

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°										
496327 2013 MY₆										255591 2006 OB₆ (continuation)																			
12 27	17 50.49	+ 1 58.0	2.212	1.403	18.3	21.3	27 W	18*	—	9 28	4 27.63	+27 6.1	1.049	1.732	31.6	19.6	115 W	72	37	10 3	4 30.86	+27 26.6	1.023	1.747	30.0	19.6	119 W	72	37
1 6	18 16.96	+ 0 52.4	2.290	1.476	17.3	21.5	26 W	20*	—	10 13	4 33.81	+27 58.8	0.976	1.777	26.1	19.4	128 W	73	36	10 23	4 31.91	+28 17.7	0.940	1.809	21.4	19.2	139 W	73	36
1 16	18 41.37	+ 0 2.6	2.357	1.547	16.8	21.6	27 W	21*	—	11 2	4 25.40	+28 20.5	0.917	1.843	15.8	19.0	150 W	73	36	11 7	4 20.69	+28 14.8	0.913	1.860	12.8	18.9	155 W	73	36
1 26	19 3.94	- 0 33.2	2.410	1.615	16.9	21.8	29 W	22*	5*	11 12	4 15.29	+28 4.3	0.913	1.878	9.7	18.8	161 W	73	36	11 17	4 9.46	+27 49.0	0.919	1.896	6.7	18.7	167 W	73	36
2 5	19 24.89	- 0 57.1	2.447	1.679	17.5	21.9	31 W	23*	11*	11 22	4 9.46	+27 49.0	0.919	1.896	6.7	18.7	167 W	73	36	11 27	4 3.47	+27 29.7	0.931	1.914	4.2	18.6	172 W	72	37
157287 2004 RS₂₉₂										303248 2004 QV₁₆																			
12 27	17 50.99	-22 41.0	2.644	1.674	4.4	20.1	8 W	—	—	1 1	18 19.66	-11 18.5	1.701	0.777	16.9	19.5	13 W	7*	—	1 6	18 47.15	-10 18.6	1.724	0.799	16.3	19.6	13 W	6*	—
1 6	18 21.24	-23 16.1	2.609	1.653	6.3	20.2	11 W	1*	4*	1 11	19 39.29	- 8 8.5	1.785	0.857	15.1	19.8	13 W	5*	—	1 11	19 13.73	- 9 14.8	1.752	0.826	15.7	19.7	13 W	6*	—
1 16	18 52.09	-23 29.9	2.573	1.635	8.3	20.2	14 W	1*	7*	1 16	20 3.74	- 7 0.7	1.823	0.893	14.5	19.9	13 W	5*	—	1 21	20 3.74	- 7 0.7	1.823	0.893	14.5	19.9	13 W	5*	—
1 26	19 23.28	-23 21.7	2.536	1.620	10.2	20.2	17 W	1*	11*	1 26	20 27.06	- 5 52.5	1.864	0.931	13.7	20.0	13 W	4*	—	2 5	21 10.31	- 3 37.4	1.955	1.015	12.1	20.2	12 W	4*	—
2 5	19 54.57	-22 51.8	2.499	1.608	12.1	20.2	20 W	2*	14*	2 15	21 49.35	- 1 27.3	2.055	1.104	10.2	20.4	11 W	3*	—	2 25	22 24.64	+ 0 35.6	2.157	1.194	8.3	20.6	10 W	2*	—
2 15	20 25.73	-22 0.9	2.462	1.599	13.9	20.3	23 W	1*	17*	3 7	22 56.72	+ 2 29.9	2.257	1.284	6.6	20.8	9 W	2*	—	3 17	23 26.12	+ 4 15.4	2.353	1.373	5.5	21.0	8 W	2*	—
2 25	20 56.53	-20 50.7	2.425	1.593	15.7	20.3	26 W	1*	20*	3 27	23 53.25	+ 5 51.8	2.441	1.460	5.6	21.2	8 W	2*	—	4 6	0 18.48	+ 7 19.1	2.519	1.545	6.6	21.5	10 W	2*	3*
3 7	21 26.79	-19 23.4	2.388	1.591	17.4	20.3	29 W	1*	23*	4 6	18 28.53	-13 42.8	3.353	2.460	8.2	21.6	11 W	12*	8*	4 6	18 28.53	-13 42.8	3.353	2.460	8.2	21.6	11 W	12*	8*
3 17	21 56.38	-17 41.8	2.353	1.592	19.1	20.3	32 W	1*	25*	1 26	18 46.83	-12 37.4	3.273	2.430	10.3	21.6	26 W	15*	14*	1 26	18 46.83	-12 37.4	3.273	2.430	10.3	21.6	26 W	15*	14*
3 27	22 25.20	-15 48.8	2.317	1.596	20.7	20.4	34 W	1*	28*	2 5	19 56.07	-23 33.0	2.533	1.640	11.8	21.5	20 W	1*	14*	2 5	19 56.07	-23 33.0	2.533	1.640	11.8	21.5	20 W	1*	14*
4 6	22 53.20	-13 47.7	2.282	1.604	22.2	20.4	37 W	2*	31*	12 27	3 36.41	+24 42.1	1.178	2.046	17.1	19.8	142 E	70	39	12 27	3 36.41	+24 42.1	1.178	2.046	17.1	19.8	142 E	70	39
4 16	23 20.36	-11 41.6	2.247	1.615	23.6	20.4	40 W	2*	34*	1 1	3 36.08	+24 25.0	1.234	2.066	18.9	20.0	137 E	69	40	1 1	3 36.08	+24 25.0	1.234	2.066	18.9	20.0	137 E	69	40
4 26	23 46.66	- 9 33.8	2.211	1.629	25.0	20.4	43 W	3*	37*	1 6	3 36.68	+24 11.3	1.294	2.085	20.5	20.2	132 E	69	40	1 6	3 36.68	+24 11.3	1.294	2.085	20.5	20.2	132 E	69	40
5 6	0 12.11	- 7 27.0	2.175	1.646	26.2	20.5	46 W	4*	40*	1 11	3 38.16	+24 0.9	1.357	2.104	21.8	20.3	127 E	69	40	1 11	3 38.16	+24 0.9	1.357	2.104	21.8	20.3	127 E	69	40
5 16	0 36.73	- 5 23.9	2.137	1.665	27.4	20.5	49 W	6*	43*	1 16	3 40.44	+23 53.6	1.424	2.124	22.9	20.5	123 E	69	40	1 16	3 40.44	+23 53.6	1.424	2.124	22.9	20.5	123 E	69	40
5 26	1 0.48	- 3 26.9	2.097	1.687	28.5	20.5	53 W	8*	47*	1 21	3 43.47	+23 49.3	1.493	2.143	23.8	20.6	118 E	69	40	1 21	3 43.47	+23 49.3	1.493	2.143	23.8	20.6	118 E	69	40
6 5	1 23.36	- 1 38.0	2.054	1.711	29.5	20.5	56 W	11*	50*	2 5	21 10.31	- 3 37.4	1.955	1.015	12.1	20.2	12 W	4*	—	6 5	1 23.36	- 1 38.0	2.054	1.711	29.5	20.5	56 W	11*	50*
6 15	1 45.32	+ 0 1.3	2.008	1.738	30.4	20.5	60 W	14*	52*	12 27	17 51.44	-12 13.3	1.684	0.762	17.5	19.5	13 W	7*	—	12 27	17 51.44	-12 13.3	1.684	0.762	17.5	19.5	13 W	7*	—
6 25	2 6.28	+ 1 29.4	1.958	1.765	31.1	20.5	64 W	19*	55*	1 1	18 19.66	-11 18.5	1.701	0.777	16.9	19.5	13 W	7*	—	1 6	18 47.15	-10 18.6	1.724	0.799	16.3	19.6	13 W	6*	—
7 5	2 26.15	+ 2 45.7	1.904	1.795	31.7	20.5	68 W	24*	56*	1 11	19 13.73	- 9 14.8	1.752	0.826	15.7	19.7	13 W	6*	—	1 16	19 39.29	- 8 8.5	1.785	0.857	15.1	19.8	13 W	5*	—
7 15	2 44.78	+ 3 49.2	1.846	1.826	32.1	20.5	73 W	30*	58*	1 21	20 3.74	- 7 0.7	1.823	0.893	14.5	19.9	13 W	5*	—	1 26	20 27.06	- 5 52.5	1.864	0.931	13.7	20.0	13 W	4*	—
7 25	3 1.98	+ 4 39.6	1.784	1.858	32.3	20.5	78 W	35*	58*	2 5	21 10.31	- 3 37.4	1.955	1.015	12.1	20.2	12 W	4*	—	2 15	21 49.35	- 1 27.3	2.055	1.104	10.2	20.4	11 W	3*	—
8 4	3 17.56	+ 5 16.9	1.718	1.890	32.2	20.4	83 W	41*	59*	2 25	22 24.64	+ 0 35.6	2.157	1.194	8.3	20.6	10 W	2*	—	3 7	22 56.72	+ 2 29.9	2.257	1.284	6.6	20.8	9 W	2*	—
8 14	3 31.21	+ 5 41.4	1.648	1.924	31.8	20.4	89 W	46*	58	3 17	23 26.12	+ 4 15.4	2.353	1.373	5.5	21.0	8 W	2*	—	3 27	23 53.25	+ 5 51.8	2.441	1.460	5.6	21.2	8 W	2*	—
8 24	3 42.61	+ 5 53.6	1.577	1.958	30.9	20.3	96 W	49*	58	4 6	0 18.48	+ 7 19.1	2.519	1.545	6.6	21.5	10 W	2*	3*	4 6	0 18.48	+ 7 19.1	2.519	1.545	6.6	21.5	10 W	2*	3*
9 3	3 51.40	+ 5 54.7	1.505	1.992	29.6	20.2	103 W	51*	58	12 27	17 51.47	-26 40.6	2.668	1.700	4.6	21.4	8 W	—	2*	12 27	17 51.47	-26 40.6	2.668	1.700	4.6	21.4	8 W	—	2*
9 13	3 57.15	+ 5 45.8	1.435	2.027	27.6	20.0	111 W	51	58	1 6	18 22.67	-26 29.7	2.635	1.681	6.4	21.4	11 W	—	5*	1 6	18 22.67	-26 29.7	2.635	1.681	6.4	21.4	11 W	—	5*
9 23	3 59.48	+ 5 29.3	1.369	2.061	25.0	19.9	120 W	50	59	1 16	18 54.04	-25 54.6	2.602	1.664	8.2	21.5	14 W	—	8*	1 16	18 54.04	-25 54.6	2.602	1.664	8.2	21.5	14 W	—	8*
10 3	3 58.11	+ 5 7.9	1.312	2.096	21.6	19.7	130 W	50	59	1 26	19 25.26	-24 55.3	2.567	1.650	10.0	21.5	17 W	—	11*	1 26	19 25.26	-24 55.3	2.567	1.650	10.0	21.5	17 W	—	11*
10 13	3 52.93	+ 4 45.3	1.267	2.131	17.5	19.6	140 W	50	59	2 5	19 56.07	-23 33.0	2.533	1.640	11.8	21.5	20 W	1*	14*	2 5	19 56.07	-23 33.0	2.533	1.640	11.8	21.5	20 W	1*	14*
10 23	3 44.33	+ 4 26.5	1.241	2.165	12.9	19.4	151 W	49	60	12 27	17 51.08	-25 16.6	3.052	2.081	3.6	21.4	8 W	—	1*	12 27	17 51.08	-25 16.6	3.052	2.081	3.6	21.4	8 W	—	1*
10 28	3 38.99	+ 4 20.0	1.236	2.182	10.6	19.3	156 W	49	60	1 6	18 15.92	-25 10.0	2.994	2.043	5.8	21.4	12 W	—	6*	1 6	18 15.92	-25 10.0	2.994	2.043	5.8	21.4	12 W	—	6*
11 2	3 33.17	+ 4 16.3	1.237	2.199	8.5	19.3	161 W	49	60	1 16	18 41.24	-24 48.0	2.928	2.004	8.0	21.4	17 W	—	10*	1 16	18 41.24	-24 48.0	2.928	2.004	8.0	21.4	17 W	—	10*

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°
187041 2005 JS₁₂₇										38647 2000 OW₈									
<i>(continuation)</i>										<i>(continuation)</i>									
9 13	3 39.00	+17 1.3	1.355	1.985	27.7	20.6	114 W	62	47	3 7	20 59.95	-15 25.6	2.488	1.747	18.2	19.5	33 W	8*	27*
9 23	3 41.67	+16 37.0	1.286	2.015	24.7	20.4	123 W	62	47	3 17	21 26.55	-13 37.6	2.417	1.725	20.2	19.5	37 W	9*	31*
10 3	3 40.50	+15 58.4	1.227	2.045	21.0	20.2	133 W	61	48	3 27	21 52.92	-11 38.4	2.347	1.706	22.0	19.5	40 W	10*	34*
10 13	3 35.46	+15 6.5	1.182	2.075	16.3	20.0	144 W	60	49	4 6	22 19.02	-9 29.8	2.277	1.689	23.8	19.4	43 W	10*	37*
10 18	3 31.62	+14 36.5	1.166	2.090	13.8	19.9	150 W	60	49	4 16	22 44.86	-7 14.2	2.208	1.674	25.5	19.4	46 W	11*	40*
10 23	3 27.05	+14 4.5	1.156	2.104	11.0	19.8	156 W	59	50	4 26	23 10.41	-4 54.1	2.139	1.663	27.2	19.4	49 W	12*	43*
10 28	3 21.88	+13 31.1	1.151	2.119	8.2	19.7	162 W	59	50	5 6	23 35.70	-2 32.0	2.072	1.654	28.7	19.3	52 W	14*	45*
11 2	3 16.30	+12 57.1	1.152	2.133	5.4	19.6	168 W	58	51	5 16	0 0.72	0 10.5	2.006	1.648	30.2	19.3	55 W	16*	48*
11 7	3 10.51	+12 23.7	1.160	2.148	3.0	19.5	173 W	57	52	5 26	0 25.44	+2 7.8	1.940	1.646	31.5	19.3	58 W	18*	50*
11 12	3 4.73	+11 51.8	1.175	2.162	2.7	19.5	174 E	57	52	6 5	0 49.85	+4 20.5	1.876	1.646	32.7	19.2	61 W	21*	51*
11 17	2 59.17	+11 22.4	1.196	2.176	4.7	19.7	170 E	56	53	6 15	1 13.90	+6 25.2	1.811	1.650	33.7	19.2	64 W	25*	52*
11 22	2 54.01	+10 56.5	1.224	2.190	7.2	19.9	164 E	56	53	6 25	1 37.48	+8 19.6	1.747	1.656	34.6	19.1	68 W	29*	52*
11 27	2 49.41	+10 34.6	1.258	2.204	9.7	20.1	158 E	56	53	7 5	2 0.49	+10 2.0	1.683	1.666	35.3	19.1	71 W	34*	52*
12 2	2 45.47	+10 17.2	1.299	2.218	12.1	20.2	152 E	55	54	7 15	2 22.75	+11 30.8	1.618	1.678	35.9	19.0	75 W	39*	52*
12 12	2 39.93	+9 57.1	1.395	2.245	16.2	20.6	141 E	55	54	7 25	2 44.04	+12 44.7	1.552	1.693	36.2	19.0	79 W	45*	51*
12 22	2 37.67	+9 56.4	1.511	2.271	19.4	20.9	130 E	55	54	8 4	3 4.09	+13 43.2	1.486	1.710	36.2	18.9	84 W	50*	50*
1 1	2 38.56	+10 12.8	1.640	2.297	21.7	21.1	120 E	55	54	8 14	3 22.58	+14 25.8	1.418	1.730	35.8	18.8	89 W	54*	50
1 11	2 42.29	+10 43.3	1.780	2.321	23.3	21.4	111 E	56	53*	8 24	3 39.10	+14 52.7	1.350	1.753	35.1	18.7	95 W	58*	49
306367 Nut										168828 2000 SY₃₂₀									
12 27	17 52.73	-25 56.5	2.982	2.011	3.6	19.7	7 W	—	1*	12 12	3 24.20	+10 52.8	1.168	2.083	13.4	18.1	151 E	56	53
1 6	18 14.12	-25 57.0	3.055	2.106	5.9	20.0	13 W	—	6*	12 22	3 19.81	+11 9.6	1.266	2.116	17.4	18.5	140 E	56	53
1 16	18 34.13	-25 48.2	3.111	2.199	8.1	20.2	18 W	2*	12*	1 1	3 18.82	+11 41.0	1.382	2.150	20.5	18.8	130 E	57	52
1 26	18 52.76	-25 32.1	3.151	2.288	10.2	20.4	24 W	4*	18*	1 11	3 21.07	+12 24.1	1.512	2.183	22.8	19.1	121 E	57	52
2 5	19 10.03	-25 10.6	3.172	2.375	12.1	20.6	30 W	6*	24*	1 21	3 26.20	+13 15.5	1.653	2.216	24.3	19.4	112 E	58	51
2 15	19 25.94	-24 45.3	3.177	2.459	13.9	20.8	37 W	7*	31*	168828 2000 SY₃₂₀									
2 25	19 40.46	-24 18.2	3.164	2.540	15.6	20.9	44 W	9*	38*	12 27	17 53.75	-23 58.6	3.733	2.759	2.4	21.2	7 W	—	—
3 7	19 53.54	-23 50.6	3.134	2.619	17.0	21.0	51 W	10*	45*	1 6	18 11.11	-23 24.5	3.683	2.734	4.7	21.3	13 W	2*	6*
3 17	20 5.13	-23 24.2	3.089	2.696	18.2	21.0	58 W	12*	52*	1 16	18 28.41	-22 42.2	3.617	2.708	6.9	21.4	19 W	5*	12*
3 27	20 15.11	-23 0.6	3.031	2.770	19.1	21.1	65 W	13*	59*	1 26	18 45.55	-21 51.2	3.536	2.681	9.1	21.4	25 W	8*	18*
4 6	20 23.39	-22 41.3	2.961	2.841	19.7	21.1	73 W	15*	67*	2 5	19 2.44	-20 51.4	3.442	2.653	11.2	21.4	32 W	10*	24*
4 16	20 29.81	-22 27.6	2.881	2.911	19.9	21.1	82 W	16*	76*	2 15	19 19.00	-19 42.6	3.335	2.625	13.3	21.4	38 W	12*	31*
4 26	20 34.20	-22 21.1	2.796	2.978	19.7	21.1	90 W	18*	84*	2 25	19 35.14	-18 24.7	3.216	2.595	15.3	21.4	44 W	15*	37*
5 6	20 36.39	-22 22.6	2.708	3.043	19.1	21.0	100 W	19*	86	3 7	19 50.78	-16 57.6	3.088	2.565	17.2	21.3	50 W	17*	43*
5 16	20 36.19	-22 32.9	2.622	3.107	17.9	21.0	109 W	21*	87	3 17	20 5.83	-15 21.4	2.950	2.534	19.0	21.2	56 W	19*	49*
5 26	20 33.47	-22 51.8	2.543	3.168	16.1	20.9	120 W	22*	87	3 27	20 20.19	-13 36.1	2.805	2.502	20.7	21.2	62 W	21*	55*
6 5	20 28.20	-23 18.5	2.476	3.228	13.8	20.8	130 W	22	87	4 6	20 33.77	-11 41.6	2.655	2.470	22.1	21.1	68 W	23*	61*
6 15	20 20.48	-23 50.9	2.426	3.285	11.0	20.7	142 W	21	88	4 16	20 46.46	-9 37.9	2.501	2.437	23.4	20.9	75 W	26*	65*
6 25	20 10.66	-24 25.7	2.400	3.341	7.8	20.6	154 W	21	88	4 26	20 58.11	-7 25.0	2.345	2.403	24.4	20.8	81 W	29*	69*
7 5	19 59.36	-24 59.3	2.402	3.395	4.3	20.4	165 W	20	89	5 6	21 8.59	-5 2.9	2.189	2.368	25.2	20.6	87 W	33*	69*
7 10	19 53.40	-25 14.5	2.414	3.422	2.6	20.4	171 W	20	89	5 16	21 17.69	-2 31.4	2.035	2.333	25.6	20.5	94 W	37*	67
7 15	19 47.38	-25 28.1	2.433	3.448	1.3	20.3	175 W	20	89	5 26	21 25.16	+0 9.0	1.884	2.298	25.7	20.3	101 W	41*	64
7 20	19 41.43	-25 39.9	2.461	3.473	1.8	20.4	174 E	19	90	6 5	21 30.73	+2 57.8	1.740	2.262	25.3	20.0	107 W	46*	61
7 25	19 35.66	-25 49.7	2.497	3.498	3.3	20.5	169 E	19	90	6 15	21 34.06	+5 53.8	1.605	2.226	24.6	19.8	114 W	50*	58
7 30	19 30.18	-25 57.5	2.540	3.523	4.8	20.7	163 E	19	90	6 25	21 34.77	+8 54.0	1.480	2.189	23.9	19.6	121 W	54	55
8 4	19 25.06	-26 3.2	2.590	3.548	6.4	20.8	157 E	19	90	6 30	21 34.05	+10 24.4	1.423	2.171	22.6	19.4	125 W	55	54
8 9	19 20.40	-26 7.1	2.648	3.571	7.8	20.9	151 E	19	90	7 5	21 32.55	+11 54.1	1.369	2.152	21.8	19.3	128 W	57	52
8 14	19 16.25	-26 9.1	2.712	3.595	9.1	21.1	146 E	19	90	7 10	21 30.24	+13 22.0	1.319	2.134	20.9	19.2	132 W	58	51
8 19	19 12.66	-26 9.6	2.782	3.618	10.3	21.2	140 E	19	90	7 15	21 27.12	+14 46.9	1.273	2.116	20.0	19.1	135 W	60	49
8 24	19 9.64	-26 8.6	2.858	3.641	11.4	21.3	135 E	19	90	7 20	21 23.21	+16 7.4	1.232	2.097	19.1	18.9	138 W	61	48
8 29	19 7.22	-26 6.5	2.938	3.663	12.3	21.4	129 E	19	90	7 25	21 18.56	+17 22.3	1.196	2.079	18.3	18.8	140 W	62	47
9 3	19 5.38	-26 3.3	3.023	3.685	13.1	21.5	124 E	19	90	7 30	21 13.26	+18 30.0	1.164	2.060	17.7	18.7	142 W	64	45
482055 2010 AH₃₀										38647 2000 OW₈									
12 27	17 53.33	-12 46.0	2.023	1.086	11.5	20.8	13 W	7*	—	12 27	17 53.71	-20 57.1	2.915	1.943	3.7	19.5	7 W	—	—
1 6	18 29.55	-15 55.8	2.079	1.130	9.7	20.9	11 W	5*	—	1 6	18 19.55	-20 58.8	2.866	1.912	5.8	19.6	11 W	3*	3*
1 16	19 4.72	-18 32.6	2.134	1.184	9.3	21.0	11 W	3*	2*	1 16	18 45.86	-20 44.2	2.812	1.881	7.9	19.6	15 W	4*	7*
1 26	19 38.83	-20 37.7	2.185	1.245	10.2	21.2	13 W	1*	6*	1 26	19 12.50	-20 13.0	2.753	1.851	10.0	19.6	19 W	5*	12*
2 5	20 11.85	-22 14.2	2.231	1.311	12.0	21.5	16 W	—	10*	2 5	19 39.34	-19 25.0	2.691	1.823	12.1	19.6	23 W	6*	16*
6611 1993 VW										38647 2000 OW₈									
12 27	17 53.66	-20 27.0	2.560	1.590	4.6	20.2	7 W	1*	—	12 27	17 53.71	-20 57.1	2.915	1.943	3.7	19.5	7 W	—	—
1 6	18 20.66	-19 58.4	2.610	1.656	6.6	20.5	11 W	3*	2*	1 6	18 19.55	-20 58.8	2.866	1.912	5.8	19.6	11 W	3*	3*
1 16	18 46.13	-19 15.0	2.650	1.721	8.7	20.7	15 W	5*	7*	1 16	18 45.86	-20 44.2	2.812	1.881	7.9	19.6	15 W	4*	7*
1 26	19 10.12	-18 19.0	2.678	1.782	10.7	20.9	20 W	7*	11*	1 26	19 12.50	-20 13.0	2.753	1.851	10.0	19.6	19 W	5*	12*
2 5	19 32.66	-17 12.6	2.695	1.842	12.8	21.0	24 W	9*	16*	2 5	19 39.34	-19 25.0	2.691	1.823	12.1	19.6	23 W	6*	16*
2 15	19 53.82	-15 57.6	2.698	1.899	14.7	21.2	29 W	11*	22*	2 15	20 6.27								

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°
168828 2000 SY₃₂₀										189166 2002 TW₂₂₆									
<i>(continuation)</i>										<i>(continuation)</i>									
10 18	20 31.48	+17 7.0	1.219	1.787	32.2	19.0	107 E	62	47	4 26	23 35.62	-0 59.3	2.206	1.601	24.7	21.0	42 W	11*	35*
10 23	20 36.70	+16 35.0	1.242	1.773	32.9	19.0	104 E	62	47*	5 6	0 0.91	+1 23.0	2.166	1.613	26.1	21.0	45 W	12*	38*
10 28	20 42.80	+16 5.7	1.265	1.759	33.6	19.0	102 E	61	48*	5 16	0 25.68	+3 40.3	2.125	1.627	27.4	21.0	48 W	14*	40*
11 2	20 49.74	+15 39.6	1.290	1.745	34.2	19.1	99 E	61	47*	5 26	0 49.90	+5 50.2	2.082	1.644	28.6	21.0	51 W	16*	43*
11 12	21 5.93	+14 58.4	1.339	1.719	35.1	19.2	94 E	60	46*	6 5	1 13.57	+7 51.0	2.036	1.663	29.7	21.0	54 W	19*	45*
11 22	21 24.83	+14 33.2	1.391	1.696	35.6	19.2	89 E	60	43*	6 15	1 36.64	+9 40.8	1.987	1.684	30.7	21.0	58 W	23*	46*
12 2	21 46.04	+14 24.1	1.443	1.675	35.9	19.3	85 E	59	40*	6 25	1 59.02	+11 18.1	1.935	1.708	31.6	21.0	62 W	27*	47*
12 12	22 9.24	+14 30.8	1.497	1.657	35.9	19.3	81 E	59	36*	7 5	2 20.61	+12 42.1	1.880	1.733	32.4	21.0	66 W	32*	48*
12 22	22 34.07	+14 51.9	1.553	1.642	35.7	19.4	77 E	59	33*	7 15	2 41.25	+13 51.8	1.820	1.760	32.9	21.0	70 W	38*	48*
1 1	23 0.25	+15 25.2	1.612	1.631	35.3	19.4	73 E	59	29*	7 25	3 0.73	+14 46.6	1.757	1.787	33.3	21.0	75 W	44*	48*
1 11	23 27.55	+16 8.4	1.673	1.622	34.7	19.5	70 E	58	26*	8 4	3 18.84	+15 26.4	1.690	1.816	33.4	20.9	80 W	49*	48*
1 21	23 55.69	+16 58.4	1.737	1.617	33.9	19.6	66 E	56	24*	8 14	3 35.27	+15 51.2	1.619	1.846	33.2	20.9	86 W	54*	48
141670 2002 JS₁₀₀										21893 1999 VL₄									
12 27	17 54.20	-16 14.3	2.553	1.593	6.1	20.3	10 W	4*	—	12 12	3 20.60	+9 2.4	1.319	2.222	13.2	20.2	149 E	54	55
1 6	18 25.03	-16 36.2	2.485	1.535	7.4	20.2	12 W	5*	—	12 22	3 25.39	+9 7.5	1.421	2.251	17.0	20.5	138 E	54	55
1 16	18 57.28	-16 37.5	2.418	1.479	8.9	20.2	13 W	6*	3*	1 1	3 13.46	+9 29.2	1.540	2.280	19.9	20.8	128 E	54	55
1 26	19 30.79	-16 16.4	2.354	1.427	10.4	20.1	15 W	6*	6*	1 11	3 14.68	+10 4.7	1.673	2.308	22.0	21.1	118 E	55	54
2 5	20 5.38	-15 31.6	2.294	1.378	11.8	20.0	17 W	6*	9*	1 21	3 18.73	+10 50.4	1.816	2.335	23.4	21.3	109 E	56	53*
2 15	20 40.82	-14 22.7	2.241	1.335	13.1	19.9	18 W	5*	11*	10 28	4 7.26	+12 5.0	1.157	2.084	13.3	19.8	151 W	57	52
2 25	21 16.85	-12 50.6	2.194	1.298	14.3	19.9	19 W	4*	12*	11 2	4 2.41	+11 34.4	1.150	2.099	10.7	19.7	157 W	57	52
3 7	21 53.20	-10 57.4	2.156	1.267	15.3	19.8	20 W	3*	13*	11 7	3 57.01	+11 4.6	1.149	2.115	8.1	19.6	163 W	56	53
3 17	22 29.64	-8 46.4	2.128	1.245	16.2	19.8	20 W	2*	14*	11 12	3 51.26	+10 36.5	1.154	2.131	5.8	19.5	167 W	56	53
3 27	23 5.92	-6 22.1	2.108	1.232	17.0	19.8	21 W	1*	15*	11 17	3 45.37	+10 11.0	1.165	2.146	4.4	19.5	170 W	55	54
4 6	23 41.84	-3 49.7	2.099	1.228	17.7	19.8	22 W	—	16*	11 22	3 39.55	+9 48.7	1.183	2.162	4.8	19.5	169 E	55	54
4 11	23 59.62	-2 32.2	2.097	1.229	18.0	19.8	22 W	—	16*	11 27	3 34.01	+9 30.3	1.208	2.177	6.5	19.7	165 E	55	54
4 16	0 17.25	+1 14.8	2.097	1.233	18.3	19.8	23 W	—	17*	12 2	3 28.90	+9 16.3	1.239	2.192	8.8	19.9	160 E	54	55
4 21	0 34.71	+0 1.9	2.100	1.240	18.5	19.8	23 W	—	17*	12 12	3 20.60	+9 2.4	1.319	2.222	13.2	20.2	149 E	54	55
4 26	0 51.99	+1 17.1	2.104	1.248	18.8	19.9	24 W	—	17*	12 22	3 25.39	+9 7.5	1.421	2.251	17.0	20.5	138 E	54	55
5 6	1 25.96	+3 41.2	2.117	1.272	19.3	19.9	25 W	—	19*	1 1	3 13.46	+9 29.2	1.540	2.280	19.9	20.8	128 E	54	55
5 16	1 59.06	+5 53.2	2.135	1.303	19.8	20.0	26 W	—	20*	1 11	3 14.68	+10 4.7	1.673	2.308	22.0	21.1	118 E	55	54
5 26	2 31.17	+7 50.0	2.156	1.341	20.4	20.1	27 W	—	21*	1 21	3 18.73	+10 50.4	1.816	2.335	23.4	21.3	109 E	56	53*
6 5	3 2.21	+9 29.6	2.179	1.386	21.0	20.2	29 W	1*	23*	12 27	17 54.76	-23 5.2	2.603	1.630	4.0	18.2	7 W	—	—
6 15	3 32.11	+10 50.8	2.201	1.435	21.6	20.3	31 W	3*	25*	1 6	18 26.35	-23 7.6	2.559	1.598	5.8	18.2	10 W	—	3*
6 25	4 0.75	+11 53.3	2.221	1.488	22.3	20.5	34 W	6*	27*	1 16	18 58.58	-22 45.6	2.516	1.569	7.7	18.2	12 W	1*	6*
7 5	4 28.09	+12 37.8	2.237	1.544	23.1	20.6	37 W	10*	29*	1 26	19 31.16	-21 58.7	2.474	1.543	9.4	18.2	15 W	1*	8*
7 15	4 54.03	+13 5.0	2.247	1.603	23.9	20.7	40 W	14*	31*	2 5	20 3.80	-20 47.0	2.434	1.522	11.2	18.2	17 W	2*	11*
7 25	5 18.51	+13 16.5	2.251	1.662	24.7	20.8	43 W	19*	33*	2 15	20 36.23	-19 11.8	2.397	1.504	12.8	18.2	20 W	2*	14*
8 4	5 41.47	+13 13.9	2.248	1.723	25.5	20.9	47 W	24*	35*	2 25	21 8.21	-17 15.3	2.363	1.492	14.4	18.2	22 W	2*	16*
8 14	6 2.84	+12 59.0	2.235	1.785	26.3	21.0	51 W	29*	37*	3 7	21 39.56	-15 0.6	2.332	1.484	15.9	18.3	24 W	3*	18*
8 24	6 22.55	+12 33.6	2.214	1.847	26.9	21.1	56 W	35*	39*	3 17	22 10.18	-12 31.1	2.305	1.481	17.3	18.3	26 W	3*	20*
9 3	6 40.52	+11 59.9	2.183	1.908	27.5	21.1	61 W	40*	41*	3 27	22 39.98	-9 51.1	2.282	1.483	18.7	18.3	28 W	3*	22*
9 13	6 56.65	+11 19.7	2.142	1.970	27.9	21.2	66 W	45*	44*	4 6	23 8.97	-7 4.4	2.261	1.490	20.0	18.3	31 W	4*	25*
9 23	7 10.79	+10 35.3	2.092	2.031	28.1	21.2	73 W	49*	46*	4 16	23 37.14	+4 15.0	2.242	1.502	21.3	18.4	33 W	4*	27*
10 3	7 22.82	+9 48.9	2.035	2.091	28.0	21.2	79 W	52*	49*	4 26	0 4.52	+1 26.6	2.224	1.518	22.5	18.4	35 W	6*	29*
10 13	7 32.50	+9 2.8	1.970	2.150	27.6	21.2	86 W	54*	52*	5 6	0 31.14	+1 17.5	2.207	1.539	23.7	18.5	38 W	7*	32*
10 23	7 39.60	+8 19.8	1.901	2.208	26.7	21.1	94 W	53*	54*	5 16	0 57.04	+3 54.6	2.189	1.564	24.8	18.5	40 W	9*	34*
11 2	7 43.88	+7 42.7	1.831	2.265	25.3	21.1	103 W	53	56*	5 26	1 22.22	+6 22.2	2.169	1.593	25.9	18.6	43 W	11*	36*
11 12	7 45.06	+7 14.6	1.762	2.321	23.3	21.0	112 W	52	57	6 5	1 46.68	+8 38.7	2.147	1.624	26.9	18.6	46 W	14*	38*
11 22	7 42.98	+6 58.9	1.699	2.376	20.6	20.9	122 W	52	57	6 15	2 10.38	+10 42.6	2.121	1.659	27.9	18.7	50 W	18*	40*
12 2	7 37.61	+6 58.3	1.648	2.430	17.3	20.7	133 W	52	57	6 25	2 33.25	+12 33.0	2.091	1.696	28.8	18.7	53 W	22*	42*
12 12	7 29.22	+7 14.9	1.615	2.482	13.4	20.6	144 W	52	57	7 5	2 55.22	+14 9.7	2.056	1.735	29.6	18.8	57 W	27*	43*
12 22	7 18.52	+7 49.1	1.605	2.533	9.2	20.5	156 W	53	56	7 15	3 16.15	+15 32.4	2.016	1.776	30.3	18.8	62 W	33*	44*
1 1	7 6.56	+8 38.7	1.621	2.583	5.8	20.4	165 W	54	55	7 25	3 35.89	+16 41.4	1.969	1.818	30.8	18.8	66 W	39*	44*
1 6	7 0.51	+9 8.2	1.641	2.607	5.0	20.4	167 E	54	55	8 4	3 54.26	+17 37.5	1.916	1.861	31.1	18.8	71 W	45*	45*
1 11	6 54.64	+9 40.0	1.668	2.631	5.4	20.5	165 E	55	54	8 14	4 11.01	+18 21.6	1.858	1.905	31.2	18.8	77 W	52*	45*
1 16	6 49.10	+10 13.4	1.703	2.655	6.6	20.6	162 E	55	54	8 24	4 25.86	+18 54.7	1.794	1.949	31.0	18.7	83 W	57*	45*
1 21	6 44.03	+10 47.8	1.745	2.679	8.2	20.7	157 E	56	53	9 3	4 38.52	+19 18.4	1.727	1.994	30.4	18.7	90 W	62*	45*
171465 Evam																			

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°
249091 2007 VV₉₃										307009 2001 XC₄₀ (continuation)									
12 27	17 55.83	-16 5.2	2.707	1.746	5.5	20.3	10 W	4*	—	10 3	3 21.20	+37 48.9	0.920	1.736	26.5	17.8	129 W	83	26
1 6	18 23.25	-14 57.7	2.659	1.715	7.4	20.3	13 W	7*	—	10 8	3 20.62	+38 30.6	0.903	1.747	24.6	17.7	133 W	84	25
1 16	18 50.99	-13 30.5	2.608	1.686	9.3	20.3	16 W	9*	3*	10 13	3 18.81	+39 3.8	0.889	1.760	22.4	17.6	138 W	84	25
1 26	19 18.91	-11 43.7	2.556	1.659	11.3	20.3	19 W	11*	7*	10 18	3 15.87	+39 27.6	0.878	1.773	20.2	17.6	142 W	84	25
2 5	19 46.90	-9 37.6	2.504	1.635	13.2	20.3	22 W	13*	10*	10 23	3 11.94	+39 41.1	0.872	1.787	18.0	17.5	146 W	85	24
2 15	20 14.89	-7 13.6	2.454	1.613	15.0	20.3	25 W	15*	13*	10 28	3 7.23	+39 43.5	0.869	1.801	15.8	17.4	150 W	85	24
2 25	20 42.78	-4 33.5	2.406	1.595	16.7	20.3	28 W	16*	16*	11 2	3 1.99	+39 34.6	0.871	1.816	13.9	17.4	154 W	85	24
3 7	21 10.56	-1 40.1	2.360	1.580	18.3	20.3	30 W	17*	19*	11 7	2 56.52	+39 14.5	0.878	1.831	12.3	17.4	157 W	84	25
3 17	21 38.19	+ 1 23.7	2.319	1.569	19.8	20.3	32 W	18*	21*	11 12	2 51.17	+38 44.3	0.890	1.847	11.3	17.4	159 E	84	25
3 27	22 5.66	+ 4 34.2	2.281	1.562	21.1	20.3	34 W	20*	23*	11 17	2 46.23	+38 5.6	0.907	1.863	11.1	17.4	159 E	83	26
4 6	22 33.00	+ 7 47.6	2.247	1.558	22.4	20.3	36 W	21*	25*	11 22	2 41.95	+37 20.5	0.930	1.880	11.7	17.5	157 E	82	27
4 16	23 0.23	+11 0.0	2.216	1.558	23.5	20.3	38 W	22*	27*	11 27	2 38.49	+36 30.9	0.958	1.897	12.9	17.7	155 E	82	27
4 26	23 27.35	+14 7.7	2.187	1.562	24.6	20.3	40 W	23*	28*	12 2	2 35.98	+35 38.9	0.991	1.914	14.4	17.8	151 E	81	28
5 6	23 54.39	+17 7.0	2.161	1.570	25.7	20.3	42 W	24*	29*	12 7	2 34.50	+34 46.7	1.029	1.932	16.0	18.0	147 E	80	29
5 16	0 21.34	+19 54.9	2.134	1.582	26.6	20.3	45 W	26*	30*	12 12	2 34.07	+33 56.0	1.071	1.950	17.7	18.1	143 E	79	30
5 26	0 48.16	+22 28.5	2.108	1.597	27.6	20.4	47 W	28*	30*	12 17	2 34.66	+33 8.0	1.119	1.969	19.2	18.3	139 E	78	31
6 5	1 14.78	+24 45.6	2.080	1.615	28.5	20.4	49 W	30*	31*	12 22	2 36.21	+32 23.7	1.170	1.987	20.7	18.5	134 E	77	32
6 15	1 41.10	+26 44.8	2.048	1.637	29.4	20.4	52 W	34*	31*	12 27	2 38.64	+31 43.6	1.225	2.006	22.0	18.6	130 E	77	32
6 25	2 6.95	+28 24.5	2.013	1.661	30.2	20.4	55 W	37*	31*	1 1	2 41.90	+31 7.9	1.284	2.025	23.1	18.8	126 E	76	33
7 5	2 32.17	+29 44.4	1.973	1.688	31.0	20.4	59 W	41*	31*	1 6	2 45.91	+30 36.9	1.346	2.044	24.1	18.9	122 E	76	33
7 15	2 56.51	+30 44.0	1.928	1.717	31.7	20.4	63 W	46*	31*	1 11	2 50.59	+30 10.3	1.411	2.064	24.9	19.1	118 E	75	34
7 25	3 19.69	+31 23.6	1.877	1.748	32.3	20.4	67 W	51*	31*	1 16	2 55.89	+29 48.0	1.478	2.083	25.5	19.2	114 E	75	34*
8 4	3 41.43	+31 43.6	1.820	1.781	32.7	20.4	72 W	57*	32*	1 21	3 1.72	+29 29.6	1.548	2.103	26.0	19.3	110 E	74	34*
8 14	4 1.38	+31 44.7	1.756	1.815	32.9	20.4	77 W	63*	32*										
8 24	4 19.18	+31 27.6	1.688	1.851	32.8	20.4	83 W	68*	32*										
9 3	4 34.45	+30 52.9	1.614	1.887	32.3	20.3	89 W	73*	33	12 27	17 56.78	-29 41.1	2.538	1.573	5.4	20.5	9 W	—	2*
9 13	4 46.75	+30 1.1	1.538	1.924	31.3	20.2	96 W	75*	34	1 6	18 31.57	-29 27.4	2.517	1.561	6.7	20.6	11 W	—	4*
9 23	4 55.66	+28 52.2	1.462	1.962	29.8	20.1	104 W	74	35	1 16	19 6.23	-28 43.1	2.498	1.554	8.0	20.6	13 W	—	7*
10 3	5 0.77	+27 25.9	1.387	2.000	27.5	19.9	113 W	72	37	1 26	19 40.31	-27 29.3	2.481	1.551	9.4	20.7	15 W	—	9*
10 13	5 1.71	+25 41.3	1.319	2.039	24.3	19.8	123 W	71	38	2 5	20 13.40	-25 48.6	2.467	1.553	10.8	20.7	17 W	—	11*
10 23	4 58.40	+23 38.3	1.262	2.077	20.3	19.6	134 W	69	40	2 15	20 45.26	-23 44.4	2.454	1.559	12.3	20.7	20 W	—	13*
11 2	4 51.11	+21 18.0	1.221	2.115	15.4	19.4	145 W	66	43	2 25	21 15.68	-21 21.0	2.442	1.570	13.7	20.8	22 W	—	16*
11 7	4 46.19	+20 2.7	1.209	2.134	12.7	19.3	152 W	65	44	3 7	21 44.63	-18 42.7	2.431	1.584	15.1	20.9	25 W	—	18*
11 12	4 40.64	+18 45.2	1.203	2.153	9.9	19.2	158 W	64	45	3 17	22 12.11	-15 53.7	2.420	1.603	16.6	20.9	27 W	—	21*
11 17	4 34.64	+17 26.8	1.204	2.172	7.1	19.1	164 W	62	47	3 27	22 38.17	-12 58.1	2.408	1.626	18.0	21.0	30 W	1*	24*
11 22	4 28.42	+16 9.0	1.212	2.191	4.5	19.0	170 W	61	48	4 6	23 2.92	-9 59.2	2.394	1.652	19.4	21.1	33 W	3*	27*
11 27	4 22.17	+14 53.3	1.227	2.210	3.0	19.0	173 W	60	49	4 16	23 26.45	-7 0.1	2.378	1.681	20.8	21.1	37 W	4*	31*
12 2	4 16.12	+13 41.4	1.249	2.228	4.0	19.1	171 E	59	50	4 26	23 48.84	-4 3.2	2.358	1.713	22.2	21.2	40 W	6*	34*
12 7	4 10.45	+12 34.5	1.279	2.247	6.3	19.3	166 E	58	51	5 6	0 10.18	-1 10.6	2.333	1.747	23.5	21.3	44 W	9*	37*
12 12	4 5.33	+11 33.9	1.316	2.265	8.7	19.5	160 E	57	52	5 16	0 30.53	+1 36.3	2.304	1.783	24.7	21.3	47 W	12*	41*
12 22	3 57.21	+ 9 54.1	1.409	2.302	13.2	19.8	148 E	55	54	5 26	0 49.89	+ 4 16.1	2.269	1.821	25.8	21.4	52 W	15*	44*
1 1	3 52.25	+ 8 43.7	1.525	2.338	16.9	20.2	136 E	54	55	6 5	1 8.27	+ 6 48.1	2.228	1.861	26.9	21.4	56 W	19*	46*
1 11	3 50.54	+ 8 0.5	1.658	2.373	19.6	20.5	126 E	53	56	6 15	1 25.64	+ 9 11.6	2.181	1.902	27.7	21.4	61 W	25*	48*
1 21	3 51.85	+ 7 39.8	1.805	2.407	21.5	20.7	116 E	53	56	6 25	1 41.89	+11 26.2	2.128	1.943	28.5	21.4	66 W	30*	49*
										7 5	1 56.91	+13 32.0	2.069	1.986	29.0	21.4	71 W	37*	49*
										7 15	2 10.53	+15 28.8	2.004	2.029	29.2	21.4	77 W	44*	48*
										7 25	2 22.49	+17 16.6	1.934	2.072	29.1	21.4	83 W	51*	47*
										8 4	2 32.54	+18 55.8	1.860	2.116	28.7	21.3	90 W	58*	45
										8 14	2 40.30	+20 26.1	1.785	2.159	27.7	21.3	97 W	64*	44
										8 24	2 45.39	+21 47.1	1.710	2.202	26.3	21.2	105 W	67	42
										9 3	2 47.43	+22 57.9	1.639	2.246	24.2	21.1	114 W	68	41
										9 13	2 46.07	+23 56.4	1.574	2.288	21.5	20.9	123 W	69	40
										9 23	2 41.18	+24 39.9	1.521	2.331	18.1	20.8	134 W	70	39
										10 3	2 32.98	+25 5.1	1.484	2.373	14.1	20.6	145 W	70	39
										10 13	2 22.14	+25 9.1	1.469	2.414	9.7	20.5	156 W	70	39
										10 18	2 16.10	+25 2.9	1.471	2.435	7.6	20.4	161 W	70	39
										10 23	2 9.89	+24 51.7	1.479	2.455	5.8	20.4	166 W	70	39
										10 28	2 3.69	+24 36.0	1.494	2.475	4.7	20.3	168 E	70	39
										11 2	1 57.70	+24 16.6	1.516	2.495	4.8	20.4	168 E	69	40
										11 7	1 52.08	+23 54.3	1.545	2.515	5.9	20.5	165 E	69	40
										11 12	1 46.99	+23 30.5	1.581	2.534	7.6	20.7	160 E	69	

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°
171522 1999 CY₅										114924 2003 QL₄₁									
<i>(continuation)</i>										<i>(continuation)</i>									
5 6	23 35.65	-9 39.3	2.170	1.795	27.4	20.8	55 W	8*	49*	10 28	3 45.42	+40 37.5	0.885	1.794	18.4	17.6	145 W	86	23
5 16	23 57.12	-8 50.6	2.102	1.814	28.7	20.8	60 W	10*	54*	11 2	3 39.84	+41 1.8	0.881	1.808	16.2	17.5	149 W	86	23
5 26	0 17.91	-8 10.5	2.029	1.832	29.9	20.7	64 W	11*	58*	11 7	3 33.53	+41 14.8	0.882	1.822	14.3	17.4	153 W	86	23
6 5	0 37.99	-7 41.2	1.952	1.850	30.8	20.7	69 W	14*	62*	11 12	3 26.84	+41 16.3	0.888	1.837	12.7	17.4	156 W	86	23
6 15	0 57.27	-7 25.1	1.872	1.867	31.5	20.7	74 W	17*	66*	11 17	3 20.13	+41 6.6	0.899	1.852	11.7	17.4	158 E	86	23
6 25	1 15.63	-7 24.4	1.788	1.884	32.0	20.6	79 W	20*	69*	11 22	3 13.75	+40 46.8	0.915	1.868	11.5	17.5	158 E	86	23
7 5	1 32.93	-7 41.5	1.703	1.900	32.2	20.5	85 W	24*	71*	11 27	3 8.00	+40 18.5	0.937	1.883	12.0	17.6	157 E	85	24
7 15	1 48.93	-8 18.7	1.618	1.915	32.1	20.4	90 W	27*	72*	12 2	3 3.12	+39 43.5	0.963	1.899	13.2	17.7	154 E	85	24
7 25	2 3.36	-9 17.8	1.533	1.930	31.5	20.3	96 W	30*	73*	12 7	2 59.29	+39 4.0	0.995	1.916	14.6	17.8	151 E	84	25
8 4	2 15.88	-10 40.5	1.450	1.943	30.6	20.2	103 W	32*	75*	12 12	2 56.62	+38 22.2	1.033	1.932	16.3	18.0	147 E	83	26
8 14	2 26.06	-12 27.4	1.372	1.956	29.3	20.0	109 W	32*	76*	12 17	2 55.14	+37 39.9	1.074	1.949	17.9	18.1	142 E	83	26
8 24	2 33.41	-14 37.5	1.300	1.968	27.4	19.9	116 W	30	79	12 22	2 54.81	+36 58.7	1.120	1.966	19.5	18.3	138 E	82	27
8 29	2 35.87	-15 50.1	1.267	1.974	26.4	19.8	120 W	29	80	12 27	2 55.59	+36 19.5	1.170	1.983	20.9	18.5	134 E	81	28
9 3	2 37.43	-17 7.0	1.236	1.979	25.2	19.7	123 W	28	81	1 1	2 57.40	+35 43.3	1.224	2.000	22.2	18.6	130 E	81	28
9 8	2 38.03	-18 27.1	1.209	1.984	24.0	19.6	127 W	27	82	1 6	3 0.17	+35 10.4	1.281	2.017	23.4	18.8	125 E	80	29
9 13	2 37.63	-19 48.8	1.185	1.989	22.7	19.5	130 W	25	84	1 11	3 3.81	+34 41.2	1.341	2.035	24.4	18.9	121 E	80	29
9 18	2 36.20	-21 10.6	1.165	1.994	21.5	19.5	133 W	24	85	1 16	3 8.24	+34 15.6	1.404	2.052	25.2	19.1	117 E	79	30
9 23	2 33.76	-22 30.5	1.149	1.998	20.3	19.4	136 W	22	87	1 21	3 13.36	+33 53.5	1.470	2.070	25.8	19.2	114 E	79	30*
9 28	2 30.34	-23 46.4	1.137	2.002	19.3	19.4	139 W	21	88	461501 2003 FT₃									
10 3	2 26.00	-24 56.1	1.129	2.006	18.4	19.3	141 W	20	89	12 27	17 58.80	-21 6.4	2.132	1.159	5.2	21.0	6 W	-	-
10 8	2 20.85	-25 57.3	1.127	2.010	17.9	19.3	142 W	19	90	1 1	18 20.30	-21 0.4	2.132	1.159	5.3	21.0	6 W	-	-
10 13	2 15.09	-26 47.9	1.129	2.013	17.6	19.3	142 W	18	89	1 6	18 41.67	-20 44.3	2.135	1.163	5.3	21.0	6 W	-	-
10 18	2 8.90	-27 26.3	1.136	2.017	17.7	19.3	142 W	18	89	1 11	19 2.81	-20 18.3	2.142	1.170	5.4	21.0	6 W	-	-
10 23	2 2.52	-27 51.3	1.148	2.019	18.2	19.4	141 W	17	88	1 16	19 23.61	-19 43.0	2.152	1.180	5.5	21.1	7 W	-	-
10 28	1 56.19	-28 2.4	1.165	2.022	18.9	19.4	139 E	17	88	1 21	19 43.99	-18 59.2	2.164	1.193	5.6	21.1	7 W	-	-
11 2	1 50.13	-27 59.7	1.187	2.024	19.8	19.5	136 E	17	88	1 26	20 3.88	-18 7.7	2.179	1.208	5.7	21.2	7 W	-	-
11 7	1 44.54	-27 43.5	1.213	2.027	20.8	19.6	133 E	17	88	1 31	20 23.22	-17 9.5	2.197	1.226	5.9	21.2	7 W	-	-
11 12	1 39.61	-27 14.8	1.243	2.028	21.9	19.7	130 E	18	89	2 5	20 41.98	-16 5.6	2.216	1.246	6.1	21.3	8 W	-	1*
11 17	1 35.46	-26 34.9	1.276	2.030	22.9	19.8	127 E	18	89	2 10	21 0.15	-14 57.0	2.237	1.269	6.4	21.4	8 W	-	2*
11 22	1 32.17	-25 45.2	1.313	2.031	24.0	19.9	123 E	19	90	2 15	21 17.70	-13 44.6	2.260	1.293	6.7	21.4	9 W	-	2*
11 27	1 29.76	-24 47.3	1.353	2.032	24.9	19.9	120 E	20	89	32575 2001 QY₇₈									
12 2	1 28.26	-23 42.3	1.396	2.033	25.8	20.0	116 E	21	88	12 27	17 58.88	-22 34.7	2.669	1.693	3.3	18.8	6 W	-	-
12 7	1 27.65	-22 31.5	1.441	2.034	26.6	20.1	113 E	22	87	1 6	18 28.84	-22 19.3	2.622	1.658	5.3	18.8	9 W	-	2*
12 12	1 27.90	-21 16.1	1.488	2.034	27.2	20.2	109 E	22	85	1 16	18 59.36	-21 41.7	2.573	1.625	7.3	18.8	12 W	1*	5*
12 17	1 28.96	-19 57.2	1.537	2.034	27.8	20.3	105 E	25	84	1 26	19 30.22	-20 41.1	2.524	1.594	9.2	18.8	15 W	3*	8*
12 22	1 30.78	-18 35.5	1.587	2.034	28.2	20.4	102 E	26	83	2 5	20 1.21	-19 17.7	2.476	1.566	11.0	18.8	18 W	3*	11*
12 27	1 33.29	-17 11.9	1.638	2.033	28.6	20.5	99 E	28	81*	2 15	20 32.13	-17 32.4	2.429	1.541	12.8	18.8	20 W	4*	14*
1 1	1 36.44	-15 46.8	1.690	2.032	28.8	20.5	95 E	29	78*	2 25	21 2.82	-15 27.0	2.383	1.519	14.6	18.8	23 W	5*	16*
1 6	1 40.20	-14 20.8	1.742	2.031	28.9	20.6	92 E	31	75*	3 7	21 33.16	-13 3.8	2.341	1.502	16.2	18.8	25 W	5*	19*
1 11	1 44.50	-12 54.3	1.795	2.030	29.0	20.7	89 E	32	71*	3 17	22 3.07	-10 25.8	2.302	1.488	17.7	18.8	27 W	6*	21*
1 16	1 49.31	-11 27.7	1.848	2.028	28.9	20.7	86 E	34	67*	3 27	22 32.51	-7 36.5	2.265	1.479	19.3	18.8	29 W	6*	23*
1 21	1 54.57	-10 1.4	1.901	2.026	28.8	20.8	83 E	35	64*	4 6	23 1.47	-4 39.6	2.233	1.474	20.7	18.8	31 W	7*	25*
12 27	17 58.06	-30 44.3	3.085	2.121	4.3	20.1	9 W	-	3*	4 16	23 29.98	-1 38.9	2.203	1.474	22.1	18.8	34 W	8*	27*
1 6	18 23.65	-30 31.7	3.033	2.085	5.9	20.1	13 W	-	6*	4 26	23 58.05	+1 21.8	2.175	1.478	23.4	18.8	36 W	9*	29*
1 16	18 49.60	-30 3.3	2.974	2.050	7.9	20.1	17 W	-	10*	5 6	0 25.72	+4 18.9	2.150	1.487	24.6	18.9	38 W	10*	31*
1 26	19 15.73	-29 18.6	2.907	2.015	9.9	20.1	21 W	-	15*	5 16	0 53.02	+7 9.3	2.125	1.501	25.7	18.9	40 W	12*	33*
2 5	19 41.90	-28 17.2	2.834	1.981	12.0	20.1	25 W	-	19*	5 26	1 19.94	+9 49.9	2.101	1.518	26.8	18.9	43 W	14*	34*
2 15	20 7.98	-26 59.1	2.756	1.947	14.0	20.0	29 W	-	22*	6 5	1 46.49	+12 18.4	2.076	1.539	27.9	19.0	45 W	17*	36*
2 25	20 33.84	-25 24.7	2.673	1.914	16.1	20.0	32 W	1*	26*	6 15	2 12.61	+14 32.9	2.050	1.564	28.9	19.0	48 W	20*	37*
3 7	20 59.39	-23 34.6	2.587	1.881	18.2	20.0	36 W	2*	30*	6 25	2 38.21	+16 32.0	2.021	1.592	29.8	19.0	51 W	24*	38*
3 17	21 24.58	-21 29.5	2.499	1.850	20.2	19.9	40 W	3*	34*	7 5	3 3.20	+18 14.8	1.988	1.623	30.6	19.1	54 W	29*	38*
3 27	21 49.35	-19 10.7	2.409	1.820	22.2	19.9	44 W	4*	37*	7 15	3 27.43	+19 41.1	1.952	1.656	31.4	19.1	58 W	34*	39*
4 6	22 13.70	-16 39.2	2.318	1.792	24.1	19.8	47 W	6*	41*	7 25	3 50.72	+20 50.9	1.911	1.691	32.0	19.1	62 W	39*	39*
4 16	22 37.64	-13 56.4	2.227	1.765	26.0	19.8	50 W	7*	44*	8 4	4 12.88	+21 45.1	1.864	1.728	32.5	19.1	66 W	45*	39*
4 26	23 1.16	-11 3.8	2.136	1.740	27.8	19.7	54 W	9*	48*	8 14	4 33.66	+22 24.4	1.813	1.766	32.9	19.1	71 W	51*	40*
5 6	23 24.33	-8 2.9	2.047	1.717	29.5	19.6	57 W	11*	51*	8 24	4 52.79	+22 50.5	1.756	1.805	32.9	19.1	76 W	57*	40*
5 16	23 47.17	-4 55.4	1.959	1.697	31.1	19.5	60 W	14*	53*	9 3	5 9.99	+23 5.1	1.694	1.845	32.8	19.1	82 W	62*	40*
5																			

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°
138258 2000 GD₂										122259 2000 OH₄₄ (continuation)									
12 27	17 59.35	-36 58.2	1.628	0.720	20.1	20.4	15 W	—	5*	12 2	3 39.52	+ 6 33.0	0.951	1.908	10.1	17.7	160 E	52	57
1 1	18 32.49	-36 13.7	1.585	0.669	20.1	20.2	14 W	—	3*	12 12	3 32.64	+ 6 33.5	1.022	1.939	14.6	18.1	150 E	52	57
1 6	19 6.64	-34 41.8	1.542	0.617	19.6	20.0	12 W	—	1*	12 22	3 28.97	+ 6 57.9	1.112	1.971	18.6	18.5	140 E	52	57
1 11	19 41.09	-32 16.3	1.499	0.563	19.0	19.7	11 E	—	2*	12 27	3 28.41	+ 7 17.6	1.163	1.987	20.4	18.6	135 E	52	57
1 16	20 15.08	-28 52.3	1.454	0.511	18.7	19.4	10 E	—	3*	1 1	3 28.71	+ 7 41.3	1.218	2.003	21.9	18.8	131 E	53	56
1 21	20 47.87	-24 27.7	1.405	0.463	20.3	19.2	9 E	—	3*	1 6	3 29.83	+ 8 8.6	1.277	2.019	23.2	19.0	126 E	53	56
1 26	21 18.82	-19 4.8	1.349	0.424	25.7	19.1	11 E	1*	4*	1 11	3 31.74	+ 8 38.7	1.338	2.035	24.3	19.1	122 E	54	55
1 28	21 30.56	-16 41.3	1.324	0.412	29.2	19.1	12 E	5*	4*	1 16	3 34.37	+ 9 11.0	1.402	2.052	25.1	19.3	118 E	54	55
1 30	21 41.90	-14 11.0	1.297	0.404	33.3	19.1	13 E	3*	3*	1 21	3 37.68	+ 9 44.9	1.469	2.068	25.9	19.4	114 E	55	54
2 1	21 52.82	-11 35.2	1.269	0.398	37.9	19.1	14 E	7*	3*	159465 2000 QJ₂									
2 3	22 3.32	- 8 55.4	1.238	0.397	42.9	19.2	16 E	9*	3*	12 27	18 0.87	-28 12.9	3.560	2.587	2.7	20.1	7 W	—	1*
2 5	22 13.41	- 6 13.1	1.207	0.398	48.1	19.3	17 E	11*	2*	1 6	18 20.21	-27 34.7	3.514	2.560	4.5	20.2	12 W	—	6*
2 7	22 23.12	- 3 29.9	1.174	0.403	53.2	19.4	19 E	13*	2*	1 16	18 39.49	-26 47.3	3.453	2.531	6.6	20.2	17 W	—	11*
2 9	22 32.51	+ 0 47.0	1.140	0.412	58.2	19.6	21 E	15*	1*	1 26	18 58.62	-25 50.5	3.379	2.502	8.8	20.2	23 W	3*	17*
2 11	22 41.63	+ 1 54.3	1.105	0.423	62.9	19.7	22 E	16*	1*	2 5	19 17.50	-24 44.1	3.292	2.472	11.0	20.2	29 W	5*	22*
2 13	22 50.56	+ 4 33.4	1.071	0.437	67.2	19.8	24 E	18*	—	2 15	19 36.06	-23 27.9	3.193	2.442	13.2	20.2	34 W	7*	28*
2 15	22 59.39	+ 7 9.6	1.037	0.453	71.1	20.0	26 E	20*	—	2 25	19 54.22	-22 2.0	3.083	2.411	15.3	20.2	40 W	9*	34*
2 20	23 21.54	+13 26.0	0.955	0.500	78.8	20.2	30 E	23*	—	3 7	20 11.92	-20 26.2	2.964	2.379	17.4	20.2	46 W	11*	40*
2 25	23 44.91	+19 21.0	0.881	0.552	84.1	20.5	34 E	27*	—	3 17	20 29.10	-18 40.7	2.836	2.347	19.3	20.1	51 W	13*	45*
3 2	0 10.84	+24 53.5	0.815	0.605	87.2	20.6	38 E	30*	—	3 27	20 45.69	-16 45.4	2.701	2.314	21.2	20.0	57 W	15*	51*
3 7	0 40.61	+29 59.6	0.759	0.658	88.6	20.7	42 E	34*	—	4 6	21 1.63	-14 40.5	2.561	2.280	22.9	19.9	63 W	17*	56*
3 12	1 15.31	+34 30.3	0.714	0.709	88.6	20.7	46 E	38*	—	4 16	21 16.86	-12 25.6	2.417	2.246	24.5	19.8	68 W	20*	61*
3 17	1 55.55	+38 10.7	0.680	0.758	87.4	20.7	50 E	42*	1*	4 26	21 31.28	-10 0.7	2.270	2.212	25.9	19.7	74 W	23*	66*
3 22	2 40.83	+40 42.9	0.657	0.803	85.4	20.7	54 E	47*	5*	5 6	21 44.84	- 7 25.6	2.122	2.178	27.1	19.5	80 W	26*	68*
3 27	3 29.16	+41 51.9	0.645	0.846	82.8	20.7	57 E	51*	8*	5 16	21 57.39	- 4 39.7	1.974	2.143	28.0	19.4	85 W	31*	68*
4 1	4 17.39	+41 34.1	0.644	0.885	79.9	20.7	61 E	55*	13*	5 26	22 8.77	- 1 42.7	1.829	2.108	28.7	19.2	91 W	35*	66
4 6	5 2.39	+40 0.3	0.654	0.921	76.8	20.7	64 E	57*	17*	6 5	22 18.83	+ 1 26.0	1.688	2.073	29.1	19.0	97 W	40*	63
4 11	5 42.25	+37 31.0	0.672	0.954	73.8	20.7	66 E	59*	22*	6 15	22 27.27	+ 4 46.5	1.552	2.039	29.0	18.8	103 W	46*	59
4 16	6 16.50	+34 28.4	0.698	0.984	70.9	20.8	68 E	59*	26*	6 25	22 33.78	+ 8 18.5	1.424	2.004	28.6	18.5	109 W	52*	56
4 21	6 45.57	+31 10.9	0.730	1.011	68.3	20.8	69 E	57*	30*	7 5	22 37.98	+12 1.0	1.306	1.970	27.8	18.3	115 W	57*	52
4 26	7 10.29	+27 50.9	0.766	1.035	66.0	20.9	70 E	55*	34*	7 15	22 39.38	+15 50.6	1.198	1.937	26.5	18.0	122 W	61	48
5 1	7 31.52	+24 36.0	0.805	1.055	63.9	21.0	70 E	52*	37*	7 20	22 38.88	+17 46.4	1.150	1.920	25.8	17.9	125 W	63	46
5 6	7 50.02	+21 29.9	0.846	1.073	62.1	21.1	70 E	48*	41*	7 25	22 37.52	+19 41.5	1.105	1.904	25.0	17.8	128 W	65	44
5 11	8 6.39	+18 34.2	0.889	1.088	60.5	21.2	70 E	45*	43*	7 30	22 35.26	+21 34.5	1.064	1.888	24.2	17.6	130 W	67	42
5 16	8 21.13	+15 48.8	0.932	1.100	59.0	21.3	69 E	41*	46*	8 4	22 32.06	+23 23.9	1.026	1.872	23.4	17.5	133 W	68	41
5 21	8 34.57	+13 13.3	0.974	1.109	57.7	21.3	68 E	37*	48*	8 9	22 27.94	+25 7.7	0.993	1.856	22.6	17.4	135 W	70	39
5 26	8 47.01	+10 46.7	1.015	1.115	56.6	21.4	67 E	33*	50*	8 14	22 22.95	+26 43.9	0.964	1.841	22.0	17.3	137 W	72	37
5 31	8 58.65	+ 8 27.9	1.054	1.118	55.5	21.5	65 E	29*	51*	8 19	22 17.21	+28 10.5	0.940	1.826	21.5	17.2	139 W	73	36
122259 2000 OH₄₄										8 24	22 10.87	+29 25.6	0.920	1.811	21.3	17.2	139 E	74	35
12 27	17 59.73	-18 54.6	3.059	2.086	3.3	20.2	7 W	1*	—	8 29	22 4.12	+30 27.9	0.904	1.797	21.4	17.1	140 E	75	34
1 6	18 23.33	-18 49.6	3.010	2.053	5.2	20.2	11 W	4*	1*	9 3	21 57.22	+31 15.9	0.893	1.783	21.7	17.1	139 E	76	33
1 16	18 47.33	-18 30.7	2.953	2.021	7.3	20.2	15 W	6*	6*	9 8	21 50.47	+31 49.3	0.885	1.770	22.3	17.0	138 E	77	32
1 26	19 11.63	-17 57.6	2.890	1.988	9.5	20.2	19 W	7*	11*	9 13	21 44.15	+32 8.3	0.882	1.757	23.0	17.0	137 E	77	32
2 5	19 36.13	-17 10.1	2.820	1.956	11.6	20.2	24 W	9*	16*	9 18	21 38.56	+32 13.9	0.882	1.744	24.0	17.1	135 E	77	32
2 15	20 0.75	-16 8.5	2.745	1.925	13.7	20.2	28 W	10*	20*	9 23	21 33.92	+32 7.7	0.885	1.732	25.1	17.1	133 E	77	32
2 25	20 25.42	-14 53.4	2.666	1.894	15.8	20.2	32 W	11*	25*	9 28	21 30.39	+31 51.2	0.891	1.721	26.3	17.1	131 E	77	32
3 7	20 50.08	-13 25.5	2.584	1.865	17.9	20.1	35 W	11*	29*	10 3	21 28.12	+31 26.5	0.900	1.710	27.4	17.2	128 E	76	33
3 17	21 14.70	-11 45.8	2.499	1.836	19.9	20.1	39 W	12*	32*	10 8	21 27.19	+30 55.5	0.912	1.699	28.6	17.2	126 E	76	33
3 27	21 39.24	- 9 55.8	2.412	1.809	21.9	20.1	43 W	13*	36*	10 13	21 27.62	+30 20.2	0.925	1.690	29.7	17.3	123 E	75	34
4 6	22 3.70	- 7 56.9	2.325	1.783	23.8	20.0	46 W	14*	40*	10 18	21 29.40	+29 42.6	0.941	1.681	30.8	17.3	120 E	75	34
4 16	22 28.10	- 5 50.9	2.238	1.759	25.7	19.9	49 W	15*	43*	10 23	21 32.47	+29 4.0	0.958	1.672	31.8	17.4	118 E	74	35
4 26	22 52.42	- 3 39.9	2.151	1.737	27.5	19.9	53 W	16*	46*	10 28	21 36.78	+28 25.7	0.976	1.665	32.7	17.4	115 E	73	36
5 6	23 16.70	- 1 25.9	2.065	1.717	29.1	19.8	56 W	18*	48*	11 2	21 42.25	+27 48.7	0.997	1.658	33.5	17.5	113 E	73	36
5 16	23 40.96	+ 0 48.7	1.980	1.700	30.7	19.8	59 W	20*	51*	11 7	21 48.82	+27 13.7	1.018	1.651	34.2	17.5	111 E	72	37*
5 26	0 5.18	+ 3 1.5	1.896	1.685	32.2	19.7	62 W	22*	52*	11 12	21 56.41	+26 41.6	1.041	1.646	34.8	17.6	108 E	72	37*
6 5	0 29.38	+ 5 10.0	1.815	1.672	33.5	19.6	66 W	25*	53*	11 17	22 4.91	+26 12.7	1.065	1.641	35.4	17.7	106 E	71	37*
6 15	0 53.50	+ 7 11.5	1.735	1.662	34.7	19.5	69 W	29*	54*	11 22	22 14.26	+25 47.3	1.090	1.637	35.9				

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°
361538 2007 JZ₂₀										345722 2007 BG₂₉									
<i>(continuation)</i>										<i>(continuation)</i>									
2 15	21 54.02	+ 2 12.7	1.790	0.874	17.0	20.5	15 E	5*	—	5 26	6 17.78	+32 59.5	1.857	1.110	27.6	21.0	31 E	22*	11*
2 25	22 41.57	+ 3 10.6	1.811	0.872	14.3	20.4	13 E	4*	—	5 31	6 37.14	+33 2.4	1.868	1.111	27.1	21.0	30 E	21*	11*
3 7	23 27.79	+ 3 53.7	1.842	0.883	11.6	20.4	10 E	4*	—	6 5	6 56.39	+32 54.7	1.877	1.110	26.6	21.0	29 E	20*	12*
3 17	0 12.33	+ 4 22.6	1.877	0.906	9.6	20.4	9 E	3*	—	6 10	7 15.51	+32 36.3	1.884	1.107	26.2	21.0	29 E	19*	12*
3 27	0 55.05	+ 4 39.4	1.916	0.939	8.8	20.5	8 E	1*	—	6 15	7 34.47	+32 7.7	1.888	1.102	25.8	21.0	28 E	18*	12*
4 6	1 35.99	+ 4 45.9	1.955	0.981	9.4	20.6	9 E	—	3*	6 20	7 53.23	+31 28.9	1.890	1.095	25.4	20.9	28 E	17*	12*
4 16	2 15.29	+ 4 43.8	1.994	1.027	10.8	20.8	11 E	—	5*	6 25	8 11.78	+30 40.2	1.890	1.086	25.1	20.9	27 E	17*	12*
4 26	2 53.11	+ 4 33.5	2.033	1.078	12.3	21.0	13 E	—	7*	6 30	8 30.10	+29 41.8	1.886	1.075	24.9	20.9	26 E	16*	12*
5 6	3 29.58	+ 4 15.1	2.072	1.131	13.6	21.2	15 E	—	8*	7 5	8 48.20	+28 33.9	1.881	1.062	24.6	20.8	26 E	15*	12*
5 16	4 4 8.3	+ 3 48.5	2.110	1.184	14.7	21.4	17 E	—	8*	7 10	9 6.08	+27 16.6	1.872	1.047	24.5	20.8	25 E	14*	13*
226554 2003 WR₂₁										345722 2007 BG₂₉									
12 27	18 1.32	-23 22.6	1.937	0.961	5.2	21.3	5 W	—	—	7 15	9 23.74	+25 50.0	1.861	1.030	24.4	20.8	25 E	13*	13*
1 6	18 45.65	-23 48.7	1.979	1.004	5.1	21.4	5 W	—	—	7 20	9 41.19	+24 14.4	1.848	1.012	24.4	20.7	24 E	13*	13*
1 16	19 28.15	-23 29.2	2.022	1.048	5.5	21.6	6 W	—	—	7 25	9 58.47	+22 29.8	1.831	0.991	24.4	20.6	24 E	12*	13*
1 26	20 8.45	-22 30.8	2.063	1.092	6.2	21.7	7 W	—	1*	7 30	10 15.60	+20 36.2	1.812	0.968	24.6	20.6	23 E	11*	13*
2 5	20 46.44	-21 0.6	2.101	1.135	7.2	21.9	8 W	—	2*	8 4	10 32.61	+18 33.6	1.790	0.943	24.8	20.5	23 E	10*	13*
55333 2001 SZ₁₁₇										345722 2007 BG₂₉									
12 27	18 1.53	-22 37.0	4.092	3.113	1.6	20.8	5 W	—	—	8 14	11 6.50	+14 1.3	1.737	0.889	25.7	20.3	22 E	9*	14*
1 6	18 16.91	-22 26.9	4.097	3.140	3.6	21.0	12 W	2*	4*	8 24	11 40.54	+ 8 52.4	1.672	0.828	27.3	20.1	22 E	8*	15*
1 16	18 31.92	-22 11.3	4.084	3.166	5.6	21.1	18 W	5*	11*	9 3	12 15.27	+ 3 6.4	1.594	0.763	30.1	19.9	22 E	6*	16*
1 26	18 46.44	-21 50.4	4.055	3.192	7.6	21.2	25 W	8*	18*	9 13	12 51.40	- 3 16.3	1.500	0.696	34.5	19.7	23 E	4*	17*
2 5	19 0.39	-21 25.0	4.008	3.216	9.4	21.3	32 W	10*	25*	9 18	13 10.22	- 6 40.4	1.446	0.664	37.6	19.6	24 E	3*	18*
2 15	19 13.66	-20 55.5	3.946	3.240	11.1	21.3	39 W	12*	32*	9 23	13 29.71	-10 11.5	1.388	0.633	41.3	19.5	25 E	2*	19*
2 25	19 26.15	-20 22.9	3.868	3.262	12.6	21.4	46 W	14*	40*	9 28	13 49.97	-13 48.0	1.324	0.606	45.9	19.5	26 E	2*	20*
3 7	19 37.74	-19 48.0	3.777	3.284	14.0	21.4	53 W	16*	47*	10 3	14 11.13	-17 27.0	1.256	0.583	51.3	19.4	27 E	1*	21*
3 17	19 48.34	-19 11.7	3.673	3.305	15.2	21.4	61 W	17*	55*	10 8	14 33.30	-21 4.7	1.183	0.566	57.5	19.4	29 E	—	22*
3 27	19 57.79	-18 35.1	3.559	3.326	16.2	21.3	68 W	19*	62*	10 13	14 56.57	-24 36.3	1.105	0.556	64.2	19.4	30 E	—	24*
4 6	20 5.97	-17 59.2	3.437	3.345	16.9	21.3	76 W	21*	70*	10 18	15 21.04	-27 55.8	1.025	0.554	71.3	19.5	32 E	—	25*
4 16	20 12.74	-17 25.2	3.309	3.363	17.3	21.2	84 W	23*	77*	10 23	15 46.84	-30 56.7	0.943	0.560	78.4	19.6	33 E	—	27*
4 26	20 17.91	-16 54.3	3.178	3.381	17.3	21.2	93 W	24*	81*	10 25	15 57.56	-32 2.4	0.910	0.564	81.1	19.6	34 E	—	27*
5 6	20 21.34	-16 27.7	3.047	3.398	16.9	21.1	102 W	26*	80	10 27	16 8.53	-33 3.7	0.878	0.570	83.8	19.6	35 E	—	28*
5 16	20 22.86	-16 6.4	2.920	3.414	16.1	21.0	111 W	28*	80	10 29	16 19.75	-34 0.1	0.846	0.577	86.4	19.7	35 E	—	29*
5 26	20 22.35	-15 51.4	2.802	3.429	14.7	20.8	121 W	29*	80	10 31	16 31.26	-34 51.2	0.814	0.584	88.9	19.7	36 E	—	29*
6 5	20 19.75	-15 43.3	2.695	3.443	12.9	20.7	131 W	29*	80	11 2	16 43.04	-35 36.6	0.783	0.593	91.2	19.8	37 E	—	30*
6 15	20 15.08	-15 42.2	2.606	3.457	10.6	20.5	141 W	29*	80	11 4	16 55.12	-36 15.8	0.753	0.603	93.4	19.8	37 E	—	30*
6 25	20 8.57	-15 47.7	2.537	3.469	7.9	20.4	152 W	29*	80	11 6	17 7.51	-36 48.3	0.723	0.613	95.5	19.8	38 E	—	31*
7 5	20 0.59	-15 58.8	2.494	3.481	4.8	20.2	163 W	29*	80	11 8	17 20.20	-37 13.7	0.694	0.624	97.4	19.9	39 E	—	32*
7 15	19 51.71	-16 13.9	2.480	3.492	1.9	20.0	174 W	29*	80	11 10	17 33.21	-37 31.3	0.666	0.635	99.1	19.9	39 E	—	33*
7 25	19 42.66	-16 31.2	2.494	3.502	2.5	20.1	171 E	28	81	11 12	17 46.51	-37 40.8	0.639	0.647	100.7	19.9	40 E	—	33*
8 4	19 34.17	-16 48.9	2.538	3.511	5.6	20.3	160 E	28	81	11 14	18 0.12	-37 41.3	0.613	0.659	102.1	20.0	41 E	—	34*
8 14	19 26.87	-17 5.7	2.610	3.519	8.5	20.5	149 E	28	81	11 16	18 14.00	-37 32.5	0.587	0.672	103.3	20.0	41 E	1*	35*
8 24	19 21.29	-17 20.6	2.706	3.527	11.0	20.7	138 E	28	81	11 18	18 28.14	-37 13.6	0.563	0.685	104.3	20.0	42 E	2*	36*
9 3	19 17.71	-17 32.9	2.822	3.533	13.0	20.9	128 E	27	82	11 20	18 42.50	-36 44.0	0.540	0.698	105.2	20.0	43 E	3*	37*
9 13	19 16.23	-17 42.3	2.954	3.539	14.5	21.0	118 E	27	82	11 22	18 57.04	-36 3.1	0.519	0.711	105.8	20.0	44 E	4*	38*
9 23	19 16.84	-17 48.3	3.097	3.544	15.6	21.2	108 E	27	82	11 24	19 11.73	-35 10.5	0.498	0.725	106.3	19.9	45 E	6*	39*
10 3	19 19.39	-17 50.7	3.248	3.548	16.2	21.3	99 E	27	82	11 26	19 26.50	-34 5.5	0.479	0.738	106.5	19.9	46 E	7*	40*
10 13	19 23.71	-17 49.1	3.402	3.551	16.3	21.4	90 E	27	79*	11 28	19 41.30	-32 47.8	0.461	0.751	106.5	19.9	47 E	9*	41*
10 23	19 29.60	-17 43.2	3.555	3.554	16.1	21.5	82 E	27*	72*	11 30	19 56.08	-31 17.2	0.444	0.765	106.3	19.8	48 E	11*	42*
345722 2007 BG₂₉										213640 2002 RA₆₂									
12 27	18 1.58	-26 1.4	1.565	0.594	9.4	18.7	6 W	—	—	12 7	20 46.80	-24 20.5	0.399	0.811	103.8	19.6	53 E	19*	44*
1 1	18 36.43	-26 59.6	1.549	0.574	7.7	18.5	4 W	—	—	12 12	21 21.19	-17 59.9	0.378	0.842	100.6	19.4	57 E	26*	45*
1 6	19 12.60	-27 20.6	1.534	0.560	8.7	18.5	5 E	—	—	12 17	21 53.45	-10 54.4	0.367	0.873	96.4	19.2	62 E	33*	44*
1 11	19 49.40	-26 59.6	1.518	0.554	12.2	18.6	7 E	—	1*	12 22	22 23.39	- 3 33.8	0.366	0.902	91.7	19.0	66 E	41*	42*
1 16	20 26.01	-25 55.2	1.503	0.556	16.8	18.7	9 E	—	3*	12 24	22 34.72	- 0 39.9	0.369	0.913	89.8	19.0	68 E	44*	41*
1 21	21 1.65	-24 9.0	1.488	0.566	21.5	18.9	12 E	—	6*	12 26	22 45.69	+ 2 10.1	0.372	0.924	87.9	19.0	70 E	47*	40*
1 26	21 35.69	-21 46.1	1.476	0.582	25.8	19.0	15 E	2*	8*	12 28	22 56.32	+ 4 55.1	0.377	0.935	86.0	19.0	71 E	49*	39*
1 31	22 7.80	-18 53.4	1.466	0.605	29.5	19.2	18 E	5*	10*	12 30	23 6.64	+ 7 33.9	0.383	0.945	84.2	18.9	73 E	52*	37*
2 5	22 37.87	-15 38.7	1.459	0.632	32.4	19.4	20 E	8*	12*	1 1	23 16.65	+10 6.0	0.390	0.955	82.5	18.9	74 E	55*	36*
2 10	23 5.98	-																	

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°
213640 2002 RA₆₂									177953 2006 MQ₆								
<i>(continuation)</i>									<i>(continuation)</i>								
6 5	1 16.49	+3 17.8	2.003	1.655	30.3	20.3	55 W	16* 48*	6 15	1 30.38	+9 58.3	1.871	1.609	32.9	20.4	59 W	24* 47*
6 15	1 38.86	+6 6.2	1.951	1.668	31.4	20.3	59 W	20* 49*	6 25	1 55.65	+11 52.4	1.815	1.617	33.8	20.3	62 W	28* 47*
6 25	2 0.60	+8 46.9	1.896	1.685	32.3	20.3	62 W	25* 49*	7 5	2 20.47	+13 32.3	1.759	1.628	34.7	20.3	66 W	33* 47*
7 5	2 21.64	+11 18.9	1.840	1.704	33.1	20.3	66 W	31* 49*	7 15	2 44.68	+14 56.4	1.703	1.643	35.3	20.3	69 W	38* 47*
7 15	2 41.87	+13 41.4	1.781	1.726	33.6	20.2	70 W	38* 49*	7 25	3 8.04	+16 3.8	1.645	1.661	35.8	20.2	73 W	43* 47*
7 25	3 1.10	+15 54.4	1.720	1.750	34.0	20.2	75 W	44* 47*	8 4	3 30.31	+16 54.0	1.586	1.682	36.0	20.2	77 W	49* 47*
8 4	3 19.15	+17 58.1	1.656	1.777	34.2	20.2	79 W	51* 46*	8 14	3 51.15	+17 27.1	1.526	1.706	36.0	20.1	82 W	54* 46*
8 14	3 35.71	+19 53.1	1.590	1.806	34.0	20.1	85 W	58* 44*	8 24	4 10.23	+17 43.5	1.463	1.733	35.6	20.1	87 W	58* 46*
8 24	3 50.43	+21 40.4	1.522	1.836	33.4	20.0	91 W	64* 42	9 3	4 27.16	+17 44.4	1.400	1.761	34.9	20.0	93 W	61* 46
9 3	4 2.91	+23 21.4	1.452	1.868	32.4	19.9	97 W	68* 41	9 13	4 41.49	+17 31.0	1.336	1.792	33.7	19.9	99 W	62* 46
9 13	4 12.62	+24 57.1	1.384	1.902	30.8	19.8	104 W	70 39	9 23	4 52.76	+17 5.3	1.272	1.824	31.9	19.8	106 W	62 47
9 23	4 19.01	+26 28.5	1.318	1.936	28.6	19.7	112 W	71 38	10 3	5 0.52	+16 29.2	1.212	1.858	29.5	19.6	114 W	61 48
10 3	4 21.53	+27 55.2	1.258	1.972	25.7	19.5	121 W	73 36	10 13	5 4.31	+15 45.0	1.156	1.893	26.3	19.5	123 W	61 48
10 13	4 19.70	+29 15.2	1.207	2.008	22.0	19.4	131 W	74 35	10 23	5 3.88	+14 55.6	1.110	1.929	22.3	19.3	133 W	60 49
10 23	4 13.43	+30 24.3	1.170	2.045	17.6	19.2	142 W	75 34	11 2	4 59.28	+14 4.1	1.077	1.966	17.5	19.1	143 W	59 50
10 28	4 8.74	+30 52.9	1.158	2.064	15.1	19.1	147 W	76 33	11 7	4 55.57	+13 38.9	1.067	1.984	14.8	19.1	149 W	59 50
11 2	4 3.18	+31 16.3	1.151	2.083	12.6	19.0	153 W	76 33	11 12	4 51.07	+13 14.7	1.062	2.003	12.1	19.0	155 W	58 51
11 7	3 56.91	+31 34.1	1.149	2.101	10.1	19.0	158 W	77 32	11 17	4 45.97	+12 52.2	1.063	2.022	9.4	18.9	160 W	58 51
11 12	3 50.19	+31 45.6	1.154	2.120	7.9	18.9	163 W	77 32	11 22	4 40.47	+12 31.9	1.069	2.041	6.9	18.8	166 W	58 51
11 17	3 43.27	+31 51.0	1.165	2.139	6.1	18.9	167 W	77 32	11 27	4 34.77	+12 14.5	1.082	2.060	5.0	18.8	169 W	57 52
11 22	3 36.42	+31 50.4	1.182	2.158	5.5	18.9	168 E	77 32	12 2	4 29.10	+12 0.3	1.101	2.079	4.7	18.8	170 E	57 52
11 27	3 29.89	+31 44.7	1.206	2.177	6.3	19.0	166 E	77 32	12 7	4 23.68	+11 49.9	1.126	2.098	6.0	18.9	167 E	57 52
12 2	3 23.92	+31 34.6	1.237	2.196	8.0	19.1	162 E	77 32	12 12	4 18.70	+11 43.5	1.158	2.117	8.1	19.1	162 E	57 52
12 7	3 18.67	+31 21.4	1.274	2.215	10.0	19.3	157 E	76 33	12 22	4 10.67	+11 43.0	1.240	2.156	12.6	19.5	151 E	57 52
12 12	3 14.30	+31 6.3	1.316	2.233	12.0	19.5	152 E	76 33	1 1	4 5.75	+11 57.7	1.343	2.194	16.5	19.8	141 E	57 52
12 17	3 10.89	+30 50.3	1.365	2.252	13.9	19.6	147 E	76 33	1 11	4 4.20	+12 25.5	1.464	2.232	19.6	20.2	131 E	57 52
12 22	3 8.45	+30 35.1	1.418	2.271	15.7	19.8	141 E	76 33	1 21	4 5.86	+13 3.1	1.600	2.270	21.8	20.5	121 E	58 51
12 27	3 7.00	+30 20.6	1.476	2.290	17.3	20.0	136 E	75 34	192486 1998 HP₇								
1 1	3 6.50	+30 7.8	1.539	2.308	18.7	20.1	131 E	75 34	12 27	18 4.22	-29 26.7	3.633	2.661	2.8	20.8	7 W	— 1*
1 6	3 6.92	+29 57.1	1.605	2.327	19.9	20.3	126 E	75 34	1 6	18 23.12	-29 53.8	3.644	2.692	4.5	21.0	12 W	— 6*
1 11	3 8.19	+29 48.7	1.674	2.345	20.9	20.4	122 E	75 34	1 16	18 41.78	-30 14.2	3.639	2.722	6.5	21.1	18 W	— 12*
1 16	3 10.27	+29 42.8	1.747	2.363	21.7	20.5	117 E	75 34	1 26	19 0.06	-30 28.8	3.620	2.751	8.4	21.2	24 W	— 18*
1 21	3 13.07	+29 39.2	1.821	2.382	22.4	20.7	113 E	75 34*	2 5	19 17.89	-30 38.8	3.585	2.779	10.3	21.3	30 W	— 24*
264357 2000 AZ₉₃									2 15	19 35.18	-30 45.4	3.536	2.806	12.1	21.3	37 W	1* 30*
12 27	18 1.86	-24 17.0	1.463	0.491	10.1	21.0	5 W	— —	2 25	19 51.81	-30 50.1	3.474	2.833	13.8	21.4	43 W	2* 37*
1 1	18 40.94	-23 6.9	1.462	0.480	2.2	20.6	1 W	— —	3 7	20 7.71	-30 54.6	3.398	2.858	15.4	21.4	50 W	3* 43*
1 6	19 19.46	-21 20.7	1.459	0.480	6.1	20.8	3 E	— —	3 17	20 22.77	-31 0.4	3.312	2.883	16.7	21.4	56 W	3* 49*
1 11	19 56.73	-19 4.8	1.453	0.491	14.0	21.2	7 E	— —	3 27	20 36.87	-31 9.5	3.215	2.907	17.9	21.4	63 W	4* 56*
1 16	20 32.32	-16 26.8	1.445	0.513	21.0	21.5	11 E	4* —	4 6	20 49.90	-31 23.8	3.110	2.929	18.8	21.4	70 W	4* 62*
378305 2007 FC₁									4 16	21 1.73	-31 45.3	2.998	2.951	19.4	21.3	78 W	5* 69*
12 27	18 1.91	-35 21.0	2.335	1.394	9.1	20.9	13 W	— 4*	4 26	21 12.17	-32 16.0	2.882	2.972	19.7	21.3	85 W	6* 76*
1 1	18 21.92	-35 56.9	2.330	1.396	9.8	20.9	14 W	— 5*	5 6	21 21.05	-32 57.7	2.765	2.992	19.7	21.2	93 W	6* 81*
1 6	18 42.21	-36 21.8	2.326	1.399	10.4	20.9	15 W	— 6*	5 16	21 28.11	-33 52.2	2.649	3.011	19.2	21.1	101 W	7* 82
1 11	19 2.68	-36 35.6	2.322	1.402	11.0	21.0	16 W	— 6*	5 26	21 33.09	-35 0.2	2.538	3.029	18.4	21.0	109 W	7* 81
1 16	19 23.21	-36 38.1	2.320	1.407	11.6	21.0	17 W	— 7*	6 5	21 35.71	-36 21.8	2.435	3.046	17.1	20.9	118 W	7* 80
1 21	19 43.67	-36 29.4	2.318	1.413	12.2	21.0	18 W	— 8*	6 15	21 35.66	-37 55.4	2.344	3.062	15.4	20.7	127 W	7* 78
1 26	20 3.95	-36 9.8	2.318	1.419	12.7	21.0	19 W	— 8*	6 25	21 32.71	-39 37.0	2.269	3.077	13.4	20.6	135 W	5 76
1 31	20 23.95	-35 39.7	2.318	1.427	13.2	21.1	19 W	— 9*	7 5	21 26.79	-41 20.8	2.214	3.091	11.3	20.5	144 W	4 75
2 5	20 43.56	-34 59.9	2.320	1.435	13.7	21.1	20 W	— 9*	7 10	21 22.74	-42 11.0	2.195	3.098	10.3	20.4	147 W	3 74
2 10	21 2.71	-34 10.9	2.322	1.445	14.2	21.1	21 W	— 9*	7 15	21 18.06	-42 58.6	2.182	3.104	9.4	20.4	150 W	2 73
2 15	21 21.35	-33 13.8	2.325	1.455	14.6	21.2	22 W	— 10*	7 20	21 12.81	-43 42.4	2.175	3.110	8.8	20.3	152 W	1 72
2 20	21 39.41	-32 9.5	2.329	1.466	15.0	21.2	23 W	— 10*	7 25	21 7.12	-44 21.6	2.176	3.116	8.4	20.3	153 W	1 72
2 25	21 56.88	-30 58.8	2.334	1.477	15.4	21.2	23 W	— 11*	7 30	21 1.13	-44 55.1	2.182	3.122	8.4	20.3	153 W	— 71
3 2	22 13.75	-29 42.8	2.339	1.490	15.7	21.3	24 W	— 12*	8 4	20 54.97	-45 22.4	2.195	3.127	8.8	20.4	152 E	— 71
3 7	22 30.02	-28 22.2	2.344	1.503	16.1	21.3	25 W	— 12*	8 9	20 48.82	-45 42.9	2.215	3.133	9.4	20.4	150 E	— 70
3 12	22 45.70	-26 58.1	2.350	1.516	16.5	21.3	26 W	— 13*	8 14	20 42.85	-45 56.6	2.241	3.138	10.2	20.5	147 E	— 70
3 17	23 0.81	-25 31.2	2.355	1.530	16.8	21.4	26 W	— 14*	8 19	20 37.21	-46 3.5	2.273	3.142	11.1	20.6	143 E	— 70
3 22	23 15.37	-24 2.3	2.361	1.545	17.2	21.4	27 W	— 15*	8 24	20 32.06	-46 4.0	2.311	3.147	12.1	20.6	139 E	— 70
3 27	23 29.41	-22 32.1	2.366	1.560	17.6	21.5	28 W	— 16*	8 29	20 27.48	-45 58.6	2.354	3.151	13.1	20.7	135 E	— 70
4 1	23 42.95	-21 1.1	2.370	1.575	18.0	21.5	29 W	— 18*	9 3	20 23.58	-45 47.8	2.402	3.155	14.0	20.8	131 E	— 70
177953 2006 MQ₆									9 8	20 20.41	-45 32.3	2.454	3.159	14.8	20.9	127 E	— 70
12 27	18 2.35	-19 50.2	2.931	1.956	3.0	20.7	6 W	— —	9 13	20 18.01	-45 12.7	2.510	3.163	15.6	21.0	122 E	— 71
1 6	18 27.90	-19 41.7	2.881	1.919	4.9	20.7	10 W	2* 1*	9 18	20 16.40	-44 49.7	2.569	3.166	16.3	21.0	118 E	— 71
1 16	18 53.96	-19 17.1	2.826	1.883	7.0	20.7	14 W	4* 5*	9 23	20 15.56	-44 23.9	2.631	3.169	16.9	21.1	114 E	1 72
1 26	19 20.40	-18 35.8	2.765	1.848	9.1	20.8	17 W	6* 9*	9 28	20 15.45	-43 55.8	2.696	3.172	17.3	21.2	109 E	1 72
2 5	19 47.10	-17 37.8	2.702	1.815													

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°
294169 2007 TD₃₇₄										514561 2017 XE₃									
<i>(continuation)</i>										<i>(continuation)</i>									
3 7	20 4.65	-14 58.3	3.105	2.525	16.5	20.8	46 W	17*	39*	8 4	3 12.69	+35 25.4	1.461	1.576	38.8	19.7	77 W	64*	29*
3 17	20 21.33	-14 37.6	2.973	2.493	18.4	20.7	52 W	17*	46*	8 9	3 26.14	+36 47.1	1.438	1.584	38.8	19.6	78 W	67*	27*
3 27	20 37.73	-14 14.8	2.834	2.459	20.2	20.6	58 W	18*	52*	8 14	3 39.44	+38 3.1	1.416	1.594	38.8	19.6	80 W	70*	26*
4 6	20 53.79	-13 51.6	2.688	2.426	21.8	20.5	64 W	19*	58*	8 19	3 52.53	+39 13.5	1.394	1.604	38.7	19.6	82 W	73*	25*
4 16	21 9.45	-13 29.8	2.536	2.391	23.3	20.4	70 W	20*	63*	8 24	4 5.32	+40 18.3	1.372	1.615	38.5	19.6	84 W	75*	24*
4 26	21 24.64	-13 11.7	2.381	2.356	24.5	20.3	76 W	21*	69*	8 29	4 17.75	+41 17.7	1.350	1.628	38.2	19.5	86 W	78*	23*
5 6	21 39.30	-12 59.8	2.224	2.321	25.5	20.1	83 W	22*	74*	9 3	4 29.70	+42 12.1	1.327	1.641	37.9	19.5	88 W	81*	22*
5 16	21 53.33	-12 57.0	2.066	2.285	26.3	20.0	89 W	24*	77*	9 8	4 41.09	+43 1.5	1.304	1.656	37.5	19.5	91 W	84*	21*
5 26	22 6.61	-13 6.9	1.910	2.249	26.6	19.8	96 W	25*	77	9 13	4 51.79	+43 46.4	1.282	1.671	37.0	19.5	93 W	87*	20*
6 5	22 19.00	-13 33.7	1.757	2.212	26.6	19.5	103 W	27*	78	9 18	5 1.70	+44 27.1	1.259	1.687	36.4	19.4	96 W	89*	20*
6 15	22 30.28	-14 22.0	1.610	2.176	26.1	19.3	110 W	28*	78	9 23	5 10.74	+45 4.0	1.235	1.704	35.6	19.4	99 W	90	19
6 25	22 40.21	-15 37.1	1.471	2.139	24.9	19.0	117 W	28*	80	9 28	5 18.77	+45 37.3	1.212	1.721	34.8	19.3	102 W	89	18
7 5	22 48.48	-17 24.1	1.342	2.102	23.2	18.8	126 W	28*	81	10 3	5 25.69	+46 7.4	1.189	1.740	33.8	19.3	105 W	89	18
7 15	22 54.67	-19 47.3	1.227	2.066	20.8	18.4	134 W	25	84	10 8	5 31.37	+46 34.4	1.167	1.758	32.7	19.2	108 W	88	17
7 25	22 58.37	-22 47.8	1.128	2.030	17.8	18.1	142 W	22	87	10 13	5 35.70	+46 58.1	1.145	1.778	31.4	19.2	112 W	88	17
7 30	22 59.18	-24 31.0	1.086	2.012	16.2	18.0	146 W	20	89	10 18	5 38.59	+47 18.4	1.124	1.798	29.9	19.1	116 W	88	17
8 4	22 59.22	-26 21.4	1.049	1.994	14.7	17.8	150 W	19	90	10 23	5 39.99	+47 34.8	1.104	1.819	28.3	19.1	120 W	87	16
8 9	22 58.48	-28 17.2	1.018	1.976	13.4	17.7	153 W	17	88	10 28	5 39.83	+47 46.8	1.087	1.840	26.5	19.0	124 W	87	16
8 14	22 56.97	-30 15.9	0.992	1.959	12.5	17.6	155 W	15	86	11 2	5 38.10	+47 53.4	1.071	1.861	24.6	18.9	129 W	87	16
8 19	22 54.74	-32 14.6	0.973	1.941	12.3	17.5	156 W	13	84	11 7	5 34.84	+47 53.3	1.058	1.883	22.5	18.9	133 W	87	16
8 24	22 51.87	-34 10.3	0.959	1.924	12.7	17.5	155 W	11	82	11 12	5 30.19	+47 45.4	1.049	1.905	20.3	18.8	138 W	87	16
8 29	22 48.49	-35 59.9	0.951	1.907	13.9	17.5	153 W	9	80	11 17	5 24.35	+47 28.5	1.044	1.928	18.0	18.8	143 W	88	17
9 3	22 44.75	-37 40.3	0.949	1.891	15.5	17.5	150 E	7	78	11 22	5 17.61	+47 1.8	1.043	1.950	15.7	18.7	148 W	88	17
9 8	22 40.86	-39 9.1	0.951	1.874	17.4	17.6	146 E	6	77	11 27	5 10.28	+46 24.9	1.047	1.973	13.6	18.7	152 W	89	18
9 13	22 37.08	-40 24.4	0.959	1.858	19.5	17.6	142 E	5	76	12 2	5 2.72	+45 38.0	1.057	1.997	11.8	18.6	155 W	89	18
9 18	22 33.66	-41 25.0	0.971	1.843	21.5	17.7	138 E	4	75	12 7	4 55.32	+44 41.8	1.073	2.020	10.6	18.6	158 W	90	19
9 23	22 30.79	-42 10.8	0.986	1.827	23.5	17.8	133 E	3	74	12 12	4 48.41	+43 37.8	1.095	2.043	10.1	18.7	159 E	89	20
9 28	22 28.69	-42 41.8	1.005	1.812	25.4	17.9	129 E	2	73	12 17	4 42.26	+42 28.2	1.123	2.067	10.4	18.8	158 E	87	22
10 3	22 27.48	-42 58.7	1.026	1.798	27.1	17.9	125 E	2	73	12 22	4 37.06	+41 15.2	1.157	2.091	11.4	18.9	155 E	86	23
10 8	22 27.28	-43 2.3	1.050	1.784	28.7	18.0	121 E	2	73	12 27	4 32.91	+40 0.7	1.198	2.115	12.8	19.1	152 E	85	24
10 13	22 28.16	-42 53.5	1.075	1.770	30.1	18.1	117 E	2	73	1 1	4 29.87	+38 46.8	1.244	2.139	14.3	19.2	147 E	84	25
10 18	22 30.11	-42 33.6	1.102	1.757	31.3	18.2	114 E	2	73	1 6	4 27.94	+37 35.1	1.296	2.163	15.9	19.4	143 E	83	26
10 23	22 33.11	-42 3.6	1.130	1.744	32.4	18.2	110 E	2	73	1 11	4 27.09	+36 26.8	1.353	2.187	17.4	19.6	138 E	81	28
10 28	22 37.09	-41 24.3	1.159	1.732	33.3	18.3	107 E	4	75	1 16	4 27.24	+35 22.8	1.414	2.211	18.8	19.7	134 E	80	29
11 2	22 41.98	-40 36.4	1.188	1.721	34.0	18.4	104 E	4	75	1 21	4 28.32	+34 23.5	1.480	2.235	20.0	19.9	129 E	79	30
11 7	22 47.73	-39 40.7	1.218	1.710	34.7	18.4	101 E	5	76	334352 2001 YF₅₂									
11 12	22 54.24	-38 37.7	1.247	1.700	35.2	18.5	98 E	6	77	12 27	18 5.18	-23 48.1	2.955	1.975	2.1	19.6	4 W	-	-
11 17	23 1.43	-37 28.0	1.277	1.690	35.6	18.5	96 E	6	79	1 6	18 29.84	-23 2.2	2.991	2.025	4.2	19.8	9 W	-	2*
11 22	23 9.21	-36 12.2	1.307	1.682	35.9	18.6	93 E	9	80	1 16	18 53.34	-22 3.9	3.019	2.075	6.3	20.0	13 W	2*	6*
11 27	23 17.50	-34 50.6	1.337	1.674	36.1	18.6	91 E	10	81*	1 26	19 15.63	-20 54.8	3.036	2.125	8.4	20.1	18 W	4*	11*
12 2	23 26.24	-33 23.5	1.368	1.666	36.3	18.7	89 E	12	81*	2 5	19 36.67	-19 36.7	3.044	2.175	10.4	20.3	23 W	7*	16*
12 7	23 35.38	-31 51.5	1.398	1.660	36.3	18.7	86 E	13	80*	2 15	19 56.47	-18 11.1	3.040	2.226	12.3	20.4	29 W	9*	22*
12 12	23 44.87	-30 14.8	1.428	1.654	36.3	18.7	84 E	15	78*	2 25	20 15.01	-16 39.6	3.026	2.276	14.2	20.5	34 W	11*	28*
12 17	23 54.64	-28 33.9	1.459	1.649	36.3	18.8	82 E	16	76*	3 7	20 32.27	-15 3.6	3.000	2.327	15.9	20.6	40 W	13*	33*
12 22	0 4.65	-26 49.4	1.489	1.645	36.2	18.8	81 E	18	73*	3 17	20 48.24	-13 24.5	2.963	2.377	17.4	20.7	46 W	15*	39*
12 27	0 14.88	-25 1.4	1.520	1.642	36.0	18.9	79 E	20	71*	3 27	21 2.88	-11 43.5	2.915	2.427	18.8	20.7	52 W	17*	45*
1 1	0 25.29	-23 10.6	1.551	1.639	35.8	18.9	77 E	22	68*	4 6	21 16.17	-10 1.9	2.857	2.476	20.0	20.7	58 W	19*	51*
1 6	0 35.88	-21 17.3	1.583	1.638	35.5	18.9	75 E	24	65*	4 16	21 28.03	-8 20.9	2.790	2.524	21.0	20.8	64 W	22*	57*
1 11	0 46.62	-19 22.0	1.615	1.637	35.2	19.0	74 E	26	62*	4 26	21 38.37	-6 41.8	2.714	2.573	21.7	20.8	71 W	25*	62*
1 16	0 57.48	-17 25.2	1.648	1.637	34.8	19.0	72 E	28*	60*	5 6	21 47.09	-5 5.7	2.632	2.620	22.1	20.8	78 W	28*	66*
1 21	1 8.46	-15 27.5	1.682	1.638	34.5	19.0	70 E	29*	57*	5 16	21 54.04	-3 34.0	2.545	2.667	22.2	20.7	86 W	32*	67*
12 27	18 4.98	-29 22.1	3.154	2.182	3.3	20.8	7 W	-	1*	5 26	21 59.07	-2 8.2	2.455	2.713	21.9	20.7	94 W	36*	66
1 6	18 29.27	-28 40.4	3.093	2.134	4.9	20.8	11 W	-	5*	6 5	22 2.01	0 50.0	2.366	2.758	21.1	20.6	102 W	40*	65
1 16	18 53.85	-27 43.3	3.023	2.086	6.8	20.8	15 W	-	9*	6 15	22 2.70	+0 18.6	2.280	2.803	19.8	20.5	111 W	44*	64
1 26	19 18.61	-26 29.8	2.945	2.039	9.0	20.8	19 W	-	13*	6 25	22 1.03	+1 15.3	2.201	2.846	18.1	20.4	120 W	46*	63
2 5	19 43.43	-24 59.2	2.861	1.992	11.2	20.8	23 W	1*	17*	7 5	21 57.01	+1 58.0	2.134	2.889	15.8	20.3	129 W	47	62
2 15	20 8.22	-23 11.2	2.772	1.945	13.4	20.7	27 W	3*	21*	7 15	21 50.78	+2 24.6	2.083	2.931	13.0	20.2	139 W	47	62
2 25	20 32.90	-21 5.6	2.678	1.900	15.6	20.7	31 W	5*	25*	7 25	21 42.74	+2 33.7	2.053	2.972	10.0	20.1	149 W	48	61
3 7	20 57.42	-18 42.5	2.581	1.856	17.8	20.6	35 W	6*	29*	8 4	21 33.50	+2 25.4	2.047	3.013	7.2	20.0	158 W	47	62
3 17	21 21.77	-16 2.0	2.484	1.814	20.0	20.6	39 W	8*	32*	8 14	21 23.84	+2 1.5	2.068	3.052	5.5	19.9	163 E	47	62
3 27	21 45.93	-13 5.0	2.385	1.774	22.1	20.5	42 W	10*	36*	8 24	21 14.65	+1 25.4	2.117	3.091	6.1	20.1	161 E	46	63
4 6	22 9.93	-9 52.0	2.289	1.736	24.2	20.4	45 W												

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°
86067 1999 RM₂₈										28085 1998 QO₉₈									
<i>(continuation)</i>										<i>(continuation)</i>									
4 16	21 11.40	4 7.4	2.418	2.234	24.5	21.2	67 W	28*	57*	9 8	19 42.38	+ 3 23.3	2.163	2.898	15.8	19.4	128 E	48	61
4 26	21 25.66	3 34.4	2.275	2.209	25.9	21.1	73 W	29*	62*	9 13	19 41.37	+ 2 35.6	2.205	2.892	16.8	19.5	124 E	48	61
5 6	21 39.22	3 6.7	2.128	2.183	27.0	20.9	80 W	31*	65*	9 23	19 41.23	+ 1 3.6	2.301	2.878	18.4	19.7	115 E	46	63
5 16	21 51.96	2 47.5	1.977	2.155	27.9	20.8	86 W	33*	67*	10 3	19 43.51	- 0 21.1	2.408	2.864	19.5	19.8	107 E	45	64
5 26	22 3.75	2 40.7	1.823	2.126	28.4	20.6	93 W	35*	67	10 13	19 48.04	- 1 35.7	2.522	2.848	20.3	19.9	99 E	43	66*
6 5	22 14.43	2 51.1	1.670	2.095	28.5	20.4	100 W	37*	67	10 23	19 54.60	- 2 38.6	2.639	2.832	20.6	20.0	91 E	42	64*
6 10	22 19.27	3 4.5	1.594	2.080	28.4	20.3	103 W	38*	67	11 2	20 2.93	- 3 29.0	2.757	2.814	20.5	20.1	83 E	42*	60*
6 15	22 23.74	3 24.7	1.519	2.063	28.0	20.1	107 W	39*	67	11 12	20 12.80	- 4 6.6	2.873	2.795	20.1	20.1	76 E	41*	54*
6 20	22 27.78	3 52.6	1.445	2.046	27.6	20.0	111 W	39*	68	11 22	20 23.99	- 4 31.3	2.984	2.776	19.3	20.2	68 E	40*	47*
6 25	22 31.38	4 29.3	1.373	2.029	26.9	19.8	115 W	40*	68	12 2	20 36.29	- 4 43.5	3.088	2.755	18.3	20.2	61 E	39*	40*
6 30	22 34.46	5 15.9	1.303	2.012	26.0	19.7	120 W	39*	69	12 12	20 49.53	- 4 43.6	3.183	2.733	17.1	20.2	55 E	37*	32*
7 5	22 36.98	6 13.7	1.235	1.994	24.9	19.5	124 W	39*	70	12 22	21 3.54	- 4 32.2	3.268	2.711	15.7	20.2	48 E	34*	25*
7 10	22 38.86	7 24.1	1.170	1.976	23.5	19.3	129 W	38	71	1 1	21 18.19	- 4 10.0	3.341	2.687	14.1	20.2	42 E	31*	19*
7 15	22 40.03	8 48.2	1.108	1.958	21.8	19.1	134 W	36	73	1 11	21 33.38	- 3 37.7	3.402	2.662	12.4	20.1	35 E	27*	13*
7 20	22 40.45	10 27.3	1.051	1.939	19.9	18.9	139 W	35	74	1 21	21 48.99	- 2 56.2	3.450	2.637	10.5	20.1	29 E	23*	7*
7 25	22 40.04	12 21.9	0.998	1.920	17.7	18.7	145 W	33	76	203269 2001 QP₂₈₀									
8 4	22 36.52	-16 57.8	0.908	1.881	12.7	18.3	156 W	28	81	12 27	18 5.57	-22 41.3	3.120	2.141	1.9	21.5	4 W	-	-
8 14	22 29.22	-22 26.9	0.844	1.841	8.4	17.9	165 W	23	86	1 6	18 28.93	-22 45.0	3.076	2.111	4.1	21.5	9 W	-	2*
8 24	22 18.56	-28 21.3	0.809	1.799	9.6	17.8	163 W	17	88	1 16	18 52.68	-22 35.6	3.023	2.080	6.4	21.6	14 W	2*	7*
8 29	22 12.31	-31 15.4	0.802	1.779	12.4	17.9	158 E	14	85	1 26	19 16.71	-22 12.9	2.962	2.050	8.7	21.6	18 W	3*	12*
9 3	22 5.77	-34 0.4	0.802	1.757	15.7	18.0	152 E	11	82	2 5	19 40.93	-21 36.8	2.892	2.020	10.9	21.6	23 W	4*	16*
9 8	21 59.24	-36 31.9	0.808	1.736	19.1	18.1	146 E	8	79	88453 2001 QF₆₁									
9 13	21 53.05	-38 46.8	0.820	1.715	22.4	18.2	139 E	6	77	12 27	18 6.44	-38 24.1	3.727	2.792	5.4	21.3	16 W	-	5*
9 18	21 47.53	-40 43.4	0.837	1.693	25.5	18.3	133 E	4	75	1 6	18 26.87	-38 2.7	3.695	2.775	6.2	21.3	18 W	-	9*
9 23	21 42.96	-42 21.6	0.857	1.671	28.4	18.4	128 E	3	74	1 16	18 47.14	-37 34.6	3.648	2.757	7.5	21.4	22 W	-	14*
9 28	21 39.55	-43 42.0	0.880	1.650	30.9	18.5	122 E	1	72	1 26	19 7.13	-37 0.1	3.587	2.739	9.1	21.4	26 W	-	19*
10 3	21 37.49	-44 45.7	0.905	1.628	33.1	18.6	117 E	1	71	2 5	19 26.73	-36 19.4	3.512	2.719	10.9	21.4	31 W	-	24*
10 8	21 36.87	-45 34.3	0.932	1.606	35.1	18.7	113 E	1	70	2 15	19 45.85	-35 33.1	3.424	2.698	12.6	21.4	37 W	-	29*
10 13	21 37.74	-46 9.3	0.959	1.584	36.8	18.8	108 E	1	70	2 25	20 4.39	-34 41.8	3.324	2.677	14.4	21.4	42 W	-	35*
10 18	21 40.09	-46 32.4	0.986	1.563	38.2	18.9	104 E	1	69	3 7	20 22.27	-33 46.3	3.213	2.654	16.1	21.3	48 W	-	40*
10 23	21 43.85	-46 44.6	1.013	1.541	39.4	18.9	100 E	1	69	3 17	20 39.42	-32 47.6	3.091	2.631	17.8	21.3	54 W	-	46*
10 28	21 48.94	-46 47.0	1.039	1.520	40.5	19.0	97 E	1	69	3 27	20 55.73	-31 46.7	2.961	2.607	19.3	21.2	60 W	1*	52*
11 2	21 55.28	-46 40.3	1.063	1.499	41.4	19.0	94 E	1	69	4 6	21 11.13	-30 44.5	2.822	2.581	20.7	21.1	66 W	3*	58*
11 7	22 2.76	-46 25.0	1.086	1.478	42.1	19.1	91 E	1	70	4 16	21 25.52	-29 42.2	2.677	2.555	22.0	21.0	72 W	4*	64*
11 12	22 11.30	-46 1.4	1.108	1.457	42.8	19.1	88 E	1	70*	4 26	21 38.76	-28 41.0	2.528	2.528	23.0	20.9	79 W	6*	71*
11 17	22 20.78	-45 29.8	1.127	1.437	43.3	19.1	85 E	1	70*	5 6	21 50.71	-27 42.1	2.374	2.500	23.7	20.8	85 W	8*	78*
11 22	22 31.08	-44 50.4	1.144	1.417	43.8	19.1	83 E	1	70*	5 16	22 1.17	-26 46.6	2.219	2.472	24.1	20.6	92 W	10*	85*
11 27	22 42.11	-44 2.9	1.159	1.398	44.2	19.1	81 E	1	70*	5 26	22 9.90	-25 55.7	2.065	2.442	24.2	20.4	99 W	13*	90
12 2	22 53.79	-43 7.4	1.172	1.380	44.5	19.2	79 E	2	70*	6 5	22 16.60	-25 10.4	1.913	2.412	23.7	20.2	107 W	16*	89
12 7	23 6.04	-42 3.6	1.183	1.362	44.9	19.2	77 E	3	69*	6 15	22 20.87	-24 31.3	1.766	2.381	22.7	20.0	115 W	19*	89
12 12	23 18.79	-40 51.5	1.192	1.345	45.2	19.2	76 E	4	68*	6 25	22 22.30	-23 58.5	1.626	2.349	21.1	19.7	124 W	21*	88
12 17	23 31.95	-39 30.9	1.199	1.329	45.5	19.1	74 E	5	68*	7 5	22 20.43	-23 31.0	1.498	2.317	18.6	19.5	133 W	21	88
12 22	23 45.47	-38 1.7	1.204	1.314	45.7	19.1	73 E	7	67*	7 15	22 14.86	-23 6.5	1.385	2.284	15.3	19.1	144 W	22	87
12 27	23 59.30	-36 23.7	1.207	1.300	46.0	19.1	72 E	9	66*	7 25	22 5.48	-22 40.4	1.290	2.250	11.2	18.8	155 W	22	87
1 1	0 13.39	-34 36.6	1.208	1.287	46.3	19.1	71 E	10	65*	8 4	21 59.44	-22 24.9	1.251	2.233	8.8	18.6	160 W	23	86
1 6	0 27.71	-32 40.5	1.209	1.275	46.6	19.1	70 E	12	64*	8 9	21 52.63	-22 6.7	1.218	2.216	6.4	18.4	166 W	23	86
1 11	0 42.23	-30 35.5	1.209	1.264	46.8	19.1	70 E	14	63*	8 19	21 45.19	-21 45.1	1.192	2.199	4.2	18.3	171 W	23	86
1 16	0 56.93	-28 21.7	1.208	1.255	47.0	19.1	69 E	17*	62*	8 24	21 37.34	-21 19.5	1.173	2.182	3.2	18.2	173 W	24	85
1 21	1 11.77	-25 59.4	1.207	1.247	47.2	19.1	68 E	19*	61*	8 19	21 29.30	-20 49.4	1.160	2.164	4.5	18.2	170 E	24	85
28085 1998 QO₉₈										8 29	21 21.34	-20 14.8	1.154	2.147	7.0	18.3	165 E	25	84
12 27	18 5.52	- 9 13.0	3.815	2.875	5.0	20.2	15 W	7*	-	8 24	21 13.70	-19 35.9	1.155	2.129	9.8	18.4	159 E	25	84
1 6	18 21.18	- 8 55.1	3.811	2.889	5.9	20.3	18 W	12*	-	9 3	21 6.60	-18 53.1	1.163	2.112	12.5	18.5	153 E	26	83
1 16	18 36.57	- 8 28.2	3.791	2.902	7.3	20.3	22 W	15*	4*	9 8	21 0.25	-18 7.1	1.176	2.094	15.2	18.6	147 E	27	82
1 26	18 51.61	- 7 52.8	3.756	2.913	8.8	20.4	27 W	18*	11*	9 13	20 54.80	-17 18.6	1.195	2.077	17.7	18.7	141 E	28	81
2 5	19 6.20	- 7 9.1	3.707	2.924	10.4	20.4	33 W	21*	18*	9 23	20 46.98	-15 36.3	1.246	2.042	22.1	18.9	130 E	29	80
2 15	19 20.25	- 6 17.5	3.643	2.934	12.1	20.5	38 W	24*	25*	10 3	20 43.43	-13 50.5	1.312	2.006	25.7	19.1	120 E	31	78
2 25	19 33.66	- 5 18.8	3.566	2.942	13.6	20.5	44 W	26*	32*	10 13	20 43.98	-12 3.1	1.387	1.971	28.3	19.2	110 E	33	76
3 7	19 46.34	- 4 13.5	3.477	2.950	15.1	20.5	51 W	28*	39*	10 23	20 48.21	-10 14.2	1.467	1.937	30.2	19.4	102 E	35	74
3 17	19 58.18	- 3 2.4	3.377	2.956	16.4	20.5	57 W	30*	45*	11 2	20 55.60	- 8 22.8	1.549	1.903	31.3	19.5	94 E	37	71*
3 27	20 9.05	- 1 46.4	3.267	2.961	17.6	20.4	64 W	33*	51*	11 12	21 5.69	- 6 27.4	1.631	1.869	31.9	19.6	87 E	39	65*
4 6	20 18.84	- 0 26.5	3.149	2.966	18.5	20.4	70 W	35*	56*	11 22	21 18.05	- 4 26.4	1.710	1.837	32.1	19.6	81 E	41	57*
4 16	20 27.41	+ 0 56.3	3.025	2.969	19.2	20.3	77 W	38*	60*	12 2	21 32.33	- 2 18.7	1.784	1.806	31.9	19.7	75 E	43*	50*
4 26																			

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°
474179 1999 VS₆										16259 Dangoldin									
<i>(continuation)</i>										<i>(continuation)</i>									
2 10	17 49.83	+33 11.0	0.475	0.951	80.1	20.1	72 W	66*	15*	2 15	19 18.49	- 3 48.0	3.721	3.024	12.0	19.6	39 W	26*	25*
2 15	17 50.62	+30 52.4	0.465	0.960	79.6	20.0	73 W	66*	20*	2 25	19 31.78	- 2 50.3	3.626	3.013	13.5	19.6	45 W	28*	31*
2 20	17 51.72	+28 24.6	0.452	0.970	78.9	20.0	74 W	66*	25*	3 7	19 44.49	- 1 45.2	3.520	3.002	15.0	19.6	51 W	30*	38*
2 25	17 53.05	+25 45.7	0.437	0.982	78.1	19.9	76 W	65*	30*	3 17	19 56.51	- 0 33.4	3.403	2.989	16.3	19.5	57 W	33*	44*
3 2	17 54.52	+22 53.6	0.419	0.996	77.2	19.8	78 W	64*	35*	3 27	20 7.71	+ 0 44.5	3.278	2.975	17.5	19.5	64 W	35*	49*
3 7	17 56.03	+19 45.4	0.399	1.010	76.0	19.7	81 W	62*	40*	4 6	20 17.97	+ 2 7.5	3.145	2.961	18.5	19.4	70 W	37*	54*
3 12	17 57.39	+16 17.5	0.378	1.025	74.5	19.5	84 W	59*	45*	4 16	20 27.16	+ 3 34.6	3.007	2.945	19.4	19.3	77 W	40*	57*
3 17	17 58.40	+12 24.6	0.355	1.041	72.6	19.4	87 W	56*	50*	4 26	20 35.10	+ 5 4.5	2.865	2.929	20.0	19.2	84 W	43*	58*
3 22	17 58.84	+ 8 0.0	0.332	1.058	70.3	19.2	91 W	52*	56*	5 6	20 41.62	+ 6 35.6	2.721	2.911	20.3	19.1	91 W	46*	57
3 27	17 58.42	+ 2 55.8	0.310	1.075	67.4	19.0	96 W	48*	61	5 16	20 46.52	+ 8 5.9	2.578	2.893	20.3	19.0	98 W	50*	56
4 1	17 56.80	- 2 56.3	0.288	1.093	63.7	18.8	101 W	42*	67	5 26	20 49.57	+ 9 33.0	2.438	2.873	19.9	18.8	105 W	53*	54
4 6	17 53.45	- 9 43.7	0.269	1.110	59.4	18.5	107 W	35	74	6 5	20 50.59	+10 53.6	2.304	2.853	19.2	18.7	113 W	56*	53
4 11	17 47.64	-17 29.3	0.253	1.128	54.3	18.3	114 W	28	81	6 15	20 49.38	+12 3.8	2.179	2.831	18.0	18.5	120 W	57	52
4 16	17 38.41	-26 5.9	0.242	1.146	48.8	18.0	121 W	19	90	6 25	20 45.87	+12 58.6	2.065	2.809	16.5	18.3	128 W	58	51
4 18	17 33.49	-29 42.1	0.240	1.154	46.6	18.0	123 W	15	86	7 5	20 40.13	+13 33.0	1.967	2.786	14.8	18.1	136 W	59	50
4 20	17 27.72	-33 20.7	0.238	1.161	44.4	17.9	126 W	12	83	7 15	20 32.44	+13 41.5	1.887	2.762	13.0	17.9	142 W	59	50
4 22	17 21.02	-36 58.9	0.238	1.168	42.4	17.9	128 W	8	79	7 25	20 23.41	+13 20.4	1.829	2.737	11.7	17.8	147 W	58	51
4 24	17 13.26	-40 33.6	0.239	1.175	40.5	17.8	131 W	4	75	8 4	20 13.86	+12 28.7	1.794	2.711	11.3	17.7	148 E	57	52
4 26	17 4.35	-44 1.9	0.241	1.182	38.9	17.8	132 W	1	72	8 14	20 4.76	+11 8.4	1.783	2.684	12.1	17.7	146 E	56	53
4 28	16 54.17	-47 20.6	0.244	1.189	37.5	17.8	134 W	-	69	8 19	20 0.69	+10 19.3	1.786	2.670	12.9	17.8	144 E	55	54
4 30	16 42.63	-50 27.0	0.248	1.196	36.4	17.8	135 W	-	66	8 24	19 57.07	+ 9 25.6	1.795	2.656	13.9	17.8	141 E	54	55
5 2	16 29.68	-53 18.4	0.254	1.203	35.6	17.9	136 W	-	63	8 29	19 53.99	+ 8 28.2	1.809	2.642	15.0	17.8	137 E	53	56
5 4	16 15.30	-55 52.9	0.261	1.210	35.1	17.9	136 W	-	60	9 3	19 51.52	+ 7 28.2	1.829	2.628	16.2	17.9	134 E	52	57
5 6	15 59.58	-58 8.8	0.268	1.217	34.8	18.0	136 W	-	58	9 8	19 49.70	+ 6 26.7	1.853	2.613	17.3	17.9	130 E	51	58
5 7	15 51.26	-59 9.5	0.272	1.221	34.8	18.0	136 W	-	57	9 13	19 48.57	+ 5 24.7	1.882	2.598	18.4	18.0	125 E	50	59
5 8	15 42.68	-60 5.2	0.277	1.224	34.8	18.1	136 W	-	56	9 18	19 48.16	+ 4 23.2	1.914	2.583	19.4	18.1	121 E	49	60
5 9	15 33.87	-60 56.1	0.281	1.227	34.8	18.1	136 W	-	55	9 23	19 48.44	+ 3 23.0	1.950	2.568	20.3	18.1	117 E	48	61
5 10	15 24.88	-61 42.0	0.286	1.231	34.9	18.2	136 W	-	54	10 3	19 51.08	+ 1 28.8	2.030	2.537	21.9	18.2	109 E	46	63
5 11	15 15.75	-62 23.1	0.291	1.234	35.1	18.2	135 W	-	54	10 13	19 56.34	+ 0 13.7	2.117	2.505	23.0	18.3	101 E	45	64
5 12	15 6.55	-62 59.5	0.296	1.238	35.2	18.3	135 E	-	53	10 23	20 3.98	- 1 42.1	2.210	2.473	23.7	18.4	93 E	43	64*
5 13	14 57.32	-63 31.3	0.301	1.241	35.4	18.3	135 E	-	52	11 2	20 13.72	- 2 54.9	2.304	2.439	23.9	18.5	86 E	42	61*
5 14	14 48.13	-63 58.8	0.307	1.244	35.6	18.4	134 E	-	52	11 12	20 25.31	- 3 51.8	2.397	2.405	23.8	18.5	79 E	41*	56*
5 15	14 39.03	-64 22.1	0.313	1.248	35.8	18.4	134 E	-	52	11 22	20 38.50	- 4 32.5	2.487	2.371	23.3	18.6	72 E	40*	50*
5 16	14 30.07	-64 41.5	0.318	1.251	36.1	18.5	133 E	-	51	12 2	20 53.04	- 4 57.5	2.572	2.336	22.5	18.6	65 E	39*	43*
5 17	14 21.31	-64 57.3	0.324	1.254	36.3	18.5	133 E	-	51	12 12	21 8.77	- 5 7.4	2.650	2.300	21.5	18.6	59 E	38*	37*
5 18	14 12.79	-65 9.6	0.331	1.257	36.6	18.6	132 E	-	51	12 22	21 25.49	- 5 3.0	2.721	2.264	20.2	18.6	53 E	36*	30*
5 19	14 4.54	-65 18.9	0.337	1.261	36.9	18.6	132 E	-	51	1 1	21 43.06	- 4 45.2	2.783	2.228	18.8	18.5	47 E	33*	25*
5 20	13 56.62	-65 25.4	0.343	1.264	37.2	18.7	131 E	-	51	1 11	22 1.38	- 4 15.1	2.835	2.191	17.1	18.5	41 E	30*	19*
5 21	13 49.03	-65 29.3	0.350	1.267	37.4	18.7	130 E	-	51	1 21	22 20.33	- 3 33.8	2.878	2.154	15.4	18.4	35 E	27*	15*
5 22	13 41.79	-65 30.9	0.356	1.270	37.7	18.8	130 E	-	50	153271 2001 CL₄₂									
5 23	13 34.93	-65 30.6	0.363	1.273	38.0	18.8	129 E	-	50	12 27	18 7.13	-33 42.3	1.886	0.939	11.5	19.1	11 W	-	2*
5 24	13 28.45	-65 28.4	0.370	1.277	38.2	18.9	129 E	-	51	1 1	18 35.28	-33 40.3	1.880	0.933	11.5	19.1	11 W	-	1*
5 25	13 22.34	-65 24.7	0.376	1.280	38.5	19.0	128 E	-	51	1 6	19 3.40	-33 14.0	1.878	0.930	11.4	19.1	11 W	-	-
5 26	13 16.62	-65 19.6	0.383	1.283	38.8	19.0	128 E	-	51	1 11	19 31.12	-32 23.7	1.880	0.931	11.2	19.1	11 E	-	-
5 28	13 6.28	-65 6.2	0.397	1.289	39.3	19.1	126 E	-	51	1 16	19 58.10	-31 11.1	1.886	0.935	10.9	19.1	10 E	-	1*
5 30	12 57.37	-64 49.5	0.412	1.295	39.8	19.2	125 E	-	51	1 21	20 24.08	-29 38.4	1.896	0.943	10.5	19.1	10 E	-	1*
6 1	12 49.78	-64 30.5	0.426	1.301	40.2	19.3	124 E	-	51	1 26	20 48.89	-27 48.6	1.909	0.954	10.0	19.1	10 E	-	2*
6 3	12 43.43	-64 10.1	0.441	1.307	40.7	19.4	123 E	-	52	1 31	21 12.45	-25 44.5	1.926	0.967	9.5	19.2	9 E	-	2*
6 5	12 38.18	-63 48.9	0.456	1.313	41.1	19.5	122 E	-	52	2 5	21 34.74	-23 29.4	1.946	0.984	8.9	19.2	9 E	-	2*
6 7	12 33.95	-63 27.6	0.471	1.319	41.5	19.6	121 E	-	53	2 10	21 55.79	-21 6.0	1.968	1.003	8.3	19.3	8 E	-	2*
6 9	12 30.64	-63 6.6	0.486	1.324	41.8	19.7	120 E	-	53	2 15	22 15.69	-18 37.0	1.993	1.024	7.6	19.3	8 E	-	1*
6 11	12 28.15	-62 46.1	0.501	1.330	42.1	19.8	119 E	-	53	2 20	22 34.52	-16 4.6	2.020	1.047	6.8	19.3	7 E	-	1*
6 13	12 26.40	-62 26.4	0.516	1.335	42.4	19.8	118 E	-	54	2 25	22 52.37	-13 30.8	2.049	1.072	6.0	19.4	7 E	-	-
6 15	12 25.31	-62 7.6	0.532	1.341	42.7	19.9	117 E	-	54	3 2	23 9.37	-10 57.1	2.079	1.098	5.2	19.4	6 E	-	-
6 17	12 24.82	-61 49.9	0.547	1.346	42.9	20.0	116 E	-	54	3 7	23 25.61	- 8 24.7	2.110	1.125	4.4	19.5	5 E	-	-
6 19	12 24.88	-61 33.4	0.563	1.351	43.2	20.1	115 E	-	54	3 12	23 41.18	- 5 54.6	2.142	1.153	3.5	19.5	4 E	-	-
6 21	12 25.42	-61 18.1	0.578	1.356	43.4	20.1	114 E	-	55	3 17	23 56.18	- 3 27.6	2.175	1.182	2.6	19.5	3 E	-	-
6 23	12 26.41	-61 3.9	0.594	1.361	43.5	20.2	113 E	-	55	3 27	0 24.73	+ 1 15.0	2.239	1.242	1.1	19.6	1 E	-	-
6 25	12 27.80	-60 50.9	0.609	1.366	43.7	20.3	112 E	-	55	4 6	0 51.80	+ 5 40.6	2.302	1.302	1.5	19.8	2 W	-	-
6 27	12 29.56	-60 39.0	0.625	1.370	43.8	20.4	111 E	-	55	4 16	1 17.79	+ 9 47.8	2.361	1.363	3.3	20.1	5 W	-	-
6 29	12 31.67	-60 28.1	0.640	1.375	44.0	20.4	110 E	-	56	4 26	1 43.03	+13 36.4	2.414	1.423	5.2	20.3	7 W	-	1*
7 1	12 34.09	-60 18.3	0.655	1.380	44.1	20.5	109 E	-	56	5 6	2 7.74	+17 6.5	2.461	1.481	7.2	20.5	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°
53110 1999 AR₇										39235 2000 YH₅₅ (continuation)									
12 27	18 7.53	-25 46.4	2.783	1.804	2.4	20.5	4 W	—	—	5 6	0 19.12	-6 17.7	2.217	1.649	25.2	18.4	44 W	4*	38*
1 6	18 31.95	-27 11.8	2.790	1.826	5.0	20.7	9 W	—	3*	5 16	0 44.69	-4 27.7	2.177	1.664	26.5	18.4	47 W	5*	41*
1 16	18 56.58	-28 23.6	2.784	1.848	7.6	20.8	14 W	—	8*	5 26	1 9.58	-2 44.0	2.136	1.682	27.6	18.4	50 W	7*	44*
1 26	19 21.39	-29 23.0	2.767	1.868	10.1	20.9	20 W	—	13*	6 5	1 33.76	-1 8.7	2.094	1.702	28.7	18.4	54 W	9*	47*
2 5	19 46.33	-30 11.1	2.738	1.887	12.6	21.0	25 W	—	18*	6 15	1 57.16	+0 16.5	2.049	1.725	29.7	18.4	57 W	13*	50*
2 15	20 11.36	-30 49.5	2.698	1.905	14.9	21.1	30 W	—	23*	6 25	2 19.67	+1 30.0	2.003	1.751	30.5	18.4	61 W	17*	52*
2 25	20 36.43	-31 19.6	2.648	1.921	17.1	21.1	35 W	—	27*	7 5	2 41.20	+2 30.8	1.953	1.778	31.2	18.4	65 W	21*	55*
3 7	21 1.51	-31 43.1	2.589	1.935	19.2	21.2	40 W	—	32*	7 15	3 1.61	+3 18.0	1.900	1.807	31.7	18.4	69 W	27*	56*
3 17	21 26.59	-32 1.8	2.521	1.948	21.1	21.2	45 W	—	36*	7 25	3 20.71	+3 51.3	1.843	1.838	32.0	18.4	74 W	32*	58*
3 27	21 51.63	-32 17.5	2.447	1.960	22.9	21.2	50 W	—	40*	8 4	3 38.31	+4 10.7	1.783	1.870	32.1	18.4	79 W	37*	59*
4 6	22 16.63	-32 32.2	2.368	1.970	24.5	21.2	55 W	—	44*	8 14	3 54.16	+4 16.3	1.719	1.904	32.0	18.3	84 W	42*	59*
4 16	22 41.59	-32 48.1	2.285	1.978	26.0	21.2	60 W	—	48*	8 24	4 7.96	+4 9.0	1.653	1.938	31.4	18.3	90 W	46*	60*
4 26	23 6.47	-33 7.2	2.199	1.985	27.2	21.1	64 W	—	52*	9 3	4 19.40	+3 49.8	1.585	1.973	30.5	18.2	96 W	48*	60
5 6	23 31.26	-33 31.6	2.113	1.991	28.3	21.1	69 W	—	56*	9 13	4 28.11	+3 20.4	1.518	2.009	29.1	18.1	104 W	48	61
5 16	23 55.93	-34 3.6	2.026	1.994	29.1	21.0	74 W	—	60*	9 23	4 33.70	+2 43.1	1.452	2.045	27.2	18.0	111 W	48	61
5 26	0 20.41	-34 45.3	1.941	1.997	29.8	20.9	78 W	—	64*	10 3	4 35.85	+2 1.3	1.392	2.081	24.6	17.9	120 W	47	62
6 5	0 44.61	-35 38.5	1.859	1.997	30.2	20.9	82 W	—	67*	10 13	4 34.28	+1 19.2	1.340	2.118	21.4	17.7	129 W	46	63
6 15	1 8.40	-36 45.1	1.781	1.996	30.5	20.8	87 W	—	71*	10 18	4 32.00	+0 59.9	1.319	2.136	19.6	17.6	134 W	46	63
6 25	1 31.58	-38 6.6	1.707	1.994	30.7	20.7	90 W	—	73*	10 23	4 29.04	+0 42.7	1.302	2.154	17.6	17.6	139 W	46	63
7 5	1 53.90	-39 43.7	1.639	1.989	30.6	20.6	94 W	—	74*	10 28	4 25.16	+0 28.4	1.289	2.173	15.6	17.5	144 W	45	64
7 15	2 15.04	-41 37.1	1.577	1.984	30.5	20.5	97 W	—	74*	11 2	4 20.55	+0 17.8	1.281	2.191	13.6	17.4	149 W	45	64
7 20	2 25.02	-42 39.8	1.548	1.980	30.5	20.4	99 W	—	73*	11 7	4 15.34	+0 11.6	1.279	2.209	11.7	17.4	153 W	45	64
7 25	2 34.54	-43 46.4	1.521	1.976	30.4	20.4	100 W	—	72*	11 12	4 9.70	+0 10.6	1.282	2.227	10.0	17.3	157 W	45	64
7 30	2 43.53	-44 56.5	1.495	1.972	30.3	20.4	102 W	—	71	11 22	3 57.89	+0 25.2	1.309	2.263	8.5	17.3	160 W	45	64
8 4	2 51.90	-46 10.2	1.471	1.968	30.2	20.3	103 W	—	70	12 2	3 46.60	+1 2.4	1.361	2.299	9.9	17.5	156 E	46	63
8 9	2 59.56	-47 26.9	1.449	1.962	30.0	20.3	104 W	—	69	12 12	3 37.14	+1 59.9	1.439	2.334	12.9	17.8	148 E	47	62
8 14	3 6.39	-48 46.4	1.428	1.957	29.9	20.2	105 W	—	67	12 22	3 30.39	+3 13.4	1.540	2.369	16.0	18.1	139 E	48	61
8 19	3 12.29	-50 7.8	1.408	1.951	29.9	20.2	106 W	—	66	1 1	3 26.70	+4 37.8	1.661	2.403	18.6	18.4	129 E	50	59
8 24	3 17.14	-51 30.6	1.390	1.945	29.8	20.2	107 W	—	64	1 11	3 26.08	+6 8.7	1.797	2.437	20.6	18.6	120 E	51	58
8 29	3 20.78	-52 54.0	1.373	1.939	29.7	20.1	108 W	—	63	1 21	3 28.30	+7 42.6	1.945	2.470	21.9	18.9	111 E	53	56
9 3	3 23.07	-54 17.1	1.358	1.932	29.7	20.1	108 W	—	62	205640 2001 XQ₄									
9 8	3 23.81	-55 38.5	1.344	1.924	29.7	20.1	109 W	—	60	12 27	18 8.04	-26 34.9	2.752	1.774	2.7	19.8	5 W	—	—
9 13	3 22.85	-56 56.7	1.332	1.917	29.7	20.0	109 W	—	59	1 6	18 37.50	-26 40.2	2.704	1.736	4.5	19.9	8 W	—	2*
9 18	3 20.04	-58 9.8	1.321	1.909	29.7	20.0	110 W	—	58	1 16	19 7.72	-26 24.1	2.653	1.700	6.5	19.9	11 W	—	5*
9 23	3 15.25	-59 15.8	1.311	1.900	29.8	20.0	110 W	—	57	2 5	19 38.48	-25 45.5	2.600	1.665	8.5	19.9	14 W	—	8*
9 28	3 8.44	-60 12.6	1.302	1.891	29.9	20.0	110 W	—	56	2 15	20 9.55	-24 43.9	2.546	1.632	10.4	19.9	17 W	—	11*
10 3	2 59.62	-60 57.4	1.295	1.882	30.1	19.9	109 W	—	55	2 25	20 40.73	-23 19.3	2.492	1.602	12.3	19.8	20 W	—	14*
10 8	2 48.98	-61 27.7	1.290	1.873	30.3	19.9	109 W	—	55	2 25	21 11.79	-21 32.8	2.438	1.575	14.2	19.8	23 W	—	17*
10 13	2 36.87	-61 40.8	1.285	1.863	30.5	19.9	109 W	—	54	3 7	21 42.57	-19 26.1	2.387	1.551	16.0	19.8	25 W	—	19*
10 15	2 31.73	-61 40.8	1.284	1.859	30.6	19.9	109 W	—	54	3 17	22 12.97	-17 1.5	2.338	1.530	17.6	19.8	28 W	—	21*
10 17	2 26.47	-61 37.6	1.283	1.855	30.7	19.9	108 W	—	54	3 27	22 42.87	-14 21.9	2.293	1.513	19.2	19.8	30 W	—	24*
10 19	2 21.14	-61 31.2	1.282	1.851	30.8	19.9	108 W	—	54	4 6	23 12.26	-11 30.5	2.250	1.500	20.7	19.8	32 W	—	26*
10 21	2 15.77	-61 21.5	1.281	1.847	30.9	19.9	108 W	—	55	4 16	23 41.13	-8 31.0	2.212	1.491	22.2	19.8	34 W	1*	28*
10 23	2 10.41	-61 8.5	1.281	1.843	31.0	19.9	107 W	—	55	4 26	0 9.48	-5 27.1	2.176	1.487	23.5	19.8	36 W	2*	30*
10 25	2 5.10	-60 52.1	1.281	1.838	31.1	19.9	107 W	—	55	5 6	0 37.36	-2 22.4	2.143	1.487	24.8	19.8	38 W	3*	32*
10 27	1 59.88	-60 32.4	1.281	1.834	31.3	19.9	107 E	—	55	5 16	1 4.79	+0 39.7	2.113	1.492	26.0	19.8	40 W	5*	34*
10 29	1 54.77	-60 9.4	1.281	1.830	31.4	19.9	106 E	—	56	5 26	1 31.80	+3 36.0	2.084	1.501	27.1	19.8	42 W	7*	36*
10 31	1 49.82	-59 43.1	1.282	1.825	31.5	19.9	106 E	—	56	6 5	1 58.39	+6 23.8	2.056	1.514	28.1	19.8	45 W	10*	38*
11 2	1 45.06	-59 13.5	1.283	1.821	31.7	19.9	106 E	—	57	6 15	2 24.57	+9 0.8	2.027	1.531	29.1	19.8	47 W	14*	39*
11 7	1 34.12	-57 46.1	1.286	1.809	32.0	19.9	104 E	—	58	6 25	2 50.27	+11 25.2	1.997	1.552	30.1	19.9	50 W	18*	40*
11 12	1 24.79	-56 0.8	1.291	1.798	32.4	19.9	103 E	—	60	7 5	3 15.45	+13 36.0	1.965	1.577	31.0	19.9	53 W	23*	41*
11 17	1 17.20	-53 59.6	1.298	1.786	32.8	19.9	102 E	—	62	7 15	3 40.01	+15 32.5	1.930	1.604	31.8	19.9	56 W	29*	41*
11 22	1 11.34	-51 44.8	1.307	1.773	33.2	19.9	100 E	—	64	7 25	4 3.80	+17 14.7	1.891	1.635	32.5	19.9	60 W	35*	41*
11 27	1 7.13	-49 18.4	1.317	1.761	33.6	19.9	99 E	—	67	8 4	4 26.69	+18 43.2	1.848	1.667	33.0	19.9	64 W	41*	41*
12 2	1 4.44	-46 42.3	1.329	1.748	34.1	19.9	97 E	—	69	8 14	4 48.46	+19 58.9	1.800	1.702	33.5	19.9	68 W	47*	41*
12 7	1 3.13	-43 58.2	1.343	1.735	34.5	20.0	95 E	1	72	8 24	5 8.90	+21 3.7	1.747	1.739	33.7	19.9	73 W	53*	41*
12 12	1 3.06	-41 8.1	1.359	1.722	34.8	20.0	93 E	4	75	9 3	5 27.76	+21 59.5	1.689	1.776	33.7	19.9	78 W	58*	40*

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°										
344332 2001 VL75										189118 2001 VD47 (continuation)																			
12 27	18 8.20	-19 0.5	3.316	2.339	2.4	20.5	6 W	—	—	10 8	3 57.55	+35 35.5	0.907	1.717	27.1	17.4	128 W	81	28	10 13	3 58.37	+35 32.9	0.887	1.728	25.0	17.3	133 W	81	28
1 6	18 27.88	-18 14.9	3.335	2.374	4.2	20.7	10 W	3*	—	10 23	3 56.36	+35 3.8	0.854	1.753	20.1	17.1	143 W	80	29	11 2	3 50.14	+34 0.5	0.837	1.780	14.5	16.9	153 W	79	30
1 16	18 46.90	-17 20.1	3.341	2.408	6.3	20.8	16 W	7*	6*	11 12	3 41.26	+32 23.9	0.839	1.810	9.0	16.7	163 W	77	32	11 17	3 36.52	+31 25.6	0.848	1.825	6.8	16.7	167 W	76	33
1 26	19 5.19	-16 16.6	3.334	2.442	8.4	20.9	21 W	10*	12*	11 22	3 31.95	+30 22.7	0.862	1.841	5.9	16.7	169 E	75	34	11 27	3 27.79	+29 17.4	0.883	1.858	6.7	16.8	167 E	74	35
2 5	19 22.70	-15 5.1	3.314	2.475	10.4	21.0	27 W	12*	18*	12 2	3 24.23	+28 11.6	0.909	1.875	8.6	16.9	163 E	73	36	12 7	3 21.45	+27 7.5	0.941	1.892	11.0	17.1	159 E	72	37
2 15	19 39.37	-13 46.3	3.281	2.507	12.3	21.1	33 W	15*	24*	12 12	3 19.53	+26 6.7	0.978	1.910	13.3	17.3	153 E	71	38	12 17	3 18.53	+25 10.6	1.020	1.928	15.6	17.5	148 E	70	39
2 25	19 55.13	-12 20.8	3.235	2.539	14.1	21.2	39 W	17*	30*	12 22	3 18.45	+24 20.1	1.068	1.946	17.6	17.7	143 E	69	40	12 27	3 18.25	+23 35.5	1.119	1.965	19.5	17.9	138 E	69	40
3 7	20 9.93	-10 49.4	3.177	2.569	15.8	21.2	45 W	19*	37*	1 1	3 20.90	+22 57.0	1.175	1.984	21.1	18.1	133 E	68	41	1 6	3 23.34	+22 24.5	1.235	2.003	22.5	18.2	129 E	67	42
3 17	20 23.69	-9 13.1	3.107	2.599	17.3	21.2	51 W	22*	43*	1 11	3 26.53	+21 57.7	1.297	2.022	23.7	18.4	124 E	67	42	1 16	3 30.39	+21 36.2	1.363	2.042	24.7	18.6	120 E	67	42
3 27	20 36.33	-7 32.6	3.027	2.628	18.7	21.3	57 W	24*	49*	1 21	3 34.85	+21 19.3	1.432	2.061	25.4	18.7	116 E	66	43	1 21	3 34.85	+21 19.3	1.432	2.061	25.4	18.7	116 E	66	43
4 6	20 47.76	-5 48.8	2.938	2.656	19.8	21.3	64 W	27*	54*	17511 1992 QN																			
4 16	20 57.87	-4 2.6	2.841	2.683	20.7	21.2	71 W	30*	59*	12 27	18 8.75	-28 4.1	1.896	0.923	6.2	19.0	6 W	—	—	1 1	18 33.03	-27 54.2	1.925	0.952	5.8	19.1	6 W	—	—
4 26	21 6.51	-2 15.2	2.738	2.709	21.3	21.2	78 W	33*	63*	1 6	18 56.44	-27 29.4	1.955	0.982	5.6	19.2	6 W	—	—	1 11	19 18.94	-26 51.4	1.986	1.012	5.4	19.3	6 W	—	—
5 6	21 13.54	-0 27.8	2.632	2.734	21.6	21.1	85 W	36*	64*	1 16	19 40.47	-26 2.1	2.016	1.042	5.3	19.3	6 W	—	—	1 21	20 1.03	-25 3.1	2.047	1.072	5.2	19.4	6 W	—	—
5 16	21 18.77	+ 1 18.2	2.523	2.758	21.5	21.1	92 W	40*	63*	1 26	20 20.64	-23 56.2	2.077	1.102	5.3	19.5	6 W	—	—	1 31	20 39.34	-22 42.7	2.106	1.132	5.5	19.6	6 W	—	—
5 26	21 22.01	+ 3 0.8	2.415	2.781	21.0	21.0	100 W	44*	61	2 5	20 57.19	-21 23.8	2.134	1.161	5.7	19.7	7 W	—	—	2 10	21 14.24	-20 0.7	2.162	1.190	6.1	19.8	7 W	—	1*
6 5	21 23.09	+ 4 37.8	2.311	2.803	20.1	20.9	108 W	48*	59	2 15	21 30.55	-18 34.4	2.188	1.218	6.5	19.9	8 W	—	2*	2 20	21 46.17	-17 5.6	2.212	1.245	7.1	20.0	9 W	—	3*
6 15	21 21.83	+ 6 6.2	2.215	2.824	18.7	20.7	117 W	51*	58	2 25	22 1.17	-15 35.0	2.235	1.271	7.7	20.1	10 W	—	4*	3 7	22 29.55	-12 30.7	2.275	1.322	9.1	20.3	12 W	—	6*
6 25	21 18.16	+ 7 22.3	2.129	2.844	16.9	20.6	126 W	52	57	3 17	22 56.09	-9 24.8	2.306	1.368	10.7	20.5	15 W	—	9*	3 27	23 21.17	-6 19.9	2.328	1.411	12.5	20.6	18 W	—	12*
7 5	21 12.19	+ 8 22.4	2.059	2.864	14.7	20.5	134 W	53	56	4 6	23 45.08	-3 17.6	2.340	1.450	14.3	20.8	21 W	—	15*	4 16	23 45.08	-3 17.6	2.340	1.450	14.3	20.8	21 W	—	15*
7 15	21 4.19	+ 9 2.6	2.007	2.882	12.4	20.3	143 W	54	55	4 26	0 8.10	+ 0 19.0	2.341	1.485	16.1	20.9	24 W	2*	18*	4 26	0 30.44	+ 2 35.0	2.332	1.515	18.0	21.0	28 W	4*	22*
7 25	20 54.74	+ 9 19.9	1.978	2.899	10.2	20.2	150 W	54	55	5 6	0 52.28	+ 5 23.8	2.313	1.542	19.9	21.1	31 W	6*	25*	5 16	1 13.81	+ 8 7.1	2.282	1.565	21.7	21.1	35 W	9*	28*
8 4	20 44.62	+ 9 13.5	1.973	2.915	9.0	20.2	153 E	54	55	5 26	1 35.14	+10 44.4	2.241	1.583	23.6	21.2	39 W	12*	31*	6 5	1 56.41	+13 15.5	2.190	1.598	25.4	21.2	43 W	15*	33*
8 14	20 34.75	+ 8 44.8	1.994	2.930	9.2	20.2	153 E	54	55	6 15	2 17.73	+15 40.2	2.129	1.608	27.3	21.2	46 W	20*	35*	6 25	2 39.19	+17 58.2	2.059	1.615	29.0	21.2	50 W	25*	37*
8 19	20 30.19	+ 8 23.4	2.015	2.938	9.8	20.3	150 E	53	56	7 5	3 0.89	+20 9.5	1.981	1.617	30.8	21.1	54 W	30*	37*	7 15	3 22.93	+22 13.9	1.895	1.615	32.4	21.1	58 W	36*	37*
8 24	20 26.02	+ 7 58.3	2.041	2.945	10.6	20.4	148 E	53	56	7 25	3 45.35	+24 11.2	1.802	1.609	34.1	21.0	63 W	43*	37*	8 4	4 8.27	+26 1.5	1.703	1.600	35.6	20.9	67 W	49*	36*
8 29	20 22.32	+ 7 30.1	2.074	2.951	11.6	20.4	144 E	53	56	8 14	4 31.76	+27 44.8	1.598	1.586	37.1	20.8	71 W	55*	35*	8 14	4 31.76	+27 44.8	1.598	1.586	37.1	20.8	71 W	55*	35*
9 3	20 19.13	+ 6 59.7	2.112	2.958	12.6	20.5	140 E	52	57	8 24	4 55.89	+29 21.0	1.490	1.568	38.5	20.7	75 W	61*	33*	9 3	5 20.81	+30 50.5	1.379	1.545	39.8	20.5	79 W	66*	32*
9 8	20 16.53	+ 6 27.7	2.155	2.964	13.7	20.6	136 E	51	58	9 13	5 46.62	+32 13.4	1.266	1.519	41.1	20.3	83 W	71*	31*	9 18	5 59.92	+32 52.4	1.209	1.505	41.7	20.2	85 W	73*	30*
9 13	20 14.52	+ 5 55.1	2.204	2.970	14.6	20.7	132 E	51	58	9 23	6 13.51	+33 29.8	1.152	1.489	42.3	20.1	87 W	75*	30*	9 23	6 13.51	+33 29.8	1.152	1.489	42.3	20.1	87 W	75*	30*
9 18	20 13.14	+ 5 22.4	2.256	2.976	15.6	20.8	127 E	50	59	9 28	6 27.45	+34 5.6	1.096	1.472	42.9	20.0	89 W	77*	29*	10 3	6 41.77	+34 39.7	1.040	1.455	43.5	19.9	91 W	79*	29*
9 23	20 12.38	+ 4 50.4	2.313	2.981	16.4	20.9	123 E	50	59	10 8	6 56.52	+35 12.2	0.984	1.436	44.0	19.7	93 W	80*	28*	10 8	6 56.52	+35 12.2	0.984	1.436	44.0	19.7	93 W	80*	28*
9 28	20 12.23	+ 4 19.4	2.373	2.986	17.1	21.0	119 E	49	60	10 13	7 11.74	+35 42.8	0.929	1.416	44.6	19.6	95 W	81*	28*	10 18	7 27.52	+36 11.4	0.875	1.396	45.2	19.5	96 W	81	27*
10 3	20 12.67	+ 3 50.0	2.436	2.991	17.7	21.0	114 E	49	60	10 23	7 43.96	+36 37.5	0.821	1.374	45.8	19.3	98 W	82	27*	10 28	8 1.17	+37 0.6	0.769	1.351	46.5	19.1	99 W	82	26*
10 8	20 13.68	+ 3 22.4	2.501	2.996	18.2	21.1	110 E	48	61	11 2	8 19.26	+37 20.2	0.719	1.328	47.3	19.0	101 W	82	26*	11 7	8 38.37	+37 34.9	0.669	1.303	48.1	18.8	102 W	83	25*
10 13	20 15.23	+ 2 57.0	2.568	3.001	18.6	21.2	106 E	48	61	11 12	8 58.66	+37 43.4	0.622	1.278	49.1	18.6	103 W	83	25*	11 17	9 20.35	+37 43.3	0.576	1.252	50.3	18.5	103 W	83	25*
10 18	20 17.30	+ 2 34.0	2.637	3.005	18.9	21.3	102 E	48	61	11 22	9 43.63	+37 31.6	0.533	1.225	51.7	18.3	103 W	83	25*	11 27	10 8.70	+37 4.4	0.492	1.197	53.5	18.1	103 W	82	25*
10 23	20 19.85	+ 2 13.7	2.707	3.009	19.1	21.3	98 E	47	61*	12 2	10 35.72	+36 16.6	0.454	1.169	55.6	17.9	102 W	81	25*	12 7	11 4.76	+35 1.7	0.419	1.140	58.2	17.8	101 W	80	26*
10 28	20 22.84	+ 1 56.0	2.778	3.012	19.2	21.4	94 E	47	60*	12 12	11 35.79	+33 11.9	0.387	1.110	61.														

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°
17511 1992 QN										451124 2009 KC₃									
<i>(continuation)</i>										<i>(continuation)</i>									
12 27	13 17.93	+23 0.7	0.320	1.019	74.5	17.5	87 W	68	31*	3 17	0 2.04	+2 48.5	2.109	1.124	5.1	20.3	6 E	—	—
1 1	13 53.14	+17 55.3	0.309	0.989	79.9	17.5	82 W	63*	33*	3 22	0 19.55	+5 10.3	2.147	1.161	5.1	20.4	6 E	—	—
1 6	14 27.81	+12 11.9	0.305	0.959	85.4	17.6	77 W	57*	36*	3 27	0 36.57	+7 25.7	2.188	1.200	5.0	20.5	6 E	—	—
1 11	15 1.42	+6 9.2	0.308	0.930	90.7	17.8	71 W	50*	38*	4 1	0 53.13	+9 34.1	2.230	1.241	4.8	20.6	6 E	—	—
1 13	15 14.49	+3 43.6	0.312	0.919	92.6	17.9	69 W	48*	39*	4 6	1 9.27	+11 35.3	2.275	1.283	4.5	20.7	6 E	—	—
1 15	15 27.33	+1 19.8	0.316	0.908	94.4	18.0	67 W	45*	40*	4 11	1 25.02	+13 29.1	2.321	1.327	4.2	20.8	6 E	—	—
1 17	15 39.94	+1 1.0	0.322	0.897	96.0	18.0	65 W	42*	40*	4 16	1 40.40	+15 15.4	2.368	1.372	3.9	20.9	5 E	—	—
1 19	15 52.32	+3 17.7	0.329	0.886	97.4	18.1	63 W	40*	41*	4 21	1 55.42	+16 54.4	2.415	1.417	3.6	21.0	5 E	—	—
1 21	16 4.46	+5 29.4	0.337	0.875	98.7	18.2	62 W	37*	42*	4 26	2 10.11	+18 26.2	2.463	1.464	3.5	21.1	5 W	—	—
306288 2011 SM₂₈										282795 2006 PR₁₇									
12 27	18 8.86	-27 46.3	2.698	1.722	3.2	20.5	6 W	—	—	12 27	18 9.24	-22 19.7	3.305	2.324	1.5	21.2	3 W	—	—
1 6	18 39.34	-27 10.5	2.661	1.693	4.6	20.5	8 W	—	2*	1 6	18 30.73	-22 4.0	3.257	2.289	3.7	21.3	9 W	—	1*
1 16	19 10.02	-26 11.0	2.622	1.665	6.3	20.5	11 W	—	5*	1 16	18 52.51	-21 36.5	3.198	2.254	5.9	21.4	14 W	3*	6*
1 26	19 40.63	-24 47.6	2.581	1.640	8.1	20.5	14 W	—	8*	1 26	19 14.48	-20 57.0	3.129	2.218	8.2	21.4	19 W	5*	12*
2 5	20 10.93	-23 1.0	2.538	1.617	10.0	20.5	16 W	—	10*	2 5	19 36.57	-20 5.2	3.050	2.183	10.4	21.4	24 W	6*	17*
2 15	20 40.78	-20 52.5	2.496	1.597	11.8	20.5	19 W	—	13*	2 15	19 58.71	-19 1.3	2.964	2.147	12.6	21.4	28 W	8*	22*
2 25	21 10.02	-18 24.4	2.454	1.580	13.6	20.5	22 W	1*	16*	2 25	20 20.83	-17 45.6	2.871	2.111	14.8	21.3	33 W	9*	27*
3 7	21 38.59	-15 38.9	2.412	1.566	15.3	20.5	25 W	2*	19*	3 7	20 42.87	-16 18.3	2.772	2.076	17.0	21.3	38 W	10*	31*
3 17	22 6.49	-12 39.1	2.372	1.555	17.0	20.5	27 W	3*	21*	3 17	21 4.82	-14 40.1	2.668	2.041	19.1	21.2	42 W	11*	36*
3 27	22 33.71	-9 28.0	2.333	1.548	18.6	20.5	30 W	5*	24*	3 27	21 26.64	-12 51.9	2.560	2.007	21.1	21.2	46 W	13*	40*
4 6	23 0.31	-6 8.8	2.295	1.544	20.2	20.6	32 W	6*	26*	4 6	21 48.32	-10 54.3	2.450	1.973	23.1	21.1	51 W	14*	44*
4 16	23 26.37	-2 44.8	2.259	1.544	21.7	20.6	35 W	7*	29*	4 16	22 9.87	-8 48.4	2.338	1.939	25.0	21.0	55 W	16*	48*
4 26	23 51.96	+0 41.0	2.223	1.548	23.2	20.6	37 W	9*	31*	4 26	22 31.30	-6 35.4	2.225	1.907	26.8	20.9	59 W	17*	52*
5 6	0 17.15	+4 5.5	2.188	1.555	24.6	20.6	40 W	11*	33*	5 6	22 52.63	-4 16.5	2.113	1.876	28.5	20.8	63 W	19*	55*
5 16	0 42.03	+7 26.0	2.153	1.566	25.9	20.6	43 W	14*	35*	5 16	23 13.87	+1 53.1	2.001	1.847	30.1	20.7	66 W	22*	57*
5 26	1 6.63	+10 39.9	2.118	1.580	27.1	20.6	45 W	17*	36*	5 26	23 35.04	+0 33.2	1.891	1.818	31.6	20.6	70 W	25*	59*
6 5	1 31.00	+13 45.0	2.082	1.597	28.3	20.7	48 W	20*	37*	6 5	23 56.16	+3 0.8	1.783	1.792	33.0	20.5	74 W	29*	59*
6 15	1 55.13	+16 39.6	2.044	1.618	29.4	20.7	51 W	25*	38*	6 15	0 17.20	+5 27.7	1.678	1.767	34.2	20.4	78 W	33*	58*
6 25	2 18.98	+19 22.0	2.003	1.640	30.4	20.7	55 W	29*	38*	6 25	0 38.12	+7 52.0	1.576	1.745	35.2	20.2	82 W	38*	56*
7 5	2 42.49	+21 51.4	1.960	1.666	31.2	20.7	58 W	35*	38*	7 5	0 58.87	+10 11.6	1.477	1.725	36.0	20.1	85 W	43*	54
7 15	3 5.54	+24 7.0	1.914	1.693	32.0	20.7	62 W	41*	37*	7 15	1 19.30	+12 24.1	1.382	1.708	36.5	19.9	89 W	49*	52
7 25	3 27.95	+26 8.6	1.864	1.723	32.6	20.7	66 W	47*	36*	7 25	1 39.23	+14 27.2	1.290	1.694	36.8	19.8	94 W	54*	50
8 4	3 49.52	+27 56.9	1.809	1.754	33.0	20.7	70 W	53*	35*	8 4	1 58.39	+16 18.8	1.203	1.682	36.6	19.6	98 W	59*	48
8 14	4 9.97	+29 32.4	1.751	1.786	33.3	20.7	75 W	60*	34*	8 14	2 16.40	+17 56.5	1.119	1.673	36.1	19.4	103 W	63*	46
8 24	4 28.97	+30 56.6	1.688	1.819	33.2	20.6	81 W	66*	33*	8 19	2 24.83	+18 39.5	1.080	1.670	35.6	19.3	106 W	64*	45
9 3	4 46.16	+32 11.1	1.622	1.854	32.9	20.6	86 W	72*	32*	8 24	2 32.79	+19 18.3	1.041	1.668	35.0	19.2	109 W	64	45
9 13	5 1.04	+33 17.7	1.554	1.889	32.2	20.5	93 W	77*	31	8 29	2 40.20	+19 52.7	1.003	1.667	34.3	19.1	112 W	65	44
9 18	5 7.47	+33 48.6	1.519	1.906	31.6	20.5	96 W	79*	30	9 3	2 46.99	+20 22.4	0.967	1.666	33.3	19.0	115 W	65	44
9 23	5 13.12	+34 18.3	1.484	1.924	30.9	20.4	100 W	79	30	9 8	2 53.04	+20 47.3	0.933	1.666	32.2	18.9	118 W	66	43
9 28	5 17.94	+34 46.8	1.449	1.942	30.1	20.4	103 W	80	29	9 13	2 58.29	+21 6.9	0.900	1.667	30.9	18.8	122 W	66	43
10 3	5 21.83	+35 14.3	1.414	1.960	29.2	20.3	107 W	80	29	9 18	3 2.65	+21 21.3	0.870	1.669	29.3	18.7	126 W	66	43
10 8	5 24.71	+35 40.8	1.381	1.978	28.1	20.2	111 W	81	28	9 23	3 6.04	+21 30.1	0.841	1.671	27.5	18.6	130 W	67	42
10 13	5 26.51	+36 6.0	1.348	1.996	26.7	20.2	116 W	81	28	10 3	3 9.71	+21 30.5	0.792	1.679	23.2	18.3	139 W	67	42
10 18	5 27.18	+36 29.8	1.317	2.014	25.3	20.1	120 W	81	28	10 13	3 9.07	+21 6.9	0.755	1.689	17.8	18.1	149 W	66	43
10 23	5 26.66	+36 51.8	1.289	2.032	23.6	20.0	125 W	82	27	10 23	3 4.61	+20 20.8	0.734	1.703	11.6	17.8	160 W	65	44
11 2	5 21.96	+37 27.6	1.241	2.068	19.7	19.8	135 W	82	27	10 28	3 1.32	+19 50.6	0.730	1.711	8.2	17.7	166 W	65	44
11 12	5 12.61	+37 46.8	1.208	2.104	15.2	19.7	146 W	83	26	11 2	2 57.58	+19 16.8	0.732	1.719	4.8	17.5	172 W	64	45
11 22	4 59.67	+37 42.4	1.196	2.139	10.5	19.5	157 W	83	26	11 7	2 53.65	+18 40.8	0.738	1.729	1.6	17.3	177 W	64	45
11 27	4 52.42	+37 29.9	1.199	2.156	8.5	19.4	161 W	82	27	11 12	2 49.81	+18 4.3	0.750	1.738	2.5	17.4	176 E	63	46
12 2	4 45.00	+37 10.5	1.208	2.174	7.0	19.4	164 W	82	27	11 17	2 46.30	+17 28.7	0.767	1.749	5.7	17.7	170 E	62	47
12 7	4 37.72	+36 44.7	1.224	2.191	6.5	19.4	165 E	82	27	11 22	2 43.31	+16 55.5	0.789	1.760	8.9	17.9	164 E	62	47
12 12	4 30.86	+36 13.5	1.246	2.208	7.2	19.5	164 E	81	28	11 27	2 41.01	+16 25.9	0.817	1.772	11.9	18.1	158 E	61	48
12 17	4 24.65	+35 38.1	1.275	2.225	8.7	19.7	160 E	81	28	12 2	2 39.49	+16 0.9	0.849	1.784	14.7	18.3	153 E	61	48
12 22	4 19.27	+35 0.2	1.311	2.242	10.6	19.8	155 E	80	29	12 12	2 39.10	+15 26.7	0.927	1.809	19.4	18.7	142 E	60	49
12 27	4 14.83	+34 21.0	1.352	2.259	12.5	20.0	150 E	79	30	12 22	2 42.25	+15 14.4	1.021	1.837	23.1	19.1	133 E	60	49
1 1	4 11.40	+33 41.8	1.399	2.275	14.4	20.1	145 E	79	30	1 1	2 48.61	+15 21.7	1.128	1.866	25.9	19.4	124 E	60	49
1 6	4 9.01	+33 3.9	1.452	2.292	16.1	20.3	140 E	78	31	1 11	2 57.78	+15 44.8	1.245	1.897	27.7	19.7	116 E	61	48
1 11	4 7.65	+32 27.9	1.509	2.308	17.7	20.4	135 E	77	32	1 21	3 9.28	+16 19.4	1.372	1.929	28.9	20.0	109 E	61	48*
1 16	4 7.28	+31 54.7	1.570	2.324	19.1	20.6	130 E	77	32	488901 2005 TQ₇₈									
1 21	4 7.83	+31 24.3	1.635	2.340	20.2	20.7	125 E	76	33	12 27	18 9.62	-20 40.4	2.626	1.647	2.5	21.5	4 W	—	—
451124 2009 KC₃										361537 2007 JH₁₆									
12 27	18 9.09	-28 29.1	2.092	1.119	5.3	20.3	6 W	—	—	1 6	18 39.85	-20 14.6	2.605	1.633	4.1	21.5	7 W	—	—
1 1	18 32.66	-28 2.9	2.059	1.086	5.3	20.2	6 W	—	—	1 16	19 10.10	-19 27.5	2.583	1.622	5.9	21.6	10 W	2*	2*
1 6	18 56.70	-27 20.6	2.030	1.055															

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°
361537 2007 JH₁₆										313621 2003 QP₁₀₉									
<i>(continuation)</i>										<i>(continuation)</i>									
3 17	22 30.96	-16 48.0	2.204	1.358	17.4	21.4	24 W	—	17*	2 5	20 6.34	-19 42.2	2.630	1.708	9.5	21.0	17 W	2*	10*
3 27	23 3.77	-15 36.6	2.176	1.360	19.2	21.4	27 W	—	19*	2 15	20 35.04	-18 30.4	2.589	1.694	11.4	21.0	20 W	3*	14*
4 6	23 36.35	-14 13.5	2.149	1.364	20.9	21.5	29 W	—	21*	2 25	21 3.46	-17 2.7	2.548	1.682	13.3	21.0	23 W	3*	17*
4 16	0 8.64	-12 41.3	2.122	1.370	22.5	21.5	31 W	—	23*	3 7	21 31.49	-15 20.9	2.506	1.672	15.1	21.0	26 W	4*	20*
3674 Erbisbühl										313621 2003 QP₁₀₉									
12 27	18 10.50	-30 18.1	3.564	2.592	2.9	17.2	8 W	—	—	3 17	21 59.05	-13 27.4	2.463	1.666	16.9	21.1	29 W	4*	23*
1 6	18 30.22	-29 38.9	3.513	2.555	4.2	17.2	11 W	—	5*	3 27	22 26.10	-11 24.8	2.420	1.663	18.6	21.1	32 W	4*	26*
1 16	18 49.99	-28 50.7	3.448	2.516	6.1	17.3	16 W	—	10*	4 6	22 52.60	-9 15.8	2.377	1.663	20.3	21.1	35 W	5*	29*
1 26	19 9.70	-27 52.9	3.369	2.477	8.3	17.3	21 W	—	15*	4 16	23 18.56	-7 2.9	2.333	1.666	21.9	21.1	38 W	6*	32*
2 5	19 29.29	-26 45.3	3.278	2.437	10.4	17.3	27 W	2*	21*	4 26	23 43.97	-4 49.0	2.289	1.672	23.4	21.1	41 W	7*	35*
2 15	19 48.69	-25 27.6	3.175	2.396	12.6	17.3	32 W	4*	26*	5 6	0 8.84	-2 36.5	2.244	1.681	24.9	21.1	45 W	8*	38*
2 25	20 7.81	-23 59.6	3.061	2.354	14.8	17.2	37 W	6*	31*	5 16	0 33.16	-0 28.0	2.198	1.692	26.2	21.1	48 W	10*	41*
3 7	20 26.61	-22 21.2	2.938	2.311	17.0	17.2	43 W	8*	37*	5 26	0 56.92	+ 1 34.4	2.150	1.707	27.5	21.2	51 W	12*	44*
3 17	20 45.05	-20 32.4	2.807	2.268	19.1	17.1	48 W	9*	42*	6 5	10 20.10	+ 3 28.8	2.100	1.724	28.7	21.2	55 W	15*	47*
3 27	21 3.08	-18 32.9	2.669	2.224	21.1	17.0	53 W	11*	47*	6 15	1 42.63	+ 5 13.5	2.048	1.743	29.7	21.2	58 W	19*	49*
4 6	21 20.69	-16 22.5	2.526	2.180	23.1	16.9	59 W	13*	53*	6 25	2 4.42	+ 6 46.9	1.992	1.764	30.6	21.1	62 W	23*	51*
4 16	21 37.85	-14 0.8	2.379	2.135	24.9	16.8	64 W	16*	58*	7 5	2 25.37	+ 8 8.0	1.934	1.788	31.4	21.1	66 W	28*	52*
4 26	21 54.53	-11 27.4	2.230	2.090	26.7	16.6	69 W	19*	62*	7 15	2 45.33	+ 9 16.1	1.873	1.813	32.0	21.1	71 W	34*	52*
5 6	22 10.71	-8 41.6	2.080	2.045	28.3	16.5	74 W	22*	65*	7 25	3 4.11	+10 10.6	1.808	1.840	32.3	21.1	76 W	39*	53*
5 16	22 26.37	-5 42.3	1.931	2.000	29.7	16.3	79 W	26*	67*	8 4	3 21.48	+10 51.5	1.740	1.869	32.4	21.0	81 W	45*	53*
5 26	22 41.45	-2 28.4	1.785	1.954	31.0	16.1	84 W	30*	66*	8 14	3 37.16	+11 18.7	1.669	1.898	32.2	21.0	86 W	50*	53*
6 5	22 55.92	+ 1 1.4	1.642	1.909	32.1	15.9	89 W	36*	63	8 24	3 50.82	+11 32.8	1.596	1.929	31.6	20.9	93 W	54*	52
6 15	23 9.68	+ 4 48.9	1.504	1.865	32.9	15.7	93 W	42*	59	9 3	4 2.11	+11 34.6	1.522	1.960	30.5	20.8	100 W	56*	52
6 25	23 22.62	+ 8 55.6	1.373	1.821	33.5	15.5	98 W	49*	55	9 13	4 10.60	+11 25.0	1.449	1.992	28.9	20.7	107 W	56	53
7 5	23 34.60	+13 23.1	1.250	1.779	33.9	15.2	103 W	56*	51	9 23	4 15.87	+11 5.7	1.380	2.025	26.6	20.5	115 W	56	53
7 15	23 45.35	+18 12.2	1.138	1.737	33.9	15.0	107 W	63*	46	10 3	4 17.57	+10 38.5	1.317	2.058	23.6	20.4	125 W	56	53
7 25	23 54.59	+23 22.0	1.036	1.698	33.8	14.7	112 W	68	41	10 13	4 15.46	+10 6.0	1.265	2.091	19.8	20.2	135 W	55	54
7 30	23 58.52	+26 4.0	0.989	1.678	33.6	14.6	114 W	71	38	10 23	4 9.66	+ 9 31.8	1.228	2.125	15.4	20.0	146 W	55	54
8 4	0 1.89	+28 49.9	0.946	1.660	33.4	14.5	116 W	74	35	10 28	4 5.54	+ 9 15.4	1.217	2.142	12.9	19.9	151 W	54	55
8 9	0 4.63	+31 38.5	0.906	1.642	33.2	14.4	117 W	77	32	11 2	4 0.75	+ 9 0.0	1.211	2.158	10.5	19.9	157 W	54	55
8 14	0 6.65	+34 28.6	0.869	1.625	33.0	14.2	119 W	79	30	11 7	3 55.44	+ 8 46.5	1.211	2.175	8.1	19.8	162 W	54	55
8 19	0 7.88	+37 18.5	0.836	1.608	32.8	14.1	121 W	82	27	11 12	3 49.80	+ 8 35.3	1.217	2.192	6.1	19.7	166 W	54	55
8 24	0 8.23	+40 6.3	0.806	1.592	32.6	14.0	122 W	85	24	11 17	3 44.04	+ 8 27.1	1.230	2.208	4.9	19.7	169 W	53	56
8 29	0 7.60	+42 49.9	0.779	1.577	32.4	13.9	123 W	88	21	11 22	3 38.36	+ 8 22.3	1.249	2.225	5.3	19.8	168 E	53	56
9 3	0 5.91	+45 26.7	0.755	1.563	32.3	13.8	124 W	90	19	12 2	3 27.94	+ 8 23.6	1.308	2.258	8.8	20.0	159 E	53	56
9 8	0 3.13	+47 53.7	0.735	1.549	32.3	13.7	125 W	87	16	12 12	3 19.76	+ 8 40.6	1.392	2.291	12.9	20.4	149 E	54	55
9 13	23 59.26	+50 8.4	0.717	1.537	32.2	13.7	125 W	85	14	12 22	3 14.56	+ 9 12.1	1.497	2.323	16.5	20.7	138 E	54	55
9 18	23 54.43	+52 8.1	0.702	1.526	32.3	13.6	126 W	83	12	1 1	3 12.52	+ 9 55.8	1.620	2.355	19.3	21.0	128 E	55	54
9 23	23 48.81	+53 50.7	0.689	1.515	32.4	13.6	126 E	81	10	1 11	3 13.53	+10 49.1	1.758	2.386	21.3	21.3	118 E	56	53
9 28	23 42.70	+55 14.6	0.679	1.506	32.5	13.5	126 E	80	9	1 21	3 17.31	+11 49.2	1.906	2.417	22.6	21.5	109 E	57	52*
10 3	23 36.48	+56 18.5	0.670	1.498	32.6	13.5	126 E	79	8	154661 2004 FL₃₂									
10 5	23 34.08	+56 38.3	0.668	1.495	32.7	13.5	126 E	78	7	12 27	18 12.70	-21 23.9	3.868	2.887	1.1	20.7	3 W	—	—
10 7	23 31.76	+56 54.9	0.665	1.492	32.7	13.5	126 E	78	7	1 6	18 28.50	-21 50.7	3.840	2.874	3.1	20.8	9 W	1*	2*
10 9	23 29.58	+57 8.2	0.663	1.490	32.8	13.5	126 E	78	7	1 16	18 44.40	-22 11.7	3.795	2.859	5.3	20.9	16 W	3*	8*
10 11	23 27.57	+57 18.4	0.661	1.487	32.8	13.4	126 E	78	7	2 5	19 0.31	-22 27.7	3.732	2.844	7.5	21.0	22 W	5*	15*
10 13	23 25.75	+57 25.6	0.659	1.485	32.9	13.4	126 E	78	7	2 15	19 16.15	-22 39.3	3.653	2.827	9.6	21.0	29 W	7*	22*
10 18	23 22.23	+57 30.8	0.656	1.481	33.0	13.4	126 E	77	6	2 25	19 31.84	-22 47.4	3.558	2.809	11.7	21.0	35 W	8*	29*
10 23	23 20.47	+57 19.2	0.655	1.477	33.1	13.4	126 E	78	7	2 15	19 47.30	-22 53.2	3.449	2.790	13.7	21.0	42 W	9*	36*
10 28	23 20.68	+56 52.6	0.655	1.475	33.1	13.4	126 E	78	7	3 7	20 2.46	-22 57.9	3.327	2.769	15.5	21.0	48 W	10*	42*
11 2	23 23.00	+56 12.8	0.657	1.475	33.2	13.4	126 E	79	8	3 17	20 17.24	-23 3.0	3.193	2.748	17.3	20.9	55 W	11*	49*
11 7	23 27.45	+55 21.4	0.660	1.475	33.2	13.4	125 E	80	9	3 27	20 31.54	-23 10.3	3.049	2.725	18.8	20.9	62 W	11*	56*
11 12	23 33.94	+54 20.4	0.666	1.477	33.2	13.5	125 E	81	10	4 6	20 45.29	-23 21.7	2.897	2.700	20.2	20.8	69 W	12*	63*
11 17	23 42.30	+53 11.3	0.673	1.480	33.2	13.5	125 E	82	11	4 16	20 58.38	-23 39.6	2.739	2.675	21.3	20.7	76 W	12*	70*
11 22	23 52.28	+51 55.4	0.682	1.484	33.3	13.5	124 E	83	12	4 26	21 10.68	-24 6.6	2.577	2.648	22.2	20.5	83 W	13*	77*
11 27	0 3.64	+50 33.7	0.694	1.490	33.3	13.6	124 E	84	13	5 6	21 22.04	-24 45.7	2.414	2.620	22.6	20.4	90 W	14*	84*
12 2	0 16.13	+49 7.6	0.709	1.497	33.4	13.6	123 E	86	15	5 16	21 32.27	-25 40.3	2.251	2.591	22.7	20.2	98 W	14*	90
12 7	0 29.52	+47 38.1	0.726	1.505	33.6	13.7	122 E	87	16	5 26	21 41.12	-26 54.0	2.093	2.560	22.4	20.0	106 W	14*	89
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°	
154661 2004 FL₃₂ (continuation)									41475 2000 PR₁₃ (continuation)									
10 8	20 35.72	-50 15.4	1.591	2.038	28.7	19.1	101 E	66	4 16	21 30.95	-16 50.8	2.753	2.523	21.4	20.2	66 W	14*	60*
10 13	20 38.77	-49 42.2	1.623	2.016	29.4	19.2	98 E	66	4 26	21 41.30	-15 13.0	2.652	2.549	22.2	20.1	73 W	17*	67*
10 18	20 42.91	-49 4.9	1.653	1.993	29.9	19.2	94 E	67	5 6	21 50.05	-13 37.4	2.544	2.575	22.7	20.1	80 W	20*	72*
10 23	20 48.04	-48 23.9	1.684	1.970	30.3	19.2	91 E	68	5 16	21 57.02	-12 5.0	2.432	2.599	22.9	20.0	88 W	24*	76*
10 28	20 54.08	-47 39.1	1.713	1.948	30.7	19.2	88 E	68*	5 26	22 2.01	-10 36.9	2.319	2.623	22.6	19.9	96 W	28*	75
11 2	21 0.94	-46 50.7	1.742	1.925	30.9	19.3	85 E	69*	6 5	22 4.81	-9 14.1	2.206	2.646	21.8	19.8	104 W	32*	73
11 7	21 8.55	-45 58.7	1.769	1.902	31.1	19.3	82 E	68*	6 15	22 5.17	-7 58.0	2.098	2.668	20.5	19.7	113 W	36*	72
11 12	21 16.81	-45 3.0	1.795	1.879	31.2	19.3	79 E	68*	6 25	22 2.91	-6 50.1	1.999	2.690	18.5	19.5	123 W	38*	71
11 17	21 25.66	-44 3.6	1.819	1.856	31.2	19.3	76 E	1 67*	7 5	21 57.94	-5 51.6	1.912	2.710	15.9	19.3	133 W	39	70
11 22	21 35.02	-43 0.4	1.842	1.833	31.2	19.3	74 E	2 66*	7 15	21 50.34	-5 4.1	1.843	2.730	12.7	19.2	144 W	40	69
11 27	21 44.82	-41 53.2	1.863	1.810	31.1	19.3	71 E	3 64*	7 25	21 40.50	-4 28.5	1.796	2.749	9.1	19.0	155 W	41	68
12 2	21 55.02	-40 42.0	1.883	1.787	31.0	19.3	69 E	4 63*	8 4	21 29.12	-4 5.0	1.775	2.766	5.6	18.8	164 W	41	68
12 7	22 5.56	-39 26.6	1.901	1.764	30.9	19.3	67 E	6 61*	8 14	21 17.17	-3 52.8	1.783	2.783	4.1	18.8	169 E	41	68
12 12	22 16.41	-38 6.9	1.918	1.741	30.7	19.2	65 E	7 59*	8 24	21 5.77	-3 49.7	1.819	2.799	6.3	18.9	162 E	41	68
12 17	22 27.51	-36 42.9	1.932	1.719	30.6	19.2	63 E	8 57*	9 3	20 55.91	-3 52.9	1.884	2.814	9.7	19.2	152 E	41	68
12 22	22 38.82	-35 14.7	1.946	1.696	30.4	19.2	61 E	10 55*	9 13	20 48.30	-3 59.2	1.973	2.828	12.9	19.4	141 E	41	68
12 27	22 50.33	-33 42.0	1.958	1.674	30.2	19.2	59 E	11 52*	9 23	20 43.36	-4 5.3	2.082	2.842	15.5	19.6	131 E	41	68
1 1	23 2.00	-32 5.0	1.969	1.653	29.9	19.2	57 E	12 50*	10 3	20 41.13	-4 8.6	2.208	2.854	17.5	19.8	121 E	41	68
1 6	23 13.82	-30 23.6	1.978	1.631	29.7	19.1	55 E	14 48*	10 13	20 41.52	-4 7.3	2.346	2.865	18.9	20.0	111 E	41	68
1 11	23 25.76	-28 38.1	1.987	1.610	29.4	19.1	54 E	15 46*	10 23	20 44.26	-3 59.8	2.491	2.875	19.7	20.2	103 E	41	68
1 16	23 37.82	-26 48.4	1.994	1.590	29.2	19.1	52 E	16 44*	11 2	20 49.06	-3 45.2	2.640	2.885	20.1	20.3	94 E	41	66*
1 21	23 49.97	-24 54.8	2.001	1.570	28.9	19.1	50 E	17 43*	11 12	20 55.63	-3 22.9	2.789	2.893	20.0	20.4	86 E	42	61*
35755 2003 RV₈									9950 ESA									
12 27	18 12.71	-10 10.2	2.615	1.674	7.8	20.5	13 W	5*	12 27	18 14.43	-20 24.3	2.637	1.656	2.1	19.5	4 W	—	—
1 6	18 41.67	-9 38.7	2.585	1.650	8.5	20.4	14 W	8*	1 6	18 43.64	-19 22.6	2.561	1.588	4.0	19.5	6 W	—	—
1 16	19 10.98	-8 49.9	2.554	1.628	9.3	20.4	16 W	9*	1 16	19 14.00	-17 56.6	2.483	1.520	6.0	19.5	9 W	2*	—
1 26	19 40.47	-7 44.4	2.525	1.609	10.3	20.4	17 W	11*	1 26	19 45.40	-16 4.3	2.404	1.454	7.9	19.4	12 W	4*	3*
2 5	20 9.97	-6 23.5	2.498	1.594	11.3	20.4	18 W	12*	2 5	20 17.77	-13 44.8	2.329	1.392	9.7	19.3	14 W	5*	5*
2 15	20 39.36	-4 49.0	2.473	1.582	12.4	20.4	20 W	12*	2 15	20 51.05	-10 58.0	2.258	1.333	11.4	19.2	15 W	6*	7*
2 25	21 8.49	-3 3.4	2.451	1.574	13.4	20.4	22 W	13*	2 25	21 25.14	-7 45.8	2.195	1.279	12.8	19.1	17 W	7*	8*
3 7	21 37.30	-1 9.4	2.430	1.570	14.6	20.4	23 W	13*	3 7	22 0.03	-4 11.8	2.142	1.232	13.9	19.0	17 W	7*	9*
3 17	22 5.72	+0 50.1	2.410	1.570	15.7	20.4	25 W	13*	3 17	22 17.76	-2 18.2	2.120	1.211	14.4	19.0	18 W	7*	9*
3 27	22 33.70	+2 51.9	2.392	1.573	16.9	20.5	27 W	13*	3 27	22 35.69	-0 21.5	2.101	1.193	14.7	18.9	18 W	7*	9*
4 6	23 1.24	+4 53.0	2.374	1.581	18.1	20.5	29 W	14*	3 27	22 53.79	+1 37.4	2.086	1.177	15.0	18.9	18 W	7*	9*
4 16	23 28.32	+6 50.8	2.355	1.592	19.4	20.5	32 W	14*	3 27	23 12.07	+3 37.4	2.073	1.163	15.1	18.9	18 W	7*	9*
4 26	23 54.93	+8 42.6	2.334	1.606	20.7	20.6	34 W	14*	4 1	23 30.53	+5 37.2	2.065	1.153	15.2	18.8	18 W	7*	9*
5 6	0 21.07	+10 26.0	2.311	1.624	22.0	20.6	37 W	15*	4 6	23 49.16	+7 35.8	2.059	1.145	15.2	18.8	17 W	7*	9*
5 16	0 46.73	+11 59.2	2.285	1.646	23.3	20.7	40 W	16*	4 11	0 7.94	+9 31.8	2.057	1.140	15.1	18.8	17 W	7*	9*
5 26	1 11.85	+13 20.1	2.255	1.670	24.6	20.7	43 W	18*	4 16	0 26.86	+11 24.2	2.059	1.138	15.0	18.8	17 W	7*	9*
6 5	1 36.40	+14 27.3	2.221	1.697	25.9	20.8	47 W	20*	4 21	0 45.90	+13 11.7	2.063	1.139	14.8	18.8	17 W	7*	8*
6 15	2 0.30	+15 19.7	2.182	1.726	27.0	20.8	51 W	23*	4 26	1 5.01	+14 53.4	2.070	1.144	14.6	18.8	17 W	6*	8*
6 25	2 23.42	+15 56.0	2.137	1.757	28.2	20.8	55 W	26*	5 1	1 24.18	+16 28.3	2.081	1.151	14.4	18.8	17 W	6*	8*
7 5	2 45.66	+16 15.4	2.087	1.790	29.1	20.8	59 W	30*	5 6	1 43.36	+17 55.8	2.093	1.161	14.2	18.8	16 W	6*	8*
7 15	3 6.84	+16 17.4	2.032	1.824	30.0	20.8	64 W	35*	5 16	2 21.59	+20 26.1	2.125	1.189	13.9	18.9	16 W	6*	8*
7 25	3 26.78	+16 1.3	1.971	1.859	30.6	20.8	69 W	40*	5 26	2 59.28	+22 21.4	2.163	1.227	13.7	19.0	17 W	6*	8*
8 4	3 45.28	+15 27.0	1.905	1.896	31.0	20.8	74 W	45*	6 5	3 36.04	+23 41.3	2.205	1.273	13.8	19.1	17 W	6*	9*
8 14	4 2.07	+14 34.0	1.836	1.933	31.0	20.8	80 W	50*	6 15	4 11.49	+24 27.4	2.248	1.327	14.2	19.3	19 W	7*	10*
8 24	4 16.87	+13 22.3	1.763	1.971	30.8	20.7	86 W	53*	6 25	4 45.30	+24 42.7	2.291	1.385	14.8	19.4	20 W	8*	11*
9 3	4 29.40	+11 52.3	1.689	2.010	30.1	20.7	93 W	55*	7 5	5 17.27	+24 30.8	2.331	1.447	15.7	19.6	23 W	10*	13*
9 13	4 39.29	+10 4.2	1.615	2.049	28.9	20.6	100 W	55*	7 15	5 47.25	+23 55.9	2.367	1.513	16.7	19.8	25 W	13*	14*
9 23	4 46.21	+7 59.5	1.544	2.087	27.2	20.5	108 W	53*	7 25	6 15.18	+23 1.7	2.396	1.580	17.9	19.9	29 W	16*	16*
10 3	4 49.84	+5 40.3	1.480	2.126	24.9	20.3	117 W	51	8 4	6 41.08	+21 52.1	2.418	1.649	19.1	20.1	32 W	19*	19*
10 13	4 49.94	+3 10.9	1.425	2.165	22.0	20.2	126 W	48	8 14	7 4.99	+20 30.1	2.431	1.718	20.3	20.2	36 W	23*	21*
10 18	4 48.64	+1 54.4	1.403	2.184	20.4	20.1	130 W	47	8 24	7 26.95	+18 58.5	2.434	1.787	21.5	20.3	40 W	28*	24*
10 23	4 46.48	+0 38.1	1.385	2.203	18.7	20.1	135 W	46	9 3	7 47.03	+17 19.8	2.426	1.856	22.6	20.4	45 W	32*	26*
10 28	4 43.50	-0 36.7	1.372	2.222	16.9	20.0	139 W	44	9 13	8 5.26	+15 35.9	2.408	1.925	23.7	20.5	50 W	37*	30*
11 2	4 39.77	-1 48.8	1.364	2.241	15.3	20.0	144 W	43	9 23	8 21.64	+13 48.7	2.379	1.993	24.6	20.6	56 W	41*	33*
11 7	4 35.39	-2 56.5	1.362	2.260	13.7	19.9	147 W	42	10 3	8 36.18	+11 59.8	2.339	2.060	25.3	20.7	62 W	46*	37*
11 12	4 30.51	-3 58.5	1.365	2.279	12.4	19.9	150 W	41	10 13	8 48.78	+10 10.7	2.288	2.126	25.8	20.7	68 W	49*	41*
11 17	4 25.28	-4 53.4	1.375	2.297	11.5	19.9	152 W	40	10 23	8 59.35	+8 23.0	2.229	2.191	26.0	20.7	75 W	51*	45*
11 22	4 19.87	-5 40.3	1.391	2.316	11.1	19.9	153 W	39	11 2	9 7.75	+6 38.3	2.163	2.254	25.9	20.7	82 W	52*	50*
12 2	4 9.20	-6 47.3	1.442	2.352	11.8	20.1	151 E	38	11 12	9 13.75	+4 58.5	2.091	2.316	25.3	20.7	90 W	50	55*
12 12	3 59.78	-7 17.3	1.518	2.388	13.9	20.3	144 E	38	11 22	9 17.15	+3 25.7	2.017	2.377	24.2	20.6	99 W	48	59*
12 22	3 52.59	-7 13.5	1.615	2.424	16.3	20.5	136 E	38	12 2	9 17.72	+2 2.3	1.944	2.437	22.6	20.6	108 W	47	62*
1 1	3 48.13	-6 42.1	1.731	2.458	18.5	20.8	128 E	38	12 12	9 15.28	+0 51.7	1.877	2.495	20.4				

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°
343158 2009 HC₈₂										88710 2001 SL₉									
<i>(continuation)</i>										<i>(continuation)</i>									
4 21	15 44.10	+23 35.9	1.424	2.255	18.1	19.7	136W	69	40	6 5	2 26.75	+16 57.6	2.020	1.316	25.9	20.9	34W	13*	26*
4 26	15 23.89	+25 13.6	1.457	2.303	17.1	19.7	138W	70	39	6 15	2 57.75	+17 52.1	1.961	1.296	27.9	20.9	37W	14*	27*
5 1	15 3.97	+26 27.1	1.504	2.350	16.7	19.8	138W	71	38	6 25	3 29.93	+18 26.2	1.897	1.273	29.9	20.8	39W	16*	28*
5 6	14 44.94	+27 16.3	1.564	2.397	16.9	20.0	136E	72	37	7 5	4 3.44	+18 36.7	1.830	1.246	32.0	20.7	40W	18*	29*
5 11	14 27.28	+27 43.1	1.637	2.442	17.5	20.1	133E	73	36	7 15	4 38.38	+18 20.1	1.762	1.214	34.0	20.7	42W	21*	30*
5 16	14 11.33	+27 50.8	1.720	2.487	18.3	20.3	129E	73	36	7 25	5 14.77	+17 32.9	1.695	1.179	36.1	20.6	43W	22*	31*
5 21	13 57.23	+27 42.8	1.813	2.531	19.2	20.5	125E	73	36	8 4	5 52.65	+16 12.4	1.631	1.141	38.0	20.5	44W	24*	31*
5 26	13 45.03	+27 22.9	1.913	2.574	19.9	20.7	120E	72	37	8 14	6 31.98	+14 16.6	1.572	1.099	39.9	20.4	44W	25*	31*
5 31	13 34.63	+26 54.2	2.019	2.617	20.5	20.8	115E	72	37	8 24	7 12.69	+11 45.5	1.520	1.054	41.5	20.2	44W	25*	31*
6 5	13 25.91	+26 19.2	2.131	2.658	21.0	21.0	110E	71	38	9 3	7 54.73	+8 41.7	1.480	1.008	42.8	20.1	43W	25*	31*
6 10	13 18.70	+25 40.0	2.246	2.699	21.3	21.2	105E	70*	38	9 8	8 16.24	+6 59.2	1.464	0.985	43.3	20.1	42W	24*	30*
6 15	13 12.85	+24 58.0	2.365	2.740	21.4	21.3	101E	68*	39	9 13	8 38.05	+5 11.0	1.451	0.961	43.7	20.0	41W	24*	30*
6 20	13 8.20	+24 14.5	2.484	2.779	21.3	21.4	96E	65*	40	9 18	9 0.18	+3 18.2	1.442	0.938	43.9	19.9	40W	23*	29*
74721 1999 RH₁₆₇										360280 2000 UH₁₆									
12 27	18 16.12	-25 12.2	3.242	2.260	1.1	20.7	3W	—	—	12 27	18 16.32	-32 14.7	3.012	2.047	4.3	20.2	9W	—	—
1 6	18 38.71	-25 2.1	3.197	2.224	3.1	20.8	7W	—	1*	1 6	18 42.89	-32 43.8	2.963	2.009	5.6	20.2	12W	—	4*
1 16	19 1.68	-24 39.8	3.141	2.188	5.3	20.8	12W	—	6*	1 16	19 10.41	-32 57.4	2.906	1.972	7.4	20.2	15W	—	8*
1 26	19 24.92	-24 4.8	3.076	2.152	7.6	20.8	17W	1*	11*	1 26	19 38.73	-32 54.2	2.842	1.935	9.4	20.2	19W	—	11*
2 5	19 48.33	-23 17.0	3.002	2.115	9.8	20.9	21W	2*	15*	2 5	20 7.70	-32 33.2	2.773	1.899	11.4	20.2	22W	—	15*
2 15	20 11.85	-22 16.4	2.920	2.079	12.0	20.8	26W	3*	20*	2 15	20 37.15	-31 54.0	2.700	1.863	13.4	20.2	26W	—	18*
2 25	20 35.38	-21 3.4	2.833	2.043	14.2	20.8	31W	4*	25*	2 25	21 6.88	-30 56.1	2.624	1.828	15.4	20.2	29W	—	21*
3 7	20 58.89	-19 38.3	2.739	2.007	16.4	20.8	35W	5*	29*	3 7	21 36.72	-29 39.9	2.547	1.795	17.4	20.1	33W	—	24*
3 17	21 22.34	-18 1.9	2.642	1.972	18.5	20.7	39W	6*	33*	3 17	22 6.51	-28 6.1	2.471	1.762	19.3	20.1	36W	—	27*
3 27	21 45.70	-16 15.0	2.541	1.937	20.6	20.7	43W	7*	37*	3 27	22 36.09	-26 15.7	2.395	1.732	21.1	20.0	39W	—	29*
4 6	22 8.95	-14 18.6	2.439	1.903	22.6	20.6	47W	8*	41*	4 6	23 5.36	-24 10.5	2.322	1.703	22.8	20.0	41W	—	32*
4 16	22 32.12	-12 13.7	2.335	1.871	24.6	20.5	51W	9*	45*	4 16	23 34.22	-21 52.5	2.252	1.677	24.4	19.9	44W	—	34*
4 26	22 55.20	-10 1.6	2.230	1.839	26.5	20.5	55W	11*	48*	4 26	0 2.59	-19 24.1	2.185	1.653	26.0	19.9	46W	—	37*
5 6	23 18.23	-7 43.6	2.127	1.809	28.3	20.4	58W	13*	52*	5 6	0 30.45	-16 47.7	2.121	1.632	27.4	19.8	48W	—	40*
5 16	23 41.23	-5 21.3	2.024	1.780	30.0	20.3	62W	15*	55*	5 16	0 57.75	-14 6.2	2.061	1.613	28.8	19.8	50W	—	43*
5 26	0 4.21	-2 56.3	1.923	1.754	31.6	20.2	65W	18*	57*	5 26	1 24.46	-11 22.3	2.004	1.598	30.0	19.7	52W	—	45*
6 5	0 27.19	-0 30.3	1.825	1.729	33.0	20.1	68W	21*	58*	6 5	1 50.58	-8 38.5	1.950	1.587	31.2	19.7	54W	1*	48*
6 15	0 50.16	+1 54.8	1.729	1.707	34.4	20.0	72W	25*	59*	6 15	2 16.10	-5 57.0	1.897	1.578	32.4	19.6	56W	5*	50*
6 25	1 13.08	+4 17.1	1.637	1.687	35.6	19.9	75W	30*	58*	6 25	2 40.96	-3 19.8	1.845	1.574	33.4	19.6	58W	10*	52*
7 5	1 35.91	+6 34.8	1.547	1.670	36.6	19.7	78W	35*	57*	7 5	3 5.17	-0 48.2	1.793	1.573	34.4	19.6	61W	15*	53*
7 15	1 58.53	+8 45.9	1.460	1.656	37.4	19.6	82W	41*	55*	7 15	3 28.66	+1 36.7	1.740	1.576	35.3	19.5	64W	21*	54*
7 25	2 20.77	+10 48.6	1.377	1.646	38.0	19.5	85W	46*	53	7 25	3 51.35	+3 54.8	1.685	1.583	36.0	19.5	66W	27*	54*
8 4	2 42.43	+12 41.7	1.296	1.638	38.3	19.4	89W	52*	51	8 4	4 13.18	+6 6.4	1.628	1.593	36.7	19.5	70W	34*	54*
8 14	3 1.18	+14 24.1	1.219	1.634	38.2	19.2	94W	56*	50	8 14	4 33.99	+8 12.4	1.567	1.607	37.2	19.4	74W	40*	53*
8 24	3 22.64	+15 55.1	1.144	1.633	37.8	19.1	98W	60*	48	8 24	4 53.62	+10 14.4	1.503	1.624	37.5	19.3	78W	46*	52*
9 3	3 40.35	+17 15.0	1.073	1.636	36.8	18.9	104W	62	47	9 3	5 11.86	+12 14.9	1.436	1.644	37.5	19.3	83W	52*	51*
9 13	3 55.70	+18 24.3	1.005	1.642	35.3	18.7	109W	63	46	9 13	5 28.42	+14 17.0	1.367	1.667	37.1	19.2	88W	57*	49*
9 23	4 8.04	+19 24.1	0.942	1.651	33.1	18.5	116W	64	45	9 23	5 42.94	+16 24.7	1.295	1.693	36.3	19.1	94W	61*	48*
10 3	4 16.69	+20 15.8	0.884	1.664	30.0	18.3	124W	65	44	10 3	5 54.97	+18 42.6	1.224	1.721	34.8	19.0	101W	64	45
10 13	4 20.96	+21 0.2	0.835	1.680	25.9	18.1	133W	66	43	10 13	6 3.89	+21 15.4	1.154	1.750	32.7	18.8	109W	66	43
10 23	4 20.50	+21 37.4	0.797	1.698	20.9	17.9	143W	67	42	10 23	6 9.02	+24 7.4	1.089	1.782	29.7	18.6	117W	69	40
11 2	4 15.43	+22 6.4	0.773	1.719	14.9	17.6	154W	67	42	10 28	6 9.93	+25 41.1	1.060	1.798	27.9	18.5	122W	71	38
11 7	4 11.43	+22 17.3	0.767	1.731	11.6	17.5	159W	67	42	11 2	6 9.60	+27 19.7	1.033	1.815	25.8	18.4	127W	72	37
11 12	4 6.71	+22 25.5	0.767	1.743	8.2	17.4	165W	67	42	11 7	6 7.93	+29 2.4	1.010	1.832	23.5	18.3	132W	74	35
11 17	4 1.54	+22 31.1	0.771	1.755	4.8	17.3	172W	68	41	11 12	6 4.88	+30 48.2	0.991	1.849	21.0	18.2	138W	76	33
11 22	3 56.20	+22 34.5	0.781	1.769	1.6	17.1	177W	68	41	11 17	6 0.43	+32 35.1	0.977	1.867	18.4	18.2	143W	78	31
11 27	3 50.97	+22 35.9	0.797	1.782	2.7	17.2	175E	68	41	11 22	5 54.63	+34 20.8	0.968	1.885	15.7	18.1	149W	79	30
12 2	3 46.12	+22 35.9	0.818	1.796	5.8	17.5	169E	68	41	11 27	5 47.58	+36 2.6	0.965	1.903	13.1	18.0	154W	81	28
12 7	3 41.89	+22 35.3	0.845	1.811	9.0	17.7	163E	68	41	12 2	5 39.48	+37 37.7	0.969	1.921	10.8	17.9	159W	83	26
12 12	3 38.46	+22 34.9	0.877	1.826	11.9	17.9	158E	68	41	12 7	5 30.62	+39 3.5	0.979	1.939	9.2	17.9	162W	84	25
12 17	3 35.97	+22 35.4	0.914	1.841	14.6	18.1	152E	68	41	12 12	5 21.38	+40 18.1	0.995	1.957	8.6	17.9	163W	85	24
12 22	3 34.46	+22 37.1	0.955	1.857	17.0	18.3	147E	68	41	12 17	5 12.16	+41 20.4	1.019	1.976	9.2	18.0	161E	86	23
12 27	3 33.96	+22 40.5	1.001	1.873	19.1	18.5	141E	68	41										
1 1	3 34.44	+22 45.7	1.051	1.889	21.0	18.7	136E	68	41										
1 6	3 35.89	+22 52.9	1.104	1.906	22.7	18.9	132E	68	41										
1 11	3 38.25	+23 2.0	1.161	1.922	24.1	19.1	127E	68	41										
1 16	3 41.45	+23 12.9	1.221	1.940	25.2	19.2	123E	68	41										
1 21	3 45.42	+23 25.2	1.283	1.957	26.2	19.4	119E	68	41										
88710 2001 SL₉																			
12 27	18 16.21	-12 44.7	1.992	1.042	10.1	19.8	11W	3*	—										
1 6	18 54.79	-11 28.4	2.032	1.087	10.4	20.0	11W	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°
360280 2000 UH₁₆										16958 Klaasen									
<i>(continuation)</i>										<i>(continuation)</i>									
12 22	5 3.36	+42 10.3	1.049	1.995	10.7	18.2	158 E	87	22	8 9	0 15.96	-12 16.7	1.513	2.351	17.4	18.6	136 W	33	76
12 27	4 55.34	+42 48.6	1.085	2.013	12.6	18.3	153 E	88	21	8 14	0 14.00	-14 14.1	1.486	2.363	15.5	18.5	141 W	31	78
1 1	4 48.37	+43 16.4	1.127	2.032	14.6	18.5	149 E	88	21	8 19	0 11.27	-16 16.1	1.465	2.375	13.7	18.4	146 W	29	80
1 6	4 42.66	+43 35.5	1.174	2.051	16.5	18.7	144 E	89	20	8 24	0 7.81	-18 20.7	1.451	2.386	11.9	18.3	151 W	27	82
1 11	4 38.34	+43 47.7	1.226	2.070	18.3	18.9	139 E	89	20	8 29	0 3.67	-20 25.4	1.444	2.397	10.3	18.3	155 W	25	84
1 16	4 35.43	+43 54.8	1.282	2.088	19.8	19.0	134 E	89	20	9 3	23 58.94	-22 27.6	1.445	2.408	9.3	18.2	157 W	23	86
1 21	4 33.89	+43 58.1	1.343	2.107	21.2	19.2	129 E	89	20	9 8	23 53.75	-24 24.7	1.454	2.418	8.9	18.2	158 W	21	88
161551 2004 XO₇₂										52387 Huitzilopochtli									
12 27	18 16.34	-26 12.1	2.985	2.004	1.6	20.5	3 W	—	—	12 27	18 16.47	-29 49.2	2.408	1.436	4.6	20.8	7 W	—	—
1 6	18 42.23	-26 0.4	2.945	1.972	3.4	20.5	7 W	—	1*	1 6	18 48.24	-28 17.4	2.425	1.455	4.9	20.9	7 W	—	1*
1 16	19 8.51	-25 32.3	2.898	1.940	5.4	20.6	11 W	—	5*	1 16	19 18.50	-26 23.4	2.434	1.471	6.1	20.9	9 W	—	3*
1 26	19 35.04	-24 47.6	2.845	1.910	7.6	20.6	15 W	—	9*	1 26	19 47.28	-24 10.0	2.435	1.486	7.9	21.1	12 W	—	6*
2 5	20 1.67	-23 46.1	2.786	1.880	9.7	20.6	19 W	—	13*	2 5	20 14.66	-21 39.6	2.428	1.498	9.9	21.1	15 W	—	9*
2 15	20 28.30	-22 28.1	2.724	1.850	11.8	20.6	23 W	1*	17*	2 15	20 40.79	-18 54.2	2.411	1.509	12.1	21.2	19 W	2*	12*
2 25	20 54.81	-20 54.4	2.657	1.823	13.9	20.6	26 W	2*	20*	2 25	21 5.81	-15 55.6	2.387	1.516	14.2	21.3	22 W	4*	16*
3 7	21 21.12	-19 6.0	2.588	1.796	15.9	20.6	30 W	2*	24*	3 7	21 29.87	-12 45.2	2.354	1.522	16.4	21.4	26 W	6*	19*
3 17	21 47.18	-17 4.1	2.518	1.771	17.9	20.6	33 W	3*	27*	3 17	21 53.17	-9 24.1	2.313	1.525	18.6	21.4	29 W	8*	23*
3 27	22 12.94	-14 50.3	2.446	1.748	19.9	20.6	37 W	4*	30*	3 27	22 15.86	-5 53.3	2.265	1.525	20.8	21.4	33 W	10*	26*
4 6	22 38.41	-12 26.5	2.373	1.727	21.7	20.5	40 W	5*	34*	4 6	22 38.14	-2 13.6	2.210	1.523	22.9	21.4	36 W	13*	29*
4 16	23 3.60	-9 54.6	2.301	1.708	23.6	20.5	43 W	6*	37*	4 16	23 0.20	+1 34.3	2.150	1.519	24.9	21.4	40 W	15*	32*
4 26	23 28.51	-7 16.8	2.230	1.692	25.3	20.4	46 W	7*	40*	4 26	23 22.23	+5 29.8	2.085	1.513	26.9	21.4	43 W	18*	34*
5 6	23 53.18	-4 35.1	2.159	1.678	26.9	20.4	49 W	9*	43*	5 6	23 44.48	+9 31.9	2.017	1.504	28.9	21.4	46 W	21*	36*
5 16	0 17.63	+1 51.8	2.089	1.666	28.5	20.4	52 W	11*	45*	5 16	0 7.19	+13 39.8	1.946	1.492	30.8	21.3	49 W	24*	37*
5 26	0 41.87	+0 50.7	2.020	1.658	30.0	20.3	55 W	14*	48*	5 26	0 30.64	+17 51.9	1.873	1.479	32.6	21.3	52 W	28*	37*
6 5	1 5.92	+3 30.3	1.952	1.652	31.3	20.3	58 W	18*	49*	6 5	0 55.18	+22 6.3	1.800	1.463	34.3	21.2	54 W	32*	35*
6 15	1 29.76	+6 4.9	1.885	1.650	32.5	20.2	61 W	22*	50*	6 15	1 21.21	+26 20.5	1.727	1.445	36.0	21.2	57 W	37*	33*
6 25	1 53.34	+8 32.4	1.818	1.650	33.6	20.2	64 W	26*	50*	6 25	1 49.18	+30 30.5	1.656	1.425	37.6	21.1	59 W	42*	31*
7 5	2 16.60	+10 51.3	1.752	1.653	34.6	20.1	67 W	32*	50*	7 5	2 19.64	+34 31.2	1.586	1.403	39.2	21.0	61 W	46*	28*
7 15	2 39.42	+13 0.2	1.685	1.660	35.4	20.1	71 W	37*	49*	7 15	2 53.16	+38 15.8	1.519	1.379	40.7	20.9	62 W	51*	24*
7 25	3 1.63	+14 57.9	1.618	1.669	36.0	20.0	75 W	44*	48*	7 25	3 30.25	+41 35.2	1.455	1.354	42.2	20.8	64 W	54*	21*
8 4	3 23.04	+16 44.2	1.550	1.681	36.3	20.0	79 W	50*	47*	8 4	4 11.25	+44 18.6	1.394	1.327	43.7	20.7	65 W	57*	18*
8 14	3 43.36	+18 18.8	1.482	1.696	36.4	19.9	83 W	55*	46*	8 14	4 56.03	+46 13.9	1.335	1.299	45.2	20.6	66 W	59*	15*
8 24	4 2.27	+19 42.3	1.412	1.713	36.2	19.8	88 W	61*	44	8 24	5 43.71	+47 9.1	1.280	1.270	46.7	20.5	66 W	60*	14*
9 3	4 19.38	+20 56.0	1.343	1.732	35.5	19.7	94 W	65*	43	9 3	6 32.76	+46 55.0	1.227	1.241	48.2	20.4	67 W	61*	12*
9 13	4 34.19	+22 1.1	1.273	1.754	34.4	19.6	100 W	67*	42	9 8	6 57.17	+46 20.4	1.201	1.227	49.0	20.4	67 W	61*	12*
9 23	4 46.18	+22 59.6	1.205	1.777	32.7	19.4	107 W	68	41	9 13	7 21.15	+45 27.3	1.176	1.212	49.8	20.3	67 W	61*	12*
10 3	4 54.75	+23 53.2	1.140	1.803	30.3	19.3	115 W	69	40	9 18	7 44.51	+44 15.8	1.151	1.197	50.6	20.3	67 W	61*	12*
10 13	4 59.26	+24 43.1	1.080	1.829	27.1	19.1	123 W	70	39	9 23	8 7.09	+42 46.6	1.127	1.183	51.4	20.2	67 W	61*	13*
10 23	4 59.26	+25 29.3	1.029	1.857	23.0	18.9	133 W	70	39	9 28	8 28.79	+41 0.4	1.103	1.169	52.2	20.2	67 W	61*	13*
11 2	4 54.59	+26 9.9	0.991	1.887	18.0	18.7	144 W	71	38	10 3	8 49.54	+38 57.8	1.080	1.155	53.1	20.1	67 W	61*	14*
11 7	4 50.59	+26 26.9	0.979	1.902	15.2	18.6	150 W	71	38	10 13	9 28.19	+34 7.3	1.035	1.129	54.7	20.0	67 W	61*	17*
11 12	4 45.66	+26 41.0	0.971	1.917	12.2	18.5	156 W	72	37	10 23	10 3.33	+28 21.1	0.992	1.105	56.4	19.9	68 W	61*	20*
11 17	4 39.98	+26 51.8	0.968	1.932	9.2	18.4	162 W	72	37	11 2	10 35.65	+21 44.9	0.952	1.083	57.9	19.9	68 W	59*	25*
11 22	4 33.80	+26 58.9	0.971	1.948	6.2	18.3	168 W	72	37	11 7	11 50.98	+18 9.9	0.934	1.074	58.7	19.8	68 W	57*	27*
11 27	4 27.37	+27 2.3	0.981	1.964	3.5	18.2	173 W	72	37	11 12	11 5.90	+14 24.8	0.917	1.065	59.3	19.8	68 W	55*	30*
12 2	4 20.98	+27 2.1	0.996	1.980	2.9	18.2	174 E	72	37	11 17	11 20.50	+10 30.5	0.902	1.058	60.0	19.7	68 W	52*	33*
12 7	4 14.89	+26 59.0	1.018	1.996	4.9	18.4	170 E	72	37	11 22	11 34.90	+6 28.1	0.889	1.052	60.5	19.7	68 W	49*	36*
12 12	4 9.37	+26 53.5	1.046	2.012	7.5	18.6	164 E	72	37	11 27	11 49.20	+2 19.1	0.877	1.047	61.0	19.7	68 W	46*	40*
12 17	4 4.60	+26 46.7	1.080	2.028	10.2	18.8	159 E	72	37	12 2	12 3.50	-1 54.8	0.867	1.043	61.3	19.7	68 W	42*	43*
12 22	4 0.72	+26 39.3	1.119	2.044	12.7	18.9	153 E	72	37	12 7	12 17.89	-6 11.8	0.859	1.040	61.6	19.7	68 W	39*	47*
12 27	3 57.80	+26 32.1	1.164	2.061	15.0	19.1	147 E	72	37	12 12	12 32.46	-10 29.7	0.854	1.039	61.8	19.6	68 W	34*	50*
1 1	3 55.89	+26 25.7	1.214	2.077	17.1	19.3	142 E	71	38	12 17	12 47.33	-14 46.2	0.850	1.039	61.8	19.6	69 W	30*	54*
1 6	3 54.98	+26 20.6	1.268	2.093	18.9	19.5	136 E	71	38	12 22	13 2.60	-18 59.0	0.849	1.040	61.8	19.6	69 W	26	57*
1 11	3 55.07	+26 17.3	1.326	2.110	20.4	19.6	131 E	71	38	12 27	13 18.37	-23 5.9	0.849	1.043	61.6	19.6	69 W	22	59*
1 16	3 56.10	+26 15.7	1.387	2.126	21.8	19.8	127 E	71	38	1 1	13 34.73	-27 4.5	0.852	1.047	61.4	19.6	69 W	18	61*
1 21	3 58.00	+26 15.9	1.452	2.143	22.9	20.0	122 E	71	38	16958 Klaasen									
12 27	18 16.44	+0 5.3	2.468	1.614	14.0	18.7	23 W	12*	—	12 27	18 16.44	+0 5.3	2.468	1.614	14.0	18.7	23 W	12*	—
1 6	18 44.77	+0 30.6	2.509	1.646	13.3	18.8	23 W	14*	—	1 6	18 44.77	+0 30.6	2.509	1.646	13.3	18.8	23 W	14*	—
1 16	19 12.01	+0 52.7	2.549	1.680	12.8	18.8	22 W	15*	—	1 16	19 12.01	+0 52.7	2.549	1.680	12.8	18.8	22 W	15*	—
1 26	19 38.09	+1 2.3	2.585	1.715	12.6	18.9	22 W	16*	—	1 26	19 38.09	+1 2.3	2.585	1.715	12.6	18.9	22 W	16*	—
2 5	20 3.03	+1 1.1	2.615	1.751	12.8	19.0	23 W	17*	3*	2 5	20 3.03	+1 1.1	2.615	1.751	12.8	19.0	23 W	17*	3*
2 15	20 26.84	+0 50.7	2.637	1.787	13.3	19.0	25 W	17*	8*	2 15	20 26.84	+0 50.7	2.637	1.787	13.3	19.0	25 W	17*	8*
2 25	20 49.54	+0 33.2	2.650	1.824	14.3	19.1	27 W	18*	13*	2 25	20 49.54</								

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°
52387 Huitzilopochtli (continuation)										164184 2004 BF₆₈									
1 6	13 51.76	-30 52.6	0.856	1.052	61.0	19.7	69 W	14	63*	12 27	18 18.21	-21 3.8	2.090	1.109	2.3	21.4	3 W	—	—
1 11	14 9.54	-34 28.3	0.861	1.058	60.6	19.7	70 W	11	64*	1 1	18 38.40	-20 44.7	2.122	1.141	2.4	21.5	3 W	—	—
1 16	14 28.15	-37 49.8	0.867	1.065	60.2	19.7	70 W	7	64*	1 6	18 57.88	-20 17.6	2.155	1.174	2.7	21.6	3 W	—	—
1 21	14 47.65	-40 55.7	0.874	1.074	59.7	19.7	70 W	4	63*	1 11	19 16.64	-19 43.5	2.188	1.208	3.0	21.7	4 W	—	—
1 16	19 34.68	-19 3.2	2.221	1.242	3.4	21.8	4 W	—	—	1 16	19 34.68	-19 3.2	2.221	1.242	3.4	21.8	4 W	—	—
16635 1993 QO										188272 2003 AO₄₂									
12 27	18 16.54	-34 0.3	3.436	2.476	4.3	19.3	11 W	—	1*	12 27	18 18.92	-23 50.1	3.667	2.683	0.4	21.0	1 W	—	—
1 6	18 38.33	-33 17.8	3.397	2.447	5.0	19.3	13 W	—	5*	1 1	18 37.08	-23 30.0	3.696	2.723	2.6	21.2	7 W	—	1*
1 16	19 0.03	-32 25.1	3.347	2.417	6.5	19.3	16 W	—	9*	1 6	18 54.67	-23 2.9	3.711	2.762	4.7	21.4	13 W	1*	6*
1 26	19 21.52	-31 22.2	3.284	2.387	8.3	19.3	21 W	—	14*	1 26	19 11.63	-22 29.6	3.710	2.801	6.7	21.5	19 W	4*	13*
2 5	19 42.72	-30 8.8	3.209	2.355	10.3	19.4	25 W	—	19*	2 5	19 27.87	-21 50.8	3.693	2.838	8.7	21.6	26 W	6*	19*
2 15	20 3.54	-28 45.2	3.123	2.324	12.4	19.3	30 W	—	24*	508908 2003 YX₁									
2 25	20 23.92	-27 11.6	3.028	2.291	14.4	19.3	35 W	1*	29*	12 27	18 19.06	-23 29.9	1.661	0.678	1.5	21.4	1 W	—	—
3 7	20 43.80	-25 28.2	2.923	2.259	16.5	19.3	40 W	3*	34*	1 1	18 49.75	-23 28.4	1.647	0.664	1.6	21.3	1 E	—	—
3 17	21 3.15	-23 35.3	2.810	2.226	18.5	19.2	45 W	4*	39*	1 6	19 20.84	-23 3.6	1.633	0.653	4.7	21.4	3 E	—	—
3 27	21 21.93	-21 33.3	2.690	2.192	20.5	19.2	50 W	6*	44*	1 11	19 52.01	-22 15.1	1.620	0.647	8.0	21.6	5 E	—	—
4 6	21 40.11	-19 22.2	2.564	2.159	22.4	19.1	55 W	8*	49*	1 16	20 22.95	-21 3.2	1.608	0.645	11.4	21.7	7 E	—	1*
4 16	21 57.68	-17 2.4	2.433	2.125	24.2	19.0	60 W	11*	54*	205698 Troiani									
4 26	22 14.60	-14 33.7	2.299	2.091	25.9	18.9	65 W	13*	59*	12 27	18 19.08	-30 35.3	2.955	1.984	3.6	20.5	7 W	—	—
5 6	22 30.85	-11 56.1	2.162	2.057	27.5	18.8	70 W	17*	64*	1 6	18 44.98	-29 33.7	2.983	2.017	4.2	20.6	9 W	—	2*
5 16	22 46.38	-9 9.1	2.024	2.024	28.9	18.6	76 W	20*	67*	1 16	19 9.69	-28 19.0	3.003	2.051	5.7	20.7	12 W	—	6*
5 26	23 1.13	-6 12.3	1.886	1.991	30.1	18.5	81 W	25*	68*	1 26	19 33.15	-26 53.0	3.013	2.085	7.5	20.8	16 W	—	10*
6 5	23 15.03	-3 4.8	1.750	1.958	31.1	18.3	86 W	30*	67*	2 5	19 55.35	-25 17.5	3.013	2.119	9.4	20.9	21 W	—	15*
6 15	23 27.92	+0 14.3	1.617	1.926	31.8	18.1	91 W	36*	64	2 15	20 16.30	-23 34.1	3.002	2.153	11.4	21.1	26 W	2*	20*
6 25	23 39.63	+3 46.1	1.487	1.895	32.2	17.9	97 W	42*	60	2 25	20 35.99	-21 44.4	2.981	2.188	13.3	21.1	31 W	4*	25*
7 5	23 49.92	+7 32.1	1.364	1.864	32.2	17.7	102 W	49*	56	3 7	20 54.44	-19 49.9	2.948	2.222	15.2	21.2	36 W	6*	30*
7 15	23 58.45	+11 33.0	1.248	1.835	31.8	17.5	108 W	56*	52	3 17	21 11.66	-17 51.9	2.905	2.256	17.0	21.3	41 W	8*	35*
7 25	0 4.76	+15 48.8	1.141	1.807	31.0	17.2	114 W	61	48	3 27	21 27.65	-15 51.5	2.850	2.290	18.6	21.3	47 W	10*	41*
8 4	0 8.31	+20 18.1	1.045	1.780	29.7	16.9	120 W	65	44	4 6	21 42.40	-13 49.9	2.786	2.324	20.1	21.4	53 W	13*	47*
8 9	0 8.83	+22 36.2	1.001	1.768	28.9	16.8	123 W	68	41	4 16	21 55.86	-11 47.9	2.712	2.357	21.4	21.4	59 W	15*	53*
8 14	0 8.40	+24 55.4	0.961	1.756	28.0	16.7	126 W	70	39	4 26	22 7.98	-9 46.7	2.630	2.389	22.5	21.4	65 W	18*	58*
8 19	0 6.93	+27 14.2	0.925	1.744	27.1	16.6	128 W	72	37	5 6	22 18.67	-7 46.9	2.540	2.421	23.3	21.3	72 W	22*	63*
8 24	0 4.38	+29 30.8	0.893	1.733	26.1	16.4	131 W	75	34	5 16	22 27.80	-5 49.6	2.444	2.453	23.8	21.3	79 W	26*	67*
8 29	0 0.68	+31 43.1	0.864	1.723	25.2	16.3	133 W	77	32	5 26	22 35.21	-3 55.7	2.344	2.484	24.0	21.2	86 W	30*	68*
9 3	23 55.83	+33 48.5	0.840	1.713	24.4	16.2	135 W	79	30	6 5	22 40.07	-2 6.3	2.242	2.514	23.8	21.2	93 W	35*	66
9 8	23 49.89	+35 44.1	0.820	1.703	23.7	16.1	137 W	81	28	6 15	22 44.07	-0 22.8	2.140	2.544	23.0	21.1	101 W	40*	64
9 13	23 43.01	+37 27.4	0.805	1.694	23.2	16.1	138 W	82	27	6 25	22 45.06	+1 12.9	2.042	2.573	21.8	21.0	110 W	45*	63
9 18	23 35.41	+38 56.1	0.793	1.686	23.0	16.0	139 E	84	25	7 5	22 43.48	+2 38.9	1.951	2.601	20.0	20.8	119 W	48*	61
9 23	23 27.40	+40 8.5	0.786	1.679	23.0	16.0	139 E	85	24	7 15	22 39.19	+3 52.5	1.871	2.629	17.6	20.7	129 W	49	60
9 28	23 19.33	+41 3.6	0.783	1.672	23.3	16.0	139 E	86	23	7 25	22 32.28	+4 50.6	1.806	2.655	14.6	20.5	139 W	50	59
10 3	23 11.60	+41 41.4	0.783	1.666	23.8	16.0	138 E	87	22	8 4	22 33.08	+5 30.9	1.762	2.681	11.4	20.4	149 W	51	58
10 8	23 4.60	+42 2.6	0.787	1.660	24.5	16.0	136 E	87	22	8 14	22 12.24	+5 51.5	1.742	2.706	8.2	20.2	158 W	51	58
10 13	22 58.69	+42 9.2	0.794	1.656	25.4	16.1	135 E	87	22	8 24	22 0.74	+5 53.0	1.748	2.730	6.3	20.2	163 E	51	58
10 18	22 54.13	+42 3.6	0.805	1.652	26.3	16.1	133 E	87	22	9 3	21 49.67	+5 38.1	1.783	2.754	7.1	20.3	160 E	51	58
10 23	22 51.09	+41 48.2	0.818	1.648	27.3	16.2	131 E	87	22	9 8	21 44.62	+5 25.9	1.810	2.765	8.2	20.4	157 E	50	59
10 28	22 49.64	+41 25.6	0.833	1.646	28.3	16.2	128 E	86	23	9 13	21 40.04	+5 11.6	1.844	2.776	9.6	20.5	153 E	50	59
11 2	22 49.81	+40 57.8	0.851	1.644	29.2	16.3	126 E	86	23	9 18	21 36.02	+4 55.8	1.885	2.787	11.1	20.6	148 E	50	59
11 7	22 51.57	+40 27.0	0.871	1.643	30.1	16.4	124 E	85	24	9 23	21 32.62	+4 39.3	1.931	2.798	12.5	20.7	143 E	50	59
11 12	22 54.86	+39 55.1	0.893	1.643	30.9	16.5	121 E	85	24	9 28	21 29.86	+4 22.8	1.982	2.809	13.8	20.8	138 E	49	60
11 17	22 59.56	+39 23.4	0.917	1.644	31.7	16.5	119 E	84	25	10 3	21 27.79	+4 6.9	2.038	2.819	15.0	20.9	133 E	49	60
11 22	23 5.56	+38 52.9	0.942	1.645	32.3	16.6	117 E	84	25	10 8	21 26.39	+3 52.0	2.099	2.829	16.1	21.0	128 E	49	60
11 27	23 12.74	+38 24.2	0.970	1.648	32.9	16.7	115 E	83	26*	10 13	21 25.66	+3 38.6	2.163	2.839	17.0	21.1	124 E	49	60
12 2	23 20.98	+37 57.8	0.998	1.651	33.5	16.8	113 E	83	26*	10 18	21 25.59	+3 27.1	2.231	2.848	17.8	21.2	119 E	48	61
12 7	23 30.20	+37 34.0	1.029	1.654	33.9	16.9	110 E	83	26*	10 23	21 26.13	+3 17.8	2.301	2.858	18.5	21.3	114 E	48	61
12 12	23 40.28	+37 13.0	1.061	1.659	34.3	16.9	108 E	82	26*	10 28	21 27.26	+3 10.8	2.374	2.867	19.0	21.4	110 E	48	61
12 17	23 51.12	+36 54.7	1.095	1.664	34.6	17.0	106 E	82	25*	380410 2003 AD₅₄									
12 22	0 2.62	+36 39.0	1.130	1.670	34.8	17.1	104 E	82	25*	12 27	18 19.21	-32 11.9	2.865	1.900	4.6	19.7	9 W	—	—
12 27	0 14.70	+36 25.6	1.167	1.677	35.0	17.2	102 E	81	24*	1 6	18 46.63	-30 53.6	2.900	1.937	4.9	19.8	10 W	—	2*
1 1	0 27.28	+36 14.3	1.205	1.684	35.1	17.3	100 E	81	24*	1 16	19 12.49	-29 21.2	2.927	1.976	6.0	19.9	12 W	—	6*
1 6	0 40.30	+36 4.7	1.246	1.692	35.1	17.4	98 E	81	23*	1 26	19 36.76	-27 37.1	2.946	2.016	7.6	20.0	16 W	—	10*
1 11	0 53.69	+35 56.6	1.288	1.701	35.1	17.4	96 E	81	23*	2 5	19 59.47	-25 43.7	2.955	2.056	9.4	20.1	20 W	—	14*
1 16	1 7.38	+35 49.7	1.331	1.710	35.0	17.5	94 E	81	22*	2 15	20 20.69	-23 42.9	2.955	2.098	11.3	20.3	25 W	1*	19*
1 21	1 21.31	+35 43.6	1.376	1.720	34.9	17.6	92 E	81*	22*	2 25	20 40.44	-21 36.5	2.944	2.140	13.2	20.4	30 W	3*	24*
12 27	18 17.92	-23 11.1	1.879	0.896															

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°
380410 2003 AD₅₄ (continuation)										338808 2003 WZ₁₂ (continuation)									
7 25	22 26.76	+ 8 29.1	1.920	2.755	14.5	20.0	137W	53	56	9 3	5 14.10	+45 10.3	1.625	1.757	34.4	19.4	80W	74*	18*
8 4	22 17.05	+ 9 19.6	1.888	2.792	11.5	19.9	147W	54	55	9 8	5 25.28	+45 21.5	1.601	1.776	34.2	19.4	82W	76*	18*
8 14	22 5.96	+ 9 48.0	1.880	2.828	8.9	19.8	154W	55	54	9 13	5 35.64	+45 29.0	1.576	1.796	33.9	19.4	85W	79*	18*
8 24	21 54.49	+ 9 54.6	1.899	2.864	7.4	19.8	158E	55	54	9 18	5 45.12	+45 33.3	1.549	1.817	33.6	19.3	88W	82*	18*
9 3	21 43.64	+ 9 42.0	1.946	2.899	8.0	19.9	156E	55	54	9 23	5 53.64	+45 34.9	1.522	1.838	33.1	19.3	91W	85*	18*
9 8	21 38.74	+ 9 30.1	1.979	2.916	8.9	20.0	153E	55	54	9 28	6 1.15	+45 34.1	1.494	1.859	32.5	19.3	94W	88*	18*
9 13	21 34.32	+ 9 15.3	2.020	2.933	10.0	20.1	150E	54	55	10 3	6 7.55	+45 31.3	1.465	1.881	31.8	19.3	98W	89	18*
9 18	21 30.46	+ 8 58.5	2.066	2.950	11.1	20.2	146E	54	55	10 8	6 12.78	+45 26.6	1.436	1.904	31.0	19.2	101W	90	19
9 23	21 27.21	+ 8 40.6	2.118	2.966	12.3	20.3	141E	54	55	10 13	6 16.76	+45 20.1	1.407	1.926	30.0	19.2	105W	90	19
10 3	21 22.59	+ 8 3.7	2.237	2.999	14.4	20.5	132E	53	56	10 18	6 19.45	+45 11.7	1.378	1.949	28.8	19.1	109W	90	19
10 13	21 20.55	+ 7 29.6	2.373	3.030	16.1	20.8	123E	52	57	10 23	6 20.78	+45 1.2	1.350	1.972	27.5	19.1	114W	90	19
10 23	21 20.95	+ 7 1.9	2.523	3.061	17.3	21.0	114E	52	57	10 28	6 20.72	+44 48.1	1.324	1.996	26.0	19.0	118W	90	19
11 2	21 23.53	+ 6 42.7	2.682	3.091	18.1	21.1	105E	52	57*	11 2	6 19.25	+44 31.9	1.299	2.020	24.3	18.9	123W	90	19
11 12	21 28.02	+ 6 33.5	2.846	3.120	18.4	21.3	97E	52	56*	11 7	6 16.38	+44 11.7	1.277	2.044	22.4	18.9	128W	89	20
11 22	21 34.15	+ 6 34.8	3.013	3.149	18.3	21.4	89E	52	51*	11 12	6 12.17	+43 46.5	1.258	2.068	20.3	18.8	133W	89	20
12 27	18 19.25	-24 48.6	2.139	1.157	1.5	19.7	2W	—	—	11 17	6 6.76	+43 15.4	1.243	2.092	18.1	18.7	139W	88	21
1 1	18 40.98	-24 51.4	2.130	1.148	1.8	19.7	2W	—	—	11 22	6 0.32	+42 37.5	1.233	2.116	15.7	18.6	144W	88	21
1 6	19 2.85	-24 42.4	2.123	1.141	2.1	19.7	2W	—	—	11 27	5 53.08	+41 52.2	1.228	2.141	13.3	18.6	150W	87	22
1 11	19 24.74	-24 21.6	2.119	1.137	2.4	19.7	3W	—	—	12 2	5 45.31	+40 59.3	1.229	2.165	10.9	18.5	155W	86	23
1 16	19 46.54	-23 49.2	2.117	1.136	2.6	19.7	3W	—	—	12 7	5 37.32	+39 59.1	1.237	2.190	8.7	18.5	160W	85	24
1 21	20 8.12	-23 5.6	2.118	1.137	2.8	19.7	3W	—	—	12 12	5 29.44	+38 52.4	1.252	2.214	7.1	18.4	164W	84	25
1 26	20 29.38	-22 11.6	2.122	1.141	3.0	19.7	4W	—	—	12 17	5 21.94	+37 40.7	1.273	2.239	6.4	18.5	165E	83	26
1 31	20 50.23	-21 8.0	2.129	1.148	3.2	19.8	4W	—	—	12 22	5 15.08	+36 25.7	1.302	2.264	7.0	18.6	164E	81	28
2 5	21 10.61	-19 55.9	2.139	1.157	3.4	19.8	4W	—	—	12 27	5 9.01	+35 9.2	1.339	2.288	8.4	18.7	160E	80	29
2 10	21 30.46	-18 36.3	2.151	1.169	3.6	19.8	4W	—	—	1 1	5 3.87	+33 53.0	1.382	2.313	10.2	18.9	155E	79	30
2 15	21 49.75	-17 10.5	2.165	1.183	3.8	19.9	5W	—	—	1 6	4 59.73	+32 38.8	1.432	2.337	12.0	19.0	150E	78	31
2 20	22 8.46	-15 39.7	2.181	1.199	3.9	20.0	5W	—	—	1 11	4 56.61	+31 27.8	1.488	2.362	13.8	19.2	145E	76	33
2 25	22 26.59	-14 5.0	2.200	1.217	4.1	20.0	5W	—	—	1 16	4 54.50	+30 21.1	1.550	2.386	15.5	19.4	140E	75	34
3 2	22 44.14	-12 27.6	2.220	1.237	4.3	20.1	5W	—	—	1 21	4 53.35	+29 19.2	1.617	2.410	17.0	19.6	134E	74	35
3 7	23 1.14	-10 48.4	2.242	1.259	4.6	20.2	6W	—	—	159493 2000 UA									
3 12	23 17.60	-9 8.4	2.265	1.282	4.9	20.2	6W	—	—	12 27	18 19.60	-35 55.2	3.842	2.890	4.3	19.9	13W	—	1*
3 17	23 33.56	-7 28.4	2.289	1.306	5.2	20.3	7W	—	—	1 6	18 38.49	-35 24.9	3.811	2.868	4.9	19.9	14W	—	6*
3 27	0 4.06	-4 11.0	2.339	1.359	6.0	20.5	8W	—	1*	1 16	18 57.27	-34 48.7	3.763	2.845	6.2	19.9	18W	—	11*
4 6	0 32.88	-1 0.9	2.390	1.415	7.0	20.7	10W	—	3*	1 26	19 15.82	-34 6.7	3.701	2.821	7.9	20.0	23W	—	16*
4 16	1 0.25	+ 1 58.8	2.440	1.474	8.1	20.8	12W	—	6*	2 5	19 34.06	-33 19.1	3.623	2.796	9.7	20.0	28W	—	22*
4 26	1 26.33	+ 4 46.1	2.487	1.534	9.5	21.0	15W	—	8*	2 15	19 51.90	-32 26.2	3.532	2.770	11.5	20.0	34W	—	27*
5 6	1 51.30	+ 7 19.6	2.530	1.596	10.9	21.2	17W	—	11*	2 25	20 9.26	-31 28.5	3.427	2.743	13.4	19.9	40W	—	33*
5 16	2 15.28	+ 9 38.8	2.566	1.658	12.4	21.4	21W	—	15*	3 7	20 26.05	-30 26.6	3.311	2.715	15.2	19.9	46W	1*	39*
12 27	18 19.35	-25 58.0	3.038	2.056	1.3	19.9	3W	—	—	3 17	20 42.20	-29 21.1	3.183	2.686	16.9	19.9	52W	2*	45*
1 6	18 43.67	-24 42.0	2.983	2.008	2.9	19.9	6W	—	—	3 27	20 57.63	-28 12.8	3.046	2.656	18.6	19.8	58W	4*	51*
1 16	19 8.17	-23 9.0	2.921	1.961	5.1	19.9	10W	—	4*	4 6	21 12.26	-27 2.4	2.901	2.625	20.1	19.7	64W	6*	57*
1 26	19 32.76	-21 18.2	2.853	1.915	7.4	19.9	14W	2*	8*	4 16	21 25.99	-25 50.8	2.749	2.594	21.4	19.6	71W	7*	64*
2 5	19 57.36	-19 8.9	2.778	1.870	9.7	19.9	19W	4*	12*	4 26	21 38.70	-24 38.9	2.591	2.561	22.5	19.5	77W	10*	71*
2 15	20 21.92	-16 41.0	2.700	1.827	12.0	19.9	23W	6*	16*	5 6	21 50.25	-23 27.5	2.430	2.527	23.4	19.3	84W	12*	78*
2 25	20 46.39	-13 54.5	2.618	1.786	14.2	19.9	26W	8*	19*	5 16	22 0.46	-22 17.5	2.268	2.493	23.9	19.2	91W	15*	84*
3 7	21 10.79	-10 49.7	2.536	1.748	16.5	19.8	30W	10*	23*	5 26	22 9.09	-21 9.9	2.105	2.458	24.1	19.0	98W	18*	85
3 17	21 35.14	-7 27.6	2.454	1.711	18.6	19.8	33W	12*	26*	6 5	22 15.89	-20 5.2	1.945	2.422	23.8	18.8	105W	21*	84
3 27	21 59.48	-3 49.3	2.374	1.679	20.7	19.7	36W	14*	29*	6 15	22 20.49	-19 4.2	1.790	2.385	23.0	18.5	114W	24*	83
4 6	22 23.90	+ 0 3.1	2.297	1.649	22.6	19.7	39W	17*	31*	6 25	22 22.48	-18 7.2	1.642	2.348	21.5	18.3	122W	26*	82
4 16	22 48.50	+ 4 7.3	2.224	1.623	24.4	19.6	42W	19*	33*	7 5	22 21.45	-17 13.8	1.505	2.310	19.2	18.0	132W	28	81
4 26	23 13.38	+ 8 20.1	2.157	1.602	26.1	19.6	44W	21*	34*	7 15	22 16.97	-16 23.2	1.382	2.271	16.0	17.7	142W	29	80
5 6	23 38.69	+12 37.7	2.095	1.585	27.6	19.5	47W	24*	35*	7 25	22 8.85	-15 33.5	1.278	2.232	11.9	17.3	153W	29	80
5 11	23 51.55	+14 46.9	2.067	1.578	28.3	19.5	48W	26*	35*	8 4	21 57.28	-14 41.8	1.196	2.192	6.9	16.9	165W	30	79
5 16	0 4.56	+16 55.6	2.040	1.573	29.0	19.5	49W	27*	35*	8 14	21 43.04	-13 45.3	1.139	2.152	1.1	16.4	178W	31	78
5 21	0 17.73	+19 3.2	2.015	1.569	29.6	19.5	50W	29*	34*	8 19	21 35.37	-13 14.5	1.121	2.132	2.0	16.4	176E	32	77
5 26	0 31.08	+21 9.0	1.991	1.566	30.2	19.5	51W	30*	34*	8 24	21 27.64	-12 41.9	1.110	2.112	5.1	16.6	169E	32	77
5 31	0 44.63	+23 12.4	1.969	1.564	30.7	19.5	52W	32*	33*	8 29	21 20.09	-12 7.5	1.106	2.092	8.2	16.7	163E	33	76
6 5	0 58.37	+25 12.9	1.948	1.564	31.2	19.5	53W	34*	32*	9 3	21 12.94	-11 31.7	1.108	2.071	11.3	16.8	156E	33	76
6 10	1 12.33	+27 9.6	1.929	1.565	31.7	19.4	54W	36*	31*	9 13	21 0.71	-10 16.4	1.129	2.031	16.9	17.0	144E	35	74
6 15	1 26.48	+29 2.1	1.910	1.567	32.1	19.4	55W	37*	31*	9 23	20 52.21	-8 58.0	1.170	1.991	21.8	17.2	133E	36	73
6 20	1 40.83	+30 49.8	1.892	1.571	32.5	19.4	56W	40*	29*	10 3	20 47.94	-7 37.9	1.226	1.951	25.8	17.4	122E	37	72
6 25	1 55.36	+32 32.1	1.875	1.576	32.8	19.4	57W	42*	28*	10 13	20 47.90	-6 15.7	1.291	1.911	28.8	17.5	113E	39	70
6 30																			

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

20/22	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°-26°	2021	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°-26°	
3270 Dudley									329915 2005 MB									
<i>(continuation)</i>									<i>(continuation)</i>									
2 25	19 51.76	-5 29.7	3.517	2.831	13.0	20.0	40 W	23* 28*	7 10	2 0.58	-45 40.0	1.106	1.609	38.7	19.9	99 W	—	70*
3 7	20 5.13	-4 53.3	3.437	2.838	14.6	20.0	46 W	25* 35*	7 15	2 16.74	-47 50.4	1.057	1.583	39.3	19.8	99 W	—	68*
3 17	20 17.76	-4 13.0	3.344	2.845	16.0	20.0	52 W	27* 42*	7 20	2 34.32	-50 9.8	1.011	1.554	40.1	19.7	100 W	—	65*
3 27	20 29.52	-3 30.0	3.239	2.850	17.4	19.9	59 W	28* 48*	7 25	2 53.66	-52 36.7	0.969	1.523	41.0	19.6	100 W	—	63*
4 6	20 40.33	-2 45.9	3.123	2.854	18.6	19.9	65 W	30* 54*	7 27	3 2.00	-53 37.1	0.953	1.510	41.5	19.5	100 W	—	62*
4 16	20 50.05	-2 2.1	2.998	2.856	19.5	19.8	72 W	32* 59*	7 29	3 10.73	-54 38.1	0.937	1.496	42.0	19.5	100 W	—	61*
4 26	20 58.53	-1 20.4	2.866	2.858	20.2	19.8	79 W	35* 63*	7 31	3 19.88	-55 39.6	0.923	1.482	42.5	19.4	100 W	—	60*
5 6	21 5.61	-0 42.8	2.730	2.858	20.6	19.7	87 W	37* 65*	8 2	3 29.51	-56 41.2	0.908	1.468	43.0	19.4	99 W	—	59*
5 16	21 11.10	-0 11.6	2.590	2.857	20.6	19.6	95 W	40* 64	8 4	3 39.64	-57 42.7	0.895	1.453	43.6	19.4	99 W	—	58*
5 26	21 14.77	+0 10.4	2.451	2.855	20.2	19.4	103 W	42* 64	8 6	3 50.33	-58 43.8	0.882	1.438	44.3	19.3	98 W	—	57*
6 5	21 16.42	+0 20.5	2.316	2.852	19.3	19.3	112 W	44* 64	8 8	4 1.63	-59 44.1	0.869	1.422	44.9	19.3	98 W	—	55*
6 15	21 15.83	+0 15.2	2.187	2.848	17.8	19.1	121 W	45* 64	8 10	4 13.58	-60 43.1	0.857	1.406	45.7	19.2	97 W	—	54*
6 25	21 12.89	-0 8.8	2.070	2.842	15.7	18.9	131 W	45* 64	8 12	4 26.24	-61 40.5	0.846	1.390	46.4	19.2	96 W	—	53*
7 5	21 7.59	-0 54.3	1.970	2.835	13.0	18.7	141 W	44 65	8 14	4 39.65	-62 35.6	0.835	1.373	47.3	19.2	95 W	—	52*
7 15	21 0.11	-2 2.6	1.890	2.827	9.8	18.5	152 W	43 66	8 16	4 53.86	-63 28.1	0.825	1.356	48.1	19.1	95 W	—	51*
7 25	20 50.95	-3 33.0	1.835	2.818	6.4	18.3	162 W	41 68	8 18	5 8.90	-64 17.1	0.815	1.338	49.0	19.1	94 W	—	50*
7 30	20 45.96	-4 25.4	1.818	2.813	5.1	18.2	166 W	41 68	8 20	5 24.80	-65 2.3	0.805	1.320	50.0	19.1	92 W	—	48*
8 4	20 40.86	-5 21.5	1.809	2.808	4.5	18.1	167 E	40 69	8 22	5 41.56	-65 42.9	0.797	1.301	51.0	19.1	91 W	—	47*
8 9	20 35.75	-6 20.6	1.807	2.802	4.9	18.1	166 E	39 70	8 24	5 59.15	-66 18.2	0.788	1.281	52.1	19.0	90 W	—	46*
8 14	20 30.79	-7 21.6	1.812	2.796	6.1	18.2	163 E	38 71	8 26	6 17.51	-66 47.6	0.780	1.262	53.2	19.0	89 W	—	45*
8 19	20 26.08	-8 23.4	1.825	2.790	7.7	18.3	158 E	37 72	8 28	6 36.56	-67 10.6	0.773	1.241	54.4	19.0	87 W	—	44*
8 24	20 21.74	-9 25.1	1.845	2.784	9.5	18.4	153 E	36 73	8 30	6 56.17	-67 26.5	0.765	1.220	55.6	19.0	86 W	—	43*
8 29	20 17.88	-10 25.7	1.871	2.777	11.2	18.5	148 E	35 74	9 1	7 16.16	-67 34.9	0.759	1.199	56.9	19.0	84 W	—	41*
9 3	20 14.55	-11 24.4	1.904	2.770	12.9	18.6	142 E	34 75	9 3	7 36.36	-67 35.4	0.752	1.177	58.2	18.9	83 W	—	40*
9 13	20 9.79	-13 13.7	1.985	2.754	15.9	18.8	131 E	32 77	9 4	7 46.48	-67 32.6	0.749	1.166	58.9	18.9	82 W	—	40*
9 23	20 7.75	-14 49.4	2.084	2.738	18.3	18.9	121 E	30 79	9 5	7 56.56	-67 27.7	0.745	1.154	59.6	18.9	81 W	—	39*
10 3	20 8.44	-16 10.0	2.196	2.721	20.1	19.1	111 E	29 80	9 6	8 6.59	-67 20.8	0.742	1.143	60.3	18.9	80 W	—	39*
10 13	20 11.73	-17 15.2	2.316	2.702	21.2	19.2	102 E	28 81	9 7	8 16.55	-67 11.8	0.739	1.131	61.0	18.9	79 W	—	38*
10 23	20 17.39	-18 5.5	2.440	2.682	21.7	19.3	93 E	27 81*	9 8	8 26.40	-67 0.7	0.736	1.119	61.8	18.9	78 W	—	38*
11 2	20 25.14	-18 41.6	2.564	2.661	21.8	19.4	85 E	26 74*	9 9	8 36.12	-66 47.5	0.733	1.107	62.5	18.9	77 W	—	37*
11 12	20 34.72	-19 4.4	2.685	2.639	21.4	19.5	77 E	26 66*	9 10	8 45.71	-66 32.2	0.730	1.095	63.3	18.9	76 W	—	37*
11 22	20 45.85	-19 14.7	2.800	2.616	20.7	19.5	69 E	26 58*	9 11	8 55.13	-66 14.9	0.727	1.083	64.1	18.9	75 W	—	36*
12 2	20 58.30	-19 13.5	2.906	2.591	19.6	19.6	62 E	25 51*	9 12	9 4.37	-65 55.6	0.725	1.070	64.9	18.8	74 W	—	35*
12 12	21 11.86	-19 1.3	3.003	2.566	18.3	19.6	55 E	24 43*	9 13	9 13.41	-65 34.2	0.722	1.058	65.8	18.8	73 W	—	35*
12 22	21 26.36	-18 39.2	3.088	2.539	16.8	19.6	48 E	23 36*	9 15	9 30.89	-64 45.6	0.716	1.032	67.5	18.8	71 W	—	34*
1 1	21 41.65	-18 7.8	3.160	2.511	15.1	19.5	42 E	21 30*	9 17	9 47.49	-63 49.0	0.711	1.005	69.3	18.8	69 W	—	33*
1 11	21 57.59	-17 27.9	3.218	2.482	13.2	19.5	35 E	18 24*	9 19	10 3.18	-62 44.8	0.705	0.978	71.2	18.8	67 W	—	32*
1 21	22 14.09	-16 40.4	3.262	2.452	11.3	19.4	29 E	15 19*	9 21	10 17.97	-61 32.9	0.700	0.950	73.2	18.8	65 W	—	31*
393359 1998 ME₃									329915 2005 MB									
12 27	18 21.05	-21 29.3	2.131	1.148	1.6	21.4	2 W	—	9 23	10 31.87	-60 13.3	0.695	0.921	75.4	18.8	63 W	—	30*
1 1	18 42.42	-21 27.2	2.121	1.138	1.5	21.3	2 W	—	9 25	10 44.93	-58 45.9	0.689	0.891	77.6	18.8	60 W	—	29*
1 6	19 3.93	-21 14.6	2.114	1.131	1.3	21.3	2 W	—	9 27	10 57.17	-57 10.6	0.684	0.861	80.0	18.7	58 W	—	28*
1 11	19 25.48	-20 51.6	2.109	1.126	1.2	21.3	1 W	—	9 29	11 8.67	-55 26.9	0.680	0.829	82.6	18.7	55 W	—	27*
1 16	19 46.94	-20 18.4	2.108	1.125	1.0	21.2	1 W	—	10 1	11 19.47	-53 34.5	0.675	0.797	85.3	18.7	52 W	—	26*
1 21	20 8.22	-19 35.4	2.109	1.126	0.9	21.2	1 W	—	10 3	11 29.64	-51 32.9	0.671	0.763	88.3	18.8	50 W	—	25*
1 26	20 29.23	-18 43.3	2.114	1.130	0.8	21.2	1 W	—	10 5	11 39.24	-49 21.3	0.667	0.728	91.4	18.8	47 W	—	24*
1 31	20 49.88	-17 42.8	2.121	1.136	0.9	21.3	1 W	—	10 7	11 48.34	-46 59.1	0.665	0.693	94.8	18.8	44 W	—	23*
2 5	21 10.12	-16 35.0	2.131	1.145	1.0	21.3	1 W	—	10 9	11 57.00	-44 25.5	0.663	0.656	98.5	18.8	40 W	—	22*
2 10	21 29.91	-15 20.7	2.143	1.157	1.2	21.3	1 W	—	10 11	12 5.29	-41 39.8	0.663	0.618	102.4	18.9	37 W	—	20*
2 15	21 49.20	-14 1.2	2.158	1.172	1.4	21.4	2 W	—	10 13	12 13.30	-38 41.4	0.664	0.579	106.6	19.0	34 W	—	19*
2 20	22 7.97	-12 37.4	2.176	1.188	1.7	21.5	2 W	—	10 15	12 21.10	-35 29.9	0.668	0.538	111.1	19.1	30 W	—	18*
12 27	18 21.06	-25 48.8	2.012	1.031	2.4	19.0	3 W	—	10 17	12 28.82	-32 5.5	0.675	0.496	115.8	19.3	27 W	—	16*
1 1	18 36.63	-26 37.6	2.073	1.094	3.7	19.2	4 W	—	10 19	12 36.59	-28 28.9	0.687	0.453	120.5	19.4	23 W	—	14*
1 6	18 51.55	-27 18.2	2.127	1.154	5.1	19.5	6 W	—	10 21	12 44.57	-24 42.1	0.703	0.409	125.0	19.6	20 W	—	12*
1 11	19 5.91	-27 51.6	2.175	1.209	6.5	19.7	8 W	—	10 23	12 53.01	-20 48.7	0.727	0.364	128.6	19.8	17 W	—	10*
1 16	19 19.77	-28 18.9	2.217	1.261	7.9	19.9	10 W	—	10 24	12 57.50	-18 51.3	0.742	0.341	129.7	19.8	15 W	—	9*
1 21	19 33.19	-28 41.1	2.253	1.310	9.3	20.1	12 W	—	10 25	13 2.23	-16 54.8	0.759	0.319	130.0	19.7	14 W	—	8*
1 26	19 46.23	-28 58.8	2.283	1.355	10.7	20.2	15 W	—	10 26	13 7.27	-15 0.5	0.779	0.297	129.3	19.6	13 W	1*	7*
2 5	20 11.28	-29 23.4	2.327	1.437	13.4	20.5	20 W	—	10 27	13 12.69	-13 10.1	0.802	0.276	127.2	19.3	13 W	3*	6*
2 15	20 35.22	-29 37.3	2.347	1.509	15.9	20.7	25 W	—	10 28	13 18.56	-11 25.8	0.829	0.256	123.5	18.9	12 W	4*	4*
2 25	20 58.21	-29 44.0	2.347	1.571	18.4	20.9	30 W	—	10 29	13 24.98	-9 50.2	0.859	0.238	118.0	18.3	12 W	5*	3*
3 7	21 20.44	-29 46.6	2.326	1.623	20.8	21.0	35 W	—	10 30	13 32.01	-8 26.3	0.892	0.223	110.6	17.8	12 W	5*	1*
3 17	21 42.07	-29 47.9	2.286	1.667	23.0	21.1	41 W	—	10 31	13 39.68	-7 17.5	0.929	0.212	101.4	17.3	12 W	6*	—
3 27	22 3.20	-29 50.8	2.229	1.703	25.1	21.2	46 W	—	11 1	13 47.97	-6 26.4	0.968	0.205	90.9	16.8	12 W	6*	—
4 6	22 23.98	-29 57.8	2.156	1.730	27.1	21.2	52 W</											

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°
329915 2005 MB										181958 1999 UL₇									
<i>(continuation)</i>										<i>(continuation)</i>									
11 27	16 39.53	-19 6.0	1.655	0.686	10.1	18.0	7 E	—	—	8 9	21 51.86	-15 27.8	1.208	2.215	4.0	17.7	171 W	30	79
12 2	17 0.76	-21 7.6	1.744	0.774	8.5	18.3	7 E	—	—	8 14	21 44.87	-15 4.6	1.183	2.195	1.2	17.4	177 W	30	79
12 7	17 20.33	-22 49.2	1.828	0.855	7.0	18.6	6 E	—	—	8 19	21 37.60	-14 39.4	1.165	2.175	1.9	17.4	176 E	30	79
12 12	17 38.60	-24 14.3	1.906	0.930	5.6	18.8	5 E	—	—	8 24	21 30.27	-14 12.1	1.153	2.155	4.9	17.6	170 E	31	78
12 17	17 55.81	-25 25.5	1.978	1.000	4.5	19.0	5 E	—	—	8 29	21 23.08	-13 42.6	1.148	2.135	7.9	17.7	163 E	31	78
12 22	18 12.15	-26 25.0	2.045	1.065	3.7	19.1	4 E	—	—	9 3	21 16.28	-13 11.1	1.150	2.115	10.8	17.8	157 E	32	77
12 27	18 27.75	-27 14.5	2.105	1.127	3.6	19.3	4 E	—	—	9 8	21 10.06	-12 37.7	1.157	2.095	13.6	17.9	151 E	32	77
1 1	18 42.72	-27 55.7	2.161	1.184	4.1	19.5	5 W	—	—	9 13	21 4.61	-12 2.7	1.171	2.075	16.3	18.0	145 E	33	76
1 6	18 57.15	-28 29.6	2.210	1.237	5.0	19.7	6 W	—	—	9 23	20 56.49	-10 48.8	1.211	2.035	21.1	18.2	133 E	34	75
1 11	19 11.10	-28 57.4	2.254	1.287	6.2	19.9	8 W	—	1*	10 3	20 52.42	-9 30.9	1.267	1.995	24.9	18.4	123 E	35	74
1 16	19 24.62	-29 19.7	2.292	1.334	7.4	20.1	10 W	—	3*	10 13	20 52.45	-8 9.6	1.333	1.956	27.9	18.5	113 E	37	72
1 21	19 37.76	-29 37.5	2.324	1.378	8.7	20.2	12 W	—	5*	10 23	20 56.28	-6 44.0	1.404	1.917	30.1	18.7	105 E	38	71
44619 1999 RO₄₂										163000 2001 SW₁₆₉									
12 27	18 21.60	-22 12.4	2.693	1.710	0.7	19.3	1 W	—	—	11 2	21 3.44	-5 13.1	1.478	1.880	31.6	18.8	97 E	40	69*
1 6	18 50.95	-22 3.8	2.674	1.695	2.3	19.4	4 W	—	—	11 12	21 13.52	-3 35.4	1.552	1.843	32.5	18.9	90 E	41	63*
1 16	19 20.48	-21 34.9	2.653	1.681	4.2	19.5	7 W	—	—	11 22	21 26.08	-1 49.6	1.624	1.808	32.9	18.9	84 E	43	57*
1 26	19 49.96	-20 46.1	2.629	1.670	6.1	19.6	10 W	—	4*	12 2	21 40.78	+0 5.2	1.693	1.775	32.9	19.0	78 E	45	50*
2 5	20 19.22	-19 38.4	2.603	1.661	8.0	19.6	14 W	—	7*	12 12	21 57.35	+2 9.7	1.757	1.743	32.7	19.0	73 E	47*	43*
2 15	20 48.11	-18 13.3	2.575	1.654	9.9	19.7	17 W	1*	11*	12 22	22 15.57	+4 24.0	1.817	1.714	32.2	19.0	68 E	48*	36*
2 25	21 16.51	-16 32.9	2.546	1.650	11.8	19.7	20 W	2*	14*	1 1	22 35.28	+6 47.6	1.872	1.687	31.5	19.0	64 E	49*	30*
3 7	21 44.33	-14 39.4	2.515	1.648	13.6	19.8	23 W	2*	17*	1 11	22 56.41	+9 9.7	1.924	1.662	30.7	19.0	60 E	49*	25*
3 17	22 11.55	-12 35.4	2.484	1.648	15.4	19.8	26 W	3*	20*	1 21	23 18.89	+11 58.8	1.971	1.641	29.9	19.0	56 E	48*	20*
3 27	22 38.12	-10 23.7	2.450	1.651	17.1	19.8	29 W	3*	23*	488738 2004 RM₁₆₂									
4 6	23 4.07	-8 6.9	2.416	1.657	18.8	19.9	32 W	4*	26*	12 27	18 22.46	-25 16.7	2.169	1.187	1.6	21.5	2 W	—	—
4 16	23 29.43	-5 47.5	2.379	1.665	20.4	19.9	35 W	5*	29*	1 6	19 1.62	-24 37.9	2.167	1.185	2.1	21.5	3 W	—	—
4 26	23 54.21	-3 28.3	2.341	1.675	21.9	19.9	38 W	6*	32*	1 16	19 40.26	-23 22.1	2.165	1.184	2.9	21.5	3 W	—	—
5 6	0 18.44	+1 11.4	2.301	1.688	23.4	20.0	42 W	7*	36*	1 26	20 17.99	-21 32.3	2.163	1.184	3.8	21.6	5 W	—	—
5 16	0 42.15	+1 1.0	2.258	1.702	24.9	20.0	45 W	9*	39*	2 5	20 54.60	-19 12.5	2.163	1.186	4.7	21.6	6 W	—	—
5 26	1 5.32	+3 6.8	2.212	1.718	26.2	20.0	49 W	12*	42*	275976 2001 XV₁₀									
6 5	1 27.96	+5 4.5	2.163	1.737	27.5	20.0	52 W	15*	44*	12 27	18 22.90	-35 43.1	2.512	1.566	7.7	19.7	12 W	—	1*
6 15	1 50.02	+6 52.6	2.111	1.756	28.6	20.0	56 W	19*	46*	1 1	18 40.38	-35 38.7	2.468	1.524	8.1	19.6	13 W	—	2*
6 25	2 11.43	+8 29.9	2.054	1.778	29.7	20.0	60 W	23*	48*	1 6	18 58.42	-35 26.0	2.424	1.483	8.6	19.6	13 W	—	2*
7 5	2 32.11	+9 55.5	1.994	1.800	30.5	20.0	64 W	28*	49*	1 11	19 16.99	-35 4.0	2.379	1.441	9.2	19.5	14 W	—	3*
7 15	2 51.91	+11 8.6	1.929	1.824	31.3	20.0	69 W	34*	50*	1 16	19 36.04	-34 31.8	2.333	1.399	9.8	19.4	14 W	—	4*
7 25	3 10.65	+12 9.0	1.860	1.849	31.8	19.9	73 W	40*	51*	1 21	19 55.50	-33 48.6	2.289	1.357	10.3	19.3	14 W	—	4*
8 4	3 28.15	+12 56.6	1.788	1.874	32.1	19.9	79 W	46*	51*	1 26	20 15.31	-32 53.4	2.245	1.316	10.9	19.2	15 W	—	4*
8 14	3 44.12	+13 31.4	1.712	1.900	32.0	19.8	84 W	51*	50*	1 31	20 35.39	-31 45.6	2.202	1.275	11.5	19.1	15 W	—	5*
8 24	3 58.25	+13 54.1	1.633	1.927	31.6	19.7	90 W	56*	50	2 5	20 55.67	-30 24.7	2.160	1.235	11.9	19.1	15 W	—	5*
9 3	4 10.19	+14 5.2	1.553	1.954	30.8	19.6	97 W	59*	50	2 10	21 16.07	-28 50.0	2.121	1.195	12.3	19.0	15 W	—	5*
9 13	4 19.51	+14 5.9	1.473	1.981	29.4	19.5	105 W	59	50	2 15	21 36.51	-27 1.5	2.084	1.157	12.6	18.9	15 W	—	4*
9 23	4 25.75	+13 57.2	1.395	2.009	27.4	19.4	113 W	59	50	2 25	22 17.25	-22 43.4	2.018	1.085	12.8	18.7	14 W	—	3*
10 3	4 28.51	+13 40.8	1.323	2.037	24.7	19.2	122 W	59	50	3 7	22 57.51	-17 33.5	1.967	1.021	12.2	18.4	13 W	—	2*
10 13	4 27.42	+13 18.2	1.261	2.064	21.1	19.0	132 W	58	51	3 17	23 37.11	-11 39.9	1.931	0.969	10.7	18.2	10 W	—	1*
10 23	4 22.45	+12 52.0	1.211	2.091	16.8	18.8	143 W	58	51	3 22	23 56.68	-8 30.4	1.919	0.949	9.7	18.1	9 W	—	—
11 2	4 13.96	+12 24.8	1.180	2.119	11.7	18.6	154 W	57	52	3 27	0 16.12	-5 15.1	1.911	0.933	8.5	18.0	8 W	—	—
11 7	4 8.65	+12 11.8	1.173	2.132	9.1	18.5	160 W	57	52	4 1	0 35.48	-1 56.0	1.908	0.922	7.1	17.9	7 W	—	—
11 12	4 2.88	+12 0.0	1.172	2.146	6.6	18.4	166 W	57	52	4 6	0 54.80	+1 24.6	1.908	0.916	5.5	17.9	5 W	—	—
11 17	3 56.84	+11 49.8	1.178	2.159	4.5	18.3	170 W	57	52	4 11	1 14.13	+4 44.6	1.913	0.915	3.9	17.8	4 W	—	—
11 22	3 50.74	+11 41.8	1.190	2.172	3.8	18.3	172 W	57	52	4 16	1 33.53	+8 1.4	1.921	0.919	2.3	17.7	2 W	—	—
11 27	3 44.79	+11 36.4	1.209	2.185	5.1	18.4	169 E	57	52	4 21	1 53.03	+11 13.0	1.932	0.928	0.7	17.6	1 W	—	—
12 2	3 39.19	+11 33.8	1.234	2.198	7.3	18.6	164 E	57	52	4 26	2 12.69	+14 17.1	1.947	0.942	1.0	17.7	1 W	—	—
12 12	3 29.72	+11 38.6	1.304	2.224	11.9	18.9	152 E	57	52	5 1	2 32.53	+17 12.1	1.966	0.960	2.3	17.8	2 W	—	—
12 22	3 23.26	+11 57.0	1.397	2.249	16.0	19.3	141 E	57	52	5 6	2 52.57	+19 56.1	1.987	0.982	3.6	18.0	3 E	—	—
1 1	3 20.17	+12 27.9	1.508	2.273	19.2	19.6	130 E	57	52	5 11	3 12.82	+22 28.0	2.012	1.009	4.7	18.1	5 E	—	—
1 11	3 20.42	+13 9.5	1.635	2.297	21.6	19.8	121 E	58	51	5 16	3 33.27	+24 46.7	2.039	1.038	5.6	18.3	6 E	—	—
1 21	3 23.70	+13 59.2	1.771	2.320	23.2	20.1	111 E	59	50	5 21	3 53.86	+26 51.3	2.068	1.070	6.4	18.4	7 E	—	—
181958 1999 UL₇										5 26	4 14.56	+28 41.3	2.100	1.104	7.0	18.5	8 E	1*	—
12 27	18 22.04	-35 19.6	3.908	2.953	4.0	20.9	12 W	—	1*	6 5	4 55.98	+31 37.6	2.169	1.178	7.9	18.8	9 E	2*	—
1 6	18 40.49	-34 50.3	3.876	2.929	4.5	20.9	14 W	—	5*	6 15	5 36.86	+33 37.3	2.243	1.257	8.4	19.0	10 E	3*	—
1 16	18 58.85	-34 15.5	3.827	2.905	5.9	20.9	18 W	—	10*	6 25	6 16.47	+34 45.3	2.321	1.339	8.6	19.3	11 E	4*	—
1 26	19 17.03	-33 35.1	3.764	2.879	7.5	20.9	23 W	—	16*	6 30	6 35.60	+35 2.2	2.360	1.381	8.7	19.4	12 E	4*	—
2 5	19 34.92	-32 49.3	3.685	2.853	9.4	20.9	28 W	—	21*	7 5	6 54.20	+35 9.1	2.399	1.422	8.8	19.5	12 W	4*	—
2 15	19 52.46	-31 58.5	3.592	2.825	11.2	20.9	34 W	—	27*	7 10	7 12.22	+35 6.9	2.438	1.464	8.9	19.6	13 W	5*	—
2 25	20 9.54	-31 3.1	3.486	2.797	13.1	20.9	40 W	—	33*	7 15	7 29.62	+34 56.8	2.476	1.506	9.0				

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°
275976 2001 XV₁₀										308242 2005 GO₂₁									
<i>(continuation)</i>										<i>(continuation)</i>									
8 24	9 26.57	+30 37.0	2.729	1.831	11.9	20.4	22 W	15*	—	4 1	2 17.66	+13 27.6	1.176	0.509	57.5	17.5	25 E	17*	11*
9 3	9 50.26	+29 8.3	2.770	1.908	13.1	20.6	25 W	19*	—	4 6	2 50.72	+12 58.1	1.118	0.528	63.5	17.6	28 E	18*	15*
9 13	10 12.12	+27 38.2	2.800	1.983	14.3	20.7	29 W	23*	—	4 11	3 22.73	+11 57.2	1.063	0.555	68.4	17.8	31 E	18*	19*
9 23	10 32.33	+26 9.7	2.817	2.057	15.6	20.9	34 W	27*	1*	4 16	3 53.49	+10 31.7	1.013	0.586	72.2	17.9	34 E	18*	23*
10 3	10 51.03	+24 44.9	2.821	2.128	16.9	21.0	38 W	32*	4*	4 21	4 23.01	+ 8 48.7	0.968	0.619	75.0	18.0	37 E	18*	27*
10 13	11 8.31	+23 26.0	2.812	2.197	18.2	21.1	43 W	37*	7*	4 26	4 51.41	+ 6 54.5	0.927	0.655	76.8	18.1	39 E	16*	31*
10 23	11 24.24	+22 14.8	2.789	2.264	19.4	21.2	49 W	43*	10*	5 1	5 18.89	+ 4 54.5	0.892	0.691	77.9	18.2	42 E	15*	34*
11 2	11 38.85	+21 13.0	2.753	2.329	20.4	21.2	55 W	49*	14*	5 6	5 45.66	+ 2 53.1	0.862	0.726	78.4	18.2	45 E	14*	38*
11 12	11 52.09	+20 22.3	2.704	2.392	21.3	21.3	61 W	54*	18*	5 11	6 11.91	+ 0 53.7	0.836	0.760	78.3	18.3	47 E	12*	41*
11 22	12 3.88	+19 44.3	2.643	2.453	21.9	21.3	68 W	59*	23*	5 16	6 37.79	- 1 1.4	0.815	0.793	77.9	18.3	50 E	11*	44*
12 2	12 14.11	+19 20.5	2.573	2.511	22.3	21.3	75 W	63*	28*	5 21	7 3.42	- 2 50.0	0.797	0.823	77.3	18.3	53 E	10*	46*
12 12	12 22.59	+19 12.6	2.494	2.568	22.4	21.3	83 W	64*	33*	5 26	7 28.86	+ 4 30.6	0.784	0.852	76.4	18.3	55 E	8*	49*
12 22	12 29.09	+19 21.5	2.409	2.623	22.0	21.3	91 W	64*	38*	5 31	7 54.13	- 6 2.1	0.774	0.878	75.4	18.3	57 E	7*	51*
1 1	12 33.34	+19 48.1	2.323	2.676	21.2	21.2	100 W	65	41*	6 5	8 19.25	- 7 23.5	0.767	0.902	74.4	18.3	59 E	6*	53*
1 11	12 35.03	+20 32.3	2.239	2.727	19.9	21.1	109 W	66	43*	6 15	9 8.87	- 9 35.2	0.763	0.943	72.2	18.3	62 E	5*	56*
1 21	12 33.88	+21 32.4	2.162	2.776	18.0	21.0	119 W	67	42	6 25	9 57.11	-11 5.5	0.771	0.974	70.1	18.3	64 E	5*	58*
66269 1999 JN₃										14223 Dolby									
12 27	18 23.18	-12 22.0	2.793	1.837	5.8	18.4	11 W	2*	—	7 10	11 5.54	-12 10.6	0.798	1.003	67.7	18.4	66 E	7*	60*
1 6	18 49.13	-11 27.0	2.760	1.809	6.4	18.4	12 W	5*	—	7 15	11 27.08	-12 16.7	0.810	1.007	67.0	18.4	66 E	7*	60*
1 16	19 15.40	-10 15.6	2.723	1.783	7.5	18.4	14 W	8*	—	7 20	11 47.94	-12 16.2	0.822	1.009	66.5	18.4	66 E	8*	60*
1 26	19 41.86	- 8 48.0	2.684	1.758	8.9	18.4	16 W	10*	—	7 25	12 8.09	-12 9.7	0.836	1.009	66.1	18.5	65 E	9*	59*
2 5	20 8.43	- 7 4.9	2.643	1.736	10.3	18.4	18 W	12*	4*	8 4	12 46.35	-11 41.4	0.862	1.000	65.5	18.5	64 E	12*	58*
2 15	20 35.04	- 5 7.5	2.601	1.715	11.9	18.4	21 W	13*	8*	8 14	13 22.06	-10 55.5	0.884	0.982	65.5	18.5	62 E	14*	56*
2 25	21 1.61	- 2 57.6	2.560	1.697	13.4	18.4	23 W	14*	11*	8 24	13 55.40	- 9 53.6	0.900	0.954	66.0	18.5	60 E	17*	53*
3 7	21 28.11	- 0 37.3	2.519	1.682	14.9	18.4	26 W	15*	15*	9 3	14 26.51	- 8 35.8	0.906	0.916	67.2	18.5	57 E	19*	50*
3 17	21 54.52	+ 1 50.9	2.478	1.669	16.4	18.4	28 W	16*	18*	9 13	14 55.43	- 7 1.2	0.898	0.869	69.4	18.4	54 E	22*	46*
3 27	22 20.83	+ 4 24.3	2.439	1.659	17.8	18.4	31 W	17*	20*	9 23	15 21.77	- 5 8.1	0.872	0.812	73.0	18.3	51 E	24*	41*
4 6	22 47.04	+ 6 59.8	2.401	1.652	19.2	18.4	33 W	18*	23*	10 3	15 44.52	- 2 55.9	0.827	0.748	78.8	18.2	47 E	26*	36*
4 16	23 13.17	+ 9 34.7	2.363	1.648	20.6	18.4	35 W	19*	25*	10 8	15 53.93	- 1 43.9	0.796	0.713	82.8	18.2	45 E	27*	32*
4 26	23 39.23	+12 5.7	2.325	1.647	21.9	18.4	38 W	20*	27*	10 13	16 1.41	- 0 30.1	0.759	0.678	87.8	18.1	43 E	28*	28*
5 6	0 5.24	+14 30.3	2.288	1.650	23.2	18.4	40 W	21*	29*	10 18	16 6.23	+ 0 41.9	0.717	0.642	94.2	18.2	40 E	27*	24*
5 16	0 31.18	+16 45.6	2.249	1.655	24.5	18.4	43 W	22*	31*	10 23	16 7.37	+ 1 44.8	0.671	0.607	102.1	18.3	37 E	27*	19*
5 26	0 57.01	+18 49.3	2.209	1.663	25.7	18.4	45 W	24*	32*	10 25	16 6.51	+ 2 4.8	0.652	0.593	105.8	18.4	35 E	26*	16*
6 5	1 22.70	+20 39.2	2.167	1.675	26.9	18.4	48 W	26*	33*	10 27	16 4.76	+ 2 20.3	0.634	0.580	109.9	18.5	33 E	25*	14*
6 15	1 48.15	+22 13.6	2.121	1.689	28.1	18.4	52 W	29*	34*	10 29	16 2.03	+ 2 29.8	0.615	0.568	114.3	18.7	31 E	24*	11*
6 25	2 13.23	+23 30.8	2.072	1.705	29.2	18.4	55 W	33*	35*	10 31	15 58.23	+ 2 31.8	0.597	0.556	118.9	18.9	29 E	23*	8*
7 5	2 37.78	+24 29.7	2.019	1.724	30.2	18.4	59 W	37*	36*	11 2	15 53.32	+ 2 24.4	0.580	0.544	123.9	19.2	27 E	21*	5*
7 15	3 1.61	+25 9.6	1.962	1.746	31.1	18.4	63 W	42*	36*	11 4	15 47.26	+ 2 5.7	0.564	0.534	129.1	19.5	25 E	19*	2*
7 25	3 24.47	+25 29.9	1.900	1.769	31.9	18.4	67 W	47*	37*	11 6	15 40.09	+ 1 34.0	0.551	0.525	134.3	20.0	22 E	16*	—
8 4	3 46.11	+25 30.4	1.834	1.795	32.5	18.4	72 W	52*	37*	11 8	15 31.92	+ 0 47.5	0.540	0.517	139.3	20.5	20 E	13*	—
8 14	4 6.21	+25 11.2	1.763	1.822	32.8	18.3	77 W	57*	38*	11 10	15 22.95	- 0 14.6	0.532	0.510	143.8	21.0	18 E	10*	—
8 24	4 24.45	+24 32.4	1.689	1.850	32.8	18.3	82 W	62*	39*										
9 3	4 40.49	+23 34.4	1.611	1.880	32.4	18.2	89 W	65*	40*										
9 13	4 53.93	+22 17.5	1.532	1.911	31.6	18.1	95 W	67*	42										
9 23	5 4.37	+20 42.1	1.454	1.942	30.2	18.0	103 W	66	43										
10 3	5 11.41	+18 48.9	1.379	1.974	28.2	17.8	111 W	64	45										
10 13	5 14.66	+16 39.0	1.310	2.007	25.4	17.7	120 W	62	47										
10 23	5 13.94	+14 15.0	1.251	2.041	21.9	17.5	130 W	59	50										
10 28	5 12.08	+12 59.1	1.228	2.057	19.8	17.4	135 W	58	51										
11 2	5 9.28	+11 41.6	1.208	2.074	17.6	17.3	141 W	57	52										
11 7	5 5.60	+10 23.7	1.194	2.091	15.3	17.2	146 W	55	54										
11 12	5 1.17	+ 9 6.6	1.185	2.108	13.0	17.2	151 W	54	55										
11 17	4 56.14	+ 7 51.9	1.183	2.125	10.9	17.1	156 W	53	56										
11 22	4 50.68	+ 6 40.9	1.186	2.142	9.1	17.0	160 W	52	57										
11 27	4 44.99	+ 5 35.2	1.197	2.158	7.9	17.0	162 W	51	58										
12 2	4 39.25	+ 4 35.9	1.214	2.175	7.8	17.1	163 W	50	59										
12 7	4 33.69	+ 3 44.1	1.238	2.192	8.6	17.2	161 E	49	60										
12 12	4 28.48	+ 3 0.6	1.269	2.209	10.1	17.3	157 E	48	61										
12 22	4 19.71	+ 1 58.8	1.349	2.242	13.6	17.6	148 E	47	62										
1 1	4 13.76	+ 1 29.0	1.450	2.275	17.0	17.9	138 E	46	63										
1 11	4 10.95	+ 1 26.3	1.569	2.307	19.7	18.2	128 E	46	63										
1 21	4 11.23	+ 1 44.3	1.702	2.339	21.7	18.5	119 E	47	62										
308242 2005 GO₂₁																			
12 27	18 23.35	-22 42.9	1.941	0.958	0.6	18.0	1 W	—	—	7 5	2 21.53	+10 24.6	1.781	1.660	34.1	18.5	66 W	31*	50*
1 6	19 2.48	-20 12.3	1.903	0.922	2.8	18.0	3 W	—	—	7 15	2 45.26	+12 6.3	1.715	1.666	35.0	18.4	70 W	36*	50*
1 16	19 42.06	-17 1.5	1.853	0.875	5.1	18.0	4 W	—	—	7 25	3 8.36	+13 34.4	1.649	1.675	35.6	18.4	74 W	41*	49*
1 26	20 22.61	-13 10.5	1.792	0.820	7.4	17.9	6 W	—	—	8 4	3 30.63	+14 48.6	1.583	1.687	36.0	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°
14223 Dolby (continuation)										501934 2014 XT₃ (continuation)									
11 27	4 48.52	+17 51.6	1.003	1.983	4.7	16.6	171 W	63	46	3 2	22 17.63	-10 9.9	2.180	1.210	7.2	20.4	9 W	-	3*
12 2	4 42.64	+17 53.8	1.016	2.000	2.3	16.5	175 W	63	46	3 7	22 34.66	-8 0.6	2.176	1.206	7.5	20.4	9 W	-	3*
12 7	4 36.86	+17 56.8	1.035	2.017	3.0	16.6	174 E	63	46	3 12	22 51.51	-5 48.5	2.173	1.204	7.8	20.4	9 W	-	3*
12 12	4 31.43	+18 0.9	1.060	2.035	5.6	16.8	168 E	63	46	3 17	23 8.21	-3 34.6	2.172	1.204	8.1	20.5	10 W	-	4*
12 17	4 26.55	+18 6.3	1.092	2.052	8.3	17.0	163 E	63	46	3 22	23 24.74	-1 19.8	2.174	1.207	8.4	20.5	10 W	-	4*
12 22	4 22.38	+18 13.1	1.129	2.069	10.9	17.2	157 E	63	46	3 27	23 41.14	+0 54.8	2.178	1.212	8.7	20.5	11 W	-	4*
12 27	4 19.01	+18 21.5	1.172	2.087	13.3	17.4	151 E	63	46	4 1	23 57.42	+3 8.4	2.185	1.219	9.0	20.5	11 W	1*	4*
1 1	4 16.53	+18 31.5	1.221	2.104	15.5	17.6	145 E	64	45	4 6	0 13.60	+5 20.0	2.193	1.228	9.3	20.6	11 W	1*	5*
1 6	4 14.95	+18 43.3	1.274	2.122	17.4	17.8	140 E	64	45	4 11	0 29.69	+7 28.9	2.203	1.240	9.6	20.6	12 W	2*	5*
1 11	4 14.30	+18 56.6	1.331	2.140	19.1	17.9	135 E	64	45	4 16	0 45.70	+9 34.3	2.215	1.254	9.9	20.7	12 W	2*	5*
1 16	4 14.55	+19 11.5	1.392	2.157	20.6	18.1	130 E	64	45	4 21	1 1.64	+11 35.5	2.228	1.269	10.3	20.7	13 W	3*	6*
1 21	4 15.64	+19 27.6	1.457	2.175	21.8	18.3	125 E	64	45	4 26	1 17.52	+13 31.9	2.242	1.287	10.6	20.8	14 W	3*	6*
400549 2008 UF₃₀₈										189008 1996 FR₃									
12 27	18 24.21	-13 28.4	2.693	1.732	5.6	20.6	10 E	1*	-	5 1	1 33.34	+15 23.0	2.258	1.306	11.0	20.8	14 W	4*	7*
1 6	18 50.73	-11 59.8	2.710	1.757	6.3	20.7	11 W	4*	-	5 6	1 49.11	+17 8.3	2.275	1.326	11.4	20.9	15 W	5*	7*
1 16	19 16.50	-10 17.3	2.724	1.782	7.4	20.8	14 W	7*	-	5 11	2 4.83	+18 47.7	2.292	1.348	11.8	21.0	16 W	5*	7*
1 26	19 41.45	-8 22.3	2.733	1.810	8.8	20.9	16 W	10*	-	5 16	2 20.48	+20 20.6	2.309	1.371	12.2	21.0	17 W	6*	8*
2 5	20 5.56	-6 16.4	2.739	1.838	10.3	21.0	19 W	13*	5*	5 21	2 36.07	+21 47.1	2.327	1.396	12.6	21.1	18 W	7*	8*
2 15	20 28.80	-4 1.1	2.740	1.868	11.8	21.1	23 W	15*	9*	5 26	2 51.56	+23 6.8	2.345	1.421	13.1	21.2	18 W	7*	9*
2 25	20 51.17	-1 38.3	2.736	1.899	13.3	21.2	26 W	17*	13*	5 31	3 6.97	+24 19.9	2.363	1.447	13.5	21.3	20 W	8*	10*
3 7	21 12.68	+0 50.5	2.727	1.931	14.8	21.2	30 W	19*	17*	6 5	3 22.26	+25 26.3	2.380	1.474	14.0	21.3	21 W	9*	10*
3 17	21 33.33	+3 23.7	2.712	1.963	16.3	21.3	34 W	21*	21*	6 10	3 37.42	+26 26.0	2.396	1.502	14.5	21.4	22 W	11*	11*
3 27	21 53.13	+5 59.7	2.692	1.995	17.7	21.4	38 W	23*	25*	6 15	3 52.43	+27 19.3	2.412	1.530	15.1	21.5	23 W	12*	11*
4 6	22 12.10	+8 37.2	2.666	2.028	19.1	21.4	42 W	25*	29*										
4 16	22 30.24	+11 14.9	2.634	2.061	20.4	21.5	46 W	27*	32*										
469441 2002 GP₁₂₆										325769 2010 LY₆₃									
12 27	18 24.47	-26 56.3	2.454	1.474	2.4	21.3	4 E	-	-	12 27	18 24.63	-29 17.2	2.284	1.310	4.5	20.7	6 E	-	-
1 6	19 0.48	-26 22.0	2.461	1.482	2.8	21.3	4 W	-	-	1 1	18 44.23	-28 49.7	2.260	1.286	4.4	20.6	6 W	-	-
1 16	19 35.68	-25 17.1	2.472	1.496	3.7	21.4	6 W	-	-	1 6	19 4.03	-28 11.6	2.237	1.262	4.5	20.5	6 W	-	-
1 26	20 9.61	-23 45.1	2.487	1.516	4.8	21.5	7 W	-	1*	1 11	19 23.95	-27 22.4	2.215	1.240	4.5	20.5	6 W	-	-
2 5	20 42.00	-21 50.5	2.505	1.542	6.1	21.6	10 W	-	3*	1 16	19 43.92	-26 22.1	2.195	1.220	4.5	20.4	6 W	-	-
447335 2005 YR₄₉										501934 2014 XT₃									
12 27	18 24.50	-22 56.3	3.363	2.380	0.2	21.2	0 E	-	-	12 27	18 24.84	-28 4.5	2.420	1.443	3.2	20.8	5 E	-	-
1 6	18 44.08	-22 3.6	3.394	2.417	2.2	21.4	5 W	-	-	1 6	19 0.71	-26 52.6	2.369	1.391	3.3	20.7	5 W	-	-
1 16	19 2.95	-21 3.0	3.410	2.453	4.5	21.6	11 W	1*	4*	1 16	19 37.10	-25 4.7	2.321	1.344	3.8	20.6	5 W	-	-
1 26	19 21.04	-19 55.1	3.412	2.488	6.7	21.7	17 W	4*	10*	1 26	20 13.58	-22 40.4	2.277	1.302	4.6	20.6	6 W	-	-
2 5	19 38.32	-18 40.5	3.399	2.522	8.8	21.9	23 W	7*	16*	2 5	20 49.78	-19 41.4	2.239	1.266	5.4	20.5	7 W	-	1*
										189008 1996 FR₃									
3 22	21 30.87	-20 58.4	2.223	1.646	24.5	20.3	43 W	4*	37*	3 22	21 30.87	-20 58.4	2.223	1.646	24.5	20.3	43 W	4*	37*
3 27	21 44.89	-19 53.1	2.132	1.588	26.3	20.1	45 W	4*	38*	3 27	21 44.89	-19 53.1	2.132	1.588	26.3	20.1	45 W	4*	38*
4 1	21 59.52	-18 40.4	2.041	1.527	28.1	20.0	46 W	5*	40*	4 1	21 59.52	-18 40.4	2.041	1.527	28.1	20.0	46 W	5*	40*
4 6	22 14.85	-17 19.3	1.951	1.465	30.0	19.9	47 W	5*	41*	4 6	22 14.85	-17 19.3	1.951	1.465	30.0	19.9	47 W	5*	41*
4 11	22 30.96	-15 48.6	1.863	1.402	32.0	19.7	48 W	5*	42*	4 11	22 30.96	-15 48.6	1.863	1.402	32.0	19.7	48 W	5*	42*
4 16	22 47.97	-14 7.2	1.777	1.337	34.0	19.6	48 W	5*	42*	4 16	22 47.97	-14 7.2	1.777	1.337	34.0	19.6	48 W	5*	42*
4 21	23 5.99	-12 13.7	1.694	1.271	36.2	19.4	48 W	6*	42*	4 21	23 5.99	-12 13.7	1.694	1.271	36.2	19.4	48 W	6*	42*
4 26	23 25.17	-10 6.7	1.616	1.202	38.4	19.3	48 W	6*	42*	4 26	23 25.17	-10 6.7	1.616	1.202	38.4	19.3	48 W	6*	42*
5 1	23 45.66	-7 44.9	1.542	1.132	40.8	19.1	47 W	6*	41*	5 1	23 45.66	-7 44.9	1.542	1.132	40.8	19.1	47 W	6*	41*
5 6	0 7.64	-5 7.3	1.476	1.061	43.1	18.9	46 W	6*	40*	5 6	0 7.64	-5 7.3	1.476	1.061	43.1	18.9	46 W	6*	40*
5 16	0 56.71	+0 56.3	1.368	0.913	47.7	18.6	42 W	7*	36*	5 16	0 56.71	+0 56.3	1.368	0.913	47.7	18.6	42 W	7*	36*
5 26	1 53.74	+7 53.0	1.305	0.761	50.8	18.2	36 W	7*	29*	5 26	1 53.74	+7 53.0	1.305	0.761	50.8	18.2	36 W	7*	29*
6 5	2 59.95	+15 3.2	1.298	0.614	49.6	17.7	27 W	6*	20*	6 5	2 59.95	+15 3.2	1.298	0.614	49.6	17.7	27 W	6*	20*
6 10	3 36.79	+18 22.2	1.317	0.548	45.9	17.3	23 W	5*	16*	6 10	3 36.79	+18 22.2	1.317	0.548	45.9	17.3	23 W	5*	16*
6 15	4 16.14	+21 15.9	1.348	0.493	39.3	17.0	18 W	4*	10*	6 15	4 16.14	+21 15.9	1.348	0.493	39.3	17.0	18 W	4*	10*
6 20	4 57.71	+23 32.3	1.389	0.458	29.6	16.6	13 W	2*	5*	6 20	4 57.71	+23 32.3	1.389	0.458	29.6	16.6	13 W	2*	5*
6 25	5 40.63	+25 0.4	1.434	0.449	18.2	16.3	8 W	-	-	6 25	5 40.63	+25 0.4	1.434	0.449	18.2	16.3	8 W	-	-
6 27	5 57.84	+25 20.6	1.452	0.454	13.7	16.2	6 W	-	-	6 27	5 57.84	+25 20.6	1.452	0.454	13.7	16.2	6 W	-	-
6 29	6 14.91	+25 32.0	1.470	0.463	9.7	16.1	4 W	-	-	6 29	6 14.91	+25 32.0	1.470	0.463	9.7	16.1	4 W	-	-
7 1	6 31.71	+25 35.0	1.488	0.476	6.5	16.0	3 W	-	-	7 1	6 31.71	+25 35.0	1.488	0.476	6.5	16.0	3 W	-	-
7 3	6 48.17	+25 29.9	1.506	0.492	5.2	16.1	3 E	-	-	7 3	6 48.17	+25 29.9	1.506	0.492	5.2	16.1	3 E	-	-
7 5	7 4.19	+25 17.5	1.524	0.512	6.1	16.2	3 E	-	-	7 5	7 4.19	+25 17.5	1.524	0.512	6.1	16.2	3 E	-	-
7 7	7 19.72	+24 58.3	1.543	0.534	8.1	16.4	4 E	-	-	7 7	7 19.72	+24 58.3	1.543	0.534	8.1	16.4	4 E	-	-
7 9	7 34.72	+24 33.3	1.562	0.559	10.1	16.7													