3	18.4	128 E	65	44
3 27	22 19.63	-11 57.3	2.281	1.556	20.9	21.3	34 W	5*	28*	10 3	20 55.45	+20 0.9	0.948	1.721	28.8	18.4	124 E	65	44
4 6	22 46.82	-9 8.8	2.243	1.557	22.5	21.3	36 W	6*	30*	10 8	20 56.24	+19 44.8	0.967	1.709	30.2	18.5	121 E	65	44
4 16	23 13.26	-6 15.1	2.205	1.561	23.9	21.3	39 W	7*	33*	10 13	20 58.24	+19 27.8	0.988	1.698	31.4	18.6	117 E	64	45
4 26	23 39.00	-3 19.5	2.168	1.569	25.3	21.3	42 W	9*	36*	10 18	21 1.42	+19 11.0	1.011	1.687	32.5	18.6	114 E	64	45
5 6	0 4.10	-0 24.6	2.130	1.580	26.7	21.3	45 W	10*	38*	10 23	21 5.70	+18 55.3	1.034	1.677	33.5	18.7	111 E	64	45
5 16	0 28.59	+2 26.9	2.091	1.594	27.9	21.4	48 W	13*	41*	10 28	21 11.02	+18 41.4	1.059	1.667	34.4	18.8	109 E	64	45
5 26	0 52.49	+5 12.6	2.050	1.610	29.1	21.4	51 W	15*	43*	11 2	21 17.32	+18 29.8	1.084	1.659	35.1	18.8	106 E	63	45*
6 5	1 15.83	+7 50.6	2.007	1.629	30.2	21.4	54 W	19*	46*	11 7	21 24.53	+18 21.0	1.110	1.651	35.7	18.9	103 E	63	45*
6 15	1 38.59	+10 19.3	1.962	1.651	31.2	21.4	57 W	23*	45*	11 12	21 32.60	+18 15.5	1.137	1.644	36.2	18.9	101 E	63	45*
6 25	2 0.70	+12 37.3	1.914	1.674	32.0	21.4	61 W	28*	46*	11 22	21 50.99	+18 14.7	1.192	1.632	37.0	19.0	96 E	63	43*
7 5	2 22.09	+14 43.9	1.862	1.700	32.8	21.4	65 W	34*	46*	12 2	22 12.00	+18 27.4	1.250	1.623	37.4	19.1	92 E	63	40*
7 15	2 42.62	+16 38.3	1.805	1.727	33.4	21.4	69 W	40*	46*	12 12	22 35.23	+18 53.3	1.311	1.618	37.5	19.2	88 E	64	37*
7 25	3 2.11	+18 20.5	1.746	1.756	33.7	21.3	74 W	46*	45*	12 22	23 0.27	+19 30.6	1.375	1.617	37.3	19.3	85 E	65	33*
8 4	3 20.34	+19 50.6	1.682	1.786	33.9	21.3	79 W	52*	44*	1 1	23 26.75	+20 16.9	1.443	1.619	36.9	19.4	81 E	65	30*
8 14	3 37.02	+21 9.2	1.614	1.816	33.7	21.2	84 W	59*	43*	1 11	23 54.39	+21 9.5	1.516	1.624	36.3	19.5	78 E	65*	28*
8 24	3 51.79	+22 16.9	1.543	1.848	33.2	21.2	90 W	64*	42	1 21	0 22.88	+22 5.2	1.593	1.633	35.5	19.6	74 E	64*	25*
9 3	4 4.24	+23 14.7	1.471	1.880	32.2	21.1	97 W	68*	41	190327 1998 QE₈₅									
9 13	4 13.87	+24 3.6	1.398	1.913	30.7	21.0	104 W	69	40	12 27	17 48.42	-19 39.3	3.352	2.386	3.7	21.4	9 W	2*	—
9 23	4 20.16	+24 44.1	1.328	1.946	28.5	20.8	112 W	70	39	1 6	18 8.69	-19 30.3	3.302	2.360	5.8	21.4	14 W	5*	5*
10 3	4 22.61	+25 16.3	1.262	1.979	25.5	20.7	122 W	70	39	1 16	18 29.12	-19 10.4	3.239	2.334	8.0	21.5	19 W	8*	10*
10 13	4 20.79	+25 38.9	1.205	2.012	21.7	20.5	132 W	71	38	1 26	18 49.61	-18 39.4	3.166	2.307	10.2	21.5	25 W	10*	16*
10 23	4 14.67	+25 49.8	1.161	2.045	17.1	20.3	143 W	71	38	2 5	19 10.07	-17 57.3	3.082	2.279	12.4	21.5	30 W	12*	22*
10 28	4 10.13	+25 49.9	1.146	2.061	14.5	20.2	149 W	71	38	2 15	19 30.44	-17 4.2	2.990	2.251	14.5	21.5	35 W	13*	27*
11 2	4 4.75	+25 46.1	1.136	2.077	11.7	20.1	155 W	71	38	2 25	19 50.64	-16 0.4	2.889	2.223	16.6	21.4	40 W	15*	33*
11 7	3 58.72	+25 38.2	1.131	2.094	8.9	20.0	161 W	71	38	3 7	20 10.62	-14 46.4	2.780	2.194	18.6	21.4	45 W	16*	38*
11 12	3 52.24	+25 26.3	1.133	2.110	6.0	19.9	167 W	70	39	3 17	20 30.32	-13 22.6	2.666	2.165	20.6	21.3	50 W	17*	43*
11 17	3 45.59	+25 10.9	1.141	2.126	3.4	19.8	173 W	70	39	3 27	20 49.68	-11 50.0	2.547	2.135	22.5	21.3	55 W	19*	48*
11 22	3 38.99	+24 52.5	1.156	2.142	2.5	19.7	175 E	70	39	4 6	21 8.70	-10 9.2	2.423	2.105	24.2	21.2	60 W	20*	53*
11 27	3 32.70	+24 31.9	1.178	2.157	4.3	19.9	171 E	70	39	4 16	21 27.32	-8 21.2	2.297	2.075	25.9	21.1	65 W	22*	57*
12 2	3 26.91	+24 10.2	1.206	2.173	6.8	20.1	165 E	69	40	4 26	21 45.51	-6 27.0	2.169	2.046	27.4	21.0	69 W	24*	60*
12 7	3 21.81	+23 48.5	1.241	2.188	9.4	20.3	159 E	69	40	5 6	22 3.25	-4 27.7	2.040	2.016	28.8	20.8	74 W	27*	63*
12 12	3 17.52	+23 27.6	1.281	2.204	11.8	20.5	153 E	68	41	5 16	22 20.49	-2 24.5</							

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

20/22	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°	20/22	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°
190327 1998 QE₈₅										322652 1999 JO₈									
<i>(continuation)</i>										<i>(continuation)</i>									
10 8	23 57.22	+ 8 9.4	0.683	1.670	8.5	17.4	166 E	53	56	3 22	23 45.11	-16 55.4	2.247	1.336	13.4	20.0	18 W	—	6*
10 13	23 55.26	+ 7 4.4	0.690	1.666	11.3	17.5	161 E	52	57	3 27	0 1.34	-15 28.1	2.274	1.367	13.6	20.0	19 W	—	7*
10 18	23 54.00	+ 6 1.7	0.703	1.662	14.2	17.6	156 E	51	58	4 1	0 16.91	-14 0.8	2.302	1.400	13.7	20.1	19 W	—	7*
10 23	23 53.56	+ 5 3.6	0.719	1.660	17.1	17.8	151 E	50	59	4 6	0 31.87	-12 34.3	2.331	1.433	13.9	20.2	20 W	—	8*
10 28	23 53.99	+ 4 11.5	0.740	1.658	19.8	17.9	146 E	49	60	4 16	1 0.09	- 9 46.0	2.387	1.502	14.3	20.4	22 W	—	11*
11 2	23 55.34	+ 3 26.9	0.765	1.656	22.3	18.1	141 E	48	61	4 26	1 26.26	- 7 7.3	2.442	1.573	14.9	20.6	24 W	—	14*
11 12	0 0.83	+ 2 22.7	0.824	1.656	26.6	18.4	132 E	47	62	5 6	1 50.64	- 4 40.6	2.493	1.646	15.6	20.7	26 W	—	17*
11 22	0 9.74	+ 1 52.9	0.895	1.658	29.8	18.7	123 E	47	62	5 16	2 13.44	- 2 27.3	2.537	1.720	16.4	20.9	29 W	—	21*
12 2	0 21.58	+ 1 54.7	0.975	1.663	32.2	18.9	116 E	47	62	5 26	2 34.81	- 0 28.0	2.573	1.794	17.3	21.0	32 W	—	25*
12 12	0 35.84	+ 2 23.8	1.062	1.670	33.8	19.2	109 E	47	62	6 5	2 54.85	+ 1 17.3	2.600	1.869	18.4	21.2	35 W	—	29*
12 22	0 52.04	+ 3 14.9	1.156	1.680	34.8	19.4	103 E	48	60*	6 15	3 13.63	+ 2 48.7	2.616	1.942	19.4	21.3	39 W	1*	33*
1 1	1 9.78	+ 4 22.9	1.255	1.692	35.2	19.6	98 E	49	57*	6 25	3 31.18	+ 4 6.8	2.620	2.015	20.5	21.4	44 W	6*	38*
1 11	1 28.75	+ 5 43.1	1.358	1.707	35.1	19.8	92 E	51	53*	285263 1998 QE₂									
1 21	1 48.70	+ 7 10.9	1.464	1.724	34.8	19.9	87 E	52	50*	12 27	17 49.30	-22 11.9	2.039	1.074	7.3	19.4	8 W	—	—
102431 1999 TL₂₀₅										1 1	18 11.35	-21 34.0	2.057	1.092	7.3	19.5	8 W	—	—
12 27	17 48.70	-23 5.7	2.673	1.705	4.6	20.3	8 W	—	1*	1 6	18 32.76	-20 46.3	2.077	1.113	7.3	19.6	8 W	1*	—
1 1	18 18.42	-22 54.8	2.643	1.690	6.6	20.3	11 W	1*	4*	1 11	18 53.47	-19 49.9	2.099	1.136	7.5	19.6	9 W	1*	—
1 16	18 48.24	-22 22.4	2.610	1.677	8.5	20.4	15 W	3*	8*	1 16	19 13.42	-18 46.0	2.123	1.162	7.7	19.7	9 W	2*	1*
1 26	19 17.94	-21 28.9	2.576	1.666	10.5	20.4	18 W	4*	11*	1 21	19 32.60	-17 35.9	2.149	1.191	8.0	19.8	10 W	2*	1*
2 5	19 47.32	-20 15.2	2.539	1.658	12.3	20.5	21 W	5*	14*	1 26	19 50.99	-16 20.6	2.176	1.221	8.3	19.9	10 W	3*	2*
2 15	20 16.20	-18 42.6	2.502	1.652	14.2	20.5	24 W	5*	18*	1 31	20 8.62	-15 1.4	2.205	1.253	8.7	20.0	11 W	3*	2*
2 25	20 44.44	-16 53.2	2.464	1.648	16.0	20.5	27 W	6*	21*	2 5	20 25.50	-13 39.0	2.234	1.286	9.2	20.1	12 W	4*	3*
3 7	21 11.97	-14 49.3	2.424	1.647	17.8	20.5	30 W	7*	24*	2 10	20 41.67	-12 14.5	2.263	1.321	9.7	20.2	13 W	4*	4*
3 17	21 38.74	-12 33.6	2.383	1.649	19.5	20.6	34 W	8*	27*	2 15	20 57.15	-10 48.5	2.293	1.356	10.2	20.3	14 W	5*	6*
3 27	22 4.71	-10 8.8	2.342	1.653	21.1	20.6	37 W	9*	30*	2 25	21 26.19	- 7 54.6	2.351	1.429	11.3	20.5	16 W	6*	8*
4 6	22 29.91	- 7 37.5	2.299	1.659	22.7	20.6	40 W	10*	34*	3 7	21 52.92	- 5 1.4	2.407	1.505	12.5	20.7	19 W	8*	11*
4 16	22 54.36	- 5 2.4	2.254	1.668	24.2	20.6	43 W	11*	37*	3 17	22 17.63	- 2 11.5	2.457	1.581	13.8	20.9	22 W	9*	14*
4 26	23 18.08	- 2 26.2	2.208	1.679	25.7	20.6	46 W	13*	40*	3 27	22 40.54	+ 0 33.1	2.500	1.658	15.1	21.1	26 W	11*	18*
5 6	23 41.11	+ 0 9.0	2.159	1.692	27.0	20.6	50 W	15*	43*	4 6	23 1.85	+ 3 11.2	2.535	1.735	16.5	21.3	29 W	12*	21*
5 16	0 3.47	+ 2 40.9	2.108	1.707	28.3	20.6	53 W	17*	45*	4 16	23 21.71	+ 5 42.1	2.560	1.811	17.8	21.5	34 W	14*	25*
5 26	0 25.15	+ 5 7.6	2.054	1.725	29.5	20.6	57 W	20*	47*	147874 2006 QP₃₉									
6 5	0 46.14	+ 7 27.5	1.997	1.744	30.5	20.6	61 W	24*	49*	12 27	17 49.34	-19 45.5	3.135	2.168	3.9	20.9	9 W	2*	—
6 15	1 6.39	+ 9 39.0	1.937	1.764	31.4	20.6	65 W	28*	50*	1 6	18 12.23	-19 41.1	3.076	2.131	6.1	21.0	13 W	5*	4*
6 25	1 25.80	+11 40.7	1.873	1.786	32.1	20.6	69 W	33*	50*	1 16	18 35.56	-19 23.3	3.008	2.093	8.2	21.0	18 W	7*	9*
7 5	1 44.26	+13 31.9	1.805	1.810	32.7	20.5	74 W	39*	50*	1 26	18 59.21	-18 51.7	2.933	2.056	10.4	21.0	22 W	8*	14*
7 15	2 1.58	+15 11.4	1.734	1.834	32.9	20.5	79 W	45*	49*	2 5	19 23.11	-18 5.9	2.851	2.019	12.6	20.9	27 W	10*	19*
7 25	2 17.52	+16 38.7	1.661	1.859	32.9	20.4	84 W	51*	47	2 15	19 47.19	-17 5.9	2.764	1.982	14.8	20.9	31 W	11*	24*
8 4	2 31.80	+17 53.2	1.584	1.885	32.6	20.3	90 W	57*	46	2 25	20 11.34	-15 52.0	2.672	1.946	17.0	20.9	35 W	12*	28*
8 14	2 44.04	+18 54.3	1.507	1.912	31.7	20.2	97 W	62*	45	3 7	20 35.54	-14 24.6	2.578	1.911	19.1	20.8	39 W	13*	32*
8 24	2 53.80	+19 41.5	1.429	1.939	30.4	20.1	104 W	65*	44	3 17	20 59.73	-12 44.6	2.481	1.877	21.1	20.8	43 W	14*	36*
9 3	3 0.63	+20 14.2	1.353	1.967	28.4	20.0	112 W	65	44	3 27	21 23.87	-10 53.0	2.383	1.844	23.1	20.7	47 W	15*	40*
9 13	3 4.02	+20 31.0	1.283	1.994	25.7	19.8	121 W	66	43	4 6	21 47.97	- 8 51.1	2.285	1.813	25.0	20.6	50 W	16*	43*
9 23	3 6.64	+20 30.6	1.221	2.022	22.1	19.6	131 W	66	43	4 16	22 12.02	- 6 40.3	2.187	1.783	26.9	20.6	54 W	17*	47*
10 3	2 59.37	+20 11.7	1.171	2.050	17.7	19.4	141 W	65	44	4 26	22 36.03	- 4 22.7	2.091	1.756	28.7	20.5	57 W	18*	49*
10 13	2 51.55	+19 33.4	1.138	2.078	12.5	19.2	153 W	65	44	5 6	23 0.02	- 2 0.0	1.996	1.730	30.4	20.4	60 W	20*	52*
10 18	2 46.59	+19 7.6	1.130	2.092	9.7	19.1	159 W	64	45	5 16	23 24.01	+ 0 25.5	1.904	1.707	31.9	20.3	63 W	22*	54*
10 23	2 41.16	+18 37.9	1.128	2.106	6.8	19.0	166 W	64	45	5 26	23 48.00	+ 2 51.1	1.815	1.687	33.4	20.2	66 W	25*	55*
10 28	2 35.46	+18 5.2	1.131	2.120	3.8	18.9	172 W	63	46	6 5	0 12.00	+ 5 14.5	1.728	1.669	34.7	20.1	69 W	28*	55*
11 2	2 29.70	+17 30.5	1.142	2.133	1.3	18.7	177 W	63	46	6 15	0 35.97	+ 7 32.8	1.644	1.655	35.9	20.0	73 W	32*	55*
11 7	2 24.10	+16 55.0	1.158	2.147	2.7	18.9	174 E	62	47	6 25	0 59.83	+ 9 43.0	1.563	1.644	36.9	19.9	76 W	36*	54*
11 12	2 18.87	+16 20.0	1.182	2.160	5.4	19.1	168 E	61	48	7 5	1 23.49	+11 42.6	1.485	1.636	37.6	19.8	79 W	41*	52*
11 17	2 14.18	+15 46.7	1.212	2.174	8.1	19.3	162 E	61	48	7 15	1 46.77	+13 28.8	1.409	1.631	38.2	19.7	83 W	46*	51
11 22	2 10.15	+15 16.1	1.248	2.187	10.6	19.5	156 E	60	49	7 25	2 9.41	+14 59.1	1.335	1.631	38.4	19.6	87 W	51*	49
11 27	2 6.88	+14 49.1	1.290	2.200	13.0	19.6	150 E	60	49	8 4	2 31.12	+16 11.7	1.264	1.634	38.4	19.5	91 W	56*	48
12 2	2 4.42	+14 26.3	1.337	2.213	15.1	19.8	144 E	59	50	8 14	2 51.47	+17 4.7	1.194	1.640	37.9	19.4	96 W	60*	47
12 12	2 2.03	+13 54.6	1.446	2.239	18.7	20.1	133 E	59	50	8 24	3 9.98	+17 37.2	1.127	1.650	37.0	19.2	101 W	62*	46
12 22	2 2.89	+13 41.9	1.570	2.264	21.3	20.4	123 E	59	50	9 3	3 26.11	+17 48.7	1.063	1.663	35.5	19.1	107 W	63	46
1 1	2 6.66	+13 46.5	1.705	2.289	23.1	20.7	114 E	59	50	9 13	3 39.21	+17 39.2	1.002	1.679	33.3	19.9	113 W	63	46
1 11	2 12.97	+14 5.8	1.849	2.313	24.2	20.9	105 E	59	49*	9 23	3 48.67	+17 9.5	0.947	1.699	30.4	18.7	121 W	62	47
1 21	2 21.42	+14 37.0	1.998	2.336	24.7	21.1	97 E	60	47*	10 3	3 53.96	+16 20.9	0.899	1.721	26.5	18.5	130 W	61	48
322652 1999 JO₈										10 13	3 54.74	+15 16.1	0.862	1.745	21.8	18.3	140 W	60	49
12 27	17 48.90	-23 35.6	2.133	1.167	6.7	19.3	8 W	—	1*	10 18	3 53.47	+14 38.9	0.848	1.758	19.1	18.2	145 W	60	49
1 1	18 9.90	-24 41.6	2.117	1.153	7.1	19.3	8 W	—	2*	10 23	3 51.20	+13 59.6	0.838	1.772					