

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

19/21	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°	19/21	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°										
201456 2003 FX₇₉										159793 2003 QJ₆₄ (continuation)																			
12 23	19 28.14	-21 51.5	2.410	1.522	12.7	19.9	20 E	8*	11*	12 12	6 40.27	+19 11.5	1.535	2.484	7.7	19.3	160 W	64	45	12 12	6 40.27	+19 11.5	1.535	2.484	7.7	19.3	160 W	64	45
1 2	20 1.07	-20 40.7	2.442	1.532	11.1	19.9	17 E	7*	8*	12 17	6 34.78	+19 25.4	1.536	2.504	5.3	19.2	166 W	64	45	12 17	6 34.78	+19 25.4	1.536	2.504	5.3	19.2	166 W	64	45
1 12	20 33.19	-19 7.4	2.476	1.546	9.4	19.8	15 E	6*	6*	12 22	6 29.07	+19 39.9	1.545	2.524	2.9	19.1	173 W	65	44	12 22	6 29.07	+19 39.9	1.545	2.524	2.9	19.1	173 W	65	44
1 22	21 4.31	-17 15.1	2.513	1.566	7.7	19.8	12 E	4*	3*	12 27	6 23.31	+19 54.5	1.561	2.543	1.3	19.0	177 E	65	44	12 27	6 23.31	+19 54.5	1.561	2.543	1.3	19.0	177 E	65	44
2 1	21 34.31	-15 7.3	2.552	1.589	6.0	19.8	10 E	2*	1*	1 1	6 17.68	+20 9.0	1.584	2.563	2.7	19.1	173 E	65	44	1 1	6 17.68	+20 9.0	1.584	2.563	2.7	19.1	173 E	65	44
2 11	22 3.11	-12 48.2	2.592	1.617	4.2	19.8	7 E	—	—	1 6	6 12.34	+20 23.2	1.615	2.583	4.9	19.3	167 E	65	44	1 6	6 12.34	+20 23.2	1.615	2.583	4.9	19.3	167 E	65	44
2 21	22 30.76	-10 21.4	2.632	1.648	2.5	19.8	4 E	—	—	1 11	6 7.44	+20 36.9	1.653	2.602	7.1	19.5	161 E	66	43	1 11	6 7.44	+20 36.9	1.653	2.602	7.1	19.5	161 E	66	43
3 2	22 57.30	-7 50.3	2.673	1.682	0.8	19.7	1 E	—	—	1 16	6 3.10	+20 50.2	1.697	2.621	9.2	19.7	155 E	66	43	1 16	6 3.10	+20 50.2	1.697	2.621	9.2	19.7	155 E	66	43
3 12	23 22.79	-5 18.0	2.711	1.719	1.5	19.8	3 W	—	—	267878 2003 YY₁₇																			
3 22	23 47.33	-2 47.2	2.747	1.758	3.2	20.0	6 W	—	—	12 23	19 29.16	-18 18.5	3.040	2.150	9.4	20.5	21 E	11*	10*	12 23	19 29.16	-18 18.5	3.040	2.150	9.4	20.5	21 E	11*	10*
4 1	0 11.01	-0 20.0	2.779	1.800	5.1	20.2	9 W	—	3*	1 2	19 49.42	-16 42.9	3.043	2.115	7.4	20.4	16 E	8*	4*	1 2	19 49.42	-16 42.9	3.043	2.115	7.4	20.4	16 E	8*	4*
4 11	0 33.90	+2 1.7	2.806	1.842	6.9	20.4	13 W	—	7*	1 12	20 9.89	-14 55.9	3.034	2.080	5.4	20.2	12 E	5*	—	1 12	20 9.89	-14 55.9	3.034	2.080	5.4	20.2	12 E	5*	—
4 21	0 56.08	+4 16.5	2.828	1.887	8.7	20.5	17 W	—	11*	1 22	20 30.54	-12 57.3	3.015	2.045	3.9	20.1	8 E	2*	—	1 22	20 30.54	-12 57.3	3.015	2.045	3.9	20.1	8 E	2*	—
5 1	1 17.58	+6 23.3	2.843	1.932	10.6	20.7	21 W	—	15*	2 1	20 51.33	-10 46.6	2.986	2.010	3.3	20.0	7 W	—	—	2 1	20 51.33	-10 46.6	2.986	2.010	3.3	20.0	7 W	—	—
5 11	1 38.44	+8 21.1	2.850	1.978	12.3	20.8	25 W	2*	19*	2 11	21 12.25	-8 24.1	2.947	1.976	4.1	20.0	8 W	2*	—	2 11	21 12.25	-8 24.1	2.947	1.976	4.1	20.0	8 W	2*	—
5 21	1 58.68	+10 9.3	2.849	2.025	14.0	20.9	29 W	5*	23*	2 21	21 33.30	-5 50.0	2.901	1.941	5.7	20.0	11 W	5*	1*	2 21	21 33.30	-5 50.0	2.901	1.941	5.7	20.0	11 W	5*	1*
5 31	2 18.28	+11 47.5	2.840	2.072	15.7	21.0	34 W	8*	27*	3 2	21 54.52	-3 4.6	2.848	1.907	7.7	20.0	15 W	7*	5*	3 2	21 54.52	-3 4.6	2.848	1.907	7.7	20.0	15 W	7*	5*
6 10	2 37.21	+13 15.4	2.821	2.119	17.3	21.1	38 W	12*	30*	3 12	22 15.94	-0 8.6	2.789	1.874	9.7	20.0	19 W	9*	9*	3 12	22 15.94	-0 8.6	2.789	1.874	9.7	20.0	19 W	9*	9*
6 20	2 55.44	+14 33.0	2.792	2.166	18.7	21.2	43 W	16*	34*	3 22	22 37.66	+2 57.2	2.726	1.842	11.8	20.0	22 W	11*	13*	3 22	22 37.66	+2 57.2	2.726	1.842	11.8	20.0	22 W	11*	13*
6 30	3 12.87	+15 40.1	2.754	2.213	20.1	21.2	48 W	21*	37*	4 1	22 59.75	+6 11.5	2.660	1.811	13.8	20.0	26 W	13*	16*	4 1	22 59.75	+6 11.5	2.660	1.811	13.8	20.0	26 W	13*	16*
7 10	3 29.40	+16 37.2	2.706	2.260	21.3	21.3	54 W	27*	39*	4 11	23 22.31	+9 32.8	2.593	1.781	15.7	20.0	29 W	15*	19*	4 11	23 22.31	+9 32.8	2.593	1.781	15.7	20.0	29 W	15*	19*
7 20	3 44.92	+17 24.4	2.649	2.307	22.3	21.3	60 W	34*	41*	4 21	23 45.50	+12 59.3	2.524	1.752	17.6	20.0	32 W	17*	21*	4 21	23 45.50	+12 59.3	2.524	1.752	17.6	20.0	32 W	17*	21*
7 30	3 59.27	+18 2.3	2.582	2.353	23.1	21.3	66 W	41*	43*	5 1	0 9.46	+16 28.6	2.456	1.725	19.4	19.9	35 W	19*	23*	5 1	0 9.46	+16 28.6	2.456	1.725	19.4	19.9	35 W	19*	23*
8 9	4 12.26	+18 31.4	2.508	2.398	23.7	21.3	72 W	48*	44*	5 11	0 34.33	+19 57.8	2.390	1.701	21.1	19.9	37 W	22*	24*	5 11	0 34.33	+19 57.8	2.390	1.701	21.1	19.9	37 W	22*	24*
8 19	4 23.68	+18 52.3	2.426	2.443	24.0	21.3	79 W	54*	44*	5 21	1 0.31	+23 23.7	2.325	1.678	22.7	19.8	40 W	24*	25*	5 21	1 0.31	+23 23.7	2.325	1.678	22.7	19.8	40 W	24*	25*
8 29	4 33.27	+19 5.8	2.339	2.488	23.9	21.2	86 W	60*	45*	5 26	1 13.77	+25 4.2	2.294	1.668	23.5	19.8	41 W	25*	25*	5 26	1 13.77	+25 4.2	2.294	1.668	23.5	19.8	41 W	25*	25*
9 8	4 40.77	+19 12.5	2.249	2.531	23.4	21.2	94 W	63*	45	5 31	1 27.55	+26 42.3	2.263	1.658	24.2	19.8	42 W	27*	25*	5 31	1 27.55	+26 42.3	2.263	1.658	24.2	19.8	42 W	27*	25*
9 18	4 45.87	+19 13.3	2.159	2.574	22.4	21.1	103 W	64	45	6 5	1 41.67	+28 17.5	2.234	1.649	25.0	19.8	43 W	28*	25*	6 5	1 41.67	+28 17.5	2.234	1.649	25.0	19.8	43 W	28*	25*
9 28	4 48.28	+19 8.7	2.071	2.616	20.8	21.0	112 W	64	45	6 10	1 56.15	+29 49.1	2.204	1.640	25.6	19.8	44 W	30*	24*	6 10	1 56.15	+29 49.1	2.204	1.640	25.6	19.8	44 W	30*	24*
10 8	4 47.78	+18 59.3	1.990	2.657	18.6	20.9	122 W	64	45	6 15	2 11.01	+31 16.8	2.176	1.633	26.3	19.7	45 W	31*	24*	6 15	2 11.01	+31 16.8	2.176	1.633	26.3	19.7	45 W	31*	24*
10 18	4 44.26	+18 45.2	1.922	2.698	15.8	20.7	133 W	64	45	6 20	2 26.23	+32 39.8	2.148	1.626	27.0	19.7	47 W	33*	23*	6 20	2 26.23	+32 39.8	2.148	1.626	27.0	19.7	47 W	33*	23*
10 28	4 37.84	+18 27.0	1.870	2.737	12.3	20.6	144 W	63	46	6 25	2 41.81	+33 57.5	2.121	1.619	27.6	19.7	48 W	35*	23*	6 25	2 41.81	+33 57.5	2.121	1.619	27.6	19.7	48 W	35*	23*
11 7	4 29.00	+18 5.1	1.841	2.776	8.3	20.4	156 W	63	46	6 30	2 57.72	+35 9.4	2.094	1.614	28.2	19.7	49 W	36*	22*	6 30	2 57.72	+35 9.4	2.094	1.614	28.2	19.7	49 W	36*	22*
11 17	4 18.51	+17 40.7	1.838	2.814	4.1	20.2	168 W	63	46	7 5	3 13.96	+36 14.9	2.068	1.609	28.8	19.7	50 W	38*	22*	7 5	3 13.96	+36 14.9	2.068	1.609	28.8	19.7	50 W	38*	22*
11 22	4 12.98	+17 28.2	1.848	2.832	2.1	20.1	174 W	62	47	7 10	3 30.48	+37 13.5	2.042	1.605	29.4	19.7	51 W	40*	21*	7 10	3 30.48	+37 13.5	2.042	1.605	29.4	19.7	51 W	40*	21*
11 27	4 7.46	+17 16.1	1.865	2.851	1.4	20.1	176 E	62	47	7 15	3 47.24	+38 4.9	2.017	1.602	29.9	19.6	52 W	42*	21*	7 15	3 47.24	+38 4.9	2.017	1.602	29.9	19.6	52 W	42*	21*
12 2	4 2.10	+17 4.5	1.890	2.869	3.0	20.3	171 E	62	47	7 20	4 1.19	+38 48.6	1.991	1.600	30.5	19.6	53 W	43*	20*	7 20	4 1.19	+38 48.6	1.991	1.600	30.5	19.6	53 W	43*	20*
12 7	3 57.02	+16 53.9	1.923	2.886	5.0	20.4	165 E	62	47	7 25	4 21.25	+39 24.3	1.966	1.599	31.0	19.6	54 W	45*	20*	7 25	4 21.25	+39 24.3	1.966	1.599	31.0	19.6	54 W	45*	20*
12 17	3 48.16	+16 37.0	2.010	2.921	8.8	20.7	153 E	62	47	7 30	4 38.35	+39 51.9	1.941	1.598	31.5	19.6	55 W	47*	19*	7 30	4 38.35	+39 51.9	1.941	1.598					

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

19/21	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°	19/21	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°										
382418 1998 QN										207408 2006 BY₁₇₂																			
<i>(continuation)</i>										<i>(continuation)</i>																			
5 21	1 56.55	+19 33.9	2.461	1.626	16.5	20.5	27 W	12*	18*	2 21	22 14.12	- 8 57.7	2.710	1.722	1.1	20.8	2 W	-	-	2 21	22 14.12	- 8 57.7	2.710	1.722	1.1	20.8	2 W	-	-
5 31	2 23.65	+22 17.8	2.441	1.639	17.9	20.5	30 W	14*	19*	3 2	22 38.82	- 6 25.0	2.731	1.742	1.9	20.9	3 W	-	-	3 2	22 38.82	- 6 25.0	2.731	1.742	1.9	20.9	3 W	-	-
6 10	2 51.11	+24 45.6	2.420	1.656	19.2	20.6	32 W	17*	20*	3 12	23 2.82	- 3 49.7	2.747	1.764	3.7	21.1	7 W	-	-	3 12	23 2.82	- 3 49.7	2.747	1.764	3.7	21.1	7 W	-	-
6 20	3 18.87	+26 55.7	2.397	1.675	20.6	20.6	35 W	20*	21*	3 22	23 26.19	- 1 13.8	2.760	1.787	5.6	21.2	10 W	-	-	3 22	23 26.19	- 1 13.8	2.760	1.787	5.6	21.2	10 W	-	-
6 30	3 46.77	+28 46.6	2.373	1.698	21.8	20.7	38 W	24*	22*	4 1	23 49.00	+ 1 20.8	2.767	1.811	7.5	21.3	14 W	1*	7*	4 1	23 49.00	+ 1 20.8	2.767	1.811	7.5	21.3	14 W	1*	7*
7 10	4 14.64	+30 17.7	2.346	1.722	23.0	20.7	42 W	28*	22*	4 11	0 11.31	+ 3 52.3	2.769	1.836	9.4	21.5	17 W	3*	11*	4 11	0 11.31	+ 3 52.3	2.769	1.836	9.4	21.5	17 W	3*	11*
7 20	4 42.26	+31 28.8	2.315	1.749	24.2	20.8	45 W	33*	22*	101487 1998 WB₄₀																			
7 30	5 9.37	+32 20.5	2.279	1.778	25.3	20.8	49 W	37*	23*	12 23	19 29.40	-34 48.3	2.464	1.595	13.4	19.6	22 E	-	-	12 23	19 29.40	-34 48.3	2.464	1.595	13.4	19.6	22 E	-	-
8 9	5 35.69	+32 53.9	2.239	1.809	26.4	20.8	52 W	42*	23*	12 28	19 47.00	-34 26.5	2.464	1.587	12.9	19.6	21 E	-	-	12 28	19 47.00	-34 26.5	2.464	1.587	12.9	19.6	21 E	-	-
8 19	6 0.97	+33 11.0	2.194	1.841	27.3	20.9	57 W	47*	23*	1 2	20 4.63	-33 56.6	2.465	1.579	12.4	19.6	20 E	-	-	1 2	20 4.63	-33 56.6	2.465	1.579	12.4	19.6	20 E	-	-
8 29	6 24.93	+33 13.9	2.142	1.874	28.1	20.9	61 W	52*	24*	1 7	20 22.22	-33 18.6	2.466	1.573	12.0	19.6	19 E	-	-	1 7	20 22.22	-33 18.6	2.466	1.573	12.0	19.6	19 E	-	-
9 8	6 47.34	+33 5.3	2.085	1.909	28.8	20.9	66 W	57*	25*	1 12	20 39.67	-32 32.7	2.467	1.567	11.6	19.5	19 E	-	-	1 12	20 39.67	-32 32.7	2.467	1.567	11.6	19.5	19 E	-	-
9 18	7 7.96	+32 48.0	2.021	1.944	29.3	20.9	71 W	63*	26*	1 17	20 56.97	-31 39.2	2.468	1.563	11.2	19.5	18 E	-	-	1 17	20 56.97	-31 39.2	2.468	1.563	11.2	19.5	18 E	-	-
9 28	7 26.54	+32 25.2	1.952	1.980	29.5	20.8	77 W	68*	27*	1 22	21 14.07	-30 38.5	2.470	1.559	10.9	19.5	17 E	-	-	1 22	21 14.07	-30 38.5	2.470	1.559	10.9	19.5	17 E	-	-
10 8	7 42.84	+31 59.9	1.877	2.017	29.5	20.8	83 W	73*	28*	1 27	21 30.91	-29 30.9	2.473	1.557	10.5	19.5	17 E	-	-	1 27	21 30.91	-29 30.9	2.473	1.557	10.5	19.5	17 E	-	-
10 18	7 56.58	+31 35.3	1.799	2.054	29.0	20.7	90 W	76*	30*	2 1	21 47.46	-28 17.1	2.476	1.555	10.2	19.5	16 E	-	-	2 1	21 47.46	-28 17.1	2.476	1.555	10.2	19.5	16 E	-	-
10 28	8 7.43	+31 14.0	1.718	2.091	28.1	20.6	97 W	76	31*	2 6	22 3.69	-26 57.6	2.480	1.555	9.9	19.5	16 E	-	-	2 6	22 3.69	-26 57.6	2.480	1.555	9.9	19.5	16 E	-	-
11 7	8 15.04	+30 58.4	1.638	2.128	26.7	20.5	105 W	76	33*	2 11	22 19.60	-25 33.0	2.485	1.555	9.6	19.5	15 E	-	-	2 11	22 19.60	-25 33.0	2.485	1.555	9.6	19.5	15 E	-	-
11 17	8 19.00	+30 50.1	1.560	2.165	24.6	20.4	114 W	76	33	2 16	22 35.16	-24 3.9	2.491	1.557	9.4	19.5	15 E	-	-	2 16	22 35.16	-24 3.9	2.491	1.557	9.4	19.5	15 E	-	-
11 27	8 18.92	+30 49.0	1.489	2.202	21.7	20.2	124 W	76	33	2 21	22 50.39	-22 30.9	2.497	1.559	9.1	19.5	14 E	-	-	2 21	22 50.39	-22 30.9	2.497	1.559	9.1	19.5	14 E	-	-
12 7	8 14.63	+30 53.0	1.430	2.239	18.1	20.1	135 W	76	33	2 26	23 5.28	-20 54.8	2.504	1.563	8.9	19.5	14 E	-	-	2 26	23 5.28	-20 54.8	2.504	1.563	8.9	19.5	14 E	-	-
12 12	8 10.91	+30 55.6	1.407	2.257	16.0	20.0	141 W	76	33	3 2	23 19.84	-19 16.0	2.512	1.568	8.7	19.5	14 E	-	-	3 2	23 19.84	-19 16.0	2.512	1.568	8.7	19.5	14 E	-	-
12 17	8 6.22	+30 57.7	1.388	2.275	13.8	19.9	147 W	76	33	3 12	23 48.00	-15 53.1	2.530	1.580	8.4	19.5	13 E	-	-	3 12	23 48.00	-15 53.1	2.530	1.580	8.4	19.5	13 E	-	-
12 22	8 0.66	+30 58.4	1.375	2.293	11.4	19.8	153 W	76	33	3 22	0 14.99	-12 26.8	2.549	1.596	8.2	19.5	13 E	-	-	3 22	0 14.99	-12 26.8	2.549	1.596	8.2	19.5	13 E	-	-
12 27	7 54.41	+30 56.8	1.368	2.311	9.0	19.7	158 W	76	33	4 1	0 40.95	- 9 0.9	2.570	1.615	8.3	19.6	14 W	-	-	4 1	0 40.95	- 9 0.9	2.570	1.615	8.3	19.6	14 W	-	-
1 1	7 47.64	+30 52.3	1.367	2.329	6.6	19.6	164 W	76	33	4 11	1 5.99	- 5 38.8	2.591	1.638	8.7	19.6	14 W	-	-	4 11	1 5.99	- 5 38.8	2.591	1.638	8.7	19.6	14 W	-	-
1 6	7 40.57	+30 44.3	1.374	2.346	4.6	19.5	169 W	76	33	4 21	1 30.26	- 2 23.1	2.610	1.664	9.3	19.7	16 W	-	-	4 21	1 30.26	- 2 23.1	2.610	1.664	9.3	19.7	16 W	-	-
1 11	7 33.45	+30 32.6	1.387	2.364	3.6	19.5	171 W	76	33	5 1	1 53.86	+ 0 44.1	2.628	1.693	10.2	19.8	17 W	-	-	5 1	1 53.86	+ 0 44.1	2.628	1.693	10.2	19.8	17 W	-	-
1 16	7 26.50	+30 17.2	1.408	2.381	4.4	19.6	169 E	75	34	5 11	2 16.87	+ 3 41.1	2.641	1.724	11.3	19.9	20 W	-	-	5 11	2 16.87	+ 3 41.1	2.641	1.724	11.3	19.9	20 W	-	-
49385 1998 XA₁₂										151517 2002 PQ₁₁₃																			
12 23	19 29.32	-14 58.3	2.715	1.842	11.6	17.6	22 E	13*	8*	5 21	2 39.37	+ 6 27.1	2.651	1.757	12.6	20.0	22 W	-	-	5 21	2 39.37	+ 6 27.1	2.651	1.757	12.6	20.0	22 W	-	-
1 2	19 53.43	-13 11.3	2.715	1.810	10.0	17.5	19 E	12*	3*	5 31	3 1.39	+ 9 1.3	2.654	1.792	14.0	20.1	25 W	-	-	5 31	3 1.39	+ 9 1.3	2.654	1.792	14.0	20.1	25 W	-	-
1 12	20 17.79	-11 9.6	2.709	1.781	8.5	17.4	16 E	9*	-	6 10	3 22.96	+11 23.5	2.651	1.828	15.5	20.2	29 W	2*	23*	6 10	3 22.96	+11 23.5	2.651	1.828	15.5	20.2	29 W	2*	23*
1 22	20 42.38	- 8 53.6	2.697	1.753	7.3	17.3	13 E	7*	-	6 20	3 44.08	+13 33.8	2.641	1.865	17.0	20.3	32 W	7*	25*	6 20	3 44.08	+13 33.8	2.641	1.865	17.0	20.3	32 W	7*	25*
2 1	21 7.16	- 6 23.9	2.682	1.727	6.5	17.2	11 E	4*	-	6 30	4 4.73	+15 32.6	2.622	1.904	18.5	20.3	37 W	12*	28*	6 30	4 4.73	+15 32.6	2.622	1.904	18.5	20.3	37 W	12*	28*
2 11	21 32.10	- 3 41.8	2.664	1.704	6.2	17.2	11 W	2*	-	7 10	4 24.85	+17 20.4	2.595	1.943	20.0	20.4	41 W	18*	30*	7 10	4 24.85	+17 20.4	2.595	1.943	20.0	20.4	41 W	18*	30*
2 21	21 57.23	- 0 48.7	2.643	1.683	6.4	17.1	11 W	4*	-	7 20	4 44.40	+18 58.2	2.559	1.983	21.4	20.5	45 W	25*	32*	7 20	4 44.40	+18 58.2	2.559	1.983	21.4	20.5	45 W	25*	32*
3 2	22 22.57	+ 2 13.3	2.622	1.665	7.1	17.1	12 W	6*	-	7 30	5 3.26	+20 27.1	2.514	2.023	22.7	20.5	50 W	31*	33*	7 30	5 3.26	+20 27.1	2.514	2.023	22.7	20.5	50 W	31*	33*
3 12	22 48.18	+ 5 21.8	2.600	1.650	8.0	17.1	13 W	7*	-	8 9	5 21.32	+21 48.7	2.460	2.064	23.9	20.5	56 W	38*	34*	8 9	5 21.32	+21 48.7	2.460	2.064	23.9	20.5	56 W	38*	34*
3 22	23 14.11	+ 8 34.0	2.579	1.638	9.1	17.1	15 W	9*	2*	8 19	5 38.47	+23 4.5	2.397	2.104	24.9	20.6	61 W	45*	35*	8 19	5 38.47	+23 4.5	2.397	2.104	24.9	20.6	61 W	45*	35*
4 1																													

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

19/21	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°	19/21	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°
151517 2002 PQ₁₁₃										1862 Apollo									
<i>(continuation)</i>										<i>(continuation)</i>									
6 10	1 4.75	+17 57.6	2.078	1.765	29.2	19.3	58 W	31*	41*	8 19	9 1.80	+21 30.6	3.138	2.177	7.0	21.0	15 W	9*	1*
6 20	1 27.30	+21 47.5	1.977	1.734	30.9	19.2	61 W	37*	39*	8 29	9 19.60	+20 18.2	3.122	2.203	9.1	21.1	20 W	14*	4*
6 30	1 50.99	+25 39.1	1.880	1.705	32.5	19.1	64 W	42*	37*	9 8	9 36.77	+19 3.3	3.091	2.226	11.3	21.2	26 W	19*	7*
7 5	2 3.32	+27 34.6	1.834	1.691	33.2	19.0	66 W	45*	35*	9 18	9 53.32	+17 46.7	3.044	2.245	13.4	21.3	31 W	24*	10*
7 10	2 16.03	+29 29.4	1.788	1.678	33.9	19.0	67 W	49*	34*	9 28	10 9.25	+16 29.6	2.981	2.261	15.4	21.3	37 W	30*	14*
7 15	2 29.14	+31 22.9	1.744	1.666	34.6	18.9	68 W	52*	32*	10 8	10 24.56	+15 13.0	2.904	2.274	17.4	21.3	43 W	35*	17*
7 20	2 42.67	+33 14.6	1.702	1.654	35.2	18.9	70 W	55*	30*	10 18	10 39.22	+13 58.0	2.812	2.283	19.2	21.3	49 W	41*	21*
7 25	2 56.64	+35 3.9	1.660	1.643	35.8	18.8	71 W	58*	29*	10 28	10 53.17	+12 46.0	2.707	2.290	20.9	21.3	55 W	45*	25*
7 30	3 11.07	+36 50.2	1.620	1.633	36.4	18.8	73 W	61*	27*	11 7	11 6.35	+11 38.2	2.590	2.293	22.4	21.3	62 W	50*	29*
8 4	3 25.98	+38 32.8	1.582	1.624	36.9	18.7	74 W	63*	25*	11 17	11 18.67	+10 36.3	2.462	2.293	23.7	21.2	69 W	53*	34*
8 9	3 41.37	+40 11.1	1.544	1.615	37.3	18.7	75 W	66*	24*	11 27	11 29.95	+ 9 42.0	2.324	2.290	24.7	21.1	76 W	54*	39*
8 14	3 57.24	+41 44.3	1.508	1.607	37.8	18.6	76 W	68*	22*	12 7	11 40.02	+ 8 57.2	2.180	2.284	25.4	21.0	83 W	54	44*
8 19	4 13.55	+43 11.9	1.473	1.600	38.2	18.6	78 W	70*	21*	12 17	11 48.61	+ 8 24.2	2.031	2.275	25.6	20.8	91 W	53	49*
8 24	4 30.27	+44 33.3	1.440	1.594	38.5	18.5	79 W	72*	19*	12 27	11 55.39	+ 8 5.8	1.880	2.262	25.4	20.7	100 W	53	54*
8 29	4 47.33	+45 47.7	1.407	1.589	38.8	18.5	80 W	74*	18*	1 6	11 59.93	+ 8 4.7	1.730	2.247	24.5	20.4	109 W	53	56*
9 3	5 4.68	+46 54.8	1.376	1.585	39.0	18.4	82 W	76*	17*	1 16	12 1.71	+ 8 24.0	1.584	2.228	22.8	20.2	118 W	53	56
9 8	5 22.20	+47 54.4	1.345	1.582	39.2	18.4	83 W	77*	16*	163327 2002 JR₁₃₁									
9 13	5 39.80	+48 46.2	1.315	1.579	39.4	18.4	85 W	79*	15*	12 23	19 30.75	-18 47.5	2.537	1.657	12.3	20.1	21 E	11*	10*
9 18	5 57.31	+49 30.3	1.286	1.578	39.4	18.3	86 W	79*	14*	1 2	20 0.34	-17 35.5	2.555	1.649	10.7	20.0	18 E	9*	7*
9 23	6 14.58	+50 6.9	1.257	1.578	39.5	18.3	88 W	80*	13*	1 12	20 29.71	-16 4.7	2.574	1.644	9.0	19.9	15 E	8*	4*
9 28	6 31.48	+50 36.1	1.228	1.578	39.4	18.2	89 W	81*	13*	1 22	20 58.70	-14 17.2	2.593	1.644	7.3	19.9	12 E	5*	1*
10 3	6 47.85	+50 58.7	1.200	1.580	39.3	18.2	91 W	82*	12*	2 1	21 27.19	-12 15.1	2.612	1.648	5.6	19.8	9 E	3*	—
10 8	7 3.53	+51 15.2	1.172	1.582	39.1	18.1	93 W	83*	12*	2 11	21 55.08	-10 1.4	2.632	1.656	3.9	19.8	7 E	—	—
10 13	7 18.37	+51 26.4	1.145	1.586	38.8	18.0	95 W	83*	12*	2 21	22 22.34	- 7 38.8	2.653	1.667	2.3	19.7	4 E	—	—
10 18	7 32.21	+51 33.3	1.117	1.590	38.4	18.0	97 W	83	12*	3 2	22 48.95	- 5 10.4	2.673	1.683	1.3	19.6	2 W	—	—
10 23	7 44.91	+51 36.5	1.090	1.596	37.9	17.9	100 W	83	12*	3 12	23 14.94	- 2 39.1	2.692	1.702	2.1	19.8	4 W	—	—
10 28	7 56.36	+51 37.0	1.062	1.602	37.3	17.9	102 W	83	12*	3 22	23 40.33	- 0 7.6	2.711	1.724	3.7	19.9	6 W	—	—
11 2	8 6.43	+51 35.4	1.036	1.609	36.6	17.8	105 W	83	12*	4 1	0 5.17	+ 2 21.7	2.727	1.749	5.4	20.0	9 W	—	3*
11 7	8 15.02	+51 32.5	1.009	1.617	35.7	17.7	108 W	83	12*	4 11	0 29.48	+ 4 46.6	2.741	1.777	7.1	20.2	13 W	—	7*
11 12	8 21.98	+51 28.8	0.983	1.626	34.6	17.6	111 W	84	12*	4 21	0 53.32	+ 7 5.1	2.752	1.808	8.9	20.3	16 W	1*	10*
11 17	8 27.19	+51 24.4	0.957	1.636	33.4	17.6	114 W	84	13*	5 1	1 16.70	+ 9 15.6	2.759	1.841	10.6	20.4	20 W	3*	13*
11 22	8 30.54	+51 19.2	0.932	1.646	32.0	17.5	118 W	84	13	5 11	1 39.62	+11 16.9	2.760	1.876	12.3	20.5	23 W	4*	17*
11 27	8 31.95	+51 12.6	0.909	1.657	30.4	17.4	122 W	84	13	5 21	2 2.10	+13 7.9	2.756	1.913	14.0	20.6	27 W	6*	20*
12 2	8 31.35	+51 3.7	0.888	1.669	28.6	17.3	126 W	84	13	5 31	2 24.09	+14 47.7	2.746	1.951	15.6	20.7	31 W	9*	24*
12 7	8 28.72	+50 51.2	0.868	1.682	26.6	17.2	130 W	84	13	6 10	2 45.56	+16 15.9	2.729	1.990	17.2	20.8	35 W	12*	27*
12 12	8 24.09	+50 33.2	0.851	1.695	24.4	17.1	135 W	84	13	6 20	3 6.45	+17 32.2	2.704	2.030	18.7	20.9	40 W	16*	30*
12 17	8 17.60	+50 7.6	0.838	1.709	22.1	17.0	139 W	85	14	6 30	3 26.66	+18 36.5	2.672	2.071	20.1	20.9	44 W	21*	32*
12 22	8 9.52	+49 32.0	0.828	1.723	19.7	17.0	144 W	85	14	7 10	3 46.08	+19 28.9	2.631	2.113	21.4	21.0	49 W	26*	34*
12 27	8 0.26	+48 44.7	0.823	1.738	17.3	16.9	148 W	86	15	7 20	4 4.61	+20 9.9	2.582	2.155	22.5	21.0	54 W	32*	36*
1 1	7 50.31	+47 44.4	0.823	1.754	15.2	16.8	152 W	87	16	7 30	4 22.08	+20 39.8	2.525	2.198	23.5	21.0	60 W	39*	38*
1 6	7 40.17	+46 31.0	0.828	1.769	13.5	16.8	155 W	88	17	8 9	4 38.31	+20 59.6	2.460	2.240	24.3	21.0	66 W	45*	39*
1 11	7 30.37	+45 5.4	0.840	1.786	12.6	16.8	157 W	90	19	8 19	4 53.13	+21 10.0	2.387	2.283	24.9	21.0	72 W	51*	41*
1 16	7 21.37	+43 29.8	0.857	1.803	12.5	16.9	157 E	98	21	8 29	5 6.28	+21 12.0	2.308	2.326	25.2	21.0	78 W	57*	42*
1862 Apollo										9 8	5 17.54	+21 6.8	2.225	2.368	25.1	21.0	85 W	62*	42*
12 23	19 30.75	-24 30.2	1.474	0.647	31.6	17.6	20 E	6*	12*	9 18	5 26.60	+20 55.6	2.138	2.410	24.6	20.9	93 W	65*	43*
12 28	20 3.76	-22 59.5	1.437	0.652	35.7	17.7	23 E	8*	14*	9 28	5 33.17	+20 39.3	2.050	2.452	23.6	20.8	101 W	66	44
1 2	20 36.30	-21 0.0	1.405	0.667	39.3	17.8	25 E	11*	16*	10 8	5 36.97	+20 19.2	1.965	2.493	22.1	20.7	110 W	65	44
1 7	21 7.99	-18 35.5	1.379	0.690	42.2	17.9	28 E	14*	17*	10 18	5 37.72	+19 56.3	1.885	2.534	19.9	20.6	120 W	65	44
1 12	21 38.57	-15 50.6	1.360	0.721	44.3	18.0	31 E	17*	19*	10 28	5 35.27	+19 31.1	1.817	2.575	17.1	20.5	130 W	65	44
1 17	22 7.93	-12 50.8	1.350	0.757	45.7	18.2	33 E	20*	20*	11 7	5 29.75	+19 4.5	1.764	2.615	13.6	20.3	142 W	64	45
1 22	22 36.01	- 9 41.8	1.348	0.797	46.3	18.3	36 E	23*	20*	11 17	5 21.52	+18 36.9	1.732	2.654	9.5	20.1	154 W	64	45
1 27	23 2.83	- 6 28.9	1.355	0.841	46.3	18.4	38 E	26*	21*	11 27	5 11.38	+18 9.4	1.726	2.693	5.2	20.0	166 W	63	46
2 1	23 28.42	- 3 16.8	1.371	0.886	45.8	18.5	40 E	29*	22*	12 2	5 5.93	+17 56.1	1.733	2.712	3.1	19.9	171 W	63	46
2 6	23 52.85	- 0 9.7	1.395	0.933	44.9	18.7	42 E	31*	22*	12 7	5 0.44	+17 43.5	1.748	2.731	1.8	19.8	175 W	63	46
2 11	0 16.19	+ 2 49.5	1.426	0.981	43.7	18.8	43 E	33*	22*	12 12	4 55.05	+17 31.8	1.771	2.750	2.7	19.9	172 E	63	46
2 16	0 38.52	+ 5 38.4	1.464	1.029	42.4	18.9	45 E	35*	22*	12 17	4 49.91	+17 21.2	1.801	2.769	4.6	20.1	167 E	62	47
2 21	0 59.93	+ 8 15.9	1.507	1.077	40.9	19.0	45 E	36*	22*	12 22	4 45.16	+17 12.1	1.838	2.787	6.6	20.2	161 E	62	47
3 2	1 40.26	+12 54.0	1.610	1.171	37.8	19.3	46 E	37*	21*	12 27	4 40.90	+17 4.7	1.882	2.805	8.5	20.4	155 E	62	47
3 12	2 17.71	+16 43.4	1.727	1.262	34.6	19.5	46 E	38*	21*	1 1	4 37.22	+16 59.1	1.933	2.823	10.2	20.5	149 E	62	47
3 22	2 52.74	+19 48.2	1.853	1.350	31.5	19.7	45 E	37*	20*	1 6	4 34.17	+16 55.5	1.990	2.841	11.9	20.7	144 E	62	47
3 27	3 9.47	+21 5.6	1.919	1.392	30.1	19.8	44 E	36*	20*	1 11	4 31.78	+16 53.8	2.052	2.859	13.3	20.8	138 E	62	47
4 1	3 25.74	+22 13.9	1.985	1.433	28.6	19.9	43 E	35*	19*	1 16	4 30.08	+16 54.1	2.119	2.876	14.6	20.9	132 E	62	47
4 6																			

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

19/21	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°	19/21	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°
1980 Tezcatlipoca (continuation)										162421 2000 ET₇₀ (continuation)									
4 11	2 40.45	+17 27.8	2.114	1.242	17.5	16.9	22 E	15*	7*	2 26	23 55.18	+11 29.9	1.552	0.837	35.0	20.0	29 E	23*	3*
4 21	3 16.56	+17 55.4	2.180	1.287	15.8	17.0	20 E	12*	8*	3 2	0 15.96	+14 23.7	1.539	0.842	36.1	20.0	30 E	24*	3*
5 1	3 51.18	+18 0.2	2.249	1.335	14.1	17.1	19 E	9*	9*	3 7	0 37.35	+17 9.6	1.527	0.848	37.1	20.1	31 E	25*	3*
5 11	4 24.24	+17 44.2	2.318	1.385	12.4	17.2	17 E	5*	9*	3 12	0 59.44	+19 45.5	1.516	0.855	38.1	20.1	32 E	26*	3*
5 21	4 55.77	+17 9.5	2.386	1.436	10.8	17.3	15 E	1*	9*	3 17	1 22.26	+22 9.3	1.506	0.863	38.9	20.1	33 E	27*	4*
5 31	5 25.82	+16 18.0	2.452	1.487	9.4	17.4	14 E	—	8*	3 22	1 45.85	+24 19.1	1.498	0.871	39.6	20.1	34 E	28*	5*
6 10	5 54.43	+15 11.6	2.515	1.539	8.2	17.4	12 E	—	6*	3 27	2 10.17	+26 12.9	1.492	0.881	40.2	20.2	35 E	29*	6*
6 20	6 21.70	+13 51.9	2.573	1.590	7.3	17.5	11 E	—	4*	4 1	2 35.14	+27 49.0	1.488	0.891	40.7	20.2	36 E	30*	7*
6 30	6 47.70	+12 20.3	2.625	1.640	6.9	17.6	11 E	—	1*	4 6	3 0.64	+29 5.8	1.486	0.901	41.1	20.2	36 E	30*	8*
7 10	7 12.50	+10 38.2	2.672	1.689	7.0	17.7	12 W	—	—	4 11	3 26.48	+30 2.3	1.485	0.912	41.4	20.3	37 E	31*	9*
7 20	7 36.20	+ 8 46.9	2.712	1.737	7.6	17.8	13 W	—	4*	4 16	3 52.47	+30 38.1	1.487	0.923	41.5	20.3	38 E	31*	11*
7 30	7 58.87	+ 6 47.2	2.744	1.783	8.5	18.0	15 W	—	8*	4 21	4 18.39	+30 53.2	1.491	0.934	41.5	20.3	38 E	31*	12*
8 9	8 20.57	+ 4 40.4	2.768	1.828	9.7	18.1	18 W	—	11*	4 26	4 44.02	+30 48.1	1.496	0.945	41.5	20.4	38 E	31*	14*
8 19	8 41.38	+ 2 27.2	2.784	1.871	11.0	18.2	21 W	—	15*	5 1	5 9.14	+30 23.9	1.504	0.956	41.3	20.4	39 E	30*	16*
8 29	9 1.34	+ 0 8.4	2.790	1.913	12.4	18.3	24 W	3*	18*	5 6	5 33.58	+29 42.0	1.512	0.966	41.1	20.4	39 E	30*	17*
9 8	9 20.51	- 2 15.1	2.788	1.952	13.9	18.4	28 W	7*	21*	5 11	5 57.22	+28 44.2	1.522	0.977	40.8	20.5	39 E	28*	19*
9 18	9 38.93	- 4 42.6	2.775	1.990	15.3	18.5	32 W	11*	25*	5 16	6 19.98	+27 32.3	1.533	0.987	40.5	20.5	39 E	27*	21*
9 28	9 56.61	- 7 13.6	2.753	2.026	16.8	18.5	36 W	15*	28*	5 21	6 41.83	+26 8.2	1.545	0.996	40.1	20.5	39 E	26*	23*
10 8	10 13.56	- 9 47.2	2.721	2.060	18.2	18.6	40 W	18*	32*	5 26	7 2.76	+24 33.6	1.557	1.006	39.7	20.5	39 E	24*	24*
10 18	10 29.79	- 12 23.0	2.679	2.092	19.6	18.6	45 W	21*	36*	5 31	7 22.81	+22 50.3	1.570	1.014	39.3	20.6	39 E	22*	26*
10 28	10 45.24	- 15 0.4	2.627	2.122	20.9	18.7	50 W	22*	40*	6 5	7 42.02	+20 59.7	1.583	1.022	38.8	20.6	39 E	20*	27*
11 7	10 59.86	- 17 38.7	2.566	2.150	22.1	18.7	55 W	23*	45*	6 10	8 0.45	+19 3.1	1.596	1.030	38.4	20.6	39 E	17*	28*
11 17	11 13.57	- 20 17.4	2.495	2.176	23.2	18.7	60 W	23*	50*	6 15	8 18.19	+17 1.8	1.608	1.036	37.9	20.6	39 E	15*	29*
11 27	11 26.23	- 22 55.7	2.417	2.200	24.1	18.7	66 W	22*	56*	6 20	8 35.32	+14 56.6	1.621	1.042	37.5	20.7	39 E	13*	30*
12 7	11 37.66	- 25 32.8	2.331	2.222	24.8	18.6	71 W	19	63*	6 25	8 51.92	+12 48.4	1.632	1.048	37.1	20.7	38 E	11*	31*
12 17	11 47.62	- 28 7.8	2.239	2.242	25.4	18.6	77 W	17	70*	6 30	9 8.07	+10 37.9	1.643	1.052	36.7	20.7	38 E	9*	31*
12 27	11 55.80	- 30 39.0	2.142	2.260	25.6	18.5	84 W	14	78*	7 5	9 23.83	+ 8 25.7	1.653	1.056	36.3	20.7	38 E	7*	31*
1 6	12 1.83	- 33 4.5	2.043	2.276	25.6	18.4	91 W	12	83*	7 10	9 39.30	+ 6 12.2	1.662	1.059	36.0	20.7	38 E	5*	32*
1 16	12 5.24	- 35 21.2	1.942	2.290	25.2	18.3	98 W	10	81	7 15	9 54.55	+ 3 57.9	1.669	1.062	35.6	20.7	37 E	3*	31*
437879 2001 RX₁₁										179596 2002 NS₁₇									
12 23	19 30.86	- 26 39.4	2.136	1.260	15.7	20.7	20 E	4*	13*	7 20	10 9.65	+ 1 43.2	1.676	1.063	35.3	20.7	37 E	2*	31*
12 28	19 51.05	- 25 24.5	2.151	1.270	15.2	20.7	20 E	5*	12*	7 25	10 24.67	- 0 31.6	1.681	1.064	35.1	20.7	37 E	—	31*
1 2	20 10.69	- 24 0.8	2.168	1.281	14.7	20.7	19 E	5*	12*	7 30	10 39.68	- 2 46.2	1.686	1.064	34.9	20.7	37 E	—	31*
1 7	20 29.72	- 22 29.4	2.187	1.295	14.1	20.8	19 E	6*	11*	8 4	10 54.74	- 5 0.3	1.688	1.063	34.7	20.7	37 E	—	30*
1 12	20 48.11	- 20 51.6	2.210	1.311	13.5	20.8	18 E	6*	10*	8 9	11 9.93	- 7 13.3	1.690	1.061	34.6	20.7	36 E	—	30*
1 17	21 5.87	- 19 8.6	2.234	1.329	12.8	20.8	17 E	7*	9*	8 14	11 25.31	- 9 25.0	1.690	1.058	34.5	20.7	36 E	—	29*
1 22	21 23.00	- 17 21.5	2.262	1.349	12.1	20.8	17 E	7*	7*	8 19	11 40.95	- 11 35.0	1.689	1.055	34.4	20.7	36 E	—	29*
1 27	21 39.52	- 15 31.4	2.291	1.370	11.3	20.9	16 E	7*	6*	8 24	11 56.93	- 13 42.7	1.686	1.051	34.4	20.7	36 E	—	28*
2 1	21 55.46	- 13 39.3	2.322	1.394	10.6	20.9	15 E	7*	5*	8 29	12 13.29	- 15 47.6	1.683	1.046	34.4	20.7	36 E	—	28*
2 6	22 10.84	- 11 46.0	2.354	1.418	9.8	21.0	14 E	6*	4*	9 3	12 30.12	- 17 49.0	1.678	1.040	34.4	20.6	36 E	—	27*
2 11	22 25.70	- 9 52.5	2.388	1.444	8.9	21.0	13 E	6*	3*	9 8	12 47.47	- 19 46.0	1.672	1.034	34.5	20.6	36 E	—	27*
2 16	22 40.08	- 7 59.2	2.423	1.472	8.1	21.0	12 E	5*	2*	9 13	13 5.41	- 21 37.8	1.665	1.027	34.6	20.6	35 E	—	27*
2 21	22 54.01	- 6 6.8	2.459	1.500	7.2	21.1	11 E	4*	1*	9 18	13 24.00	- 23 23.5	1.658	1.019	34.7	20.6	35 E	—	27*
2 26	23 7.53	- 4 15.7	2.496	1.529	6.3	21.1	10 E	3*	—	9 23	13 43.29	- 25 1.9	1.649	1.011	34.9	20.5	35 E	—	27*
3 2	23 20.67	- 2 26.3	2.532	1.559	5.4	21.1	9 E	2*	—	9 28	14 3.30	- 26 31.8	1.640	1.002	35.1	20.5	35 E	—	27*
3 7	23 33.45	+ 0 39.0	2.569	1.590	4.6	21.2	7 E	1*	—	10 3	14 24.05	- 27 51.8	1.630	0.993	35.3	20.5	35 E	—	27*
3 12	23 45.91	+ 1 5.9	2.606	1.622	3.7	21.2	6 E	—	—	10 8	14 45.54	- 29 0.6	1.619	0.983	35.6	20.5	35 E	—	27*
3 17	23 58.07	+ 2 48.3	2.643	1.654	3.0	21.2	5 E	—	—	10 13	15 7.73	- 29 56.6	1.608	0.973	35.8	20.4	35 E	—	27*
3 22	0 9.97	+ 4 28.1	2.679	1.686	2.4	21.2	4 E	—	—	10 18	15 30.57	- 30 38.6	1.597	0.963	36.1	20.4	35 E	—	28*
3 27	0 21.61	+ 6 5.0	2.714	1.719	2.1	21.3	4 W	—	—	10 23	15 53.95	- 31 5.3	1.585	0.952	36.4	20.4	35 E	—	28*
4 1	0 33.02	+ 7 39.1	2.748	1.752	2.2	21.4	4 W	—	—	10 28	16 17.76	- 31 15.6	1.572	0.941	36.8	20.3	35 E	—	28*
4 6	0 44.22	+ 9 10.2	2.781	1.786	2.7	21.5	5 W	—	—	11 2	16 41.83	- 31 8.5	1.560	0.930	37.1	20.3	34 E	1*	28*
217390 2005 CW₂₅										179596 2002 NS₁₇									
12 23	19 33.20	- 17 33.5	1.824	0.984	22.0	21.1	22 E	12*	10*	11 7	17 6.02	- 30 43.5	1.547	0.919	37.5	20.3	34 E	3*	28*
1 2	20 19.22	- 18 7.5	1.891	1.048	20.7	21.3	22 E	11*	11*	11 12	17 30.15	- 30 0.5	1.534	0.908	37.9	20.2	34 E	4*	28*
1 12	21 2.18	- 18 1.3	1.968	1.117	19.1	21.5	22 E	11*	11*	11 17	17 54.07	- 28 59.6	1.520	0.897	38.4	20.2	34 E	6*	28*
1 22	21 41.98	- 17 22.7	2.053	1.189	17.3	21.7	21 E	10*	12*	11 22	18 17.64	- 27 41.4	1.507	0.887	38.9	20.2	34 E	8*	28*
2 1	22 18.73	- 16 19.7	2.142	1.262	15.5	21.8	20 E	8*	11*	11 27	18 40.75	- 26 6.5	1.493	0.877	39.4	20.2	34 E	10*	27*
344143 2000 JQ₃										179596 2002 NS₁₇									
12 23	19 33.63	- 26 11.9	2.211	1.338	15.2	21.4	21 E	5*	14*	12 2	19 3.31	- 24 16.2	1.478	0.868	40.0	20.1	34 E	12*	26*
12 28	19 53.03	- 25 31.6	2.235	1.355	14.5	21.4	20 E	5*	13*	12 7	19 25.29	- 22 11.7	1.463	0.860	40.6	20.1	35 E	15*	25*
1 2	20 11.95	- 24 43.0	2.261	1.374	13.8	21.5	20 E	5*	12*	12 12	19 46.68	- 19 54.4	1.448	0.852	41.3	20.1	35 E	17*	24*
1 7	20 30.33	- 23 47.1	2.289	1.395	13.1	21.5	19 E	5*	11*	12 17	20 7.52	- 17 25.8	1.432	0.845	42.1	20.1	35 E	19*	23*
1 12	20 48.15	- 22 44.8	2.319	1.416	12.4	21.5	18 E	5*	10*	12 22	20 27.84	- 14 47.							

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

19/21	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°	19/21	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°
179596 2002 NS₁₇										301936 2000 AH₉₇									
<i>(continuation)</i>										<i>(continuation)</i>									
5 11	1 35.87	+13 39.4	2.678	1.798	13.0	21.0	24 W	7*	16*	12 27	22 55.89	+25 8.7	1.517	1.686	35.3	18.7	82 E	70*	25*
5 21	1 59.11	+15 57.7	2.666	1.824	14.6	21.1	27 W	9*	19*	1 6	23 16.90	+26 47.1	1.566	1.664	35.3	18.7	78 E	69*	21*
5 31	2 22.17	+18 5.0	2.649	1.852	16.3	21.1	31 W	12*	22*	1 16	23 40.48	+28 34.3	1.613	1.646	35.1	18.8	74 E	67*	17*
6 10	2 45.01	+20 0.5	2.626	1.880	17.8	21.2	35 W	15*	24*	370491 2003 SE									
6 20	3 7.58	+21 43.6	2.597	1.910	19.4	21.3	39 W	19*	26*	12 23	19 36.05	-18 55.8	2.522	1.654	13.0	21.4	22 E	11*	11*
6 30	3 29.79	+23 14.2	2.561	1.941	20.8	21.3	43 W	23*	28*	1 2	20 5.41	-17 53.8	2.571	1.673	11.1	21.4	19 E	10*	8*
7 10	3 51.53	+24 32.1	2.518	1.972	22.2	21.3	47 W	29*	30*	1 12	20 33.99	-16 34.9	2.619	1.694	9.1	21.3	16 E	8*	5*
7 20	4 12.69	+25 37.8	2.469	2.004	23.4	21.4	52 W	34*	31*	1 22	21 1.71	-15 1.7	2.665	1.717	7.1	21.3	13 E	5*	2*
7 30	4 33.08	+26 31.7	2.412	2.036	24.6	21.4	57 W	40*	32*	2 1	21 28.53	-13 16.8	2.709	1.743	5.1	21.3	9 E	3*	—
8 9	4 52.54	+27 14.9	2.347	2.069	25.6	21.4	62 W	47*	32*	2 11	21 54.42	-11 22.8	2.749	1.770	3.1	21.2	6 E	—	—
8 19	5 10.86	+27 48.3	2.276	2.102	26.3	21.4	67 W	53*	33*	2 21	22 19.42	-9 22.3	2.786	1.799	1.1	21.2	2 E	—	—
8 29	5 27.80	+28 13.5	2.199	2.135	26.9	21.4	73 W	59*	34*	3 2	22 43.56	-7 17.6	2.819	1.829	1.1	21.2	2 W	—	—
9 8	5 43.09	+28 32.0	2.115	2.168	27.2	21.3	79 W	65*	34*	3 12	23 6.91	-5 11.0	2.845	1.860	3.1	21.4	6 W	—	—
9 18	5 56.45	+28 45.6	2.028	2.200	27.1	21.3	86 W	70*	35*	433 Eros									
9 28	6 7.50	+28 56.1	1.937	2.233	26.6	21.2	93 W	74*	35*	12 23	19 36.54	-21 36.2	2.659	1.783	11.8	15.0	22 E	9*	12*
10 8	6 15.91	+29 5.1	1.846	2.265	25.6	21.1	101 W	74	35	1 2	20 0.89	-20 5.5	2.695	1.781	9.5	15.0	17 E	7*	8*
10 18	6 21.24	+29 14.0	1.756	2.297	24.1	21.0	110 W	74	35	1 12	20 24.85	-18 22.6	2.721	1.778	7.3	14.9	13 E	5*	4*
10 28	6 23.10	+29 23.3	1.672	2.328	21.8	20.8	120 W	74	35	1 22	20 48.43	-16 28.1	2.737	1.772	5.0	14.9	9 E	2*	—
11 7	6 21.21	+29 32.3	1.598	2.359	18.8	20.6	130 W	75	34	2 1	21 11.66	-14 22.8	2.744	1.764	2.8	14.8	5 E	—	—
11 17	6 15.48	+29 39.1	1.538	2.389	15.1	20.5	141 W	75	34	2 11	21 34.56	-12 7.7	2.740	1.754	1.3	14.7	2 W	—	—
11 22	6 11.27	+29 40.6	1.516	2.404	13.0	20.4	147 W	75	34	2 21	21 57.21	-9 43.5	2.727	1.743	2.5	14.7	4 W	—	—
11 27	6 6.27	+29 40.3	1.499	2.419	10.7	20.3	153 W	75	34	3 2	22 19.66	-7 11.1	2.705	1.729	4.6	14.8	8 W	—	1*
12 2	6 0.63	+29 37.6	1.488	2.434	8.4	20.2	159 W	75	34	3 12	22 42.01	-4 31.5	2.673	1.713	6.8	14.8	12 W	1*	5*
12 7	5 54.51	+29 32.2	1.483	2.448	6.0	20.1	165 W	75	34	3 22	23 4.36	-1 45.7	2.634	1.695	9.0	14.8	16 W	3*	9*
12 12	5 48.08	+29 24.0	1.486	2.462	3.7	20.0	171 W	74	35	4 1	23 26.83	+1 5.4	2.588	1.676	11.3	14.8	19 W	5*	12*
12 17	5 41.57	+29 13.0	1.496	2.477	2.3	19.9	174 W	74	35	4 11	23 49.54	+4 0.6	2.534	1.654	13.4	14.8	23 W	6*	16*
12 22	5 35.19	+28 59.3	1.513	2.491	3.2	20.0	172 E	74	35	4 21	0 12.67	+6 58.9	2.475	1.631	15.6	14.7	26 W	8*	19*
12 27	5 29.15	+28 43.5	1.537	2.504	5.2	20.2	167 E	74	35	5 1	0 36.38	+9 58.8	2.411	1.606	17.7	14.7	29 W	10*	21*
1 1	5 23.61	+28 26.0	1.569	2.518	7.4	20.3	161 E	73	36	5 11	1 0.84	+12 58.5	2.343	1.580	19.8	14.7	32 W	12*	24*
1 6	5 18.72	+28 7.5	1.607	2.531	9.5	20.5	155 E	73	36	5 21	1 26.29	+15 56.4	2.272	1.552	21.8	14.6	35 W	14*	25*
1 11	5 14.57	+27 48.7	1.651	2.545	11.5	20.6	149 E	73	36	5 31	1 52.94	+18 49.7	2.198	1.523	23.8	14.5	37 W	17*	27*
1 16	5 11.23	+27 30.1	1.702	2.558	13.3	20.8	143 E	73	36	6 10	2 21.01	+21 35.7	2.124	1.492	25.8	14.5	40 W	20*	27*
301936 2000 AH₉₇										301936 2000 AH₉₇									
12 23	19 36.00	-32 57.7	4.012	3.127	7.0	21.2	23 E	—	17*	6 15	2 35.67	+22 54.7	2.086	1.477	26.8	14.4	41 W	22*	27*
1 2	19 51.51	-31 44.7	4.024	3.096	5.3	21.1	17 E	—	11*	6 20	2 50.77	+24 10.5	2.049	1.461	27.7	14.4	42 W	23*	27*
1 12	20 7.07	-30 28.2	4.019	3.063	3.8	21.0	12 E	—	5*	6 25	3 6.33	+25 22.5	2.012	1.445	28.7	14.3	43 W	25*	27*
1 22	20 22.61	-29 7.8	3.997	3.031	3.1	20.9	9 E	—	—	6 30	3 22.38	+26 29.9	1.975	1.429	29.6	14.3	44 W	27*	27*
2 1	20 38.05	-27 43.6	3.958	2.997	3.6	20.9	11 W	—	2*	7 5	3 38.94	+27 32.1	1.939	1.413	30.5	14.2	45 W	29*	26*
2 11	20 53.31	-26 15.5	3.902	2.962	5.1	20.9	15 W	—	8*	7 10	3 56.00	+28 28.4	1.903	1.396	31.4	14.2	46 W	30*	26*
2 21	21 8.35	-24 43.6	3.830	2.927	6.9	21.0	21 W	—	14*	7 15	4 13.58	+29 18.1	1.867	1.380	32.3	14.2	46 W	32*	25*
3 2	21 23.11	-23 8.0	3.742	2.890	8.8	21.0	27 W	—	20*	7 20	4 31.66	+30 0.4	1.833	1.364	33.1	14.1	47 W	34*	25*
3 12	21 37.52	-21 29.0	3.640	2.853	10.8	21.0	33 W	—	26*	7 25	4 50.21	+30 34.4	1.799	1.348	34.0	14.1	48 W	35*	24*
3 22	21 51.56	-19 46.7	3.524	2.816	12.8	20.9	39 W	2*	32*	7 30	5 9.19	+30 59.6	1.766	1.332	34.8	14.0	48 W	37*	24*
4 1	22 5.17	-18 1.4	3.396	2.777	14.7	20.9	45 W	4*	39*	8 4	5 28.56	+31 15.0	1.734	1.316	35.6	14.0	49 W	39*	23*
4 11	22 18.29	-16 13.1	3.257	2.738	16.5	20.8	51 W	7*	45*	8 9	5 48.25	+31 20.1	1.703	1.300	36.4	13.9	50 W	39*	23*
4 21	22 30.88	-14 22.1	3.108	2.698	18.2	20.8	57 W	10*	51*	8 14	6 8.21	+31 14.4	1.673	1.285	37.2	13.9	50 W	40*	22*
5 1	22 42.86	-12 28.5	2.951	2.657	19.8	20.7	63 W	13*	57*	8 19	6 28.34	+30 57.3	1.645	1.270	38.0	13.8	50 W	41*	22*
5 11	22 54.13	-10 32.2	2.788	2.616	21.2	20.6	70 W	16*	63*	8 24	6 48.55	+30 28.7	1.617	1.255	38.7	13.8	51 W	42*	22*
5 21	23 4.60	-8 33.2	2.620	2.574	22.5	20.4	76 W	20*	67*	8 29	7 8.75	+29 48.3	1.591	1.241	39.4	13.7	51 W	43*	21*
5 31	23 14.11	-6 31.4	2.449	2.531	23.4	20.3	83 W	25*	70*	9 3	7 28.86	+28 56.2	1.566	1.227	40.1	13.7	52 W	43*	21*
6 10	23 22.49	-4 26.4	2.278	2.488	24.1	20.1	90 W	30*	68	9 8	7 48.82	+27 52.6	1.543	1.214	40.7	13.7	52 W	44*	21*
6 20	23 29.51	-2 17.8	2.107	2.445	24.4	19.9	97 W	36*	66	9 18	8 27.97	+25 12.2	1.500	1.190	41.9	13.6	52 W	44*	22*
6 30	23 34.86	0 5.3	1.940	2.401	24.2	19.7	104 W	41*	64	9 28	9 5.79	+21 51.6	1.463	1.170	43.0	13.5	53 W	44*	22*
7 10	23 38.18	+2 11.6	1.779	2.357	23.6	19.4	112 W	46*	62	10 8	9 42.11	+17 56.8	1.431	1.154	43.9	13.4	53 W	44*	23*
7 20	23 39.04	+4 33.1	1.627	2.312	22.3	19.1	120 W	50	59	10 13	9 59.72	+15 48.8	1.417	1.147	44.3	13.4	53 W	44*	24*
7 30	23 36.94	+6 58.4	1.487	2.267	20.4	18.9	129 W	52	57	10 18	10 16.96	+13 35.0	1.404	1.142	44.6	13.4	54 W	44*	25*
8 9	23 31.45	+9 25.7	1.363	2.223	17.8	18.5	138 W	54	55	10 23	10 33.86	+11 16.4	1.392	1.138	44.9	13.4	54 W	43*	26*
8 19	23 22.27	+11 50.7	1.258	2.178	14.7	18.2	147 W	57	52	10 28	10 50.45	+8 53.9	1.381	1.135	45.2	13.4	54 W	43*	27*
8 24	23 16.31	+13 0.2	1.214	2.156	13.1	18.1	151 W	58	51	11 2	11 6.76	+6 28.6	1.371	1.133	45.5	13.4	54 W	42*	29*
8 29	23 9.53	+14 6.3	1.177	2.133	11.7	17.9	155 W	59	50	11 7	11 22.83	+4 1.2	1.362	1.133	45.7	13.3	55 W	41*	30*
9 3	23 2.06	+15 8.0	1.145	2.111	10.7	17.8	157 W	60	49	11 12	11 38.70	+1 32.8	1.354	1.134	45.8	13.3	55 W	40*	32*
9 8	22 54.06	+16 4.1	1.121	2.089	10.4	17.7	158 E	61	48	11 17	11 54.39	-0 55.7	1.346	1.136	46.0	13.3	56 W	39*	33*
9 13	22 45.75	+16 53.7	1.103	2.067	10.9	17.7	157 E	62	47	11 22	12 9.94	-3 23.5	1.339	1.140	46.1	13.3	56 W	38*	35*

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

19/21	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°	19/21	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°
9773 1993 MG₁										250968 2006 GM₂₆									
<i>(continuation)</i>										<i>(continuation)</i>									
2 1	21 26.36	-7 22.6	2.675	1.727	7.1	17.4	13 E	7*	—	11 27	7 43.96	+30 15.7	1.474	2.255	19.0	20.3	132 W	75	34
2 11	21 51.63	-4 40.9	2.715	1.754	5.9	17.5	10 E	4*	—	12 7	7 38.07	+31 16.9	1.420	2.284	15.1	20.1	143 W	76	33
2 21	22 16.13	-1 55.3	2.754	1.784	5.0	17.5	9 E	1*	—	12 12	7 33.66	+31 47.8	1.400	2.299	12.9	20.0	149 W	77	32
3 2	22 39.91	+0 51.9	2.791	1.817	4.7	17.5	9 W	2*	—	12 17	7 28.36	+32 17.7	1.386	2.313	10.6	19.9	154 W	77	32
3 12	23 3.02	+3 38.7	2.824	1.852	5.1	17.6	10 W	4*	—	12 22	7 22.35	+32 45.2	1.379	2.327	8.4	19.8	160 W	78	31
3 22	23 25.52	+6 23.4	2.854	1.889	6.1	17.7	12 W	5*	—	12 27	7 15.79	+33 9.4	1.377	2.341	6.3	19.7	165 W	78	31
4 1	23 47.47	+9 4.4	2.880	1.927	7.4	17.9	14 W	7*	4*	1 1	7 8.92	+33 29.4	1.383	2.355	4.8	19.7	168 W	78	31
4 11	0 8.90	+11 40.3	2.900	1.967	8.8	18.0	18 W	8*	8*	1 6	7 1.96	+33 44.6	1.396	2.368	4.7	19.7	169 E	79	30
4 21	0 29.86	+14 10.1	2.914	2.009	10.3	18.1	21 W	10*	11*	1 11	6 55.15	+33 54.7	1.416	2.382	5.8	19.8	166 E	79	30
5 1	0 50.37	+16 33.0	2.921	2.051	11.9	18.2	25 W	12*	15*	1 16	6 48.73	+33 59.7	1.443	2.395	7.7	19.9	161 E	79	30
5 11	1 10.43	+18 48.0	2.920	2.094	13.5	18.3	29 W	14*	18*	252073 2000 SR₂₃₆									
5 21	1 30.04	+20 54.9	2.912	2.137	15.0	18.4	33 W	17*	22*	12 23	19 37.43	-24 23.2	2.503	1.630	12.9	20.9	22 E	7*	14*
5 31	1 49.17	+22 53.2	2.895	2.181	16.5	18.5	38 W	20*	24*	1 2	20 7.86	-22 53.4	2.536	1.635	11.1	20.9	19 E	6*	10*
6 10	2 7.74	+24 42.6	2.869	2.225	17.9	18.6	42 W	24*	27*	1 12	20 37.51	-21 4.3	2.569	1.643	9.3	20.8	16 E	5*	7*
6 20	2 25.70	+26 23.2	2.834	2.270	19.2	18.6	47 W	29*	32*	1 22	21 6.28	-18 58.5	2.600	1.653	7.4	20.8	12 E	3*	5*
6 30	2 42.92	+27 55.1	2.789	2.314	20.4	18.7	52 W	35*	38*	2 1	21 34.11	-16 38.9	2.631	1.666	5.5	20.8	9 E	1*	2*
7 10	2 59.28	+29 18.4	2.736	2.358	21.4	18.7	58 W	41*	31*	2 11	22 0.99	-14 8.7	2.660	1.682	3.7	20.7	6 E	—	—
7 20	3 14.61	+30 33.6	2.673	2.402	22.3	18.7	64 W	48*	31*	2 21	22 26.95	-11 30.8	2.686	1.700	1.8	20.6	3 E	—	—
7 30	3 28.70	+31 41.0	2.603	2.446	22.9	18.7	70 W	55*	31*	3 2	22 52.05	-8 47.8	2.711	1.720	0.9	20.6	2 W	—	—
8 9	3 41.29	+32 41.2	2.526	2.489	23.3	18.7	76 W	62*	31*	3 12	23 16.38	-6 2.4	2.732	1.742	2.4	20.8	4 W	—	—
8 19	3 52.12	+33 34.5	2.442	2.533	23.4	18.7	83 W	70*	30*	3 22	23 40.00	-3 16.9	2.749	1.766	4.2	20.9	8 W	—	1*
8 29	4 0.85	+34 21.3	2.355	2.575	23.1	18.6	91 W	76*	30	4 1	0 3.02	+0 33.1	2.762	1.791	6.1	21.0	11 W	—	5*
9 8	4 7.14	+35 1.2	2.267	2.617	22.4	18.5	99 W	80	29	4 11	0 25.49	+2 7.0	2.770	1.818	8.0	21.2	15 W	—	9*
9 18	4 10.63	+35 33.7	2.180	2.659	21.1	18.5	107 W	81	28	4 21	0 47.49	+4 42.0	2.772	1.846	9.9	21.3	18 W	—	12*
9 28	4 11.00	+35 57.1	2.098	2.699	19.4	18.3	117 W	81	28	5 1	1 9.07	+7 10.7	2.769	1.874	11.7	21.4	22 W	2*	16*
10 8	4 8.09	+36 8.7	2.025	2.740	17.1	18.2	126 W	81	28	5 11	1 30.26	+9 31.9	2.758	1.904	13.5	21.5	26 W	5*	20*
10 18	4 1.97	+36 5.4	1.967	2.779	14.2	18.1	137 W	81	28	455299 2002 EL₆									
10 23	3 57.83	+35 56.9	1.945	2.799	12.6	18.0	142 W	81	28	12 23	19 37.76	-25 28.1	1.917	1.067	20.0	20.6	22 E	6*	14*
10 28	3 53.08	+35 43.5	1.929	2.818	10.9	18.0	148 W	81	28	12 28	20 1.61	-24 50.0	1.941	1.095	19.8	20.6	22 E	7*	14*
11 2	3 47.86	+35 24.9	1.918	2.837	9.2	17.9	153 W	80	29	1 2	20 24.64	-23 59.3	1.969	1.125	19.5	20.7	22 E	7*	14*
11 7	3 42.31	+35 1.1	1.914	2.856	7.5	17.8	158 W	80	29	1 7	20 46.77	-22 57.9	2.002	1.157	19.0	20.8	23 E	8*	14*
11 12	3 36.57	+34 32.4	1.917	2.875	6.1	17.8	162 W	80	29	1 12	21 7.94	-21 47.6	2.037	1.191	18.5	20.9	23 E	8*	14*
11 17	3 30.83	+33 59.1	1.927	2.894	5.1	17.8	165 W	79	30	1 17	21 28.15	-20 30.1	2.077	1.226	17.8	21.0	22 E	9*	14*
11 22	3 25.24	+33 22.0	1.945	2.912	4.8	17.8	166 E	78	31	1 22	21 47.42	-19 7.3	2.119	1.263	17.1	21.0	22 E	9*	13*
11 27	3 19.96	+32 42.0	1.970	2.930	5.4	17.9	164 E	78	31	1 27	22 5.76	-17 40.4	2.163	1.301	16.3	21.1	22 E	9*	13*
12 2	3 15.12	+32 0.1	2.003	2.948	6.6	18.0	160 E	77	32	2 1	22 23.24	-16 11.0	2.210	1.339	15.4	21.2	21 E	9*	12*
12 7	3 10.82	+31 17.2	2.043	2.966	8.0	18.1	155 E	76	33	2 6	22 39.89	-14 40.0	2.258	1.378	14.5	21.3	20 E	9*	12*
12 12	3 7.14	+30 34.4	2.089	2.984	9.4	18.2	150 E	76	33	2 11	22 55.79	-13 8.5	2.308	1.418	13.5	21.4	20 E	8*	11*
12 17	3 4.12	+29 52.6	2.142	3.001	10.9	18.3	145 E	75	34	2 16	23 10.98	-11 37.3	2.359	1.457	12.5	21.4	19 E	8*	10*
12 22	3 1.81	+29 12.6	2.201	3.018	12.2	18.4	140 E	74	35	2 21	23 25.54	-10 6.8	2.410	1.497	11.5	21.5	18 E	7*	9*
12 27	3 0.20	+28 35.0	2.266	3.035	13.4	18.6	134 E	74	35	333312 2001 MR₁₈									
1 1	2 59.28	+28 0.3	2.335	3.052	14.5	18.7	129 W	73	36	12 23	19 38.58	-19 34.4	2.522	1.658	13.2	20.7	23 E	11*	12*
1 6	2 59.04	+27 28.7	2.409	3.069	15.4	18.8	124 E	72	37	1 2	20 7.10	-17 52.8	2.533	1.639	11.5	20.6	19 E	10*	8*
1 11	2 59.43	+27 0.5	2.486	3.085	16.2	18.9	119 E	72	37	1 12	20 35.51	-15 53.0	2.542	1.623	9.9	20.5	16 E	9*	5*
1 16	3 0.43	+26 35.7	2.566	3.102	16.8	19.0	114 E	72	37*	1 22	21 3.71	-13 36.8	2.551	1.611	8.2	20.4	14 E	7*	2*
250968 2006 GM₂₆										2 1	21 31.62	-11 6.0	2.559	1.602	6.7	20.4	11 E	5*	—
12 23	19 37.37	-26 20.1	2.558	1.683	12.5	20.6	22 E	5*	14*	2 11	21 59.17	-8 23.3	2.567	1.597	5.2	20.3	8 E	2*	—
1 2	20 7.07	-25 0.9	2.568	1.665	10.8	20.5	18 E	4*	11*	3 2	22 26.38	-5 31.3	2.575	1.596	3.8	20.2	6 E	—	—
1 12	20 36.57	-23 20.8	2.577	1.649	9.1	20.4	15 E	3*	8*	3 2	22 53.24	-2 33.0	2.584	1.599	2.9	20.2	5 E	—	—
1 22	21 5.72	-21 21.2	2.583	1.635	7.4	20.4	12 E	1*	5*	3 12	23 19.80	+0 28.6	2.594	1.605	2.8	20.2	4 W	—	—
2 1	21 34.40	-19 4.1	2.588	1.624	5.7	20.3	10 E	—	3*	3 22	23 46.10	+3 30.5	2.604	1.615	3.5	20.3	6 W	—	—
2 11	22 2.52	-16 32.1	2.591	1.616	4.2	20.2	7 E	—	1*	4 1	0 12.21	+6 29.8	2.614	1.629	4.7	20.4	8 W	1*	—
2 21	22 30.06	-13 47.6	2.594	1.611	3.0	20.1	5 E	—	—	4 11	0 38.15	+9 23.7	2.623	1.646	6.1	20.5	10 W	2*	3*
3 2	22 57.04	-10 53.8	2.596	1.609	2.4	20.1	4 E	—	—	4 21	1 3.99	+12 9.9	2.632	1.666	7.6	20.6	13 W	3*	5*
3 12	23 23.49	-7 53.5	2.598	1.610	2.9	20.1	5 W	—	—	5 1	1 29.74	+14 46.2	2.639	1.689	9.1	20.7	15 W	4*	8*
3 22	23 49.48	-4 49.7	2.599	1.613	4.2	20.2	7 W	—	—	5 11	1 55.41	+17 10.7	2.644	1.715	10.7	20.8	18 W	6*	10*
4 1	0 15.09	-1 45.1	2.599	1.620	5.7	20.3	9 W	—	3*	5 21	2 20.99	+19 21.8	2.646	1.743	12.2	20.9	21 W	8*	13*
4 11	0 40.38	+1 17.5	2.598	1.630	7.2	20.4	12 W	—	6*	5 31	2 46.43	+21 18.5	2.645	1.774	13.8	20.9	25 W	10*	15*
4 21	1 5.44	+4 15.7	2.595	1.642	8.9	20.4	15 W	—	9*	6 10	3 11.67	+22 59.9	2.638	1.806	15.3	21.0	28 W	12*	18*
5 1	1 30.32	+7 7.5	2.591	1.658	10.5	20.5	17 W	—	11*	6 20	3 36.62	+24 25.5	2.627	1.840	16.8	21.1	32 W	16*	20*
5 11	1 55.06	+9 50.6	2.585	1.675	12.1	20.6	20 W	1*	14*	6 30	4 1.16	+25 35.4	2.609	1.875	18.3	21.2	35 W	20*	22*
5 21	2 19.71	+12 23.6	2.575	1.695	13.7	20.7	23 W	3*	17*	7 10	4 25.15	+26 29.8	2.585	1.911	19.7	21.3	39 W	24*	23*
5 31	2 44.28	+14 44.9	2.562	1.717	15.3	20.8	27 W	5*	20*	7 20	4 48.45	+27 9.4	2.554	1.948	21.1	21.3	44 W	29*	25*
6 10	3 8.73	+16 53.5	2.546	1.740	16.9	20.8	30 W	9*	22*										

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

19/21	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°	19/21	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°
333312 2001 MR₁₈										39557 Gielgud									
<i>(continuation)</i>										<i>(continuation)</i>									
12 12	7 6.20	+24 36.1	1.569	2.497	9.6	20.4	155 W	70	39	5 1	2 0.79	+10 16.2	2.818	1.831	5.1	20.9	9 W	—	3*
12 17	7 0.51	+24 31.0	1.562	2.514	7.2	20.3	161 W	70	39	5 11	2 22.84	+12 22.8	2.855	1.885	7.0	21.1	13 W	—	7*
12 22	6 54.44	+24 25.1	1.561	2.531	4.7	20.2	168 W	69	40	5 21	2 44.32	+14 17.2	2.883	1.939	8.9	21.2	17 W	—	11*
12 27	6 48.16	+24 18.2	1.568	2.548	2.2	20.1	174 W	69	40	5 31	3 5.25	+15 59.5	2.901	1.992	10.7	21.4	21 W	3*	15*
1 1	6 41.87	+24 10.2	1.582	2.565	0.6	19.9	179 E	69	40	164269 2004 WS₈									
1 6	6 35.74	+24 1.1	1.603	2.581	2.8	20.2	173 E	69	40	12 23	19 40.10	-23 33.5	2.442	1.577	13.7	20.3	22 E	8*	14*
1 11	6 29.96	+23 51.1	1.632	2.598	5.2	20.4	166 E	69	40	1 2	20 10.83	-21 50.4	2.460	1.568	12.0	20.3	19 E	7*	11*
1 16	6 24.67	+23 40.4	1.668	2.614	7.4	20.5	160 E	69	40	1 12	20 41.05	-19 46.5	2.479	1.561	10.4	20.2	17 E	6*	8*
181797 1998 MR₂										1 22	21 10.65	-17 24.4	2.497	1.559	8.7	20.1	14 E	5*	5*
12 23	19 39.22	-27 53.8	2.379	1.515	14.2	19.3	22 E	4*	15*	2 1	21 39.54	-14 46.8	2.515	1.559	6.9	20.1	11 E	3*	2*
1 1	20 12.66	-28 3.0	2.368	1.483	13.1	19.2	20 E	2*	14*	2 11	22 7.69	-11 57.0	2.533	1.563	5.2	20.0	8 E	1*	—
1 12	20 47.18	-27 42.6	2.355	1.455	12.3	19.1	18 E	1*	12*	2 21	22 35.14	-8 58.0	2.551	1.570	3.5	19.9	6 E	—	—
1 22	21 22.40	-26 51.5	2.344	1.434	11.8	19.0	17 E	—	11*	3 2	23 1.93	-5 53.2	2.569	1.580	1.7	19.9	3 E	—	—
2 1	21 57.90	-25 29.8	2.334	1.419	11.5	19.0	17 E	—	11*	3 12	23 28.14	-2 45.6	2.587	1.593	0.4	19.8	1 W	—	—
2 11	22 33.26	-23 39.4	2.328	1.410	11.5	19.0	17 E	—	10*	3 22	23 53.85	+0 21.9	2.604	1.610	1.8	19.9	3 W	—	—
2 21	23 8.15	-21 23.2	2.327	1.408	11.6	19.0	17 E	—	10*	4 1	0 19.16	+3 26.7	2.620	1.629	3.6	20.1	6 W	—	—
2 26	23 25.33	-20 6.9	2.329	1.410	11.6	19.0	17 E	—	10*	4 11	0 44.14	+6 26.4	2.633	1.650	5.3	20.2	9 W	—	3*
3 2	23 42.30	-18 45.9	2.333	1.413	11.7	19.0	17 E	—	10*	4 21	1 8.88	+9 18.9	2.645	1.674	7.0	20.4	12 W	—	5*
3 7	23 59.03	-17 21.1	2.338	1.419	11.7	19.0	17 E	—	10*	5 1	1 33.43	+12 2.4	2.653	1.699	8.8	20.5	15 W	2*	8*
3 12	0 15.51	-15 53.0	2.346	1.425	11.7	19.0	17 E	—	10*	5 11	1 57.81	+14 35.4	2.658	1.727	10.5	20.6	18 W	3*	11*
3 17	0 31.74	-14 22.6	2.355	1.434	11.7	19.1	17 E	—	10*	5 21	2 22.07	+16 56.6	2.658	1.756	12.2	20.7	21 W	6*	14*
3 22	0 47.70	-12 50.4	2.367	1.444	11.7	19.1	17 E	—	9*	5 31	2 46.20	+19 5.0	2.653	1.786	13.9	20.8	25 W	8*	17*
3 27	1 3.40	-11 17.3	2.380	1.455	11.6	19.1	17 E	—	9*	6 10	3 10.15	+21 0.0	2.642	1.817	15.5	20.9	29 W	11*	19*
4 1	1 18.82	-9 44.0	2.395	1.468	11.4	19.1	17 E	—	8*	6 20	3 33.90	+22 41.2	2.625	1.849	17.1	20.9	32 W	15*	21*
4 6	1 33.98	-8 11.1	2.411	1.482	11.3	19.2	17 E	—	8*	6 30	3 57.34	+24 8.4	2.602	1.882	18.7	21.0	36 W	19*	23*
4 11	1 48.88	-6 39.4	2.429	1.498	11.1	19.2	17 E	—	7*	7 10	4 20.38	+25 21.8	2.571	1.915	20.2	21.1	40 W	24*	25*
4 21	2 17.91	-3 41.2	2.470	1.533	10.7	19.3	16 E	—	6*	7 20	4 42.91	+26 22.0	2.532	1.949	21.6	21.1	45 W	30*	26*
5 1	2 45.97	-0 53.3	2.514	1.572	10.3	19.3	16 E	—	4*	7 30	5 4.77	+27 9.8	2.486	1.982	22.9	21.2	49 W	35*	27*
5 11	3 13.08	+1 41.4	2.560	1.615	10.0	19.4	16 E	—	1*	8 9	5 25.81	+27 46.2	2.432	2.016	24.1	21.2	54 W	41*	28*
5 21	3 39.31	+4 1.4	2.606	1.660	9.9	19.5	16 W	—	1*	8 19	5 45.86	+28 12.6	2.370	2.050	25.2	21.2	59 W	47*	29*
5 31	4 4.65	+6 5.4	2.651	1.709	10.1	19.6	17 W	—	7*	8 29	6 4.72	+28 30.7	2.300	2.083	26.0	21.2	65 W	53*	30*
6 10	4 29.13	+7 53.3	2.693	1.760	10.5	19.7	18 W	—	10*	9 8	6 22.19	+28 42.4	2.223	2.116	26.7	21.2	71 W	59*	31*
6 20	4 52.76	+9 25.5	2.729	1.812	11.3	19.9	20 W	—	14*	9 18	6 38.04	+28 49.9	2.140	2.149	27.1	21.1	77 W	65*	32*
6 30	5 15.52	+10 42.6	2.758	1.865	12.3	20.0	23 W	—	17*	9 28	6 51.98	+28 55.2	2.051	2.181	27.2	21.1	84 W	70*	33*
7 10	5 37.39	+11 45.6	2.779	1.920	13.5	20.1	26 W	2*	20*	10 8	7 3.74	+29 1.0	1.959	2.213	26.8	21.0	91 W	74*	34*
7 20	5 58.35	+12 36.0	2.791	1.974	14.8	20.2	30 W	7*	23*	10 18	7 12.94	+29 9.3	1.865	2.244	26.0	20.9	99 W	74	34*
7 30	6 18.36	+13 15.3	2.792	2.030	16.2	20.3	34 W	13*	25*	10 28	7 19.18	+29 22.3	1.772	2.275	24.6	20.8	107 W	74	35*
8 9	6 37.36	+13 45.1	2.782	2.085	17.6	20.4	38 W	19*	28*	11 7	7 22.06	+29 41.1	1.683	2.304	22.6	20.6	117 W	75	34
8 19	6 55.32	+14 7.2	2.760	2.140	18.9	20.5	43 W	26*	30*	11 17	7 21.19	+30 5.8	1.603	2.333	19.8	20.5	127 W	75	34
8 29	7 12.16	+14 23.5	2.726	2.195	20.2	20.6	49 W	32*	32*	11 27	7 16.35	+30 34.2	1.536	2.361	16.3	20.3	138 W	76	33
9 8	7 27.81	+14 36.1	2.681	2.250	21.4	20.6	54 W	38*	34*	12 7	7 7.71	+31 2.2	1.488	2.389	12.1	20.1	149 W	76	33
9 18	7 42.15	+14 47.3	2.623	2.304	22.3	20.7	61 W	45*	36*	12 12	7 2.14	+31 14.3	1.472	2.402	9.9	20.0	155 W	76	33
9 28	7 55.06	+14 59.3	2.555	2.358	23.1	20.7	67 W	50*	39*	12 17	6 55.92	+31 23.9	1.463	2.415	7.5	19.9	161 W	76	33
10 8	8 6.39	+15 14.8	2.478	2.410	23.5	20.7	74 W	56*	41*	12 22	6 49.23	+31 30.5	1.460	2.428	5.4	19.8	167 W	77	32
10 18	8 15.95	+15 36.6	2.392	2.463	23.6	20.7	82 W	59*	43*	12 27	6 42.30	+31 33.6	1.465	2.441	3.7	19.7	171 W	77	32
10 28	8 23.48	+16 7.4	2.302	2.514	23.3	20.6	90 W	61	45*	1 1	6 35.35	+31 32.9	1.477	2.453	3.5	19.7	171 E	77	32
11 7	8 28.73	+16 50.3	2.209	2.564	22.4	20.5	99 W	62	46*	1 6	6 28.60	+31 28.4	1.496	2.465	4.9	19.9	168 E	76	33
11 17	8 31.42	+17 47.7	2.118	2.614	20.9	20.4	109 W	63	46*	1 11	6 22.26	+31 20.4	1.523	2.477	6.9	20.0	162 E	76	33
11 27	8 31.25	+19 1.4	2.034	2.663	18.8	20.3	119 W	64	45	1 16	6 16.52	+31 9.4	1.556	2.489	9.1	20.1	157 E	76	33
12 7	8 28.05	+20 31.4	1.963	2.710	16.0	20.2	131 W	66	43	372876 2010 WG₆₀									
12 17	8 21.78	+22 15.5	1.909	2.757	12.5	20.1	143 W	67	42	12 23	19 40.21	-18 25.6	2.755	1.892	11.9	21.2	23 E	12*	12*
12 22	8 17.57	+23 11.2	1.892	2.780	10.6	20.0	149 W	68	41	1 2	20 3.20	-16 30.2	2.760	1.859	10.0	21.1	19 E	11*	11*
12 27	8 12.74	+24 8.2	1.880	2.803	8.5	19.9	155 W	69	40	1 12	20 26.38	-14 21.2	2.756	1.826	8.1	21.0	15 E	8*	2*
1 1	8 7.39	+25 5.4	1.876	2.825	6.4	19.8	161 W	70	39	1 22	20 49.71	-11 58.7	2.746	1.794	6.4	20.9	12 E	6*	—
1 6	8 1.63	+26 1.6	1.880	2.848	4.4	19.7	167 W	71	38	2 1	21 13.18	-9 22.9	2.729	1.763	5.1	20.7	9 E	3*	—
1 11	7 55.61	+26 55.9	1.892	2.870	2.7	19.7	172 W	72	37	2 11	21 36.78	-6 34.5	2.706	1.733	4.4	20.6	8 E	—	—
1 16	7 49.48	+27 47.1	1.912	2.891	2.3	19.7	173 E	73	36	2 21	22 0.57	-3 34.5	2.679	1.705	4.7	20.6	8 W	2*	—
39557 Gielgud										3 2	22 24.59	-0 24.1	2.648	1.680	5.7	20.6	10 W	4*	—
12 23	19 39.73	-24 40.0	2.167	1.310	16.5	20.1	22 E	7*	14*	3 12	22 48.92	+2 54.9	2.616	1.656	7.1	20.6	12 W	6*	—
12 28	19 58.97	-23 55.0	2.180	1.316	16.0	20.1	22 E	7*	14*	3 22	23 13.68	+6 20.3	2.582	1.634	8.6	20.6	14 W	7*	3*
1 2	20 17.91	-23 1.6	2.194	1.323	15.4	20.1	21 E	7*	13*	4 1	23 38.96	+9 49.6	2.548	1.615	10.1	20.6	17 W	9*	6*
1 7	20 36.50	-22 0.6	2.211	1.333	14.8	20.1	20 E	7*	12*	4 11	0 4.89	+13 19.9	2.515	1.599	11.6	20.6	19 W	10*	8*
1 12	20 54.70	-20 52.6	2.229	1.344	14.2	20.1	20 E	7*	11*	4 21	0 31.62	+16 47.6	2.484	1.586	13.1	20.6	21 W	12*	10*
1 17	21 12.47	-19 38.5	2.249	1.356	13.6	20.1													

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

19/21	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°	19/21	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°
372876 2010 WG₆₀										226237 2002 XQ₁₄									
<i>(continuation)</i>										<i>(continuation)</i>									
10 8	8 36.26	+26 2.8	1.913	1.835	30.8	21.0	70 W	61*	28*	4 11	0 29.30	+ 8 4.7	2.553	1.588	7.7	20.2	12 W	2*	5*
10 18	8 52.59	+24 1.6	1.841	1.868	31.2	20.9	76 W	64*	31*	4 21	0 55.75	+11 15.7	2.542	1.591	9.2	20.3	15 W	4*	7*
10 28	9 6.47	+21 58.6	1.763	1.902	31.2	20.9	82 W	66*	35*	5 1	1 22.48	+14 19.0	2.532	1.598	10.7	20.3	17 W	5*	10*
11 7	9 17.73	+19 55.7	1.681	1.937	30.8	20.8	89 W	65	39*	5 11	1 49.53	+17 11.6	2.522	1.608	12.2	20.4	20 W	7*	12*
11 17	9 26.12	+17 54.7	1.596	1.971	29.9	20.7	97 W	63	43*	5 21	2 16.92	+19 50.9	2.512	1.621	13.7	20.4	22 W	9*	14*
11 27	9 31.29	+15 57.6	1.512	2.006	28.4	20.6	105 W	61	47*	5 31	2 44.61	+22 14.7	2.501	1.638	15.1	20.5	25 W	11*	15*
12 7	9 32.91	+14 5.9	1.431	2.041	26.1	20.4	114 W	59	50	6 10	3 12.52	+24 21.1	2.489	1.658	16.5	20.6	28 W	13*	17*
12 17	9 30.65	+12 21.5	1.357	2.076	23.1	20.2	124 W	57	52	6 20	3 40.56	+26 8.6	2.475	1.681	17.9	20.6	31 W	16*	18*
12 27	9 24.37	+10 46.5	1.296	2.111	19.2	20.1	135 W	56	53	6 30	4 8.55	+27 36.4	2.458	1.707	19.2	20.7	34 W	20*	19*
1 6	9 14.34	+ 9 22.8	1.253	2.145	14.5	19.9	147 W	54	55	7 10	4 36.31	+28 44.1	2.437	1.734	20.6	20.7	37 W	24*	20*
1 16	9 1.35	+ 8 12.6	1.233	2.180	9.4	19.7	159 W	53	56	7 20	5 3.62	+29 32.3	2.413	1.764	21.9	20.8	40 W	28*	21*
326488 2002 GU₂										302578 2002 PC₁₁₀									
12 23	19 40.30	- 8 19.2	2.453	1.649	16.2	21.3	28 E	20*	8*	12 23	19 41.28	-26 2.2	3.182	2.305	9.4	21.4	23 E	6*	15*
1 2	20 9.18	- 7 34.7	2.508	1.670	14.5	21.3	25 E	19*	4*	1 2	20 1.70	-24 39.9	3.174	2.254	7.4	21.3	17 E	4*	10*
1 12	20 37.42	- 6 36.3	2.563	1.694	12.7	21.3	22 E	16*	1*	1 12	20 22.47	-23 6.5	3.154	2.202	5.4	21.1	12 E	1*	5*
1 22	21 4.93	- 5 26.2	2.619	1.720	10.8	21.3	19 E	13*	—	1 22	20 43.53	-21 21.7	3.124	2.151	3.3	21.0	7 E	—	21*
2 1	21 31.64	- 4 6.5	2.673	1.747	9.0	21.4	16 E	10*	—	2 1	21 4.82	-19 25.0	3.083	2.100	1.4	20.7	3 E	—	—
2 11	21 57.54	- 2 39.5	2.725	1.777	7.1	21.3	13 E	6*	—	2 11	21 26.28	-17 16.4	3.032	2.048	1.7	20.7	4 W	—	—
2 21	22 22.63	- 1 7.4	2.774	1.808	5.5	21.3	10 E	2*	—	2 21	21 47.93	-14 55.8	2.974	1.998	3.7	20.7	8 W	—	2*
3 2	22 46.94	+ 0 27.7	2.818	1.841	4.2	21.4	8 W	—	—	3 2	22 9.76	-12 23.5	2.908	1.948	5.9	20.7	12 W	—	6*
3 12	23 10.51	+ 2 3.9	2.856	1.874	3.8	21.4	7 W	1*	—	3 12	22 31.79	- 9 39.9	2.836	1.898	8.1	20.7	16 W	—	10*
149193 2002 LO₂₇										302578 2002 PC₁₁₀									
12 23	19 40.34	-20 41.9	2.621	1.756	12.5	19.6	23 E	10*	13*	6 5	2 0.40	+18 34.6	2.190	1.563	24.9	20.3	40 W	19*	29*
1 2	20 6.95	-18 55.4	2.633	1.735	10.7	19.5	19 E	9*	9*	6 10	2 14.85	+20 14.4	2.158	1.551	25.7	20.3	41 W	20*	29*
1 12	20 33.46	-16 52.8	2.642	1.716	8.9	19.4	16 E	7*	5*	6 15	2 29.66	+21 51.3	2.128	1.540	26.4	20.3	42 W	22*	29*
1 22	20 59.78	-14 35.1	2.647	1.699	7.1	19.3	12 E	5*	1*	6 20	2 44.81	+23 24.7	2.100	1.530	27.2	20.3	43 W	24*	29*
2 1	21 25.89	-12 3.7	2.650	1.685	5.3	19.2	9 E	3*	—	6 25	3 0.32	+24 53.9	2.072	1.522	27.8	20.2	44 W	26*	28*
2 11	21 51.73	- 9 20.5	2.650	1.673	3.8	19.1	6 E	—	—	6 30	3 16.17	+26 18.4	2.046	1.515	28.5	20.2	45 W	28*	28*
2 21	22 17.33	- 6 27.5	2.648	1.664	2.7	19.0	5 E	—	—	7 5	3 32.35	+27 37.4	2.022	1.510	29.1	20.2	46 W	30*	27*
3 2	22 42.71	- 3 27.0	2.645	1.658	2.6	19.0	4 W	—	—	7 10	3 48.84	+28 50.4	1.999	1.506	29.7	20.2	47 W	32*	26*
3 12	23 7.92	- 0 21.4	2.640	1.655	3.6	19.0	6 W	—	—	7 15	4 5.61	+29 56.8	1.976	1.503	30.3	20.2	48 W	34*	26*
3 22	23 33.03	+ 2 46.7	2.635	1.656	5.1	19.1	8 W	1*	—	7 20	4 22.61	+30 56.2	1.955	1.502	30.8	20.2	49 W	36*	25*
4 1	23 58.09	+ 5 54.9	2.628	1.659	6.6	19.2	11 W	3*	3*	7 25	4 39.79	+31 48.3	1.935	1.502	31.3	20.2	50 W	38*	24*
4 11	0 23.18	+ 9 0.4	2.621	1.665	8.2	19.3	14 W	4*	6*	8 4	5 14.42	+33 8.9	1.898	1.507	32.1	20.1	52 W	42*	23*
4 21	0 48.35	+12 0.9	2.613	1.674	9.8	19.3	16 W	5*	9*	8 9	5 31.74	+33 37.3	1.880	1.511	32.5	20.1	53 W	43*	23*
5 1	1 13.67	+14 54.0	2.603	1.685	11.4	19.4	19 W	7*	11*	8 14	5 48.95	+33 57.7	1.863	1.517	32.9	20.1	54 W	45*	22*
5 11	1 39.15	+17 37.3	2.592	1.700	12.9	19.5	22 W	9*	13*	8 19	6 5.99	+34 10.5	1.846	1.524	33.2	20.1	56 W	47*	22*
5 21	2 4.82	+20 9.0	2.579	1.717	14.5	19.5	25 W	11*	16*	8 24	6 22.76	+34 15.9	1.829	1.533	33.5	20.1	57 W	49*	22*
5 31	2 30.65	+22 27.2	2.563	1.736	16.0	19.6	28 W	13*	18*	8 29	6 39.20	+34 14.2	1.813	1.543	33.8	20.1	58 W	50*	22*
6 10	2 56.60	+24 30.4	2.544	1.758	17.5	19.7	31 W	16*	19*	9 8	7 10.83	+33 51.7	1.779	1.566	34.3	20.1	61 W	54*	22*
6 20	3 22.57	+26 17.7	2.522	1.781	18.9	19.7	35 W	19*	21*	9 18	7 40.46	+33 7.8	1.743	1.594	34.7	20.2	65 W	57*	22*
6 30	3 48.45	+27 48.3	2.495	1.806	20.3	19.8	38 W	22*	23*	9 28	8 7.72	+32 7.9	1.704	1.626	34.9	20.2	68 W	61*	23*
7 10	4 14.08	+29 1.9	2.463	1.833	21.6	19.8	42 W	25*	23*	10 8	8 32.41	+30 57.3	1.661	1.662	35.0	20.1	73 W	65*	24*
7 20	4 39.28	+29 58.8	2.425	1.861	22.9	19.9	46 W	32*	24*	10 18	8 54.38	+29 41.3	1.615	1.701	34.8	20.1	77 W	68*	26*
7 30	5 3.84	+30 39.7	2.382	1.890	24.2	19.9	50 W	37*	25*	10 28	9 13.46	+28 24.8	1.564	1.743	34.4	20.1	83 W	71*	29*
8 9	5 27.56	+31 5.6	2.332	1.920	25.3	19.9	54 W	43*	25*	11 7	9 29.51	+27 12.1	1.509	1.787	33.7	20.1	89 W	72*	31*
8 19	5 50.21	+31 18.1	2.276	1.951	26.3	19.9	59 W	48*	26*	11 17	9 42.30	+26 7.2	1.451	1.833	32.5	20.0	96 W	71	34*
8 29	6 11.56	+31 19.0	2.213	1.983	27.1	19.9	64 W	54*	27*	12 7	9 51.55	+25 13.3	1.392	1.881	30.7	19.9	103 W	70	37*
9 8	6 31.38	+31 10.4	2.144	2.015	27.8	19.9	69 W	59*	28*	12 17	9 56.94	+24 32.4	1.334	1.930	28.3	19.8	112 W	70	39*
9 18	6 49.46	+30 54.7	2.069	2.048	28.3	19.9	75 W	65*	29*	12 23	19 40.85	-22 12.3	2.645	1.778	12.3	20.7	23 E	9*	14*
9 28	7 5.51	+30 34.2	1.988	2.081	28.4	19.8	81 W	70*	30*	1 2	20 7.30	-20 29.7	2.649	1.747	10.5	20.6	19 E	8*	9*
10 8	7 19.27	+30 11.6	1.903	2.114	28.2	19.8	88 W	74*	32*	1 12	20 33.81	-18 30.2	2.648	1.719	8.6	20.5	15 E	6*	6*
10 18	7 30.42	+29 49.1	1.815	2.147	27.5	19.7	95 W	75	33*	1 22	21 0.29	-16 14.4	2.644	1.692	6.8	20.4	12 E	4*	2*
10 28	7 38.58	+29 29.1	1.727	2.179	26.4	19.6	103 W	74	34*	2 1	21 26.67	-13 43.5	2.636	1.668	5.0	20.2	8 E	2*	—
11 7	7 43.38	+29 13.0	1.642	2.212	24.6	19.4	112 W	74	35	2 11	21 52.93	-10 59.0	2.626	1.647	3.3	20.1	5 E	—	—
11 17	7 44.44	+29 1.6	1.562	2.245	22.0	19.3	122 W	74	35	2 21	22 19.05	- 8 2.9	2.615	1.629	1.9	20.0	3 E	—	—
11 27	7 41.50	+28 54.0	1.493	2.277	18.7	19.1	132 W	74	35	3 2	22 45.08	- 4 57.4	2.603	1.613	1.8	19.9	3 W	—	—
12 7	7 34.59	+28 47.7	1.439	2.308	14.6	18.9	144 W	74	35	3 12	23 11.04	- 1 45.1	2.590	1.602	3.0	20.0	5 W	—	—
12 12	7 29.76	+28 43.8	1.420	2.324	12.3	18.8	150 W	74	35	3 22	23 37.02	+ 1 31.3	2.577	1.593	4.5	20.1	7 W	—	—
12 17	7 24.17	+28 38.5	1.407	2.340	9.9	18.7	156 W	74	35	4 1	0 3.09	+ 4 48.9	2.565	1.589	6.1	20.1	10 W	1*	3*
12 22	7 17.97	+28 31.4	1.400	2.355	7.4	18.6	162 W	74	35	226237 2002 XQ₁₄									
12 27	7 11.37	+28 22.0	1.399	2.370	4.9	18.5	168 W	73	36	9 8	7 10.83	+33 51.7	1.779	1.566	34.3	20.1	61 W	54*	22*
1 1	7 4.57	+28 10.0	1.406	2.385	2.7	18.4	173 W	73	36	9 18	7 40.46	+33 7.8	1.743	1.594	34.7	20.2	65 W	57*	22*
1 6	6 57.80	+27 55.5	1.420	2.401	2.4	18.4	174 E	73											

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

19/21	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°	19/21	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°										
302578 2002 PC₁₁₀ (continuation)										234341 2001 FZ₅₇ (continuation)																			
12 27	9 54.88	+23 51.5	1.237	2.030	21.1	19.5	132 W	69	40	3 8	6 46.64	+66 45.0	0.498	1.209	53.0	19.7	103 E	68	—	3 9	6 53.10	+65 41.6	0.506	1.217	52.4	19.8	104 E	69	—
1 6	9 47.38	+23 46.2	1.208	2.081	16.4	19.4	143 W	69	40	3 10	6 58.97	+64 39.2	0.515	1.224	52.0	19.8	104 E	70	—	3 11	7 4.35	+63 37.8	0.524	1.231	51.5	19.9	104 E	71	—
1 16	9 36.23	+23 43.8	1.198	2.133	11.0	19.2	156 W	69	40	3 12	7 9.30	+62 37.5	0.534	1.238	51.1	19.9	104 E	72	1	3 13	7 13.89	+61 38.4	0.543	1.245	50.7	19.9	104 E	73	2
277279 2005 SA₇₁										234341 2001 FZ₅₇ (continuation)																			
12 23	19 41.51	-32 38.2	1.855	1.033	22.5	21.3	24 E	—	18*	3 14	7 18.15	+60 40.4	0.553	1.252	50.3	20.0	104 E	74	3	3 15	7 22.15	+59 43.7	0.562	1.259	49.9	20.0	104 E	75	4
12 28	20 6.13	-31 34.9	1.846	1.027	22.8	21.3	24 E	1*	18*	3 16	7 25.90	+58 48.2	0.572	1.265	49.6	20.0	104 E	76	5	3 17	7 29.43	+57 53.8	0.582	1.272	49.3	20.1	104 E	77	6
1 2	20 30.40	-30 13.7	1.838	1.024	23.2	21.3	24 E	3*	18*	3 18	7 32.78	+57 0.7	0.592	1.278	49.0	20.1	104 E	78	7	3 19	7 35.97	+56 8.7	0.603	1.285	48.7	20.2	104 E	79	8
1 7	20 54.15	-28 35.6	1.834	1.023	23.5	21.3	24 E	4*	18*	3 20	7 39.00	+55 17.9	0.613	1.291	48.4	20.2	104 E	80	9	3 21	7 41.91	+54 28.2	0.624	1.297	48.2	20.2	104 E	81	10
1 12	21 17.23	-26 42.2	1.832	1.025	23.7	21.3	25 E	5*	18*	3 22	7 44.90	+53 39.6	0.634	1.303	47.9	20.3	104 E	81	10	3 24	7 49.98	+52 5.7	0.656	1.315	47.5	20.4	103 E	83	12
1 17	21 39.56	-24 35.3	1.834	1.030	23.8	21.3	25 E	7*	18*	3 26	7 54.91	+50 35.8	0.678	1.326	47.1	20.4	103 E	84	13	3 28	7 59.57	+49 9.8	0.701	1.338	46.8	20.5	102 E	86	15
1 22	22 1.10	-22 17.1	1.839	1.037	23.8	21.3	25 E	8*	18*	3 30	8 4.00	+47 47.4	0.723	1.348	46.5	20.6	102 E	87	16	4 1	8 8.24	+46 28.5	0.746	1.359	46.2	20.7	101 E	89	18
1 27	22 21.83	-19 49.6	1.848	1.047	23.8	21.3	25 E	9*	17*	4 6	8 18.20	+43 24.8	0.805	1.383	45.5	20.9	99 E	88	21	4 11	8 27.48	+40 37.9	0.865	1.405	45.0	21.0	97 E	86	23
2 1	22 41.76	-17 15.2	1.860	1.058	23.6	21.4	25 E	11*	17*	4 16	8 36.30	+38 5.2	0.926	1.425	44.5	21.2	95 E	82*	26	4 21	8 44.83	+35 44.3	0.988	1.443	44.1	21.4	93 E	79*	28
2 6	23 0.93	-14 35.9	1.875	1.072	23.3	21.4	25 E	12*	16*	24445 2000 PM₈																			
2 11	23 19.40	-11 53.6	1.893	1.088	22.9	21.5	25 E	13*	16*	12 23	19 42.21	-4 58.7	2.769	1.983	14.5	19.2	30 E	23*	7*	1 2	20 3.55	-4 40.1	2.747	1.913	13.1	19.1	26 E	20*	2*
271368 2003 YU₁₇										24445 2000 PM₈																			
12 23	19 41.63	-23 33.2	2.597	1.732	12.7	21.4	23 E	8*	14*	1 12	20 25.97	-4 8.0	2.714	1.841	11.6	18.9	22 E	16*	—	1 22	20 49.48	-3 22.3	2.672	1.769	10.3	18.7	19 E	12*	—
1 2	20 9.72	-22 30.5	2.601	1.702	10.9	21.3	19 E	7*	11*	2 1	21 14.10	-2 23.3	2.622	1.695	9.1	18.5	16 E	8*	—	2 11	21 39.88	-1 11.6	2.565	1.620	8.0	18.4	13 E	4*	—
1 12	20 38.05	-21 8.5	2.600	1.675	9.1	21.2	16 E	5*	8*	2 21	22 6.92	+0 11.8	2.502	1.545	7.2	18.2	11 W	3*	—	2 21	22 6.92	+0 11.8	2.502	1.545	7.2	18.2	11 W	3*	—
1 22	21 6.47	-19 27.7	2.596	1.649	7.4	21.1	12 E	3*	5*	3 1	22 35.34	+1 45.5	2.436	1.470	6.7	18.0	10 W	3*	—	3 12	23 5.29	+3 27.5	2.368	1.395	6.4	17.8	9 W	3*	—
2 1	21 34.85	-17 29.5	2.590	1.627	5.7	21.0	10 E	—	2*	3 2	23 36.93	+5 15.1	2.300	1.323	6.4	17.6	9 W	2*	—	3 22	23 36.93	+5 15.1	2.300	1.323	6.4	17.6	9 W	2*	—
2 11	22 3.09	-15 15.5	2.582	1.607	4.2	20.9	7 E	—	—	4 1	0 10.47	+7 4.7	2.234	1.253	6.6	17.4	8 W	1*	—	4 11	0 46.05	+8 52.0	2.172	1.188	6.8	17.3	8 W	—	1*
2 21	22 31.15	-12 47.8	2.573	1.590	2.8	20.8	5 E	—	—	4 16	0 10.47	+7 4.7	2.234	1.253	6.6	17.4	8 W	1*	—	4 11	0 46.05	+8 52.0	2.172	1.188	6.8	17.3	8 W	—	1*
3 2	22 59.00	-10 8.9	2.564	1.576	2.1	20.7	3 E	—	—	4 21	1 4.64	+9 43.1	2.143	1.158	6.9	17.2	8 W	—	1*	4 16	1 4.64	+9 43.1	2.143	1.158	6.9	17.2	8 W	—	1*
3 12	23 26.63	-7 21.8	2.555	1.565	2.6	20.7	4 W	—	—	4 21	1 23.79	+10 31.7	2.116	1.129	7.1	17.1	8 W	—	2*	4 21	1 23.79	+10 31.7	2.116	1.129	7.1	17.1	8 W	—	2*
3 22	23 54.08	-4 29.3	2.546	1.559	3.7	20.7	6 W	—	—	4 26	1 43.48	+11 16.8	2.091	1.103	7.2	17.0	8 W	—	2*	4 26	1 43.48	+11 16.8	2.091	1.103	7.2	17.0	8 W	—	2*
4 1	0 21.39	-1 34.4	2.539	1.555	5.1	20.8	8 W	—	1*	5 1	2 3.69	+11 57.9	2.069	1.080	7.4	17.0	8 W	—	2*	5 1	2 3.69	+11 57.9	2.069	1.080	7.4	17.0	8 W	—	2*
4 11	0 48.59	+1 19.6	2.532	1.556	6.6	20.9	10 W	—	4*	5 6	2 24.39	+12 34.0	2.049	1.059	7.5	16.9	8 W	—	2*	5 6	2 24.39	+12 34.0	2.049	1.059	7.5	16.9	8 W	—	2*
4 21	1 15.75	+4 9.8	2.526	1.560	8.0	20.9	13 W	—	6*	5 11	2 45.56	+13 4.5	2.031	1.041	7.8	16.9	8 W	—	2*	5 11	2 45.56	+13 4.5	2.031	1.041	7.8	16.9	8 W	—	2*
5 1	1 42.88	+6 53.4	2.521	1.568	9.5	21.0	15 W	—	9*	5 21	3 29.04	+13 46.3	2.006	1.015	8.4	16.8	8 W	—	2*	5 21	3 29.04	+13 46.3	2.006	1.015	8.4	16.8	8 W	—	2*
5 11	2 10.01	+9 27.6	2.515	1.580	10.9	21.1	17 W	—	11*	5 31	4 13.52	+13 59.4	1.994	1.005	9.2	16.8	9 W	—	2*	5 31	4 13.52	+13 59.4	1.994	1.005	9.2	16.8	9 W	—	2*
5 21	2 37.14	+11 50.3	2.510	1.595	12.4	21.2	20 W	—	14*	6 10	4 58.22	+13 42.1	1.995	1.011	10.0	16.9	10 W	—	1*	6 10	4 58.22	+13 42.1	1.995	1.011	10.0	16.9	10 W	—	1*
5 31	3 4.25	+13 59.4	2.503	1.612	13.8	21.2	22 W	2*	16*	6 20	5 42.33	+12 55.6	2.012	1.032	10.8	17.0	11 W	—	1*	6 20	5 42.33	+12 55.6	2.012	1.032	10.8	17.0	11 W	—	1*
6 10	3 31.27	+15 53.4	2.495	1.633	15.3	21.3	25 W	4*	18*	6 30	6 25.08	+11 43.1	2.042	1.067	11.2	17.1	12 W	—	2*	6 30	6 25.08	+11 43.1	2.042	1.067	11.2	17.1	12 W	—	2*
6 20	3 58.14	+17 31.2	2.485	1.657	16.7	21.4	28 W	7*	20*	7 5	6 45.76	+10 58.6	2.062	1.089	11.3	17.2	12 W	—	2*	7 5	6 45.76	+10 58.6	2.062	1.089	11.3	17.2	12 W	—	2*
6 30	4 24.76	+18 52.3	2.471	1.683	18.1	21.4	31 W	11*	22*	7 10	7 5.88	+10 9.6	2.085	1.114	11.3	17.2	12 W	—	2*	7 10	7 5.88	+10 9.6	2.085	1.114	11.3	17.2	12 W	—	2*
7 10	4 50.98	+19 56.5	2.453	1.711	19.5	21.5	34 W	15*	24*	7 15	7 25.43	+9 16.7	2.111	1.141	11.2	17.3	13 W	—	2*	7 15	7 25.43	+9 16.7	2.111	1.141	11.2	17.3	13 W	—	2*
234341 2001 FZ₅₇										234341 2001 FZ₅₇																			
12 23	19 41.86	-20 19.1	0.873	0.389	94.5	19.9	23 E	11*	13*	7 20	7 44.38	+8 20.6	2.140	1.170	11.1	17.4	13 W	—	2*	7 30	8 20.41	+6 21.5	2.202	1.234	10.6	17.5	13 W	—	3*
12 28	20 1.64	-14 40.0	0.754	0.431	109.1	20.6	24 E	15*	10*	8 9	8 53.97	+4 16.8	2.271	1.302	9.9	17.7	13 W	—	4*	8 9	8 53.97	+4 16.8	2.271	1.302	9.9	17.7	13 W	—	4*
1 2	20 15.53	-8 13.3	0.653	0.488	118.4	21.1	26 E	19*	6*	8 19	9 25.21	+2 10.1	2.343	1.374	9.4	17.9	13 W	—	5*	8 19	9 25.21	+2 10.1	2.343	1.374	9.4	17.9	13 W	—	5*
1 7	20 25.51	-1 6.4	0.570	0.553	122.3	21.4	28 E	22*	1*	8 29	9 54.31	+0 4.2	2.414	1.448															

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

2020	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45° - 26°	19/21	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45° - 26°			
5660 1974 MA (continuation)									5660 1974 MA (continuation)											
1	14	20 36.44	-1 51.6	0.758	0.425	109.3	17.1	24 E	18*	6	10	10 25.16	-44 32.6	1.709	2.104	28.6	19.4	98 E	—	71*
1	16	20 39.82	-2 42.5	0.704	0.427	118.9	17.5	22 E	16*	6	20	10 45.14	-42 59.5	1.862	2.183	27.7	19.7	94 E	—	70*
1	18	20 42.74	-4 4.6	0.652	0.434	128.8	18.2	20 E	14*	6	30	11 4.75	-41 49.9	2.020	2.257	26.8	19.9	90 E	—	68*
1	20	20 45.24	-6 1.7	0.604	0.445	138.9	19.3	17 E	11*	7	10	11 24.03	-41 1.0	2.182	2.328	25.8	20.1	85 E	—	65*
1	22	20 47.36	-8 36.2	0.560	0.461	149.0	20.7	14 E	8*	7	20	11 43.05	-40 29.8	2.345	2.395	24.7	20.3	80 E	—	61*
1	27	20 51.63	-17 48.0	0.473	0.514	172.0	31.8	4 E	—	7	30	12 1.87	-40 13.9	2.508	2.459	23.6	20.5	76 E	—	56*
2	1	20 55.88	-30 9.1	0.423	0.580	157.9	22.7	13 E	—	8	9	12 20.52	-40 10.9	2.669	2.519	22.3	20.6	71 E	—	52*
2	6	21 2.10	-43 32.6	0.409	0.652	135.2	18.8	28 W	—	8	19	12 39.08	-40 18.4	2.826	2.576	20.9	20.7	65 E	—	47*
2	11	21 12.58	-55 45.2	0.422	0.728	115.7	17.4	42 W	—	8	29	12 57.58	-40 34.9	2.978	2.630	19.5	20.9	60 E	—	42*
2	12	21 15.44	-57 56.3	0.427	0.743	112.3	17.2	44 W	—	9	8	13 16.05	-40 58.4	3.123	2.681	18.0	20.9	55 E	—	38*
2	13	21 18.64	-60 1.7	0.432	0.758	109.0	17.1	47 W	—	9	18	13 34.53	-41 27.5	3.259	2.728	16.4	21.0	50 E	—	33*
2	14	21 22.20	-62 1.4	0.438	0.773	105.8	17.0	49 W	—	9	28	13 53.05	-42 0.9	3.385	2.773	14.9	21.1	45 E	—	28*
2	15	21 26.18	-63 55.5	0.445	0.788	102.9	16.9	51 W	—	10	8	14 11.61	-42 37.3	3.499	2.815	13.3	21.1	40 E	—	24*
2	16	21 30.63	-65 44.0	0.452	0.803	100.0	16.8	53 W	—	10	18	14 30.23	-43 15.8	3.600	2.854	11.8	21.2	36 E	—	20*
2	17	21 35.60	-67 27.0	0.459	0.818	97.3	16.8	55 W	—	10	28	14 48.90	-43 55.4	3.686	2.891	10.5	21.2	32 E	—	15*
2	18	21 41.18	-69 4.7	0.467	0.833	94.7	16.7	57 W	—	11	7	15 7.60	-44 35.3	3.756	2.925	9.3	21.2	29 E	—	11*
2	19	21 47.45	-70 37.3	0.474	0.848	92.3	16.7	59 W	—	11	17	15 26.30	-45 15.1	3.810	2.956	8.5	21.2	26 W	—	8*
2	20	21 54.51	-72 4.9	0.482	0.863	89.9	16.7	61 W	—	11	27	15 44.95	-45 54.1	3.846	2.985	8.1	21.3	25 W	—	11*
2	21	22 2.48	-73 27.6	0.491	0.878	87.7	16.7	63 W	—	12	7	16 3.49	-46 32.1	3.865	3.012	8.3	21.3	26 W	—	14*
2	22	22 11.51	-74 45.5	0.499	0.893	85.6	16.6	64 W	—	12	17	16 21.85	-47 9.0	3.865	3.036	8.9	21.3	28 W	—	18*
2	23	22 21.77	-75 58.5	0.508	0.908	83.6	16.6	66 W	—	12	27	16 39.92	-47 44.9	3.847	3.057	9.8	21.4	32 W	—	23*
2	24	22 33.46	-77 6.8	0.516	0.923	81.6	16.6	67 E	—	12	1	16 57.59	-48 19.9	3.811	3.076	11.0	21.4	36 W	—	28*
2	25	22 46.81	-78 10.2	0.525	0.937	79.8	16.6	69 E	—	1	16	17 14.75	-48 54.6	3.757	3.093	12.2	21.5	42 W	—	33*
2	26	23 2.10	-79 8.6	0.534	0.952	78.0	16.7	70 E	—	168385 1997 RH ₄										
2	27	23 19.58	-80 1.6	0.543	0.966	76.3	16.7	71 E	—	12	23	19 44.11	-25 33.5	3.017	2.148	10.4	21.3	23 E	7*	16*
2	28	23 39.54	-80 49.0	0.552	0.981	74.7	16.7	73 E	—	1	2	20 6.29	-24 24.2	3.026	2.114	8.4	21.2	18 E	5*	11*
2	29	0 2.19	-81 30.2	0.561	0.995	73.1	16.7	74 E	—	1	12	20 28.69	-23 2.9	3.024	2.080	6.3	21.1	13 E	2*	6*
3	1	0 27.58	-82 4.6	0.570	1.009	71.7	16.7	75 E	—	1	22	20 51.23	-21 29.5	3.012	2.046	4.3	20.9	9 E	—	3*
3	2	0 55.57	-82 31.8	0.579	1.024	70.2	16.7	76 E	—	2	1	21 13.86	-19 44.5	2.991	2.012	2.5	20.8	5 E	—	—
3	3	1 25.67	-82 51.3	0.588	1.038	68.9	16.7	78 E	—	2	11	21 36.51	-17 48.1	2.962	1.978	1.7	20.7	3 E	—	—
3	4	1 57.09	-83 2.7	0.598	1.052	67.5	16.8	79 E	—	2	21	21 59.18	-15 41.0	2.924	1.943	3.0	20.7	6 W	—	—
3	5	2 28.76	-83 6.2	0.607	1.066	66.3	16.8	80 E	—	3	2	22 21.87	-13 24.0	2.879	1.910	5.0	20.7	10 W	—	3*
3	6	2 59.59	-83 2.3	0.616	1.080	65.1	16.8	81 E	—	3	12	22 44.58	-10 58.0	2.828	1.876	7.1	20.7	13 W	—	7*
3	7	3 28.66	-82 51.7	0.625	1.094	63.9	16.8	82 E	—	3	22	23 7.38	-8 23.9	2.772	1.843	9.1	20.8	17 W	—	11*
3	8	3 55.36	-82 35.3	0.634	1.107	62.7	16.9	83 E	—	4	1	23 30.30	-5 43.0	2.712	1.812	11.2	20.8	21 W	—	15*
3	9	4 19.42	-82 14.3	0.643	1.121	61.7	16.9	84 E	—	4	11	23 53.41	-2 56.6	2.648	1.781	13.3	20.7	24 W	1*	18*
3	10	4 40.84	-81 49.4	0.652	1.135	60.6	16.9	84 E	—	4	21	0 16.79	0 6.1	2.582	1.751	15.3	20.7	27 W	2*	21*
3	11	4 59.78	-81 21.7	0.662	1.148	59.6	16.9	85 E	—	5	1	0 40.54	+2 46.8	2.514	1.723	17.2	20.7	30 W	4*	24*
3	12	5 16.49	-80 51.7	0.671	1.162	58.6	17.0	86 E	—	5	11	1 4.72	+5 40.4	2.445	1.696	19.1	20.7	33 W	6*	27*
3	13	5 31.26	-80 20.0	0.680	1.175	57.6	17.0	87 E	—	5	21	1 29.45	+8 32.7	2.377	1.672	21.0	20.6	36 W	9*	29*
3	14	5 44.35	-79 47.1	0.689	1.188	56.7	17.0	88 E	—	5	31	1 54.81	+11 21.4	2.308	1.649	22.8	20.6	39 W	12*	31*
3	15	5 56.02	-79 13.4	0.698	1.201	55.8	17.0	89 E	—	6	10	2 20.85	+14 4.1	2.240	1.629	24.5	20.6	42 W	15*	33*
3	16	6 6.46	-78 39.0	0.707	1.215	55.0	17.1	89 E	—	6	20	2 47.65	+16 38.4	2.174	1.612	26.1	20.5	44 W	19*	33*
3	17	6 15.88	-78 4.1	0.717	1.228	54.1	17.1	90 E	—	6	30	3 15.21	+19 1.6	2.109	1.598	27.7	20.5	47 W	23*	34*
3	18	6 24.41	-77 29.0	0.726	1.241	53.3	17.1	91 E	—	7	10	3 43.49	+21 11.1	2.046	1.586	29.2	20.4	49 W	28*	33*
3	19	6 32.20	-76 53.8	0.735	1.253	52.6	17.2	92 E	—	7	20	4 12.44	+23 4.7	1.984	1.578	30.5	20.4	52 W	33*	33*
3	20	6 39.34	-76 18.5	0.744	1.266	51.8	17.2	92 E	—	7	30	4 41.88	+24 40.1	1.923	1.573	31.8	20.4	55 W	38*	32*
3	21	6 45.93	-75 43.3	0.753	1.279	51.1	17.2	93 E	—	8	9	5 11.62	+25 56.0	1.863	1.572	33.0	20.3	58 W	42*	32*
3	22	6 52.05	-75 8.2	0.763	1.292	50.3	17.2	94 E	—	8	19	5 41.38	+26 51.7	1.804	1.574	34.0	20.3	60 W	47*	31*
3	23	6 57.76	-74 33.2	0.772	1.304	49.7	17.3	94 E	—	8	29	6 10.85	+27 27.3	1.745	1.579	34.9	20.2	63 W	51*	30*
3	24	7 3.11	-73 58.3	0.781	1.317	49.0	17.3	95 E	—	9	8	6 39.68	+27 43.9	1.686	1.587	35.7	20.2	67 W	56*	30*
3	25	7 8.15	-73 23.7	0.790	1.329	48.3	17.3	95 E	—	9	18	7 7.54	+27 43.6	1.626	1.599	36.3	20.2	70 W	60*	30*
3	26	7 12.91	-72 49.3	0.800	1.342	47.7	17.3	96 E	—	9	28	7 34.08	+27 29.2	1.565	1.614	36.7	20.1	74 W	63*	31*
3	27	7 17.44	-72 15.2	0.809	1.354	47.1	17.4	97 E	—	10	8	7 59.01	+27 4.3	1.503	1.631	36.9	20.0	79 W	67*	31*
3	28	7 21.75	-71 41.3	0.818	1.366	46.5	17.4	97 E	—	10	18	8 22.01	+26 33.0	1.439	1.652	36.8	20.0	83 W	69*	33*
3	29	7 25.87	-71 7.7	0.828	1.378	45.9	17.4	98 E	—	10	28	8 42.78	+25 59.8	1.373	1.674	36.4	19.9	89 W	71*	34*
3	30	7 29.82	-70 34.3	0.837	1.390	45.3	17.5	98 E	—	11	7	9 1.01	+25 29.2	1.307	1.699	35.6	19.8	94 W	70	36*
3	31	7 33.63	-70 1.3	0.847	1.402	44.8	17.5	99 E	—	11	17	9 16.33	+25 6.0	1.240	1.726	34.2	19.7	101 W	70	37*
4	1	7 37.30	-69 28.6	0.856	1.414	44.2	17.5	99 E	—	11	27	9 28.29	+24 54.7	1.175	1.754	32.3	19.5	108 W	70	39*
4	3	7 44.28	-68 24.0	0.875	1.438	43.2	17.6	100 E	—	12	7	9 36.45	+24 58.5	1.113	1.784	29.7	19.4	116 W	70	39*
4	5	7 50.88	-67 20.7	0.895	1.462	42.3	17.6	101 E	—	12	17	9 40.27	+25 19.5	1.057	1.815	26.2	19.2	126 W	70	39
4	7	7 57.14	-66 18.6	0.914	1.485	41.3	17.7	102 E	—	12	27	9 39.34	+25 56.7	1.011	1.847	21.8	19.0	136 W	71	38
4	9	8 3.13	-65 17.7																	

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

19/21	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°	19/21	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°
251774 1999 RG₁₀										332687 2009 OV₂									
12 23	19 44.60	-30 38.1	3.294	2.427	9.4	19.7	24 E	2*	18*	12 23	19 45.53	-24 21.0	2.664	1.805	12.6	20.6	24 E	8*	15*
1 2	20 4.15	-29 4.0	3.305	2.392	7.4	19.6	18 E	—	12*	1 2	20 12.18	-24 11.6	2.660	1.765	10.8	20.4	20 E	5*	12*
1 12	20 23.70	-27 21.8	3.303	2.357	5.5	19.5	13 E	—	7*	1 12	20 39.64	-23 44.0	2.649	1.726	9.1	20.3	16 E	3*	9*
1 22	20 43.20	-25 31.5	3.288	2.321	3.7	19.4	9 E	—	3*	1 22	21 7.79	-22 57.9	2.632	1.688	7.5	20.2	13 E	—	7*
2 1	21 2.61	-23 32.8	3.260	2.284	2.8	19.3	6 E	—	—	2 1	21 36.49	-21 53.3	2.610	1.653	6.4	20.1	11 E	—	5*
2 11	21 21.89	-21 25.8	3.220	2.246	3.4	19.2	8 W	—	—	2 11	22 5.60	-20 30.8	2.585	1.620	5.8	20.0	10 E	—	3*
2 21	21 41.02	-19 10.4	3.168	2.208	5.1	19.3	11 W	—	5*	2 21	22 35.04	-18 51.3	2.557	1.590	5.8	19.9	9 E	—	2*
3 2	22 0.02	-16 46.8	3.106	2.170	7.2	19.3	16 W	—	10*	3 2	23 4.71	-16 56.1	2.528	1.562	6.4	19.9	10 E	—	1*
3 12	22 18.87	-14 15.0	3.033	2.131	9.4	19.3	20 W	—	14*	3 12	23 34.52	-14 47.2	2.500	1.539	7.4	19.9	12 E	—	—
3 22	22 37.62	-11 35.2	2.951	2.091	11.6	19.3	25 W	1*	19*	3 22	0 4.42	-12 26.8	2.473	1.519	8.5	19.9	13 W	—	—
4 1	22 56.31	-8 47.5	2.861	2.052	13.9	19.2	30 W	3*	24*	4 1	0 34.38	-9 57.9	2.449	1.504	9.7	19.9	15 W	—	2*
4 11	23 14.99	-5 51.8	2.764	2.012	16.1	19.2	34 W	5*	28*	4 11	1 4.33	-7 23.7	2.429	1.493	10.7	19.9	16 W	—	4*
4 21	23 33.73	-2 48.2	2.662	1.973	18.4	19.1	38 W	8*	32*	4 21	1 34.25	-4 47.6	2.414	1.486	11.7	19.9	17 W	—	6*
5 1	23 52.60	+0 23.3	2.555	1.934	20.6	19.1	42 W	11*	36*	5 1	2 4.09	-2 13.1	2.403	1.485	12.6	19.9	19 W	—	8*
5 11	0 11.70	+3 42.7	2.445	1.895	22.7	19.0	46 W	14*	39*	5 11	2 33.80	+0 16.2	2.397	1.488	13.4	19.9	20 W	—	10*
5 21	0 31.15	+7 10.0	2.333	1.856	24.8	18.9	50 W	18*	41*	5 21	3 3.32	+2 37.2	2.394	1.496	14.1	20.0	21 W	—	13*
5 31	0 51.07	+10 44.9	2.220	1.819	26.8	18.8	54 W	22*	43*	5 31	3 32.59	+4 47.0	2.395	1.508	14.8	20.0	22 W	—	15*
6 10	1 11.61	+14 27.1	2.108	1.782	28.7	18.7	58 W	28*	43*	6 10	4 1.51	+6 43.5	2.399	1.525	15.6	20.1	24 W	—	17*
6 20	1 32.98	+18 16.2	1.998	1.747	30.6	18.6	61 W	33*	42*	6 20	4 30.00	+8 25.1	2.403	1.546	16.3	20.1	25 W	—	19*
6 30	1 55.37	+22 10.8	1.892	1.714	32.3	18.5	64 W	39*	40*	6 30	4 57.96	+9 51.0	2.407	1.571	17.1	20.2	27 W	—	21*
7 10	2 19.03	+26 9.3	1.789	1.682	33.9	18.4	67 W	46*	37*	7 10	5 25.27	+11 0.9	2.409	1.599	18.0	20.3	29 W	3*	23*
7 15	2 31.43	+28 9.2	1.740	1.667	34.6	18.3	69 W	49*	35*	7 20	5 51.87	+11 55.4	2.409	1.631	19.0	20.3	31 W	8*	24*
7 20	2 44.25	+30 9.2	1.692	1.652	35.4	18.3	70 W	53*	33*	7 30	6 17.63	+12 35.4	2.403	1.664	20.0	20.4	34 W	13*	26*
7 25	2 57.54	+32 8.6	1.646	1.638	36.0	18.2	72 W	56*	31*	8 9	6 42.49	+13 2.2	2.393	1.701	21.2	20.5	37 W	18*	27*
7 30	3 11.33	+34 6.8	1.601	1.625	36.7	18.2	73 W	59*	30*	8 19	7 6.37	+13 17.6	2.375	1.739	22.3	20.6	41 W	23*	28*
8 4	3 25.66	+36 3.4	1.558	1.613	37.3	18.1	74 W	62*	28*	8 29	7 29.20	+13 23.6	2.350	1.778	23.5	20.6	45 W	28*	30*
8 9	3 40.57	+37 57.5	1.516	1.601	37.8	18.0	76 W	65*	26*	9 8	7 50.92	+13 22.4	2.317	1.819	24.6	20.7	49 W	34*	31*
8 14	3 56.10	+39 48.5	1.477	1.590	38.4	18.0	77 W	68*	24*	9 18	8 11.46	+13 16.5	2.275	1.861	25.7	20.7	53 W	39*	33*
8 19	4 12.25	+41 35.5	1.439	1.580	38.8	17.9	78 W	70*	22*	9 28	8 30.76	+13 8.4	2.225	1.903	26.7	20.7	58 W	44*	34*
8 24	4 29.03	+43 17.7	1.402	1.570	39.3	17.9	79 W	72*	21*	10 8	8 48.72	+13 1.1	2.166	1.946	27.5	20.8	64 W	49*	36*
8 29	4 46.43	+44 54.1	1.368	1.562	39.6	17.8	81 W	74*	19*	10 18	9 5.25	+12 57.5	2.098	1.990	28.1	20.7	70 W	53*	38*
9 3	5 4.44	+46 23.9	1.335	1.554	40.0	17.8	82 W	76*	17*	10 28	9 20.20	+13 1.1	2.023	2.033	28.4	20.7	76 W	56*	41*
9 8	5 23.01	+47 46.5	1.303	1.548	40.3	17.7	83 W	77*	16*	11 7	9 33.39	+13 15.4	1.942	2.076	28.3	20.7	83 W	58*	43*
9 13	5 42.05	+49 1.1	1.273	1.542	40.5	17.7	84 W	78*	15*	11 17	9 44.60	+13 44.3	1.857	2.120	27.8	20.6	91 W	59	45*
9 18	6 1.43	+50 7.2	1.244	1.537	40.7	17.6	86 W	79*	13*	11 27	9 53.53	+14 31.8	1.770	2.162	26.8	20.5	99 W	60	47*
9 23	6 21.02	+51 4.5	1.216	1.533	40.8	17.6	87 W	79*	12*	12 7	9 59.87	+15 41.4	1.686	2.205	25.1	20.4	108 W	61	48*
9 28	6 40.65	+51 52.8	1.190	1.531	40.9	17.5	88 W	79*	11*	12 17	10 3.24	+17 16.2	1.607	2.247	22.7	20.3	118 W	62	47
10 3	7 0.14	+52 32.3	1.164	1.529	40.9	17.5	90 W	80*	10*	12 27	10 3.30	+19 16.6	1.538	2.288	19.5	20.1	129 W	64	45
10 8	7 19.30	+53 3.5	1.139	1.528	40.8	17.4	91 W	80*	10*	1 6	9 59.88	+21 39.5	1.486	2.329	15.7	20.0	140 W	67	42
10 13	7 37.91	+53 27.0	1.114	1.529	40.7	17.4	93 W	80*	9*	1 16	9 53.06	+24 17.1	1.456	2.369	11.4	19.8	152 W	69	40
10 18	7 55.77	+53 43.8	1.090	1.530	40.5	17.3	94 W	81*	9*	283773 2003 NE₅									
10 23	8 12.68	+53 54.8	1.067	1.533	40.2	17.3	96 W	81*	9*	12 23	19 45.84	-9 25.5	2.377	1.582	17.2	19.3	28 E	20*	10*
10 28	8 28.49	+54 1.0	1.044	1.536	39.8	17.2	98 W	81*	8*	1 2	20 12.73	-6 44.8	2.390	1.570	16.1	19.2	26 E	20*	5*
11 2	8 43.06	+54 3.8	1.020	1.541	39.4	17.1	100 W	81	8*	1 12	20 39.77	-3 50.8	2.402	1.563	15.2	19.2	25 E	20*	—
11 7	8 56.25	+54 4.3	0.998	1.546	38.8	17.1	102 W	81	9*	1 22	21 6.94	-0 45.3	2.416	1.560	14.4	19.2	23 E	17*	—
11 12	9 7.92	+54 3.6	0.975	1.553	38.1	17.0	104 W	81	9*	2 1	21 34.24	+2 29.3	2.430	1.562	13.7	19.2	22 E	15*	—
11 17	9 17.95	+54 2.6	0.952	1.560	37.3	17.0	107 W	81	9*	2 11	22 1.66	+5 50.1	2.448	1.569	13.2	19.2	21 E	13*	—
11 22	9 26.20	+54 2.0	0.930	1.568	36.4	16.9	110 W	81	9*	2 21	22 29.22	+9 13.7	2.469	1.581	12.7	19.2	21 E	11*	—
11 27	9 32.56	+54 2.2	0.908	1.578	35.3	16.8	113 W	81	10*	3 2	22 56.96	+12 36.7	2.493	1.597	12.2	19.2	20 E	9*	—
12 2	9 36.94	+54 3.2	0.887	1.588	34.0	16.8	116 W	81	10*	3 12	23 24.88	+15 55.3	2.521	1.617	11.7	19.3	19 W	8*	—
12 7	9 39.19	+54 4.7	0.867	1.599	32.6	16.7	119 W	81	10*	3 22	23 52.99	+19 6.1	2.553	1.641	11.3	19.3	19 W	9*	—
12 12	9 39.20	+54 5.9	0.848	1.610	31.0	16.6	123 W	81	10	4 1	0 21.30	+22 5.8	2.588	1.669	10.8	19.4	18 W	10*	—
12 17	9 36.87	+54 5.2	0.831	1.623	29.2	16.5	127 W	81	10	4 11	0 49.77	+24 51.6	2.625	1.700	10.5	19.4	18 W	11*	—
12 22	9 32.21	+54 0.3	0.816	1.636	27.2	16.4	130 W	81	10	4 21	1 18.35	+27 21.2	2.663	1.734	10.2	19.5	18 W	11*	—
12 27	9 25.33	+53 48.6	0.804	1.649	25.2	16.4	134 W	81	10	5 1	1 46.98	+29 33.0	2.700	1.770	10.1	19.5	18 W	12*	—
1 1	9 16.46	+53 27.0	0.795	1.664	23.1	16.3	138 W	82	11	5 11	2 15.51	+31 25.8	2.736	1.808	10.3	19.6	19 W	13*	—
1 6	9 5.99	+52 52.9	0.790	1.679	21.0	16.2	142 W	82	11	5 21	2 43.83	+32 59.0	2.769	1.849	10.7	19.7	20 W	14*	1*
1 8	9 1.47	+52 35.2																	

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

19/21	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°	19/21	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°
283773 2003 NE₅										4957 Brucemurray									
<i>(continuation)</i>										<i>(continuation)</i>									
12 27	6 50.69	+22 3.7	1.825	2.804	2.2	19.3	174 W	67	42	8 19	8 20.68	+3 24.5	2.585	1.720	14.3	18.9	25 W	3*	19*
1 1	6 43.98	+21 30.3	1.840	2.823	0.5	19.2	178 E	67	42	8 29	8 41.95	+0 29.7	2.564	1.744	16.0	19.0	28 W	7*	22*
1 6	6 37.46	+20 57.0	1.863	2.842	2.5	19.4	173 E	66	43	9 8	9 2.64	-2 33.6	2.537	1.766	17.6	19.1	32 W	10*	25*
1 11	6 31.29	+20 24.2	1.895	2.860	4.7	19.6	166 E	65	44	9 18	9 22.83	-5 44.5	2.504	1.787	19.2	19.1	36 W	13*	29*
1 16	6 25.60	+19 52.3	1.934	2.878	6.7	19.7	160 E	65	44	9 28	9 42.54	-9 2.3	2.465	1.806	20.6	19.2	39 W	15*	32*
1204 Renzia										414286 2008 OC₆									
12 23	19 46.19	-22 15.9	2.456	1.607	14.4	15.7	24 E	10*	15*	12 23	19 46.86	-13 8.2	1.866	1.082	24.2	21.3	27 E	17*	11*
1 2	20 16.48	-20 44.4	2.481	1.601	12.7	15.6	21 E	9*	11*	1 2	20 23.59	-12 48.6	1.870	1.065	23.1	21.2	25 E	16*	10*
1 12	20 46.31	-18 53.3	2.505	1.599	10.9	15.6	18 E	8*	8*	1 12	21 0.41	-12 7.6	1.868	1.043	22.1	21.1	24 E	15*	9*
1 22	21 15.56	-16 44.8	2.529	1.599	9.2	15.5	15 E	6*	6*	1 22	21 37.41	-11 6.5	1.860	1.017	21.3	21.0	22 E	14*	8*
2 1	21 44.13	-14 21.7	2.553	1.604	7.5	15.5	12 E	4*	3*	2 1	22 14.71	-9 46.4	1.845	0.988	20.7	20.9	21 E	13*	8*
2 11	22 11.99	-11 47.2	2.577	1.611	5.7	15.4	9 E	2*	1*	2 11	22 52.45	-8 9.2	1.822	0.955	20.6	20.8	20 E	11*	8*
2 21	22 39.13	-9 4.2	2.601	1.622	3.9	15.4	6 E	—	—	2 21	23 30.86	-6 16.1	1.791	0.920	21.0	20.7	20 E	10*	9*
3 2	23 5.60	-6 15.8	2.624	1.636	2.1	15.3	3 E	—	—	3 2	0 10.21	-4 8.9	1.752	0.884	22.2	20.6	20 E	10*	10*
3 12	23 31.45	-3 25.0	2.646	1.653	0.4	15.2	1 E	—	—	3 12	0 50.74	-1 49.0	1.705	0.848	24.2	20.5	20 E	9*	12*
3 22	23 56.76	-0 34.5	2.667	1.672	1.5	15.3	3 W	—	—	3 22	1 32.77	+0 42.1	1.651	0.814	27.0	20.5	22 E	9*	13*
4 1	0 21.59	+2 13.3	2.686	1.694	3.3	15.5	6 W	—	—	4 1	2 16.58	+3 22.7	1.590	0.784	30.7	20.4	24 E	10*	16*
4 11	0 46.00	+4 56.2	2.702	1.719	5.1	15.7	9 W	—	3*	4 11	3 2.34	+6 10.1	1.525	0.760	35.0	20.4	26 E	11*	18*
4 21	1 10.07	+7 32.3	2.715	1.745	6.9	15.8	12 W	—	6*	4 16	3 26.00	+7 35.5	1.491	0.751	37.4	20.4	27 E	11*	19*
5 1	1 33.83	+10 0.0	2.724	1.773	8.7	15.9	15 W	—	9*	4 21	3 50.20	+9 1.2	1.458	0.744	39.7	20.4	28 E	12*	20*
5 11	1 57.30	+12 17.9	2.728	1.803	10.5	16.0	19 W	2*	13*	4 26	4 14.91	+10 26.4	1.424	0.740	42.1	20.4	30 E	12*	21*
5 21	2 20.52	+14 25.0	2.727	1.834	12.2	16.1	23 W	4*	16*	5 1	4 40.12	+11 50.4	1.392	0.739	44.5	20.4	31 E	13*	22*
5 31	2 43.46	+16 20.5	2.720	1.866	13.9	16.2	26 W	7*	19*	5 6	5 5.79	+13 11.9	1.361	0.740	46.7	20.4	32 E	14*	23*
6 10	3 6.08	+18 3.8	2.707	1.899	15.6	16.3	30 W	10*	22*	5 11	5 31.87	+14 29.9	1.332	0.744	48.8	20.4	34 E	15*	24*
6 20	3 28.35	+19 34.6	2.686	1.933	17.2	16.4	34 W	14*	24*	5 16	5 58.32	+15 43.0	1.305	0.751	50.6	20.4	35 E	16*	25*
6 30	3 50.19	+20 52.9	2.658	1.967	18.8	16.5	38 W	18*	27*	5 21	6 25.05	+16 49.7	1.280	0.760	52.2	20.5	36 E	16*	26*
7 10	4 11.50	+21 58.9	2.622	2.002	20.2	16.5	43 W	24*	29*	5 26	6 51.99	+17 48.8	1.259	0.771	53.6	20.5	38 E	17*	27*
7 20	4 32.17	+22 53.0	2.578	2.037	21.6	16.6	48 W	29*	30*	5 31	7 19.01	+18 38.9	1.240	0.784	54.7	20.5	39 E	18*	28*
7 30	4 52.06	+23 35.9	2.526	2.072	22.9	16.6	53 W	35*	32*	6 5	7 45.99	+19 18.8	1.225	0.798	55.5	20.6	40 E	19*	29*
8 9	5 11.02	+24 8.7	2.466	2.107	24.0	16.6	58 W	41*	33*	6 10	8 12.82	+19 47.6	1.212	0.814	56.1	20.6	42 E	20*	30*
8 19	5 28.90	+24 32.5	2.397	2.142	25.0	16.6	63 W	48*	34*	6 15	8 39.38	+20 4.8	1.203	0.831	56.4	20.6	43 E	21*	30*
8 29	5 45.46	+24 48.8	2.321	2.177	25.7	16.6	69 W	54*	35*	6 20	9 5.54	+20 10.1	1.197	0.848	56.5	20.7	44 E	22*	31*
9 8	6 0.52	+24 59.1	2.239	2.211	26.2	16.6	75 W	60*	36*	6 25	9 31.21	+20 3.5	1.193	0.866	56.5	20.7	45 E	23*	32*
9 18	6 13.81	+25 5.3	2.150	2.245	26.3	16.5	82 W	65*	37*	6 30	9 56.29	+19 45.4	1.192	0.884	56.3	20.8	46 E	23*	33*
9 28	6 25.03	+25 9.3	2.058	2.279	26.1	16.4	89 W	69*	38*	7 5	10 20.72	+19 16.4	1.193	0.903	56.0	20.8	47 E	24*	34*
10 8	6 33.87	+25 13.0	1.963	2.312	25.4	16.4	97 W	70*	39*	7 10	10 44.44	+18 37.3	1.196	0.921	55.6	20.8	48 E	25*	34*
10 18	6 39.97	+25 18.2	1.869	2.345	24.1	16.2	106 W	70	39	7 15	11 7.45	+17 48.8	1.201	0.938	55.1	20.9	49 E	26*	35*
10 28	6 42.94	+25 26.2	1.779	2.376	22.3	16.1	115 W	70	39	7 20	11 29.76	+16 52.0	1.207	0.956	54.6	20.9	50 E	26*	36*
11 7	6 42.47	+25 37.8	1.697	2.408	19.7	15.9	125 W	71	38	7 25	11 51.37	+15 47.8	1.214	0.972	54.0	20.9	51 E	27*	37*
11 17	6 38.38	+25 52.3	1.627	2.438	16.3	15.8	136 W	71	38	7 30	12 12.33	+14 37.2	1.222	0.988	53.4	21.0	51 E	27*	38*
11 27	6 30.79	+26 7.6	1.576	2.468	12.3	15.6	148 W	71	38	8 4	12 32.66	+13 21.2	1.231	1.003	52.8	21.0	52 E	28*	38*
12 2	6 25.84	+26 14.6	1.558	2.482	10.0	15.5	154 W	71	38	8 9	12 52.43	+12 0.6	1.241	1.018	52.2	21.0	52 E	28*	39*
12 7	6 20.29	+26 20.6	1.547	2.497	7.7	15.4	160 W	71	38	8 14	13 11.70	+10 36.2	1.252	1.031	51.6	21.1	53 E	29*	40*
12 12	6 14.26	+26 25.2	1.543	2.511	5.2	15.3	167 W	71	38	8 19	13 30.52	+9 8.8	1.263	1.043	51.0	21.1	53 E	29*	40*
12 17	6 7.95	+26 28.0	1.545	2.525	2.8	15.2	173 W	71	38	8 24	13 48.95	+7 39.2	1.274	1.055	50.4	21.1	54 E	29*	41*
12 22	6 1.55	+26 29.0	1.556	2.538	1.2	15.1	177 W	71	38	8 29	14 7.06	+6 8.1	1.285	1.065	49.8	21.1	54 E	29*	41*
12 27	5 55.28	+26 28.1	1.573	2.552	2.7	15.2	173 E	71	38	9 3	14 24.88	+4 36.1	1.297	1.074	49.3	21.2	54 E	29*	41*
1 1	5 49.30	+26 25.4	1.598	2.565	5.0	15.4	167 E	71	38	9 8	14 42.48	+3 3.9	1.309	1.083	48.7	21.2	54 E	29*	42*
1 6	5 43.79	+26 21.3	1.630	2.578	7.3	15.5	161 E	71	38	9 13	14 59.91	+1 32.0	1.321	1.090	48.2	21.2	54 E	29*	42*
1 11	5 38.88	+26 16.1	1.669	2.591	9.4	15.7	154 E	71	38	9 18	15 17.23	+0 1.0	1.333	1.095	47.7	21.2	54 E	29*	42*
1 16	5 34.68	+26 10.1	1.714	2.604	11.4	15.9	148 E	71	38	9 23	15 34.46	-1 28.5	1.345	1.100	47.2	21.2	53 E	29*	42*
12 23	19 46.22	+0 1.6	1.923	1.242	26.6	18.0	34 E	28*	6*	9 28	15 51.66	-2 56.0	1.357	1.103	46.7	21.2	53 E	29*	42*
1 2	20 20.15	+2 28.0	1.915	1.232	26.6	18.0	34 E	28*	2*	10 3	16 8.84	-4 20.9	1.369	1.106	46.2	21.3	53 E	28*	41*
1 12	20 55.08	+5 6.7	1.911	1.225	26.6	17.9	34 E	28*	—	10 8	16 26.04	-5 42.9	1.380	1.107	45.8	21.3	53 E	28*	41*
1 22	21 30.94	+7 49.9	1.914	1.223	26.5	17.9	34 E	27*	—	10 13	16 43.30	-7 1.4	1.392	1.107	45.3	21.3	52 E	28*	41*
1 27	21 49.18	+9 11.7	1.918	1.223	26.3	17.9	33 E	27*	—	10 18	17 0.63	-8 16.0	1.403	1.105	44.9	21.3	52 E	27*	40*
2 1	22 7.58	+10 32.5	1.925	1.225	26.1	17.9	33 E	27*	—	10 23	17 18.06	-9 26.2	1.413	1.103	44.5	21.3	51 E	27*	39*
2 6	22 26.13	+11 51.7	1.933	1.228	25.8	18.0	33 E	26*	—	11 2	17 53.25	-11 32.3	1.433	1.094	43.7	21.3	50 E	26*	38*
2 11	22 44.79	+13 8.5	1.945	1.231	25.5	18.0	32 E	26*	—	11 7	18 11.03	-12 27.5	1.442	1.088	43.4	21.3	49 E	26*	37*
2 21	23 22.31	+15 32.1	1.974	1.242	24.5	18.0	31 E	25*	—	11 12	18 28.94	-13 17.1	1.450	1.081	43.0	21.2	48 E	25*	36*
3 2	23 59.88	+17 38.7	2.013	1.256	23.2	18.0	30 E	23*	—	11 17	18 46.99	-14 0.8	1.457	1.072	42.7	21.2	47 E	25*	35*
3 12	0 37.18	+19 24.4	2.060	1.274	21.6	18.0	28 E	22*	—	11 22	19 5.17	-14 38.4	1.463	1.063	42.4	21.2	47 E	25*	34*
3 22	1 13.94	+20 47.3	2.113	1.295	19.8	18.1	26 E	20*	—										

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

19/21	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°	19/21	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°
414286 2008 OC₆										304292 2006 SK₇₇									
<i>(continuation)</i>										<i>(continuation)</i>									
12 12	20 19.15	-16 6.1	1.474	1.014	41.7	21.1	43 E	23*	30*	8 29	3 20.67	+35 16.4	2.534	2.863	20.4	20.5	98 W	80*	29
12 17	20 37.95	-16 12.0	1.472	1.000	41.7	21.1	43 E	23*	29*	9 8	3 22.41	+35 45.3	2.446	2.908	19.3	20.4	107 W	81	28
12 22	20 56.86	-16 11.6	1.469	0.984	41.7	21.0	42 E	23*	28*	9 18	3 21.31	+36 2.7	2.362	2.952	17.7	20.3	117 W	81	28
12 27	21 15.87	-16 4.8	1.463	0.968	41.8	21.0	41 E	23*	28*	9 28	3 17.29	+36 5.4	2.289	2.996	15.6	20.2	126 W	81	28
1 1	21 34.98	-15 51.8	1.455	0.951	42.1	20.9	40 E	22*	27*	10 8	3 10.53	+35 50.4	2.231	3.038	13.0	20.1	137 W	81	28
1 6	21 54.21	-15 32.6	1.444	0.934	42.4	20.9	40 E	22*	27*	10 13	3 6.27	+35 35.3	2.210	3.059	11.6	20.1	142 W	81	28
1 11	22 13.55	-15 7.3	1.432	0.916	42.9	20.9	39 E	22*	26*	10 18	3 1.52	+35 14.8	2.194	3.079	10.1	20.0	147 W	80	29
1 16	22 33.01	-14 36.0	1.416	0.898	43.5	20.8	39 E	22*	26*	10 23	2 56.43	+34 48.9	2.184	3.099	8.6	19.9	152 W	80	29
142803 2002 UM₂₇										327710 2006 SM₇₇									
12 23	19 47.12	-18 25.4	2.538	1.697	14.1	20.3	25 E	13*	14*	12 23	19 48.58	-3 18.5	2.501	1.755	17.6	20.9	33 E	26*	8*
1 2	20 15.41	-16 57.9	2.589	1.714	12.2	20.3	22 E	12*	10*	1 2	20 15.10	-2 34.9	2.521	1.735	16.2	20.9	30 E	23*	3*
1 12	20 42.91	-15 15.9	2.639	1.734	10.3	20.3	18 E	10*	6*	1 12	20 41.96	-1 38.0	2.539	1.717	14.9	20.8	27 E	21*	—
1 22	21 9.59	-13 21.7	2.688	1.755	8.3	20.2	15 E	8*	3*	1 22	21 9.06	+0 29.0	2.556	1.702	13.5	20.8	24 E	18*	—
2 1	21 35.43	-11 17.6	2.734	1.779	6.4	20.2	12 E	5*	—	2 1	21 36.30	+0 50.5	2.573	1.689	12.0	20.7	21 E	14*	—
2 11	22 0.41	-9 6.1	2.777	1.805	4.4	20.2	8 E	2*	—	2 11	22 3.58	+2 18.4	2.588	1.678	10.5	20.7	18 E	11*	—
2 21	22 24.59	-6 49.6	2.816	1.832	2.6	20.1	5 E	—	—	2 21	22 30.86	+3 52.4	2.603	1.671	9.0	20.6	15 E	7*	—
3 2	22 48.00	+4 30.0	2.850	1.861	1.5	20.1	3 W	—	—	3 2	22 58.10	+5 30.2	2.617	1.665	7.6	20.5	13 E	4*	—
3 12	23 10.71	+2 9.4	2.880	1.891	2.5	20.3	5 W	—	—	3 12	23 25.25	+7 9.1	2.630	1.663	6.3	20.5	11 W	2*	—
3 22	23 32.77	+0 10.5	2.904	1.923	4.3	20.4	8 W	—	2*	3 22	23 52.33	+8 46.9	2.641	1.664	5.3	20.4	9 W	2*	—
4 1	23 54.25	+2 28.1	2.920	1.955	6.2	20.6	12 W	1*	6*	4 1	0 19.31	+10 21.1	2.650	1.667	4.9	20.4	8 W	2*	—
4 11	0 15.18	+4 42.1	2.930	1.988	8.1	20.7	16 W	2*	10*	4 11	0 46.19	+11 49.3	2.656	1.673	5.2	20.5	9 W	2*	—
4 21	0 35.61	+6 51.2	2.932	2.021	10.0	20.8	20 W	4*	14*	4 21	1 12.97	+13 9.6	2.659	1.681	6.3	20.5	11 W	2*	3*
5 1	0 55.56	+8 54.6	2.926	2.055	11.8	20.9	25 W	6*	18*	5 1	1 39.63	+14 20.1	2.659	1.693	7.7	20.6	13 W	2*	6*
5 11	1 15.05	+10 51.3	2.912	2.089	13.6	21.0	29 W	8*	22*	5 11	2 6.12	+15 19.0	2.654	1.706	9.4	20.7	16 W	3*	9*
5 21	1 34.08	+12 40.6	2.888	2.123	15.4	21.1	34 W	11*	26*	5 21	2 32.42	+16 5.0	2.645	1.723	11.2	20.8	19 W	3*	12*
5 31	1 52.61	+14 21.9	2.855	2.157	17.0	21.2	39 W	14*	30*	5 31	2 58.46	+16 36.7	2.631	1.741	13.0	20.9	23 W	4*	16*
6 10	2 10.62	+15 54.7	2.813	2.192	18.6	21.2	44 W	18*	33*	6 10	3 24.15	+16 53.4	2.612	1.761	14.8	20.9	26 W	6*	19*
6 20	2 28.03	+17 18.7	2.762	2.226	20.0	21.2	49 W	23*	36*	6 20	3 49.40	+16 54.2	2.588	1.783	16.6	21.0	30 W	8*	22*
6 30	2 44.74	+18 33.8	2.702	2.259	21.3	21.3	54 W	28*	38*	6 30	4 14.12	+16 38.8	2.558	1.807	18.3	21.1	34 W	11*	26*
7 10	3 0.65	+19 39.8	2.633	2.293	22.5	21.3	60 W	35*	40*	7 10	4 38.17	+16 6.9	2.522	1.832	20.0	21.1	38 W	15*	29*
7 20	3 15.60	+20 36.7	2.556	2.326	23.4	21.3	66 W	41*	41*	7 20	5 1.47	+15 18.7	2.481	1.859	21.6	21.2	42 W	19*	32*
7 30	3 29.41	+21 24.6	2.471	2.359	24.1	21.3	72 W	48*	41*	7 30	5 23.86	+14 14.3	2.434	1.886	23.0	21.2	47 W	23*	35*
8 9	3 41.84	+22 3.8	2.380	2.391	24.5	21.2	78 W	55*	42*	8 9	5 45.23	+12 54.3	2.382	1.915	24.3	21.2	51 W	28*	37*
8 19	3 52.65	+22 34.4	2.284	2.422	24.6	21.2	85 W	61*	41*	8 19	6 5.48	+11 19.3	2.325	1.944	25.5	21.2	56 W	32*	41*
8 29	4 1.53	+22 56.7	2.185	2.453	24.3	21.1	93 W	66*	41	8 29	6 24.45	+9 30.0	2.263	1.974	26.5	21.2	61 W	36*	44*
9 8	4 8.15	+23 10.8	2.085	2.484	23.5	21.0	101 W	68*	41	9 8	6 42.01	+7 27.5	2.196	2.004	27.3	21.2	66 W	40*	47*
9 18	4 12.16	+23 16.7	1.987	2.513	22.1	20.9	110 W	68*	41	9 18	6 58.03	+5 12.6	2.126	2.035	27.8	21.2	71 W	43*	51*
9 28	4 13.25	+23 13.8	1.896	2.542	20.1	20.7	119 W	68*	41	9 28	7 12.32	+2 46.7	2.053	2.066	28.2	21.2	77 W	44*	55*
10 8	4 11.21	+23 1.5	1.814	2.571	17.4	20.6	130 W	68*	41	10 8	7 24.68	+0 11.4	1.977	2.097	28.2	21.1	83 W	44*	59*
10 18	4 6.04	+22 39.1	1.748	2.598	14.0	20.4	141 W	68*	41	10 18	7 34.89	-2 31.4	1.901	2.128	27.9	21.1	89 W	42	64*
10 28	3 58.05	+22 6.0	1.702	2.625	10.0	20.2	153 W	67	42	10 28	7 42.66	-5 19.1	1.826	2.159	27.3	21.0	95 W	40	68*
11 2	3 53.22	+21 45.6	1.688	2.638	7.8	20.1	159 W	67	42	11 7	7 47.72	-8 8.1	1.754	2.190	26.2	20.9	102 W	37	72
11 7	3 47.99	+21 22.9	1.681	2.651	5.5	20.0	165 W	66	43	11 17	7 49.79	-10 53.4	1.688	2.221	24.8	20.8	109 W	34	75
11 12	3 42.51	+20 58.4	1.681	2.664	3.1	19.9	172 W	66	43	11 27	7 48.63	-13 28.3	1.630	2.251	23.1	20.7	117 W	32	77
11 17	3 36.94	+20 32.5	1.688	2.676	0.8	19.7	178 W	66	43	12 7	7 44.24	-15 44.4	1.583	2.281	21.1	20.6	124 W	29	80
11 22	3 31.44	+20 5.8	1.702	2.688	1.7	19.8	175 E	65	44	12 17	7 36.82	-17 32.6	1.551	2.310	19.0	20.5	130 W	27	82
11 27	3 26.18	+19 39.2	1.725	2.700	3.9	20.0	169 E	65	44	12 27	7 27.06	-18 43.5	1.537	2.339	17.2	20.5	135 W	26	83
12 2	3 21.28	+19 13.3	1.754	2.712	6.1	20.2	163 E	64	45	1 1	7 21.63	-19 2.9	1.537	2.354	16.5	20.5	137 W	26	83
12 7	3 16.87	+18 48.8	1.791	2.724	8.2	20.3	157 E	64	45	1 6	7 16.04	-19 11.3	1.542	2.368	16.1	20.5	138 W	26	83
12 17	3 9.84	+18 6.2	1.883	2.746	11.9	20.6	145 E	63	46	1 11	7 10.45	-19 8.4	1.552	2.382	15.8	20.5	139 E	26	83
12 27	3 5.53	+17 35.0	1.998	2.768	14.9	20.8	133 E	63	46	1 16	7 5.06	-18 54.7	1.568	2.395	15.8	20.5	139 E	26	83
1 6	3 4.04	+17 16.4	2.130	2.789	17.2	21.1	123 E	62	47	52761 1998 MN₁₄									
1 16	3 5.20	+17 10.4	2.276	2.809	18.8	21.3	113 E	62	47	12 23	19 48.91	-10 22.0	2.148	1.367	20.1	21.2	29 E	20*	11*
304292 2006 SK₇₇										1 2	20 20.38	-8 5.7	2.200	1.397	18.6	21.3	27 E	20*	7*
12 23	19 47.81	-10 18.5	2.410	1.613	16.8	19.0	28 E	20*	10*	1 12	20 50.73	-5 39.2	2.255	1.428	17.1	21.3	25 E	19*	4*
1 2	20 16.32	-8 10.2	2.478	1.653	15.2	19.1	26 E	19*	6*	1 22	21 20.05	-3 5.4	2.310	1.460	15.5	21.4	23 E	17*	1*
1 12	20 43.76	-5 53.2	2.548	1.695	13.5	19.2	24 E	18*	2*	2 1	21 48.44	+0 26.9	2.364	1.491	14.0	21.4	21 E	15*	—
1 22	21 10.14	-3 29.8	2.618	1.740	11.9	19.2	21 E	15*	—	2 11	22 15.98	+2 13.9	2.418	1.523	12.4	21.5	19 E	13*	—
2 1	21 35.50	-1 2.3	2.689	1.787	10.4	19.3	19 E	13*	—	100681 1997 YD₁									
2 11	21 59.88	+1 27.4	2.758	1.837	9.0	19.3	17 E	10*	—	12 23	19 49.23	-15 9.8	3.390	2.548	9.9	20.6	26 E	16*	13*
2 21	22 23.35	+3 57.3	2.825	1.887	7.8	19.4	15 E	6*	—	1 2	20 5.99	-13 50.0	3.469	2.574	7.8	20.6	21 E	13*	6*
3 2	22 45.98	+6 26.2	2.888	1.939	7.0	19.5	14 W	5*	—	1 12	20 22.47	-12 24.4	3.534	2.600	5.8	20.6	16 E	9*	—
3 12	23 7.83	+8 52.5	2.946	1.992	6.6	19.5	13 W	6*	—	1 22	20 38.63	-10 53.4	3.585	2.625	4.1	20.5	11 E	5*	—
3 22	23 28.97	+11 15.3	2.998	2.046	6.8	19.6													

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

19/21	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°	19/21	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°
100681 1997 YD₁										5230 Asahina									
<i>(continuation)</i>										<i>(continuation)</i>									
2 11	21 9.83	-7 36.1	3.642	2.673	3.4	20.6	9 W	3*	—	8 29	0 2.23	+14 24.1	1.441	2.354	13.5	16.6	147 W	59	50
2 21	21 24.80	-5 50.6	3.648	2.695	4.8	20.7	13 W	6*	3*	9 8	23 55.79	+12 47.4	1.347	2.311	9.5	16.3	158 W	58	51
3 2	21 39.31	-4 1.1	3.639	2.716	6.6	20.8	18 W	9*	9*	9 18	23 47.58	+10 35.0	1.276	2.268	5.5	16.0	167 W	56	53
3 12	21 53.32	-2 8.0	3.615	2.737	8.5	20.9	24 W	12*	15*	9 23	23 43.12	+9 17.1	1.251	2.246	4.5	15.8	170 E	54	55
3 22	22 6.80	+0 11.9	3.577	2.756	10.3	20.9	30 W	14*	21*	9 28	23 38.65	+7 53.4	1.233	2.224	5.2	15.8	168 E	53	56
4 1	22 19.71	+1 46.9	3.525	2.775	12.1	21.0	36 W	17*	27*	10 3	23 34.32	+6 25.6	1.222	2.202	7.1	15.9	164 E	51	58
4 11	22 31.99	+3 47.8	3.461	2.793	13.8	21.0	42 W	20*	32*	10 8	23 30.30	+4 55.8	1.218	2.180	9.5	15.9	159 E	50	59
4 21	22 43.60	+5 50.5	3.384	2.809	15.4	21.0	48 W	23*	38*	10 13	23 26.73	+3 26.2	1.220	2.158	12.1	16.0	153 E	48	61
5 1	22 54.44	+7 54.4	3.297	2.825	16.8	21.0	54 W	26*	42*	10 18	23 23.76	+1 58.7	1.228	2.135	14.6	16.1	147 E	47	62
5 11	23 4.42	+9 59.0	3.199	2.840	18.0	21.0	60 W	30*	46*	10 23	23 21.50	+0 35.4	1.242	2.113	17.1	16.2	141 E	46	63
5 21	23 13.45	+12 3.9	3.094	2.853	19.0	21.0	67 W	35*	48*	10 28	23 20.02	+0 42.2	1.261	2.090	19.4	16.3	136 E	44	65
5 31	23 21.36	+14 8.3	2.982	2.866	19.8	21.0	74 W	40*	49*	11 2	23 19.38	-1 53.1	1.284	2.068	21.5	16.4	130 E	43	66
6 10	23 27.98	+16 11.4	2.866	2.878	20.4	20.9	81 W	46*	48	11 7	23 19.59	-2 56.5	1.311	2.046	23.4	16.4	125 E	42	67
6 20	23 33.11	+18 12.2	2.746	2.889	20.6	20.8	88 W	53*	46	11 17	23 22.57	-4 39.0	1.374	2.001	26.7	16.6	115 E	40	69
6 30	23 36.51	+20 9.1	2.626	2.899	20.4	20.7	95 W	60*	44	11 27	23 28.82	-5 49.2	1.444	1.956	29.1	16.7	106 E	39	70
7 10	23 37.94	+21 59.9	2.509	2.907	19.9	20.6	103 W	66*	42	12 7	23 38.03	-6 29.1	1.518	1.912	30.7	16.8	97 E	39	69*
7 20	23 37.15	+23 41.8	2.397	2.915	19.0	20.5	111 W	69	40	12 17	23 49.85	-6 41.7	1.592	1.869	31.8	16.9	90 E	38	65*
7 30	23 33.95	+25 10.9	2.294	2.922	17.7	20.4	119 W	70	39	12 27	0 3.95	-6 30.5	1.664	1.826	32.3	17.0	83 E	38	60*
8 9	23 28.30	+26 22.6	2.204	2.928	16.1	20.2	127 W	71	38	1 6	0 20.03	-5 59.0	1.732	1.784	32.4	17.0	77 E	39	54*
8 19	23 20.36	+27 11.8	2.130	2.933	14.2	20.1	135 W	72	37	1 16	0 37.85	-5 10.3	1.794	1.744	32.2	17.0	71 E	40*	49*
8 24	23 15.66	+27 26.4	2.100	2.935	13.2	20.0	138 W	72	37	438693 2008 PL₁₅									
8 29	23 10.59	+27 33.8	2.076	2.936	12.3	20.0	142 W	73	36	12 23	19 49.92	-17 4.6	2.789	1.952	12.7	21.2	26 E	15*	14*
9 3	23 5.26	+27 33.8	2.057	2.938	11.5	19.9	145 W	73	36	1 2	20 13.70	-16 4.4	2.797	1.917	10.9	21.1	22 E	12*	9*
9 8	22 59.79	+27 26.2	2.044	2.939	10.8	19.9	147 E	72	37	1 12	20 37.89	-14 49.9	2.798	1.882	9.0	21.0	17 E	10*	5*
9 13	22 54.31	+27 11.3	2.037	2.940	10.4	19.9	148 E	72	37	1 22	21 2.41	-13 21.4	2.792	1.849	7.1	20.9	13 E	7*	1*
9 18	22 48.96	+26 49.5	2.037	2.941	10.3	19.8	149 E	72	37	2 1	21 27.20	-11 39.6	2.782	1.818	5.2	20.8	10 E	4*	—
9 23	22 43.87	+26 21.5	2.043	2.942	10.5	19.9	148 E	71	38	2 11	21 52.19	-9 45.5	2.766	1.788	3.4	20.6	6 E	—	—
9 28	22 39.16	+25 48.2	2.055	2.942	10.9	19.9	146 E	71	38	2 21	22 17.35	-7 40.6	2.746	1.760	1.9	20.5	3 E	—	—
10 3	22 34.92	+25 10.7	2.074	2.942	11.6	19.9	144 E	70	39	3 2	22 42.68	-5 26.3	2.724	1.735	1.7	20.4	3 W	—	—
10 8	22 31.25	+24 30.0	2.098	2.942	12.4	20.0	141 E	70	39	3 12	23 8.17	-3 4.8	2.699	1.712	3.0	20.4	5 W	—	—
10 13	22 28.19	+23 47.3	2.128	2.941	13.3	20.1	137 E	69	40	3 22	23 33.86	-0 38.0	2.672	1.691	4.7	20.5	8 W	—	2*
10 18	22 25.80	+23 3.6	2.164	2.941	14.2	20.1	134 E	68	41	4 1	23 59.77	+1 51.7	2.645	1.674	6.5	20.5	11 W	—	5*
10 23	22 24.09	+22 20.1	2.204	2.940	15.1	20.2	130 E	67	42	4 11	0 25.92	+4 21.6	2.616	1.660	8.2	20.6	14 W	—	8*
10 28	22 23.07	+21 37.7	2.248	2.938	16.0	20.3	125 E	67	42	4 21	0 52.36	+6 49.1	2.588	1.649	9.9	20.6	16 W	1*	10*
11 2	22 22.73	+20 57.2	2.296	2.937	16.8	20.3	121 E	66	43	5 1	1 19.11	+9 11.7	2.560	1.642	11.6	20.6	19 W	2*	13*
11 7	22 23.04	+20 19.1	2.348	2.935	17.5	20.4	117 E	65	44	5 11	1 46.17	+11 26.4	2.532	1.638	13.2	20.7	22 W	3*	15*
11 17	22 25.51	+19 12.3	2.459	2.931	18.6	20.5	109 E	64	45*	5 21	2 13.52	+13 30.8	2.505	1.638	14.8	20.7	24 W	5*	18*
11 27	22 30.25	+18 20.3	2.579	2.926	19.4	20.7	101 E	63	44*	5 31	2 41.12	+15 22.5	2.477	1.641	16.3	20.7	27 W	6*	20*
12 7	22 36.92	+17 44.1	2.702	2.920	19.7	20.8	93 E	63	41*	6 10	3 8.87	+16 59.4	2.450	1.648	17.8	20.8	30 W	9*	22*
12 17	22 45.27	+17 23.8	2.827	2.913	19.7	20.9	85 E	62	36*	6 20	3 36.68	+18 19.7	2.421	1.659	19.3	20.8	33 W	12*	24*
12 27	22 55.03	+17 18.9	2.950	2.904	19.3	20.9	78 E	62	31*	6 30	4 4.39	+19 22.4	2.391	1.672	20.7	20.8	36 W	15*	25*
1 6	23 5.98	+17 28.2	3.068	2.895	18.7	21.0	71 E	60*	25*	7 10	4 31.82	+20 6.7	2.360	1.689	22.1	20.9	39 W	19*	27*
1 16	23 17.93	+17 50.5	3.180	2.885	17.8	21.0	64 E	56*	20*	7 20	4 58.79	+20 32.5	2.326	1.709	23.4	20.9	42 W	23*	28*
12 23	19 49.55	-4 49.3	4.394	3.596	8.3	21.5	32 E	25*	8*	7 30	5 25.09	+20 40.3	2.290	1.732	24.6	20.9	45 W	28*	30*
1 2	20 2.04	-4 20.9	4.490	3.632	6.8	21.5	26 E	20*	1*	8 9	5 50.51	+20 31.1	2.249	1.757	25.8	21.0	49 W	32*	31*
1 12	20 14.48	-3 45.7	4.569	3.668	5.5	21.5	21 E	15*	—	8 19	6 14.89	+20 6.3	2.205	1.785	26.8	21.0	53 W	37*	32*
1 22	20 26.79	-3 4.0	4.632	3.703	4.5	21.5	17 E	8*	—	8 29	6 38.02	+19 27.7	2.156	1.815	27.8	21.0	57 W	41*	34*
2 1	20 38.87	-2 16.3	4.678	3.738	4.1	21.5	16 W	8*	—	9 8	6 59.74	+18 37.4	2.102	1.846	28.6	21.0	61 W	46*	36*
12 23	19 49.62	-5 31.6	3.927	3.130	9.4	19.3	31 E	24*	9*	9 18	7 19.92	+17 37.6	2.043	1.879	29.3	21.0	66 W	50*	37*
1 2	20 3.38	-5 14.6	3.968	3.111	7.9	19.2	26 E	19*	2*	9 28	7 38.37	+16 30.8	1.978	1.913	29.8	21.0	72 W	54*	40*
1 12	20 17.39	-4 48.8	3.993	3.091	6.4	19.1	20 E	14*	—	10 8	7 54.93	+15 19.6	1.909	1.949	30.0	21.0	77 W	57*	42*
1 22	20 31.59	-4 14.8	4.002	3.070	5.2	19.1	16 E	8*	—	10 18	8 9.42	+14 6.5	1.835	1.985	29.9	20.9	83 W	55*	45*
2 1	20 45.90	-3 32.9	3.994	3.048	4.5	19.0	14 W	5*	—	10 28	8 21.58	+12 54.6	1.759	2.022	29.4	20.8	90 W	58	48*
2 11	21 0.22	-2 43.7	3.970	3.024	4.7	19.0	14 W	8*	—	11 7	8 31.18	+11 46.7	1.680	2.059	28.5	20.8	98 W	57	51*
2 21	21 14.52	-1 47.9	3.929	3.000	5.7	19.0	17 W	11*	3*	11 17	8 37.91	+10 46.0	1.602	2.097	27.0	20.6	106 W	56	53*
3 2	21 28.72	-0 46.2	3.873	2.975	7.1	19.0	22 W	13*	10*	11 27	8 41.47	+9 56.0	1.528	2.136	24.9	20.5	115 W	55	54
3 12	21 42.77	+0 20.8	3.801	2.949	8.7	19.0	27 W	15*	16*	12 7	8 41.62	+9 19.8	1.461	2.174	22.0	20.4	124 W	54	55
3 22	21 56.64	+1 32.2	3.715	2.922	10.5	19.0	32 W	17*	22*	12 17	8 38.28	+9 0.4	1.405	2.212	18.4	20.2	135 W	54	55
4 1	22 10.26	+2 47.2	3.616	2.893	12.3	19.0	38 W	19*	28*	12 27	8 31.64	+8 59.7	1.366	2.250	14.1	20.0	146 W	54	55
4 11	22 23.60	+4 5.1	3.504	2.864	14.0	19.0	44 W	21*	34*	1 6	8 22.39	+9 17.4	1.348	2.289	9.4	19.9	158 W	54	55
4 21	22 36.60	+5 24.9	3.380	2.834	15.7	19.0	50 W	24*	39*	1 16	8 11.60	+9 51.1	1.355	2.326	5.1	19.7	168 W	55	54
5 1	22 49.21	+6 45.7	3.246	2.802	17.2	18.9	56 W	26*	44*	12 23	19 50.39	-25 41.8	2.611	1.765	13.4	19			

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

19/21	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°	19/20	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°
65433 2002 TX₂₃₈										265187 2003 YS₁₁₇									
<i>(continuation)</i>																			
6 10	3 36.00	+16 55.6	2.512	1.634	14.4	19.4	24 W	4*	17*	12 23	19 50.83	-13 33.4	1.739	0.978	27.7	20.7	27 E	18*	12*
6 20	4 2.98	+18 44.3	2.504	1.658	15.9	19.5	27 W	7*	19*	12 28	20 10.42	-11 8.0	1.759	1.003	27.4	20.8	28 E	19*	11*
6 30	4 29.77	+20 15.7	2.493	1.685	17.3	19.5	30 W	11*	20*	1 2	20 29.26	- 8 41.4	1.781	1.028	27.1	20.8	28 E	21*	9*
7 10	4 56.24	+21 29.9	2.479	1.714	18.7	19.6	33 W	16*	22*	1 7	20 47.43	- 6 14.6	1.804	1.055	26.7	20.9	29 E	22*	8*
7 20	5 22.27	+22 27.3	2.459	1.746	20.1	19.7	36 W	20*	23*	1 12	21 5.02	- 3 48.7	1.829	1.081	26.3	21.0	29 E	23*	6*
7 30	5 47.68	+23 8.8	2.435	1.779	21.5	19.7	40 W	25*	24*	1 17	21 22.12	- 1 24.5	1.855	1.108	25.8	21.0	29 E	23*	5*
8 9	6 12.34	+23 35.6	2.404	1.813	22.7	19.8	44 W	30*	25*	1 22	21 38.81	+ 0 57.6	1.882	1.135	25.3	21.1	30 E	23*	3*
8 19	6 36.09	+23 49.4	2.368	1.849	24.0	19.8	48 W	36*	26*	1 27	21 55.14	+ 3 16.9	1.911	1.162	24.8	21.2	30 E	24*	2*
8 29	6 58.78	+23 52.4	2.324	1.887	25.1	19.9	52 W	41*	27*	2 1	22 11.17	+ 5 33.0	1.940	1.189	24.2	21.2	30 E	24*	—
9 8	7 20.27	+23 46.8	2.273	1.925	26.1	19.9	57 W	46*	29*	2 6	22 26.95	+ 7 45.7	1.970	1.215	23.6	21.3	30 E	23*	—
9 18	7 40.44	+23 35.2	2.215	1.963	27.0	19.9	62 W	51*	30*	2 11	22 42.52	+ 9 54.6	2.001	1.241	23.0	21.4	29 E	23*	—
9 28	7 59.11	+23 20.4	2.151	2.002	27.6	19.9	68 W	56*	31*	2 16	22 57.94	+11 59.5	2.033	1.266	22.4	21.4	29 E	23*	—
10 8	8 16.14	+23 5.2	2.079	2.041	28.0	19.9	74 W	61*	33*	2 21	23 13.24	+14 0.2	2.065	1.291	21.7	21.5	29 E	22*	—
10 18	8 31.34	+22 52.8	2.002	2.081	28.2	19.8	80 W	65*	35*	170502 2003 WM₇									
10 28	8 44.49	+22 46.4	1.921	2.120	27.9	19.8	87 W	68*	37*	12 23	19 50.98	-27 3.3	1.915	1.101	22.0	19.9	25 E	6*	18*
11 7	8 55.32	+22 49.1	1.836	2.159	27.2	19.7	95 W	68	39*	12 28	20 11.82	-26 15.3	2.007	1.184	20.1	20.1	24 E	7*	17*
11 17	9 3.52	+23 4.0	1.752	2.198	26.0	19.6	103 W	68	40*	1 2	20 30.70	-25 21.8	2.099	1.263	18.3	20.3	24 E	7*	16*
11 27	9 8.71	+23 33.8	1.670	2.237	24.1	19.5	112 W	69	40*	1 7	20 47.91	-24 24.9	2.192	1.340	16.5	20.4	23 E	7*	15*
12 7	9 10.57	+24 19.7	1.595	2.275	21.6	19.3	122 W	69	40	1 12	21 3.68	-23 26.2	2.283	1.415	14.8	20.6	22 E	6*	14*
12 17	9 8.78	+25 21.2	1.531	2.313	18.3	19.2	133 W	70	39	1 17	21 18.23	-22 26.7	2.373	1.487	13.1	20.7	20 E	6*	13*
12 27	9 3.27	+26 34.6	1.484	2.350	14.3	19.0	144 W	72	37	1 22	21 31.72	-21 27.2	2.461	1.558	11.5	20.8	18 E	5*	11*
1 1	8 59.22	+27 13.7	1.468	2.369	12.1	18.9	150 W	72	37	1 27	21 44.31	-20 28.0	2.546	1.626	9.9	20.9	17 E	4*	9*
1 6	8 54.42	+27 52.8	1.458	2.387	9.9	18.9	155 W	73	36	2 1	21 56.10	-19 29.7	2.628	1.693	8.5	21.0	15 E	2*	8*
1 11	8 48.97	+28 30.9	1.454	2.405	7.7	18.8	161 W	74	35	2 6	22 7.19	-18 32.4	2.706	1.758	7.1	21.1	13 E	1*	6*
1 16	8 43.05	+29 6.5	1.457	2.423	5.8	18.7	166 W	74	35	2 11	22 17.67	-17 36.4	2.781	1.821	5.8	21.2	11 E	—	5*
129470 1993 KC										474763 2005 QQ₇₅									
12 23	19 50.48	- 3 46.4	2.314	1.578	19.7	19.8	33 E	26*	8*	12 23	19 51.50	-24 27.0	2.405	1.568	15.3	20.8	25 E	8*	17*
1 2	20 20.07	- 2 18.6	2.380	1.614	18.1	19.9	31 E	24*	4*	1 2	20 21.55	-22 36.8	2.390	1.522	13.9	20.7	22 E	8*	13*
1 12	20 48.76	- 0 41.6	2.450	1.652	16.5	19.9	28 E	22*	1*	1 12	20 51.96	-20 22.5	2.373	1.478	12.5	20.6	19 E	7*	10*
1 22	21 16.51	+ 1 2.4	2.521	1.692	14.8	20.0	26 E	20*	—	1 22	21 22.58	-17 44.9	2.355	1.439	11.2	20.4	17 E	6*	8*
2 1	21 43.33	+ 2 51.5	2.593	1.734	13.1	20.0	23 E	17*	—	2 1	21 53.30	-14 45.3	2.338	1.404	9.9	20.3	14 E	5*	5*
2 11	22 9.21	+ 4 43.5	2.664	1.777	11.4	20.1	21 E	14*	—	2 11	22 24.04	-11 26.4	2.323	1.375	8.8	20.2	12 E	4*	3*
2 21	22 34.19	+ 6 36.7	2.733	1.820	9.8	20.1	18 E	10*	—	2 21	22 54.79	- 7 51.5	2.311	1.351	7.6	20.1	10 E	3*	2*
3 2	22 58.35	+ 8 29.5	2.798	1.864	8.3	20.2	16 E	6*	—	3 2	23 25.56	- 4 4.9	2.304	1.334	6.6	20.0	9 E	2*	—
3 12	23 21.71	+10 20.3	2.858	1.908	7.1	20.2	14 W	5*	—	3 12	23 56.41	- 0 11.7	2.303	1.324	5.6	20.0	8 E	1*	—
3 22	23 44.35	+12 8.0	2.912	1.952	6.4	20.3	13 W	6*	—	3 17	0 11.89	+ 1 45.8	2.304	1.322	5.2	19.9	7 E	1*	—
4 1	0 6.33	+13 51.4	2.958	1.996	6.4	20.3	13 W	7*	—	3 22	0 27.41	+ 3 42.9	2.308	1.321	4.7	19.9	6 E	—	—
4 11	0 27.68	+15 29.6	2.996	2.040	7.0	20.4	14 W	8*	2*	3 27	0 43.00	+ 5 38.9	2.312	1.323	4.3	19.9	6 E	—	—
4 21	0 48.45	+17 1.8	3.023	2.084	8.1	20.6	17 W	9*	6*	4 1	0 58.65	+ 7 33.2	2.319	1.326	3.8	19.9	5 E	—	—
5 1	1 8.65	+18 27.4	3.040	2.127	9.6	20.7	21 W	10*	10*	4 11	1 30.15	+11 13.6	2.336	1.338	3.0	19.9	4 E	—	—
5 11	1 28.29	+19 45.6	3.046	2.169	11.2	20.8	25 W	12*	14*	4 21	2 1.96	+14 39.1	2.359	1.357	2.4	19.9	3 E	—	—
5 21	1 47.37	+20 56.1	3.040	2.211	12.9	20.9	29 W	14*	18*	5 1	2 34.07	+17 45.2	2.388	1.382	2.0	19.9	3 E	—	—
5 31	2 5.86	+21 58.4	3.021	2.251	14.5	21.0	34 W	17*	22*	5 11	3 6.38	+20 28.3	2.421	1.413	2.1	20.0	3 W	—	—
6 10	2 23.69	+22 52.1	2.990	2.291	16.2	21.1	39 W	20*	26*	5 21	3 38.76	+22 45.8	2.458	1.450	2.8	20.2	4 W	—	—
6 20	2 40.82	+23 36.9	2.947	2.331	17.7	21.1	44 W	25*	29*	5 31	4 11.04	+24 36.4	2.496	1.490	3.8	20.3	6 W	—	—
6 30	2 57.15	+24 12.7	2.892	2.369	19.2	21.2	50 W	30*	32*	6 10	4 42.96	+25 59.6	2.535	1.534	5.0	20.5	8 W	1*	—
7 10	3 12.54	+24 39.2	2.826	2.406	20.5	21.2	56 W	36*	34*	6 20	5 14.29	+26 56.3	2.573	1.581	6.3	20.6	10 W	2*	1*
7 20	3 26.87	+24 56.2	2.748	2.442	21.6	21.2	62 W	42*	36*	6 30	5 44.79	+27 28.0	2.609	1.631	7.7	20.8	12 W	5*	2*
7 30	3 39.95	+25 3.5	2.660	2.477	22.4	21.2	69 W	49*	37*	7 10	6 14.24	+27 36.9	2.641	1.682	9.2	21.0	15 W	7*	4*
8 9	3 51.56	+25 0.8	2.564	2.511	23.0	21.1	76 W	56*	38*	7 20	6 42.48	+27 25.7	2.668	1.735	10.7	21.1	19 W	10*	6*
8 19	4 1.48	+24 48.0	2.462	2.544	23.3	21.1	83 W	62*	39*	7 30	7 9.37	+26 57.3	2.689	1.789	12.3	21.2	22 W	14*	8*
8 29	4 9.40	+24 24.5	2.354	2.576	23.1	21.0	91 W	67*	40	8 9	7 34.85	+26 14.7	2.703	1.843	13.8	21.4	26 W	18*	9*
9 8	4 15.04	+23 49.8	2.245	2.607	22.4	20.9	99 W	69*	40	288324 2004 BS₅₈									
9 18	4 18.10	+23 3.2	2.138	2.636	21.2	20.8	109 W	68	41	12 23	19 52.32	-19 34.3	2.583	1.750	14.2	21.0	26 E	13*	15*
9 28	4 18.29	+22 3.5	2.037	2.665	19.3	20.7	118 W	67	42	1 2	20 18.62	-19 21.9	2.592	1.717	12.2	20.9	22 E	10*	11*
10 8	4 15.47	+20 50.4	1.947	2.692	16.7	20.5	129 W	66	43	1 12	20 45.51	-18 52.3	2.594	1.685	10.3	20.8	18 E	8*	8*
10 18	4 9.68	+19 23.5	1.873	2.718	13.4	20.3	141 W	64	45	1 22	21 12.90	-18 5.7	2.590	1.654	8.4	20.6	14 E	5*	6*
10 28	4 1.26	+17 44.6	1.821	2.743	9.5	20.1	153 W	63	46	2 1	21 40.70	-17 2.7	2.581	1.624	6.6	20.5	11 E	2*	3*
11 2																			

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

19/21	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°	19/21	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°
288324 2004 BS₅₈										173274 1999 SS₇									
<i>(continuation)</i>																			
7 20	6 0.85	+11 6.1	2.339	1.542	19.1	20.7	30 W	6*	23*	12 23	19 53.25	-25 34.3	2.397	1.565	15.6	19.7	25 E	8*	18*
7 30	6 28.71	+11 18.6	2.332	1.566	20.1	20.7	32 W	10*	24*	1 2	20 25.32	-23 55.2	2.439	1.577	13.9	19.7	23 E	7*	15*
8 9	6 55.72	+11 16.9	2.322	1.592	21.1	20.8	34 W	14*	26*	1 12	20 56.31	-21 55.3	2.482	1.593	12.1	19.7	20 E	7*	12*
8 19	7 21.82	+11 2.7	2.307	1.620	22.2	20.8	37 W	19*	27*	1 22	21 26.10	-19 38.2	2.526	1.612	10.3	19.7	17 E	5*	9*
8 29	7 46.93	+10 37.9	2.286	1.650	23.3	20.9	40 W	23*	28*	2 1	21 54.67	-17 7.9	2.571	1.634	8.5	19.7	14 E	4*	7*
9 8	8 11.00	+10 4.6	2.258	1.681	24.5	20.9	44 W	28*	29*	2 11	22 22.04	-14 28.1	2.615	1.659	6.7	19.7	11 E	2*	4*
9 18	8 34.00	+9 24.9	2.224	1.713	25.6	21.0	47 W	32*	31*	2 21	22 48.28	-11 42.3	2.658	1.686	4.9	19.7	8 E	—	2*
9 28	8 55.89	+8 41.3	2.182	1.746	26.7	21.0	52 W	36*	33*	3 2	23 13.51	-8 53.5	2.699	1.715	3.2	19.6	6 E	—	—
10 8	9 16.64	+7 56.3	2.131	1.780	27.8	21.0	56 W	40*	35*	3 12	23 37.80	-6 4.5	2.737	1.747	2.0	19.6	3 E	—	—
10 18	9 36.20	+7 12.5	2.073	1.813	28.7	21.0	61 W	44*	37*	3 22	0 1.29	-3 17.5	2.772	1.780	2.3	19.7	4 W	—	—
10 28	9 54.50	+6 32.7	2.006	1.848	29.5	21.0	66 W	47*	40*	4 1	0 24.07	-0 34.4	2.802	1.814	3.7	19.9	7 W	—	—
11 7	10 11.45	+5 59.9	1.932	1.882	30.1	21.0	72 W	49*	43*	4 11	0 46.22	+2 3.2	2.827	1.849	5.5	20.0	10 W	—	4*
11 17	10 26.93	+5 37.4	1.851	1.916	30.4	21.0	78 W	51*	46*	4 21	1 7.82	+4 34.0	2.846	1.886	7.4	20.2	14 W	—	8*
11 27	10 40.73	+5 29.0	1.764	1.949	30.3	20.9	85 W	50	50*	5 1	1 28.94	+6 57.1	2.857	1.923	9.2	20.3	18 W	—	12*
12 7	10 52.64	+5 38.6	1.674	1.983	29.8	20.8	93 W	51	54*	5 11	1 49.60	+9 11.5	2.861	1.960	11.1	20.4	22 W	1*	16*
12 17	11 2.33	+6 10.5	1.583	2.015	28.7	20.7	101 W	51	56*	5 21	2 9.82	+11 16.9	2.857	1.998	12.9	20.5	26 W	4*	20*
12 27	11 9.45	+7 9.3	1.493	2.048	26.9	20.5	110 W	52	57*	5 31	2 29.62	+13 12.7	2.844	2.036	14.6	20.6	30 W	7*	23*
1 6	11 13.61	+8 38.4	1.410	2.079	24.3	20.4	120 W	54	55	6 10	2 48.95	+14 58.8	2.822	2.074	16.3	20.7	35 W	11*	27*
1 16	11 14.44	+10 40.0	1.336	2.110	20.9	20.2	130 W	56	53	6 20	3 7.80	+16 35.2	2.791	2.112	17.9	20.8	40 W	15*	30*
114553 2003 BH₄₂																			
12 23	19 52.70	-4 58.2	3.889	3.103	9.8	21.0	32 E	25*	9*	6 30	3 26.08	+18 1.9	2.750	2.149	19.4	20.8	45 W	21*	33*
1 2	20 6.67	-4 42.5	3.937	3.089	8.2	21.0	27 E	20*	3*	7 10	3 43.71	+19 19.3	2.699	2.186	20.8	20.9	50 W	27*	35*
1 12	20 20.88	-4 17.9	3.969	3.074	6.7	20.9	21 E	15*	—	7 20	4 0.58	+20 27.9	2.639	2.223	22.1	20.9	55 W	33*	37*
1 22	20 35.24	-3 45.0	3.986	3.058	5.4	20.9	17 E	9*	—	7 30	4 16.54	+21 28.3	2.571	2.260	23.1	20.9	61 W	40*	38*
2 1	20 49.68	-3 4.2	3.986	3.041	4.6	20.8	14 W	5*	—	8 9	4 31.43	+22 21.3	2.493	2.296	24.0	20.9	67 W	47*	39*
2 11	21 4.12	-2 16.2	3.969	3.023	4.6	20.8	14 W	8*	—	8 19	4 45.03	+23 8.1	2.409	2.331	24.6	20.9	73 W	54*	39*
2 21	21 18.50	-1 21.8	3.937	3.004	5.5	20.8	17 W	11*	2*	8 29	4 57.10	+23 49.6	2.318	2.365	24.9	20.8	80 W	61*	39*
3 2	21 32.76	-0 21.6	3.889	2.984	6.8	20.8	21 W	13*	9*	9 8	5 7.35	+24 27.2	2.222	2.399	24.8	20.8	87 W	66*	39*
3 12	21 46.84	+0 43.6	3.826	2.964	8.4	20.9	26 W	15*	15*	9 18	5 15.47	+25 2.1	2.123	2.432	24.3	20.7	95 W	70*	39
3 22	22 0.70	+1 52.8	3.748	2.942	10.1	20.9	31 W	17*	21*	9 28	5 21.06	+25 35.4	2.025	2.464	23.3	20.6	104 W	71	38
4 1	22 14.30	+3 5.4	3.656	2.919	11.9	20.9	37 W	19*	27*	10 8	5 23.76	+26 7.9	1.930	2.496	21.6	20.5	113 W	71	38
4 11	22 27.58	+4 20.2	3.552	2.896	13.6	20.8	43 W	21*	33*	10 18	5 23.23	+26 39.5	1.842	2.526	19.3	20.3	123 W	72	37
4 21	22 40.49	+5 36.6	3.436	2.872	15.2	20.8	49 W	23*	38*	10 28	5 19.23	+27 9.0	1.766	2.556	16.3	20.2	134 W	72	37
5 1	22 52.97	+6 53.4	3.308	2.846	16.8	20.8	55 W	26*	43*	11 7	5 11.85	+27 34.3	1.708	2.584	12.7	20.0	145 W	73	36
5 11	23 4.95	+8 9.5	3.172	2.820	18.2	20.7	61 W	29*	47*	11 12	5 7.02	+27 44.4	1.687	2.598	10.6	19.9	151 W	73	36
5 21	23 16.35	+9 23.9	3.028	2.793	19.5	20.6	67 W	32*	51*	11 17	5 1.54	+27 52.3	1.672	2.612	8.4	19.8	157 W	73	36
5 31	23 27.05	+10 35.2	2.877	2.765	20.6	20.5	73 W	37*	52*	11 22	4 55.56	+27 57.6	1.664	2.625	6.2	19.7	163 W	73	36
6 10	23 36.93	+11 41.9	2.721	2.736	21.4	20.4	80 W	41*	52*	11 27	4 49.26	+28 0.1	1.663	2.639	4.1	19.6	169 W	73	36
6 20	23 45.84	+12 42.4	2.561	2.706	22.0	20.3	87 W	47*	51	12 2	4 42.81	+27 59.9	1.670	2.652	2.4	19.5	174 W	73	36
6 30	23 53.56	+13 34.5	2.401	2.676	22.3	20.1	94 W	52*	50	12 7	4 36.39	+27 56.9	1.684	2.665	2.5	19.5	173 E	73	36
7 10	23 59.88	+14 15.7	2.241	2.645	22.1	19.9	102 W	57*	50	12 12	4 30.20	+27 51.7	1.705	2.677	4.2	19.7	168 E	73	36
7 20	0 4.51	+14 43.1	2.085	2.613	21.4	19.7	110 W	60*	49	12 17	4 24.40	+27 44.5	1.734	2.689	6.3	19.8	163 E	73	36
7 30	0 7.17	+14 52.7	1.935	2.580	20.2	19.5	119 W	60*	49	12 22	4 19.13	+27 36.1	1.770	2.701	8.3	20.0	157 E	73	36
8 9	0 7.61	+14 40.4	1.795	2.546	18.3	19.2	128 W	60	49	12 27	4 14.53	+27 26.9	1.813	2.713	10.2	20.1	151 E	72	37
8 19	0 5.61	+14 1.6	1.669	2.512	15.7	19.0	138 W	59	50	1 1	4 10.66	+27 17.7	1.862	2.725	12.0	20.3	145 E	72	37
8 29	0 1.18	+12 52.0	1.560	2.477	12.4	18.7	148 W	58	51	1 6	4 7.57	+27 8.8	1.916	2.736	13.6	20.4	139 E	72	37
9 8	23 54.59	+11 10.1	1.472	2.441	8.4	18.4	159 W	56	53	1 11	4 5.28	+27 0.8	1.976	2.747	15.0	20.5	134 E	72	37
9 13	23 50.66	+10 7.4	1.438	2.423	6.3	18.2	165 W	55	54	1 16	4 3.79	+26 54.0	2.040	2.758	16.3	20.6	128 E	72	37
9 18	23 46.47	+8 57.8	1.410	2.405	4.5	18.0	169 W	54	55	344074 1997 UH₉									
9 23	23 42.13	+7 42.4	1.390	2.386	3.7	18.0	171 E	53	56	12 23	19 53.76	+51 28.3	0.318	0.973	82.5	19.0	79 E	59*	—
9 28	23 37.82	+6 22.8	1.377	2.368	4.7	18.0	169 E	51	58	12 25	19 52.99	+49 11.6	0.327	0.959	84.6	19.1	76 E	57*	—
10 3	23 33.67	+5 0.6	1.370	2.349	6.6	18.0	164 E	50	59	12 27	19 52.29	+47 1.1	0.335	0.944	86.7	19.2	73 E	55*	—
10 8	23 29.83	+3 37.8	1.371	2.331	9.0	18.1	159 E	49	60	12 29	19 51.62	+44 55.7	0.344	0.929	88.8	19.4	71 E	53*	—
10 13	23 26.43	+2 16.2	1.379	2.312	11.4	18.2	153 E	47	62	12 31	19 50.96	+42 54.6	0.353	0.913	90.8	19.5	68 E	50*	—
10 18	23 23.58	+0 57.4	1.392	2.293	13.7	18.3	147 E	45	63	1 2	19 50.29	+40 56.7	0.361	0.897	92.8	19.6	66 E	48*	—
10 23	23 21.39	-0 17.0	1.412	2.274	15.9	18.4	141 E	46	64	1 4	19 49.61	+39 1.2	0.370	0.880	94.9	19.7	63 E	45*	—
10 28	23 19.92	-1 25.8	1.437	2.255	18.0	18.5	135 E	44	65	1 6	19 48.91	+37 7.1	0.379	0.863	96.9	19.8	61 E	42*	—
11 2	23 19.21	-2 28.1	1.466	2.236	19.9	18.6	130 E	43	66	1 8	19 48.20	+35 13.7	0.387	0.846	98.9	19.9	58 E	40*	—
11 7	23 19.27	-3 23.4	1.499	2.217	21.6	18.7	125 E	42	67	1 10	19 47.48	+33 20.1	0.396	0.828	100.9	20.0	56 E	37*	—
11 17	23 21.70	-4 52.0	1.574	2.178	24.4	18.8	114 E	40	69	1 12	19 46.76	+31 25.6	0.405	0.810	103.0	20.1	53 E	34*	—
11 27	23 27.10	-5 51.5	1.657	2.139	26.4	18.9	105 E	39	70	1 14	19 46.06	+29 29.4	0.414	0.791	105.0	20.2	51 E	31*	—
12 7	23 35.18	-6 23.9	1.744	2.101	27.8	19.1	97 E	39	69*	1 16	19 45.40	+27 31.1	0.423	0.772	107.1	20.3	49 W	28*	—
12 17	23 45.61	-6 32.2	1.832	2.062	28.5	19.1	89 E	38	64*	1 18									

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

19/21	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°	19/21	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°
344074 1997 UH₉										469446 2002 NL₈									
<i>(continuation)</i>																			
3 12	22 16.03	-19 43.4	1.196	0.500	54.6	19.6	24 W	—	17*	12 23	19 55.32	-18 7.6	2.356	1.544	16.7	21.5	27 E	14*	15*
3 14	22 27.20	-19 21.4	1.234	0.517	51.0	19.6	24 W	—	16*	1 2	20 25.56	-16 12.1	2.379	1.536	15.2	21.5	24 E	14*	12*
3 16	22 38.08	-18 52.9	1.271	0.535	47.8	19.7	24 W	—	16*	1 12	20 55.44	-13 58.6	2.403	1.532	13.7	21.4	22 E	13*	8*
3 18	22 48.62	-18 18.9	1.307	0.554	45.0	19.7	23 W	—	15*	1 22	21 24.86	-11 29.6	2.428	1.532	12.1	21.4	19 E	12*	5*
3 20	22 58.82	-17 40.4	1.341	0.573	42.4	19.8	23 W	—	15*	2 1	21 53.75	-8 48.2	2.455	1.537	10.6	21.4	17 E	10*	3*
3 22	23 8.67	-16 58.3	1.375	0.593	40.0	19.8	23 W	—	14*	2 11	22 22.07	-5 57.5	2.483	1.546	9.0	21.3	14 E	8*	—
3 24	23 18.18	-16 13.2	1.407	0.613	37.9	19.9	22 W	—	14*	2 21	22 49.86	-3 1.0	2.513	1.558	7.5	21.3	12 E	6*	—
3 26	23 27.35	-15 25.9	1.438	0.634	36.0	20.0	22 W	—	13*	3 2	23 17.15	-0 1.9	2.544	1.575	6.0	21.3	10 E	3*	—
3 28	23 36.21	-14 36.8	1.467	0.654	34.3	20.0	22 W	—	13*	3 12	23 43.99	+2 56.5	2.575	1.595	4.5	21.3	7 E	1*	—
3 30	23 44.77	-13 46.3	1.496	0.674	32.8	20.1	21 W	—	13*	3 22	0 10.44	+5 51.6	2.607	1.618	3.3	21.3	5 E	—	—
4 1	23 53.03	-12 54.9	1.523	0.695	31.5	20.2	21 W	—	13*	4 1	0 36.56	+8 40.7	2.639	1.644	2.7	21.3	4 W	—	—
4 6	0 12.56	-10 44.1	1.588	0.744	28.6	20.3	21 W	—	12*	4 11	1 2.40	+11 21.4	2.669	1.673	3.0	21.4	5 W	—	—
4 11	0 30.68	-8 32.4	1.646	0.792	26.5	20.5	21 W	—	12*	4 21	1 28.01	+13 52.0	2.697	1.704	4.2	21.5	7 W	—	—
4 16	0 47.64	-6 22.0	1.699	0.838	24.9	20.6	21 W	—	12*	96155 1973 HA									
4 21	1 3.65	-4 14.2	1.747	0.881	23.7	20.8	21 W	—	13*	12 23	19 55.34	-38 47.0	4.189	3.357	8.0	20.8	28 E	—	22*
4 26	1 18.87	-2 9.7	1.789	0.921	22.9	20.9	21 W	—	13*	1 2	20 11.78	-38 2.5	4.263	3.384	6.7	20.8	24 E	—	17*
5 1	1 33.45	-0 9.0	1.826	0.959	22.4	21.0	21 W	—	14*	1 12	20 28.06	-37 16.2	4.320	3.411	5.6	20.8	20 E	—	12*
5 6	1 47.52	+1 47.8	1.858	0.995	22.1	21.1	22 W	—	15*	1 22	20 44.10	-36 28.6	4.360	3.437	5.0	20.8	18 E	—	8*
5 11	2 1.18	+3 40.6	1.886	1.027	22.0	21.2	22 W	—	16*	2 1	20 59.83	-35 40.4	4.383	3.462	5.1	20.8	18 E	—	4*
5 16	2 14.53	+5 29.7	1.908	1.057	22.2	21.3	23 W	—	17*	2 11	21 15.17	-34 52.4	4.389	3.486	5.8	20.9	21 W	—	8*
5 21	2 27.65	+7 15.0	1.926	1.085	22.4	21.4	24 W	—	18*	2 21	21 30.09	-34 5.4	4.378	3.510	6.9	20.9	25 W	—	13*
5 26	2 40.59	+8 56.6	1.940	1.110	22.8	21.5	25 W	—	19*	3 2	21 44.51	-33 20.3	4.351	3.532	8.2	21.0	30 W	—	19*
436030 2009 JO₂										3 12	21 58.39	-32 38.2	4.307	3.554	9.5	21.1	36 W	—	25*
12 23	19 54.69	-12 26.5	1.549	0.834	34.6	21.3	29 E	19*	13*	3 22	22 11.69	-32 0.2	4.248	3.575	10.8	21.1	42 W	—	31*
1 2	20 34.44	-12 19.8	1.451	0.739	38.2	21.0	28 E	18*	12*	4 1	22 24.33	-31 27.2	4.175	3.595	12.1	21.1	49 W	—	38*
1 12	21 17.52	-12 9.1	1.328	0.640	44.8	20.7	27 E	18*	12*	4 11	22 36.25	-31 0.6	4.090	3.614	13.2	21.1	55 W	—	44*
1 22	22 3.66	-12 10.5	1.176	0.547	56.4	20.4	28 E	17*	14*	4 21	22 47.38	-30 41.5	3.993	3.633	14.1	21.1	62 W	—	51*
1 27	22 27.23	-12 25.0	1.087	0.508	64.8	20.3	28 E	16*	16*	5 1	22 57.63	-30 31.1	3.887	3.650	14.9	21.1	69 W	—	59*
2 1	22 50.22	-12 55.8	0.990	0.480	75.4	20.3	28 E	15*	17*	5 11	23 6.88	-30 30.6	3.773	3.667	15.5	21.1	76 W	—	66*
2 6	23 11.45	-13 48.8	0.887	0.465	87.8	20.5	28 E	14*	18*	5 21	23 15.02	-30 41.0	3.655	3.683	15.9	21.0	84 W	—	74*
2 11	23 29.46	-15 7.4	0.784	0.466	101.3	20.8	28 E	12*	19*	5 31	23 21.87	-31 3.2	3.534	3.698	15.9	20.9	91 W	3*	81*
2 16	23 42.86	-16 50.1	0.684	0.483	114.6	21.4	26 E	8*	19*	6 10	23 27.27	-31 37.8	3.415	3.713	15.7	20.9	99 W	5*	84
306477 1999 SY₂										6 20	23 31.03	-32 24.8	3.299	3.726	15.1	20.8	107 W	8*	84
12 23	19 54.79	-4 44.8	2.376	1.640	19.0	19.9	33 E	25*	10*	6 30	23 32.92	-33 23.4	3.190	3.739	14.2	20.7	115 W	10*	83
1 2	20 22.78	-3 31.3	2.394	1.623	17.8	19.9	30 E	24*	6*	7 10	23 32.76	-34 31.7	3.093	3.751	13.1	20.6	123 W	10*	81
1 12	20 51.12	-2 4.4	2.412	1.609	16.6	19.8	28 E	22*	2*	7 20	23 30.42	-35 46.6	3.011	3.762	11.7	20.5	131 W	9	80
1 22	21 19.67	-0 25.6	2.431	1.599	15.3	19.8	25 E	19*	—	7 30	23 25.83	-37 3.4	2.948	3.773	10.2	20.4	139 W	8	79
2 1	21 48.35	+1 23.0	2.452	1.591	13.9	19.8	23 E	17*	—	8 4	23 22.73	-37 40.6	2.925	3.778	9.5	20.3	142 W	7	78
2 11	22 17.05	+3 18.7	2.474	1.588	12.6	19.7	20 E	14*	—	8 9	23 19.13	-38 16.1	2.907	3.782	8.9	20.3	145 W	7	78
2 21	22 45.71	+5 18.8	2.498	1.587	11.1	19.7	18 E	11*	—	8 14	23 15.09	-38 49.0	2.896	3.787	8.4	20.3	147 W	6	77
3 2	23 14.28	+7 20.4	2.523	1.591	9.6	19.6	16 E	8*	—	8 19	23 10.66	-39 18.5	2.891	3.791	8.0	20.3	149 W	6	77
3 12	23 42.73	+9 20.5	2.549	1.597	8.1	19.6	13 E	5*	—	8 24	23 5.94	-39 43.9	2.892	3.795	7.9	20.3	149 W	5	76
3 22	0 11.03	+11 16.5	2.576	1.608	6.6	19.6	11 E	3*	—	8 29	23 1.01	-40 4.6	2.901	3.799	8.0	20.3	149 W	5	76
4 1	0 39.18	+13 5.9	2.602	1.621	5.3	19.6	9 W	1*	—	9 3	22 55.99	-40 20.1	2.915	3.803	8.3	20.3	147 W	5	76
4 11	1 7.12	+14 46.2	2.627	1.637	4.3	19.6	7 W	1*	—	9 8	22 50.97	-40 30.0	2.936	3.806	8.7	20.3	145 E	5	76
4 21	1 34.87	+16 15.6	2.651	1.657	4.1	19.6	7 W	1*	—	9 13	22 46.07	-40 34.4	2.964	3.809	9.3	20.4	142 E	4	75
5 1	2 2.36	+17 32.5	2.671	1.679	4.7	19.7	8 W	1*	—	9 18	22 41.37	-40 33.0	2.997	3.812	10.0	20.4	139 W	4	75
5 11	2 29.54	+18 35.6	2.688	1.703	6.0	19.8	10 W	1*	3*	9 23	22 36.99	-40 26.1	3.036	3.815	10.7	20.5	135 E	5	76
5 21	2 56.37	+19 23.8	2.700	1.729	7.6	19.9	13 W	2*	6*	9 28	22 33.01	-40 13.9	3.081	3.818	11.4	20.6	131 E	5	76
5 31	3 22.75	+19 56.6	2.707	1.758	9.3	20.0	16 W	3*	9*	10 3	22 29.47	-39 56.9	3.130	3.820	12.0	20.6	127 E	5	76
6 10	3 48.60	+20 13.5	2.709	1.788	11.1	20.1	20 W	4*	12*	10 8	22 26.44	-39 35.4	3.184	3.823	12.6	20.7	123 W	5	76
6 20	4 13.83	+20 14.6	2.704	1.819	13.0	20.2	24 W	7*	16*	10 13	22 23.94	-39 9.9	3.242	3.825	13.2	20.7	119 W	6	77
6 30	4 38.34	+19 59.8	2.692	1.852	14.7	20.3	28 W	10*	19*	10 18	22 21.99	-38 40.8	3.303	3.826	13.7	20.8	115 E	6	77
7 10	5 2.03	+19 29.7	2.673	1.886	16.5	20.4	32 W	13*	22*	10 23	22 20.61	-38 8.7	3.367	3.828	14.1	20.9	110 E	7	78
7 20	5 24.80	+18 44.6	2.646	1.920	18.2	20.5	36 W	17*	25*	10 28	22 19.78	-37 33.8	3.434	3.830	14.4	20.9	106 E	7	78
7 30	5 46.57	+17 45.4	2.611	1.955	19.7	20.5	41 W	22*	28*	11 2	22 19.49	-36 56.8	3.503	3.831	14.7	21.0	102 E	8	79
8 9	6 7.22	+16 32.7	2.569	1.990	21.2	20.6	45 W	27*	31*	11 7	22 19.72	-36 17.8	3.573	3.832	14.9	21.0	98 E	9	80
8 19	6 26.69	+15 7.5	2.519	2.026	22.6	20.6	50 W	31*	34*	11 12	22 20.44	-35 37.2	3.644	3.833	14.9	21.1	93 E	9	80
8 29	6 44.86	+13 30.5	2.462	2.062	23.8	20.6	55 W	36*	37*	11 17	22 21.62	-34 55.3	3.716	3.833	14.9	21.1	89 W	10	80*
9 8	7 1.64	+11 42.8	2.397	2.098	24.8	20.7	61 W	40*	41*	11 22	22 23.25	-34 12.3	3.788	3.834	14.9	21.1	85 E	11	78*
9 18	7 16.90	+9 45.4	2.326	2.134	25.6	20.6	66 W	44*	44*	11 27	22 25.28	-33 28.4	3.859	3.834	14.7	21.2	81 E	12	75*
9 28	7 30.49	+7 39.3	2.249	2.169	26.1	20.6	72 W	47*	48*	12 2	22 27.69	-32 43.8	3.930	3.834	14.5	21.2	77 E	12	71*
10 8	7 42.25	+5 25.8	2.168	2.204	26.4	20.6	79 W	48*	52*	12 7	22 30.44	-31 58.7	3.999	3.834	14.2	21.2	73		

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

19/21	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°	19/20	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°
73534 2003 OD₇										315098 2007 EX									
<i>(continuation)</i>										<i>(continuation)</i>									
3 2	23 14.43	-6 14.9	2.606	1.623	3.4	20.2	6 E	—	—	3 1	5 25.54	-29 37.8	0.247	1.039	72.0	16.5	94 E	15	86*
3 12	23 41.12	-3 47.4	2.625	1.633	1.8	20.1	3 E	—	—	3 2	5 31.56	-29 9.5	0.255	1.045	70.9	16.5	95 E	16	87*
3 22	0 7.41	-1 19.1	2.642	1.647	1.2	20.1	2 E	—	—	3 4	5 42.63	-28 14.6	0.269	1.056	69.0	16.6	96 E	17	88
4 1	0 33.34	+1 7.3	2.658	1.663	2.4	20.2	4 W	—	—	3 6	5 52.58	-27 22.0	0.284	1.066	67.3	16.7	97 E	18	89
4 11	0 58.93	+3 29.5	2.672	1.681	4.1	20.3	7 W	—	1*	3 8	6 1.59	-26 31.9	0.299	1.077	65.8	16.8	98 E	18	89
4 21	1 24.24	+5 45.3	2.683	1.702	5.8	20.5	10 W	—	4*	3 10	6 9.84	-25 44.3	0.314	1.087	64.5	16.8	99 E	19	90
5 1	1 49.29	+7 52.8	2.692	1.725	7.6	20.6	13 W	—	7*	3 12	6 17.44	-24 59.2	0.329	1.097	63.3	16.9	99 E	20	89
5 11	2 14.08	+9 50.3	2.697	1.750	9.3	20.7	16 W	—	10*	3 17	6 34.27	-23 15.8	0.367	1.120	61.0	17.1	100 E	22	87
5 21	2 38.62	+11 36.7	2.697	1.776	11.0	20.8	20 W	—	14*	3 22	6 48.91	-21 44.5	0.405	1.141	59.3	17.4	100 E	23	86
5 31	3 2.88	+13 10.7	2.693	1.804	12.7	20.9	23 W	1*	17*	3 27	7 2.14	-20 23.8	0.444	1.159	58.0	17.5	100 E	25*	84
6 10	3 26.81	+14 31.7	2.683	1.833	14.4	21.0	27 W	4*	20*	4 1	7 14.43	-19 12.6	0.482	1.176	57.0	17.7	99 E	26*	83
6 20	3 50.37	+15 39.2	2.668	1.863	16.0	21.0	30 W	7*	23*	4 6	7 26.10	-18 9.7	0.519	1.191	56.3	17.9	98 E	26*	82
6 30	4 13.46	+16 33.0	2.646	1.893	17.6	21.1	34 W	11*	26*	4 11	7 37.35	-17 14.4	0.557	1.203	55.8	18.1	97 E	27*	81
7 10	4 36.00	+17 13.2	2.617	1.925	19.1	21.2	38 W	16*	28*	4 21	7 59.16	-15 43.2	0.629	1.222	55.1	18.3	94 E	27*	80*
7 20	4 57.88	+17 40.3	2.581	1.957	20.6	21.2	43 W	21*	31*	5 1	8 20.68	-14 35.6	0.697	1.233	54.8	18.6	91 E	25*	78*
7 30	5 18.99	+17 54.8	2.537	1.989	21.9	21.3	47 W	27*	33*	5 11	8 42.25	-13 49.0	0.761	1.235	54.8	18.8	87 E	23*	77*
8 9	5 39.19	+17 57.6	2.486	2.022	23.2	21.3	52 W	32*	35*	5 21	9 4.08	-13 20.4	0.818	1.230	54.9	18.9	84 E	20*	75*
8 19	5 58.37	+17 49.8	2.426	2.054	24.3	21.3	57 W	38*	36*	5 31	9 26.34	-13 7.8	0.868	1.216	55.2	19.0	80 E	16*	73*
8 29	6 16.36	+17 32.8	2.359	2.087	25.3	21.3	62 W	44*	38*	6 10	9 49.10	-13 8.9	0.910	1.195	55.7	19.1	76 E	12*	70*
9 8	6 33.01	+17 8.0	2.285	2.119	26.1	21.3	68 W	49*	40*	6 20	10 12.46	-13 20.5	0.942	1.165	56.5	19.1	73 E	9*	67*
9 18	6 48.14	+16 37.1	2.204	2.151	26.6	21.3	74 W	54*	42*	6 30	10 36.52	-13 39.9	0.963	1.126	57.6	19.2	69 E	6*	63*
9 28	7 1.52	+16 2.1	2.117	2.183	26.9	21.2	80 W	59*	44*	7 10	11 1.35	-14 2.8	0.972	1.079	59.1	19.1	66 E	4*	60*
10 8	7 12.94	+15 25.0	2.026	2.215	26.8	21.2	87 W	60*	46*	7 15	11 14.07	-14 13.8	0.971	1.053	60.1	19.1	64 E	4*	58*
10 18	7 22.12	+14 48.1	1.931	2.246	26.2	21.1	95 W	60	48*	7 20	11 27.01	-14 23.6	0.967	1.024	61.3	19.1	62 E	3*	56*
10 28	7 28.73	+14 14.0	1.837	2.276	25.2	21.0	103 W	59	50*	7 25	11 40.17	-14 31.1	0.959	0.994	62.7	19.0	60 E	3*	54*
11 7	7 32.47	+13 45.3	1.745	2.306	23.5	20.8	112 W	59	50	7 30	11 53.52	-14 35.2	0.947	0.961	64.3	19.0	58 E	3*	52*
11 17	7 33.03	+13 24.7	1.660	2.335	21.1	20.7	122 W	58	51	8 4	12 7.04	-14 34.2	0.931	0.926	66.2	18.9	57 E	3*	50*
11 27	7 30.22	+13 14.6	1.586	2.364	18.0	20.5	132 W	58	51	8 9	12 20.66	-14 26.2	0.911	0.889	68.6	18.9	55 E	3*	48*
12 7	7 24.11	+13 16.8	1.527	2.392	14.2	20.3	143 W	58	51	8 14	12 34.32	-14 8.9	0.886	0.851	71.4	18.8	53 E	4*	46*
12 17	7 15.08	+13 31.5	1.490	2.419	9.8	20.1	155 W	59	50	8 19	12 47.86	-13 39.5	0.856	0.811	74.7	18.7	51 E	5*	44*
12 27	7 4.03	+13 57.8	1.478	2.445	5.3	19.9	167 W	59	50	8 24	13 1.07	-12 54.1	0.822	0.769	78.8	18.7	48 E	6*	42*
1 1	6 58.14	+14 14.4	1.482	2.458	3.7	19.9	171 W	59	50	8 29	13 13.59	-11 47.8	0.783	0.727	83.9	18.6	46 E	7*	40*
1 6	6 52.24	+14 32.9	1.494	2.471	3.5	19.9	171 E	60	49	9 3	13 24.88	-10 14.5	0.740	0.685	90.1	18.6	43 E	8*	37*
1 11	6 46.51	+14 52.6	1.514	2.483	4.9	20.0	168 E	60	49	9 8	13 34.12	-8 6.9	0.694	0.644	97.7	18.7	39 E	10*	33*
1 16	6 41.13	+15 13.4	1.540	2.495	6.8	20.1	162 E	60	49	9 13	13 40.19	-5 17.5	0.647	0.604	107.0	18.9	35 E	11*	28*
12 23	19 55.82	-7 25.6	0.702	0.532	104.9	18.6	32 E	23*	11*	9 18	13 41.56	-1 41.0	0.602	0.569	118.2	19.3	30 E	12*	22*
12 28	20 11.91	-5 47.1	0.610	0.559	114.4	19.0	31 E	24*	9*	9 20	13 40.40	-0 1.7	0.586	0.556	123.0	19.5	28 E	13*	19*
1 2	20 27.18	-4 42.2	0.525	0.593	123.1	19.5	30 E	23*	7*	9 22	13 38.12	+1 43.6	0.572	0.545	128.0	19.9	25 E	13*	16*
1 7	20 42.50	-4 19.2	0.446	0.631	130.9	19.9	29 E	22*	6*	9 24	13 34.63	+3 33.1	0.559	0.535	133.0	20.3	23 E	13*	12*
1 12	20 59.07	-4 47.6	0.376	0.672	137.8	20.5	27 E	21*	5*	9 26	13 29.93	+5 24.4	0.549	0.526	137.6	20.8	21 E	13*	9*
1 14	21 6.40	-5 16.1	0.349	0.689	140.3	20.7	27 E	20*	5*	9 28	13 24.06	+7 14.1	0.542	0.519	141.6	21.2	19 E	12*	5*
1 16	21 14.33	-5 55.7	0.324	0.706	142.6	20.9	26 E	19*	6*	136620 1994 JC									
1 18	21 23.03	-6 47.6	0.301	0.723	144.6	21.1	25 E	18*	6*	12 23	19 56.58	-45 59.4	4.251	3.459	8.7	21.3	32 E	—	24*
1 20	21 32.67	-7 53.1	0.279	0.740	146.4	21.3	25 E	17*	7*	1 2	20 14.74	-45 7.6	4.339	3.506	7.7	21.4	28 E	—	20*
1 22	21 43.49	-9 13.6	0.258	0.757	147.8	21.4	24 E	16*	9*	1 12	20 32.45	-44 15.1	4.411	3.552	6.9	21.4	26 E	—	16*
1 24	21 55.74	-10 50.4	0.238	0.773	148.6	21.4	24 E	15*	10*	1 22	20 49.67	-43 22.5	4.468	3.597	6.6	21.4	25 E	—	12*
1 26	22 9.75	-12 44.9	0.220	0.790	148.6	21.3	25 E	14*	13*	2 1	21 6.35	-42 30.6	4.509	3.642	6.6	21.5	25 E	—	8*
1 28	22 25.86	-14 57.7	0.204	0.806	147.8	21.0	26 E	13*	16*	153195 2000 WB₁									
1 30	22 44.48	-17 28.5	0.189	0.823	145.8	20.6	28 E	12*	19*	12 23	19 57.59	-33 10.8	1.255	0.586	49.7	18.7	27 E	2*	21*
2 1	23 6.00	-20 14.9	0.177	0.839	142.7	20.0	31 E	11*	23*	12 25	20 14.23	-31 38.2	1.252	0.606	50.4	18.8	28 E	4*	22*
2 2	23 17.96	-21 42.5	0.171	0.847	140.7	19.7	33 E	11*	26*	12 27	20 29.96	-29 56.8	1.250	0.627	50.9	18.9	30 E	6*	23*
2 3	23 30.76	-23 11.8	0.167	0.855	138.4	19.3	35 E	11*	28*	12 29	20 44.79	-28 8.3	1.251	0.648	51.1	18.9	31 E	8*	24*
2 4	23 44.41	-24 41.5	0.163	0.862	135.9	19.0	38 E	10*	31*	12 31	20 58.75	-26 14.5	1.255	0.670	51.1	19.0	32 E	10*	24*
2 5	23 58.90	-26 10.3	0.159	0.870	133.1	18.6	40 E	10*	34*	1 2	21 11.87	-24 16.9	1.261	0.693	50.9	19.1	33 E	12*	25*
2 6	0 14.20	-27 36.6	0.156	0.878	130.1	18.3	43 E	10*	37*	1 4	21 24.21	-22 17.0	1.269	0.716	50.5	19.2	34 E	14*	25*
2 7	0 30.24	-28 58.7	0.154	0.885	127.0	18.0	46 E	9*	40*	1 6	21 35.83	-20 15.8	1.278	0.740	50.0	19.2	35 E	16*	25*
2 8	0 46.91	-30 14.9	0.153	0.893	123.8	17.7	49 E	9*	43*	1 8	21 46.78	-18 14.6	1.290	0.763	49.4	19.3	36 E	18*	25*
2 9																			

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

19/21	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°	19/21	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°
162474 2000 LB₁₆										37596 Cotahuasi									
12 23	19 57.61	-46 39.7	1.450	0.819	40.5	20.4	33 E	—	25*	12 23	19 57.86	-3 20.0	3.745	2.985	10.7	20.6	34 E	27*	10*
12 25	20 11.16	-46 36.0	1.430	0.814	41.7	20.4	33 E	—	25*	1 2	20 12.42	-2 49.4	3.826	3.003	9.1	20.6	29 E	23*	3*
12 27	20 24.94	-46 25.3	1.409	0.810	42.8	20.3	34 E	—	26*	1 12	20 26.99	-2 10.3	3.892	3.020	7.6	20.6	24 E	18*	—
12 29	20 38.90	-46 7.1	1.389	0.806	44.0	20.3	35 E	—	27*	1 22	20 41.50	-1 23.1	3.944	3.036	6.3	20.6	20 E	12*	—
12 31	20 52.97	-45 41.2	1.368	0.803	45.1	20.3	35 E	—	28*	2 1	20 55.88	-0 28.6	3.980	3.051	5.4	20.6	17 E	6*	—
1 2	21 7.08	-45 7.2	1.349	0.801	46.3	20.3	36 E	—	29*	2 11	21 10.06	+0 32.6	4.001	3.065	5.1	20.6	16 W	9*	—
1 4	21 21.14	-44 24.9	1.329	0.799	47.4	20.3	37 E	—	30*	2 21	21 23.97	+1 39.7	4.005	3.078	5.6	20.6	18 W	12*	—
1 6	21 35.10	-43 34.2	1.310	0.798	48.5	20.3	37 E	—	31*	3 2	21 37.57	+2 52.1	3.994	3.091	6.6	20.7	21 W	14*	6*
1 8	21 48.89	-42 35.1	1.292	0.797	49.5	20.3	38 E	—	31*	3 12	21 50.79	+4 8.9	3.967	3.102	8.0	20.7	26 W	17*	13*
1 10	22 2.44	-41 27.4	1.274	0.798	50.5	20.3	39 E	—	32*	3 22	22 3.58	+5 29.4	3.925	3.112	9.5	20.8	31 W	19*	19*
1 12	22 15.71	-40 11.5	1.258	0.798	51.4	20.3	39 E	—	33*	4 1	22 15.89	+6 52.8	3.869	3.122	11.0	20.8	36 W	21*	25*
1 17	22 47.33	-36 27.1	1.221	0.803	53.5	20.3	41 E	3*	35*	4 11	22 27.65	+8 18.2	3.798	3.130	12.4	20.8	42 W	24*	31*
1 22	23 16.44	-31 58.3	1.191	0.812	55.0	20.3	43 E	8*	36*	4 21	22 38.80	+9 45.0	3.714	3.138	13.8	20.8	48 W	27*	36*
1 27	23 42.95	-26 53.8	1.171	0.825	55.9	20.4	44 E	12*	37*	5 1	22 49.24	+11 12.2	3.619	3.144	15.1	20.8	55 W	30*	41*
2 1	0 6.95	-21 23.9	1.160	0.841	56.3	20.4	45 E	17*	37*	5 11	22 58.89	+12 39.0	3.512	3.150	16.3	20.8	61 W	33*	45*
2 3	0 15.91	-19 7.3	1.159	0.849	56.3	20.4	46 E	19*	37*	5 21	23 7.63	+14 4.5	3.397	3.155	17.3	20.8	68 W	37*	47*
2 5	0 24.53	-16 49.1	1.159	0.856	56.2	20.4	46 E	21*	37*	5 31	23 15.32	+15 27.5	3.274	3.159	18.0	20.7	75 W	42*	48*
2 7	0 32.84	-14 30.0	1.160	0.864	56.0	20.4	47 E	23*	36*	6 10	23 21.82	+16 46.6	3.145	3.161	18.5	20.6	82 W	48*	47
2 9	0 40.85	-12 10.6	1.164	0.873	55.8	20.5	47 E	25*	36*	6 20	23 26.93	+18 0.5	3.012	3.163	18.7	20.6	89 W	54*	46
2 11	0 48.59	-9 51.6	1.168	0.882	55.4	20.5	47 E	26*	35*	6 30	23 30.47	+19 7.2	2.879	3.164	18.6	20.5	97 W	59*	45
2 16	1 6.90	-4 8.7	1.187	0.906	54.3	20.5	48 E	30*	33*	7 10	23 32.23	+20 4.3	2.747	3.164	18.1	20.3	105 W	64*	44
2 21	1 23.98	+1 21.9	1.213	0.931	53.0	20.6	49 E	34*	30*	7 20	23 32.05	+20 49.1	2.621	3.163	17.2	20.2	113 W	66	43
2 26	1 40.10	+6 35.4	1.246	0.958	51.4	20.7	49 E	37*	28*	7 30	23 29.81	+21 18.1	2.504	3.162	15.8	20.1	122 W	66	43
3 2	1 55.53	+11 29.0	1.285	0.986	49.6	20.8	49 E	39*	25*	8 9	23 25.51	+21 27.8	2.399	3.159	14.0	19.9	131 W	66	43
3 7	2 10.48	+16 1.5	1.328	1.015	47.8	20.8	49 E	40*	22*	8 19	23 19.33	+21 14.9	2.312	3.155	11.9	19.7	140 W	66	43
3 12	2 25.13	+20 13.0	1.375	1.044	46.0	20.9	49 E	41*	20*	8 29	23 11.69	+20 37.0	2.246	3.150	9.7	19.6	148 W	66	43
3 17	2 39.65	+24 4.1	1.423	1.074	44.3	21.0	49 E	42*	17*	9 8	23 3.22	+19 34.5	2.204	3.145	7.9	19.5	155 E	65	44
3 22	2 54.19	+27 36.1	1.472	1.103	42.6	21.1	49 E	42*	15*	9 13	22 58.92	+18 54.6	2.194	3.142	7.4	19.4	156 E	64	45
3 27	3 8.88	+30 50.2	1.522	1.133	41.0	21.2	48 E	42*	13*	9 18	22 54.70	+18 9.9	2.190	3.138	7.3	19.4	157 E	63	46
4 1	3 23.83	+33 47.6	1.572	1.162	39.4	21.3	48 E	42*	11*	9 23	22 50.69	+17 21.0	2.193	3.135	7.6	19.4	156 E	62	47
4 6	3 39.13	+36 29.6	1.621	1.191	38.0	21.4	47 E	41*	10*	9 28	22 46.97	+16 29.1	2.204	3.131	8.3	19.5	153 E	61	48
4 11	3 54.86	+38 57.1	1.669	1.219	36.6	21.4	46 E	40*	8*	10 3	22 43.63	+15 35.1	2.221	3.127	9.2	19.5	150 E	61	48
161775 2006 TG₁₀₈										385354 2002 PM₈₀									
12 23	19 57.83	-27 31.1	2.812	1.978	12.7	20.4	26 E	7*	19*	10 8	22 40.74	+14 40.1	2.244	3.122	10.3	19.6	146 E	60	49
1 2	20 22.67	-27 4.2	2.822	1.946	10.9	20.3	22 E	4*	15*	10 13	22 38.34	+13 45.0	2.274	3.118	11.5	19.7	142 E	59	50
1 12	20 48.05	-26 21.9	2.823	1.914	9.3	20.2	18 E	2*	12*	10 18	22 36.48	+12 50.9	2.310	3.113	12.6	19.7	137 E	58	51
1 22	21 13.84	-25 24.2	2.817	1.883	7.8	20.1	15 E	—	9*	10 23	22 35.18	+11 58.5	2.351	3.108	13.7	19.8	132 E	57	52
2 1	21 39.94	-24 11.6	2.803	1.853	6.6	20.0	13 E	—	6*	10 28	22 34.47	+11 8.7	2.397	3.103	14.7	19.9	127 E	56	53
2 11	22 6.25	-22 44.8	2.783	1.825	6.0	19.9	11 E	—	4*	11 7	22 34.74	+9 38.7	2.501	3.092	16.5	20.0	118 E	55	54
2 21	22 32.68	-21 4.6	2.757	1.797	6.1	19.8	11 E	—	3*	11 17	22 37.20	+8 24.1	2.618	3.079	17.7	20.2	109 E	53	56*
3 2	22 59.21	-19 12.5	2.728	1.771	6.7	19.8	12 E	—	1*	11 27	22 41.66	+7 26.3	2.744	3.066	18.5	20.3	100 E	52	55*
3 12	23 25.76	-17 9.9	2.695	1.747	7.8	19.8	14 W	—	1*	12 7	22 47.88	+6 45.3	2.873	3.052	18.8	20.4	91 E	52	51*
3 22	23 52.35	-14 58.5	2.661	1.725	9.1	19.8	16 W	—	4*	12 17	22 55.64	+6 20.5	3.003	3.037	18.7	20.5	83 E	51	46*
4 1	0 18.95	-12 40.4	2.626	1.705	10.5	19.8	18 W	—	7*	12 27	23 4.71	+6 10.5	3.130	3.021	18.3	20.5	75 E	51*	40*
4 11	0 45.57	-10 17.7	2.590	1.687	11.9	19.8	20 W	—	9*	1 6	23 14.88	+6 14.0	3.251	3.005	17.5	20.6	67 E	50*	34*
5 1	1 38.87	-5 27.8	2.522	1.659	14.6	19.8	25 W	—	15*	1 16	23 26.01	+6 29.4	3.364	2.987	16.5	20.6	59 E	47*	28*
5 11	2 5.54	-3 5.5	2.489	1.650	15.9	19.8	27 W	—	18*	385354 2002 PM₈₀									
5 21	2 32.22	-0 48.0	2.458	1.643	17.2	19.8	29 W	—	21*	12 23	19 58.06	-28 33.2	2.646	1.818	13.9	20.8	26 E	6*	20*
5 31	2 58.86	+1 22.4	2.428	1.639	18.4	19.8	31 W	—	24*	1 2	20 23.47	-26 0.1	2.659	1.787	12.0	20.7	22 E	5*	15*
6 10	3 25.43	+3 23.7	2.399	1.639	19.5	19.9	33 W	—	26*	1 12	20 48.47	-23 12.4	2.666	1.757	10.0	20.6	18 E	5*	11*
6 20	3 51.88	+5 14.6	2.370	1.641	20.7	19.9	35 W	—	29*	1 22	21 13.04	-20 10.8	2.667	1.729	7.9	20.5	14 E	3*	7*
6 30	4 18.12	+6 53.6	2.341	1.647	21.8	19.9	37 W	4*	31*	2 1	21 37.20	-16 56.4	2.664	1.703	5.8	20.3	10 E	1*	3*
7 10	4 44.06	+8 20.1	2.310	1.655	23.0	19.9	39 W	9*	33*	2 11	22 0.99	-13 30.3	2.657	1.679	3.7	20.2	6 E	—	—
7 20	5 9.64	+9 33.8	2.277	1.667	24.1	19.9	42 W	14*	34*	2 21	22 24.49	-9 53.8	2.645	1.658	1.6	20.0	3 E	—	—
7 30	5 34.71	+10 34.8	2.241	1.681	25.2	19.9	45 W	19*	35*	3 2	22 47.80	-6 8.5	2.630	1.640	0.9	19.9	2 W	—	—
8 9	5 59.19	+11 24.0	2.201	1.698	26.3	20.0	48 W	24*	36*	3 12	23 11.02	-2 16.1	2.613	1.624	2.8	20.0	5 W	—	—
8 19	6 22.98	+12 2.4	2.156	1.717	27.4	20.0	51 W	30*	37*	3 22	23 34.30	+1 41.7	2.593	1.612	4.9	20.1	8 W	—	1*
8 29	6 45.94	+12 31.6	2.106	1.739	28.5	20.0	55 W	35*	38*	4 1	23 57.76	+5 42.7	2.57						

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

19/21	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°	19/21	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°
385354 2002 PM₈₀										112380 2002 NN₂₇									
<i>(continuation)</i>																			
11 27	9 47.99	+39 10.0	1.660	2.173	25.6	20.6	108 W	84	24*	12 23	20 0.91	-20 0.6	2.373	1.570	16.9	21.4	28 E	13*	17*
12 7	9 49.71	+39 27.7	1.587	2.209	23.5	20.4	116 W	84	24*	1 2	20 31.65	-18 37.0	2.405	1.568	15.3	21.3	25 E	13*	14*
12 12	9 48.86	+39 40.6	1.553	2.227	22.3	20.4	121 W	85	24	1 12	21 1.96	-16 53.9	2.438	1.570	13.6	21.3	22 E	12*	11*
12 17	9 46.79	+39 55.2	1.522	2.245	20.8	20.3	126 W	85	24	1 22	21 31.67	-14 54.0	2.471	1.576	11.9	21.3	19 E	10*	8*
12 22	9 43.49	+40 10.6	1.494	2.262	19.2	20.2	131 W	85	24	2 1	22 0.71	-12 40.3	2.506	1.586	10.2	21.3	17 E	8*	6*
12 27	9 38.95	+40 25.4	1.470	2.280	17.5	20.1	136 W	85	24	2 11	22 29.02	-10 16.0	2.540	1.599	8.4	21.2	14 E	6*	4*
1 1	9 33.25	+40 38.3	1.450	2.298	15.7	20.1	141 W	86	23	2 21	22 56.60	-7 44.6	2.576	1.616	6.7	21.2	11 E	4*	2*
1 6	9 26.46	+40 47.8	1.436	2.315	13.9	20.0	146 W	86	23	3 2	23 23.48	-5 9.0	2.611	1.636	4.9	21.2	8 E	1*	—
1 11	9 18.75	+40 52.2	1.428	2.332	12.1	19.9	150 W	86	23	3 12	23 49.71	-2 32.4	2.645	1.658	3.1	21.1	5 E	—	—
1 16	9 10.33	+40 50.1	1.425	2.349	10.6	19.9	154 W	86	23	3 22	0 15.36	+0 2.7	2.679	1.684	1.5	21.1	2 E	—	—
154007 2002 BY										236978 2008 OG₃									
12 23	19 58.47	-18 52.9	2.292	1.489	17.7	21.5	27 E	14*	16*	12 23	20 1.64	-19 37.7	2.669	1.858	14.4	21.0	28 E	14*	17*
12 28	20 14.27	-18 6.3	2.332	1.512	16.6	21.5	26 E	14*	15*	1 2	20 27.05	-18 33.9	2.685	1.829	12.5	20.9	24 E	12*	13*
1 2	20 29.64	-17 15.7	2.372	1.535	15.6	21.6	25 E	13*	13*	1 12	20 52.77	-17 14.4	2.695	1.801	10.7	20.8	20 E	10*	9*
1 7	20 44.58	-16 21.6	2.412	1.559	14.5	21.6	23 E	13*	11*	1 22	21 18.69	-15 39.9	2.700	1.775	8.8	20.7	16 E	7*	6*
1 12	20 59.10	-15 24.4	2.451	1.582	13.4	21.6	22 E	12*	10*	2 1	21 44.71	-13 51.4	2.701	1.752	7.0	20.6	12 E	5*	3*
1468 Zomba																			
12 23	19 58.49	-20 4.5	2.430	1.618	16.1	16.5	27 E	13*	17*	2 11	22 10.77	-11 50.4	2.699	1.731	5.1	20.5	9 E	2*	1*
1 2	20 27.01	-17 57.7	2.457	1.609	14.4	16.5	24 E	13*	13*	2 21	22 36.82	-9 38.8	2.693	1.712	3.3	20.3	6 E	—	—
1 12	20 55.10	-15 34.6	2.483	1.603	12.7	16.4	21 E	12*	9*	3 2	23 2.85	-7 18.4	2.686	1.697	1.6	20.2	3 E	—	—
1 22	21 22.70	-12 57.4	2.507	1.601	10.9	16.4	18 E	10*	6*	3 12	23 28.86	-4 51.6	2.677	1.684	0.9	20.1	2 W	—	—
2 1	21 49.80	-10 8.5	2.531	1.601	9.2	16.4	15 E	8*	2*	3 22	23 54.86	-2 20.9	2.667	1.675	2.4	20.2	4 W	—	—
2 11	22 16.39	-7 10.5	2.555	1.605	7.6	16.3	12 E	6*	—	4 1	0 20.87	+0 11.3	2.656	1.668	4.1	20.3	7 W	—	1*
2 21	22 42.54	-4 6.1	2.577	1.611	6.0	16.3	10 E	4*	—	4 11	0 46.92	+2 42.3	2.645	1.666	5.8	20.4	10 W	—	4*
3 2	23 8.29	+0 58.1	2.599	1.621	4.5	16.2	7 E	1*	—	4 21	1 13.04	+5 9.7	2.633	1.666	7.5	20.5	12 W	—	6*
3 12	23 33.71	+2 10.9	2.620	1.634	3.4	16.2	6 E	—	—	5 1	1 39.24	+7 30.8	2.620	1.670	9.2	20.5	15 W	—	9*
3 22	23 58.88	+5 18.3	2.639	1.649	3.0	16.2	5 W	—	—	5 11	2 5.51	+9 43.4	2.607	1.677	10.8	20.6	18 W	—	12*
4 1	0 23.89	+8 21.8	2.658	1.667	3.6	16.3	6 W	—	—	5 21	2 31.83	+11 45.4	2.593	1.687	12.4	20.6	21 W	—	15*
4 11	0 48.80	+11 19.0	2.674	1.687	4.7	16.4	8 W	1*	—	5 31	2 58.17	+13 35.0	2.578	1.701	14.0	20.7	24 W	2*	18*
4 21	1 13.66	+14 8.0	2.688	1.709	6.2	16.5	11 W	3*	5*	6 10	3 24.44	+15 10.6	2.561	1.717	15.5	20.8	27 W	5*	20*
5 1	1 38.53	+16 47.1	2.698	1.733	7.7	16.6	13 W	4*	5*	6 20	3 50.57	+16 31.1	2.541	1.737	17.0	20.8	30 W	8*	22*
5 11	2 3.42	+19 14.5	2.705	1.759	9.3	16.7	16 W	6*	8*	6 30	4 16.42	+17 36.0	2.518	1.758	18.5	20.9	33 W	12*	25*
5 21	2 28.33	+21 29.2	2.708	1.787	10.9	16.8	20 W	8*	10*	7 10	4 41.88	+18 24.8	2.492	1.783	19.9	20.9	37 W	16*	26*
5 31	2 53.24	+23 30.0	2.706	1.816	12.5	16.9	23 W	10*	13*	7 20	5 6.79	+18 58.0	2.462	1.809	21.3	21.0	40 W	21*	28*
6 10	3 18.09	+25 16.1	2.699	1.845	14.1	17.0	26 W	13*	15*	7 30	5 31.01	+19 16.0	2.426	1.837	22.6	21.0	44 W	26*	30*
6 20	3 42.81	+26 47.2	2.686	1.876	15.7	17.1	30 W	16*	17*	8 9	5 54.37	+19 19.9	2.386	1.867	23.8	21.1	48 W	31*	31*
6 30	4 7.29	+28 3.2	2.665	1.907	17.3	17.1	34 W	20*	19*	8 19	6 16.74	+19 11.2	2.339	1.899	25.0	21.1	52 W	36*	33*
7 10	4 31.38	+29 4.2	2.638	1.939	18.8	17.2	38 W	25*	21*	8 29	6 37.94	+18 51.4	2.287	1.931	26.0	21.1	57 W	41*	34*
7 20	4 54.96	+29 50.9	2.603	1.972	20.2	17.3	42 W	30*	22*	9 8	6 57.84	+18 22.5	2.228	1.965	26.9	21.1	62 W	46*	36*
7 30	5 17.84	+30 24.1	2.561	2.004	21.6	17.3	47 W	35*	23*	9 18	7 16.29	+17 46.6	2.163	2.000	27.6	21.1	67 W	51*	38*
8 9	5 39.87	+30 45.1	2.510	2.037	22.9	17.3	51 W	40*	24*	9 28	7 33.10	+17 5.9	2.091	2.035	28.1	21.1	73 W	55*	40*
8 19	6 0.87	+30 55.2	2.451	2.070	24.0	17.4	56 W	46*	25*	10 8	7 48.10	+16 23.1	2.015	2.071	28.3	21.1	79 W	58*	42*
8 29	6 20.64	+30 56.3	2.385	2.102	25.0	17.4	62 W	52*	26*	10 18	8 1.08	+15 40.7	1.934	2.107	28.1	21.0	86 W	60*	44*
9 8	6 39.00	+30 50.1	2.310	2.135	25.8	17.3	67 W	58*	28*	10 28	8 11.78	+15 1.6	1.850	2.144	27.6	20.9	93 W	60*	47*
9 18	6 55.73	+30 39.0	2.229	2.167	26.4	17.3	73 W	63*	29*	11 7	8 19.92	+14 28.8	1.765	2.181	26.5	20.8	101 W	59	49*
9 28	7 10.59	+30 25.0	2.141	2.198	26.7	17.3	80 W	69*	30*	11 17	8 25.20	+14 5.3	1.682	2.217	24.8	20.7	110 W	59	50*
10 8	7 23.32	+30 10.5	2.049	2.229	26.6	17.2	87 W	73*	32*	11 27	8 27.31	+13 54.0	1.604	2.254	22.5	20.6	119 W	59	50
10 18	7 33.62	+29 57.6	1.954	2.260	26.1	17.1	94 W	75*	33*	12 7	8 26.05	+13 57.1	1.535	2.291	19.4	20.4	129 W	59	50
10 28	7 41.12	+29 48.5	1.858	2.290	25.0	17.0	103 W	75	34*	12 17	8 21.40	+14 15.8	1.481	2.327	15.5	20.2	141 W	59	50
11 7	7 45.44	+29 44.5	1.764	2.320	23.4	16.9	112 W	75	34	12 27	8 13.68	+14 49.3	1.446	2.363	11.0	20.1	153 W	60	49
11 17	7 46.19	+29 46.1	1.677	2.348	21.1	16.7	121 W	75	34	1 1	8 8.90	+15 10.6	1.437	2.381	8.6	20.0	159 W	60	49
11 27	7 43.09	+29 52.4	1.601	2.377	18.0	16.5	132 W	75	34	1 6	8 3.69	+15 34.2	1.435	2.399	6.1	19.9	165 W	61	48
12 7	7 36.14	+30 0.4	1.540	2.404	14.2	16.3	143 W	75	34	1 11	7 58.19	+15 59.6	1.440	2.416	3.6	19.8	171 W	61	48
12 12	7 31.31	+30 3.6	1.518	2.417	12.0	16.2	149 W	75	34	1 16	7 52.59	+16 25.8	1.452	2.434	1.8	19.7	175 W	61	48
12 17	7 25.71	+30 5.3	1.501	2.430	9.7	16.1	155 W	75	34	69260 Tonyjudt									
12 22	7 19.48	+30 5.0	1.491	2.443	7.4	16.0	161 W	75	34	12 23	20 3.13	-21 16.9	2.680	1.869	14.3	19.3	28 E	13*	18*
12 27	7 12.82	+30 2.0	1.488	2.456	5.1	15.9	167 W	75	34	1 2	20 28.41	-20 0.5	2.687	1.830	12.5	19.2	24 E	11*	14*
1 1	7 5.93	+29 56.0	1.492	2.469	3.3	15.9	172 W	75	34	1 12	20 54.08	-18 27.9	2.688	1.794	10.7	19.1	20 E	9*	10*
1 6	6 59.01	+29 46.7	1.503	2.481	3.0	15.9	172 E	75	34	1 22	21 20.03	-16 39.7	2.684	1.760	8.9	19.0	16 E	7*	7*
1 11	6 52.30	+29 34.3	1.521	2.493	4.5	16.0	169 E	75	34	2 1	21 46.19	-14 36.5	2.676	1.728	7.1	18.9	13 E	4*	4*
1 16	6 45.99	+29 19.0	1.547	2.505	6.6	16.1	163 E	74	35	2 11	22 12.47	-12 19.8	2.666	1.699	5.4	18.7	9 E	2*	1*
224926 2007 DA₄₁																			
12 23	20 0.25	-2 7.0	1.775	1.131	30.4	20.3	36 E	28*	10*	2 21	22 38.84	-9 51.2	2.653	1.673	3.6	18.6	6 E	—	—
1 2	20 40.48	-0 10.4	1.850	1.200	28.7	20.5	36 E	29*	8*	3 2	23 5.30	-7 12.7	2.639	1.651	2.0	18.4	3 E	—	—
1 12	21 18.00	+1 46.2	1.938	1.269	26.6	20.7	35 E	29*	7*										

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

19/21	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°	19/21	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°
69260 Tonyjudt										344191 2001 KB₁₈									
<i>(continuation)</i>										<i>(continuation)</i>									
7 30	5 52.01	+22 35.2	2.472	1.798	20.7	19.3	39 W	24*	24*	2 1	21 54.17	- 9 19.1	2.651	1.729	9.3	21.3	16 E	10*	3*
8 9	6 16.75	+22 37.6	2.446	1.835	22.0	19.3	43 W	29*	25*	2 11	22 19.64	- 6 56.2	2.703	1.757	7.4	21.3	13 E	7*	—
8 19	6 40.41	+22 26.6	2.414	1.873	23.2	19.4	47 W	34*	27*	2 21	22 44.30	- 4 29.7	2.752	1.786	5.4	21.3	10 E	4*	—
8 29	7 2.82	+22 4.4	2.375	1.913	24.3	19.4	51 W	39*	28*	3 2	23 8.24	- 2 1.6	2.798	1.817	3.6	21.3	7 E	1*	—
9 8	7 23.87	+21 33.2	2.329	1.955	25.3	19.5	56 W	44*	30*	3 12	23 31.49	+ 0 25.8	2.840	1.850	2.0	21.2	4 E	—	—
9 18	7 43.44	+20 55.5	2.276	1.997	26.2	19.5	61 W	49*	32*	3 22	23 54.14	+ 2 50.9	2.878	1.884	1.9	21.3	4 W	—	—
9 28	8 1.38	+20 13.9	2.216	2.040	26.8	19.5	67 W	54*	34*	4 1	0 16.25	+ 5 12.2	2.909	1.919	3.4	21.5	6 W	—	—
10 8	8 17.57	+19 31.0	2.149	2.083	27.3	19.5	73 W	58*	36*	368455 2003 QA₄₆									
10 18	8 31.85	+18 49.5	2.076	2.127	27.4	19.4	79 W	61*	38*	12 23	20 4.08	-21 48.8	2.421	1.620	16.6	21.2	28 E	12*	18*
10 28	8 44.00	+18 12.3	1.998	2.172	27.2	19.4	86 W	63*	41*	1 2	20 33.16	-19 55.4	2.445	1.607	14.9	21.1	25 E	12*	15*
11 7	8 53.81	+17 42.1	1.917	2.216	26.5	19.3	94 W	63	43*	1 12	21 1.91	-17 43.8	2.467	1.597	13.2	21.0	22 E	11*	11*
11 17	9 1.01	+17 21.7	1.835	2.260	25.3	19.3	102 W	62	46*	1 22	21 30.23	-15 16.3	2.489	1.590	11.5	21.0	19 E	10*	8*
11 27	9 5.29	+17 13.7	1.756	2.305	23.5	19.1	111 W	62	47*	2 1	21 58.08	-12 35.3	2.511	1.587	9.8	20.9	16 E	8*	5*
12 7	9 6.40	+17 19.8	1.683	2.349	21.0	19.0	121 W	62	47	2 11	22 25.42	- 9 43.7	2.531	1.586	8.1	20.9	13 E	6*	3*
12 17	9 4.18	+17 40.8	1.620	2.393	17.8	18.9	132 W	63	46	2 21	22 52.30	- 6 44.3	2.552	1.589	6.4	20.8	10 E	4*	—
12 27	8 58.67	+18 15.5	1.574	2.436	13.9	18.7	143 W	63	46	3 2	23 18.75	- 3 40.0	2.573	1.595	4.7	20.8	8 E	1*	—
1 6	8 50.31	+19 0.4	1.549	2.479	9.4	18.5	156 W	64	45	3 12	23 44.83	- 0 33.9	2.593	1.605	3.0	20.7	5 E	—	—
1 16	8 39.93	+19 50.0	1.550	2.521	4.5	18.4	168 W	65	44	3 22	0 10.63	+ 2 31.2	2.612	1.617	1.4	20.6	2 E	—	—
3122 Florence										145627 2006 RY₁₀₂									
12 23	20 3.24	-23 45.1	1.881	1.108	24.3	16.8	28 E	10*	19*	12 23	20 4.12	-28 9.2	8.275	7.418	3.5	20.4	28 E	7*	21*
1 2	20 40.09	-19 27.0	1.856	1.071	24.3	16.7	27 E	15*	16*	1 2	20 10.73	-27 53.4	8.325	7.405	2.5	20.3	20 E	2*	13*
1 12	21 16.23	-14 33.1	1.833	1.043	24.5	16.6	26 E	15*	13*	1 12	20 17.57	-27 37.3	8.351	7.392	1.6	20.3	12 E	—	6*
1 22	21 51.78	- 9 10.6	1.815	1.026	24.9	16.6	26 E	18*	10*	1 22	20 24.52	-27 21.1	8.353	7.379	1.0	20.2	8 E	—	—
1 27	22 9.42	- 6 21.3	1.808	1.022	25.2	16.6	26 E	19*	9*	2 1	20 31.50	-27 5.1	8.330	7.366	1.5	20.2	11 W	—	3*
2 1	22 27.01	- 3 28.3	1.803	1.021	25.5	16.6	27 E	19*	8*	2 11	20 38.41	-26 49.9	8.283	7.353	2.4	20.3	18 W	—	11*
2 6	22 44.62	- 0 32.9	1.800	1.023	25.8	16.6	27 E	20*	7*	2 21	20 45.17	-26 35.7	8.213	7.339	3.4	20.3	26 W	—	20*
2 11	23 2.28	+ 2 23.5	1.799	1.027	26.1	16.6	27 E	21*	6*	3 2	20 51.68	-26 23.2	8.121	7.326	4.4	20.4	34 W	—	28*
2 16	23 20.04	+ 5 19.3	1.801	1.035	26.4	16.6	28 E	22*	5*	3 12	20 57.86	-26 12.7	8.009	7.312	5.3	20.4	43 W	2*	36*
2 21	23 37.97	+ 8 13.3	1.805	1.045	26.6	16.7	28 E	22*	4*	3 22	21 3.62	-26 4.8	7.879	7.298	6.1	20.4	51 W	4*	45*
2 26	23 56.10	+11 3.9	1.812	1.058	26.8	16.7	29 E	23*	3*	4 1	21 8.88	-26 0.0	7.733	7.284	6.8	20.4	60 W	6*	53*
3 2	0 14.48	+13 49.8	1.822	1.074	26.9	16.8	29 E	23*	3*	4 11	21 13.55	-25 58.8	7.575	7.270	7.4	20.3	69 W	8*	62*
3 7	0 33.13	+16 29.5	1.834	1.092	26.9	16.8	30 E	24*	3*	4 21	21 17.55	-26 1.6	7.407	7.256	7.8	20.3	77 W	9*	71*
3 12	0 52.07	+19 1.6	1.850	1.111	26.8	16.9	30 E	24*	2*	5 1	21 20.81	-26 8.9	7.235	7.242	8.0	20.3	86 W	11*	80*
3 17	1 11.31	+21 25.1	1.869	1.133	26.6	16.9	31 E	25*	2*	5 11	21 23.24	-26 20.8	7.061	7.227	8.0	20.2	95 W	13*	89*
3 22	1 30.86	+23 38.7	1.891	1.156	26.3	17.0	31 E	25*	2*	5 21	21 24.78	-26 37.5	6.890	7.213	7.8	20.1	105 W	15*	89
3 27	1 50.69	+25 41.7	1.916	1.181	25.9	17.1	31 E	25*	2*	5 31	21 25.38	-26 58.7	6.725	7.198	7.4	20.1	114 W	16*	89
4 1	2 10.77	+27 33.1	1.944	1.207	25.4	17.1	31 E	25*	2*	6 10	20 21.23	-27 24.2	6.573	7.184	6.8	20.0	124 W	17*	89
4 11	2 51.44	+30 39.4	2.008	1.262	24.2	17.2	31 E	25*	3*	6 20	21 23.69	-27 53.1	6.436	7.169	5.9	19.9	133 W	17	88
4 21	3 32.32	+32 55.3	2.082	1.319	22.8	17.4	31 E	25*	3*	6 30	21 21.44	-28 24.4	6.319	7.154	4.9	19.8	143 W	17	88
5 1	4 12.73	+34 22.1	2.163	1.378	21.1	17.5	30 E	23*	4*	7 10	21 18.37	-28 56.9	6.225	7.139	3.8	19.7	152 W	16	87
5 6	4 32.53	+34 48.1	2.206	1.408	20.2	17.6	29 E	23*	4*	7 20	21 14.62	-29 29.0	6.157	7.124	2.7	19.6	161 W	16	87
5 11	4 51.96	+35 3.4	2.250	1.439	19.3	17.6	28 E	22*	5*	7 30	21 10.39	-29 59.2	6.118	7.108	1.9	19.5	166 W	15	86
5 16	5 10.94	+35 8.7	2.294	1.469	18.3	17.7	27 E	21*	5*	8 9	21 5.91	-30 25.9	6.108	7.093	2.1	19.5	165 E	15	86
5 21	5 29.44	+35 4.8	2.340	1.499	17.3	17.7	26 E	19*	5*	8 19	21 1.46	-30 48.0	6.127	7.078	3.0	19.6	158 E	14	85
5 26	5 47.39	+34 52.5	2.385	1.529	16.3	17.8	25 E	18*	5*	8 29	20 57.30	-31 4.6	6.175	7.062	4.2	19.7	149 E	14	85
5 31	6 4.78	+34 32.7	2.431	1.559	15.3	17.8	24 W	17*	5*	9 8	20 53.69	-31 15.3	6.248	7.046	5.3	19.8	140 E	14	85
6 5	6 21.59	+34 6.1	2.476	1.589	14.2	17.9	23 E	15*	5*	9 18	20 50.82	-31 19.8	6.343	7.031	6.3	19.8	130 E	14	85
6 10	6 37.80	+33 33.5	2.521	1.618	13.2	17.9	21 E	14*	5*	9 28	20 48.88	-31 18.6	6.457	7.015	7.1	19.9	120 E	14	85
6 15	6 53.43	+32 55.5	2.566	1.647	12.1	18.0	20 E	12*	4*	10 8	20 47.96	-31 12.1	6.586	6.999	7.7	20.0	111 E	14	85
6 20	7 8.49	+32 13.0	2.609	1.676	11.1	18.0	18 E	11*	4*	10 18	20 48.10	-31 0.8	6.725	6.983	8.1	20.0	101 E	14	85
6 25	7 22.99	+31 26.4	2.651	1.704	10.0	18.0	17 E	10*	3*	10 28	20 49.31	-30 45.4	6.868	6.967	8.2	20.1	92 E	14	84*
6 30	7 36.96	+30 36.3	2.692	1.732	8.9	18.0	15 E	8*	2*	11 7	20 51.54	-30 26.4	7.013	6.950	8.1	20.1	82 E	15	76*
7 10	8 3.35	+28 47.4	2.768	1.787	6.9	18.1	12 E	6*	—	11 17	20 54.74	-30 4.5	7.153	6.934	7.8	20.1	73 E	15	67*
7 20	8 27.90	+26 49.7	2.837	1.841	5.1	18.1	9 E	3*	—	11 27	20 58.81	-29 40.0	7.287	6.918	7.4	20.1	64 E	15	58*
7 30	8 50.79	+24 45.5	2.896	1.892	3.7	18.1	7 E	1*	—	12 7	21 3.66	-29 13.4	7.409	6.901	6.8	20.2	56 E	15	48*
8 9	9 12.21	+22 37.0	2.944	1.942	3.6	18.2	7 W	—	—	12 17	21 9.18	-28 45.2	7.516	6.884	6.0	20.1	47 E	14	40*
8 19	9 32.34	+20 25.7	2.981	1.989	4.7	18.4	9 W	3*	—	12 27	21 15.26	-28 15.7	7.607	6.868	5.1	20.1	39 E	11*	31*
8 29	9 51.31	+18 12.7	3.006	2.035	6.4	18.5	13 W	7*	—	1 6	21 21.80	-27 45.3	7.678	6.851	4.2	20.1	31 E	8*	24*
9 8	10 9.24	+15 59.1	3.017	2.078	8.4	18.7	17 W	11*	2*	1 16	21 28.70	-27 14.5	7.728	6.834	3.2	20.0	23 E	3*	17*
9 18	10 26.24	+13 45.5	3.015	2.119	10.4	18.8	22 W	16*	6*	111811 2002 CN₂₈₃									
9 28	10 42.35	+11 32.7	2.998	2.159	12.4	18.9	27 W	21*	9*	12 23	20 4.16	-34 58.2	3.309	2.493	11.0	20.3	29 E	1*	23*
10 8	10 57.62	+ 9 21.2	2.966	2.196	14.3	19.0	33 W	25*	13*	1 2	20 23.91	-33 17.9	3.335	2.466	9.2	20.2	24 E	—	18*
10 18	11 12.07	+ 7 11.5	2.921	2.231	16.2	19.0	39 W	30*	17*	1 12	20 43.54	-31 31.3	3.348	2.438	7.5	20.1	19 E	—	13*
10 28	11 25.67	+ 5 4.0	2.861</																

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

19/21	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°	19/21	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°
111811 2002 CN₂₈₃										488453 1994 XD									
<i>(continuation)</i>										<i>(continuation)</i>									
4 11	23 29.89	-11 8.2	2.921	2.155	14.8	19.8	33 W	—	27*	2 1	0 24.45	+ 0 26.3	1.070	0.944	58.2	21.2	55 E	39*	32*
4 21	23 47.32	- 8 27.9	2.823	2.121	16.9	19.8	38 W	2*	32*	2 6	0 53.02	+ 3 45.2	1.098	1.004	55.7	21.3	57 E	42*	33*
5 1	0 4.64	- 5 43.4	2.717	2.086	19.0	19.7	42 W	5*	36*	2 11	1 20.13	+ 6 49.3	1.137	1.064	53.1	21.5	60 E	45*	33*
5 11	0 21.89	- 2 54.6	2.606	2.051	21.0	19.7	47 W	8*	41*	75079 1999 VN₂₄									
5 21	0 39.13	- 0 1.2	2.489	2.016	23.1	19.6	51 W	12*	45*	12 23	20 4.62	- 7 14.2	3.637	2.869	10.9	19.6	33 E	25*	13*
5 31	0 56.40	+ 2 57.1	2.367	1.981	25.0	19.5	56 W	16*	48*	1 2	20 19.68	- 7 2.3	3.689	2.852	9.1	19.5	27 E	21*	6*
6 10	1 13.74	+ 6 0.6	2.243	1.946	26.9	19.4	60 W	21*	50*	1 12	20 35.02	- 6 41.2	3.726	2.835	7.4	19.5	22 E	16*	1*
6 20	1 31.22	+ 9 10.1	2.117	1.911	28.6	19.3	64 W	27*	50*	1 22	20 50.56	- 6 11.6	3.747	2.817	5.7	19.4	16 E	10*	—
6 30	1 48.88	+12 26.4	1.990	1.877	30.3	19.2	69 W	34*	49*	2 1	21 6.22	- 5 34.0	3.754	2.798	4.2	19.3	12 E	4*	—
7 10	2 6.78	+15 50.4	1.863	1.843	31.8	19.0	73 W	41*	47*	2 11	21 21.94	- 4 49.5	3.744	2.778	3.6	19.2	10 W	3*	—
7 20	2 24.99	+19 23.4	1.738	1.810	33.2	18.9	77 W	49*	44*	2 21	21 37.67	- 3 58.7	3.720	2.757	4.1	19.2	11 W	5*	—
7 30	2 43.56	+23 6.5	1.617	1.778	34.4	18.7	82 W	57*	41	3 2	21 53.37	- 3 2.7	3.680	2.736	5.5	19.3	15 W	7*	5*
8 9	3 2.56	+27 1.1	1.499	1.747	35.4	18.5	86 W	65*	37	3 12	22 8.98	- 2 2.3	3.625	2.713	7.2	19.3	20 W	9*	11*
8 19	3 22.08	+31 8.5	1.388	1.718	36.1	18.4	90 W	72*	33	3 22	22 24.50	- 0 58.5	3.556	2.689	9.1	19.3	25 W	11*	17*
8 29	3 42.15	+35 29.3	1.283	1.691	36.6	18.2	94 W	79*	29	4 1	22 39.89	+ 0 7.6	3.473	2.665	11.1	19.3	31 W	12*	23*
9 3	3 52.41	+37 44.7	1.234	1.678	36.7	18.1	96 W	83*	26	4 11	22 55.12	+ 1 14.9	3.378	2.640	13.0	19.3	36 W	14*	29*
9 8	4 2.85	+40 3.6	1.187	1.665	36.8	18.0	98 W	85	24	4 21	23 10.18	+ 2 22.4	3.271	2.614	14.9	19.3	42 W	16*	34*
9 13	4 13.45	+42 25.5	1.143	1.653	36.8	17.9	100 W	87	22	5 1	23 25.03	+ 3 28.8	3.153	2.587	16.8	19.3	48 W	18*	40*
9 18	4 24.21	+44 50.4	1.100	1.642	36.7	17.8	102 W	90	19	5 11	23 39.66	+ 4 32.9	3.026	2.559	18.5	19.2	54 W	20*	44*
9 23	4 35.12	+47 17.6	1.061	1.631	36.6	17.7	104 W	88	17	5 21	23 54.01	+ 5 33.2	2.890	2.531	20.2	19.1	59 W	23*	49*
9 28	4 46.18	+49 46.6	1.024	1.621	36.4	17.6	106 W	85	14	5 31	0 8.04	+ 6 28.3	2.747	2.501	21.6	19.0	65 W	27*	52*
10 3	4 57.37	+52 16.7	0.990	1.611	36.2	17.5	108 W	83	12	6 10	0 21.68	+ 7 16.5	2.598	2.471	22.9	18.9	72 W	31*	55*
10 8	5 8.66	+54 47.2	0.959	1.603	35.9	17.4	110 W	80	9	6 20	0 34.84	+ 7 55.8	2.445	2.441	24.0	18.8	78 W	35*	56*
10 13	5 19.98	+57 17.0	0.930	1.595	35.6	17.3	112 W	78	7	6 30	0 47.38	+ 8 24.0	2.289	2.409	24.8	18.7	84 W	40*	56
10 18	5 31.24	+59 45.1	0.904	1.587	35.2	17.2	113 W	75	4	7 10	0 59.15	+ 8 38.5	2.131	2.377	25.3	18.5	91 W	45*	55
10 23	5 42.32	+62 10.1	0.881	1.581	34.9	17.2	115 W	73	2	7 20	1 9.94	+ 8 36.4	1.975	2.345	25.4	18.3	98 W	50*	55
10 28	5 53.07	+64 30.7	0.861	1.575	34.5	17.1	116 W	70	—	7 30	1 19.50	+ 8 14.0	1.822	2.312	25.0	18.1	106 W	52*	56
11 2	6 3.28	+66 45.8	0.843	1.570	34.1	17.0	117 W	68	—	8 9	1 27.51	+ 7 27.5	1.674	2.278	24.1	17.8	114 W	52	57
11 7	6 12.63	+68 54.0	0.828	1.566	33.7	17.0	119 W	66	—	8 19	1 38.55	+ 6 12.6	1.535	2.244	22.4	17.6	122 W	51	58
11 9	6 16.03	+69 43.1	0.822	1.565	33.6	16.9	119 W	65	—	8 29	1 37.40	+ 4 25.2	1.408	2.210	20.0	17.3	131 W	49	60
11 11	6 19.20	+70 30.8	0.817	1.564	33.4	16.9	120 W	64	—	9 8	1 38.55	+ 2 3.2	1.296	2.175	16.8	16.9	141 W	47	62
11 13	6 22.09	+71 16.9	0.812	1.563	33.3	16.9	120 W	64	—	9 18	1 36.83	- 0 52.6	1.203	2.140	13.0	16.6	151 W	44	65
11 15	6 24.66	+72 1.5	0.808	1.562	33.1	16.9	120 W	63	—	9 23	1 34.90	- 2 31.3	1.166	2.123	11.0	16.5	156 W	42	67
11 17	6 26.88	+72 44.4	0.804	1.561	33.0	16.9	121 W	62	—	9 28	1 32.33	- 4 15.0	1.134	2.106	9.1	16.3	161 W	41	68
11 19	6 28.70	+73 25.4	0.800	1.560	32.8	16.9	121 W	62	—	10 3	1 29.18	- 6 1.8	1.109	2.088	7.8	16.2	164 W	39	70
11 21	6 30.08	+74 4.5	0.797	1.560	32.7	16.8	121 W	61	—	10 8	1 25.57	- 7 49.2	1.091	2.071	7.5	16.1	164 W	37	72
11 23	6 30.98	+74 41.6	0.794	1.559	32.6	16.8	122 W	60	—	10 13	1 21.63	- 9 34.6	1.080	2.053	8.4	16.1	163 W	35	74
11 25	6 31.36	+75 16.5	0.791	1.559	32.4	16.8	122 W	60	—	10 18	1 17.54	- 11 15.1	1.075	2.036	10.2	16.2	159 E	34	75
11 27	6 31.17	+75 49.2	0.788	1.559	32.3	16.8	122 W	59	—	10 23	1 13.48	- 12 48.2	1.077	2.019	12.4	16.2	154 E	32	77
11 29	6 30.38	+76 19.5	0.786	1.559	32.1	16.8	123 W	59	—	10 28	1 9.65	- 14 11.8	1.084	2.002	14.9	16.3	149 E	31	78
12 1	6 28.95	+76 47.2	0.784	1.559	32.0	16.8	123 W	58	—	11 2	1 6.20	- 15 24.3	1.097	1.985	17.3	16.4	144 E	30	79
12 3	6 26.87	+77 12.2	0.783	1.560	31.9	16.8	123 W	58	—	11 7	1 3.30	- 16 24.8	1.115	1.968	19.6	16.5	138 E	29	80
12 5	6 24.11	+77 34.4	0.782	1.560	31.8	16.8	124 W	57	—	11 17	0 59.57	- 17 48.9	1.163	1.935	23.8	16.7	128 E	27	82
12 7	6 20.71	+77 53.5	0.781	1.561	31.6	16.8	124 W	57	—	11 27	0 59.13	- 18 25.6	1.223	1.902	27.1	16.8	118 E	27	82
12 9	6 16.68	+78 9.4	0.780	1.561	31.5	16.8	124 W	57	—	12 7	1 2.12	- 18 21.3	1.289	1.870	29.7	17.0	110 E	27	82
12 11	6 12.09	+78 22.0	0.780	1.562	31.4	16.8	124 W	57	—	12 12	1 4.86	- 18 6.0	1.325	1.855	30.7	17.1	106 E	27	82
12 13	6 7.03	+78 31.1	0.780	1.563	31.3	16.8	124 W	56	—	12 17	1 8.39	- 17 43.1	1.360	1.840	31.5	17.1	102 E	27	82
12 15	6 1.61	+78 36.6	0.780	1.564	31.2	16.8	125 W	56	—	12 22	1 12.68	- 17 13.3	1.396	1.825	32.2	17.2	99 E	28	81*
12 17	5 55.96	+78 38.3	0.780	1.566	31.1	16.8	125 W	56	—	12 27	1 17.67	- 16 37.4	1.432	1.810	32.7	17.2	95 E	28	79*
12 18	5 53.10	+78 37.8	0.781	1.566	31.1	16.8	125 W	56	—	1 1	1 23.31	- 15 56.2	1.467	1.796	33.2	17.3	92 E	29	76*
12 19	5 50.24	+78 36.3	0.781	1.567	31.0	16.8	125 W	56	—	1 6	1 29.56	- 15 10.2	1.502	1.783	33.5	17.3	89 E	30	73*
12 20	5 47.40	+78 33.9	0.782	1.568	30.9	16.8	125 E	56	—	1 11	1 36.39	- 14 20.0	1.536	1.769	33.7	17.4	86 E	31	70*
12 21	5 44.60	+78 30.6	0.782	1.569	30.9	16.8	125 E	56	—	1 16	1 43.76	- 13 26.1	1.570	1.757	33.8	17.4	84 E	32	67*
12 22	5 41.84	+78 26.3	0.783	1.570	30.9	16.8	125 E	57	—	181898 1999 RS₁₆₈									
12 23	5 39.16	+78 21.2	0.784	1.570	30.9	16.8	125 E	57	—	12 23	20 5.47	- 17 45.6	2.533	1.743	16.0	20.9	29 E	16*	17*
12 24	5 36.57	+78 15.1	0.785	1.571	30.8	16.8	125 E	57	—	1 2	20 32.35	- 16 37.8	2.558	1.724	14.3	20.8	26 E	14*	13*
12 25	5 34.07	+78 8.2	0.786	1.572	30.8	16.8	125 E	57	—	1 12	20 59.35	- 15 13.7	2.579	1.708	12.5	20.8	22 E	13*	10*
12 26	5 31.68	+78 0.3	0.787	1.573	30.8	16.8	125 E	57	—	1 22	21 26.34	- 13 34.6	2.597	1.694	10.7	20.7	19 E	10*	7*
12 27	5 29.41	+77 51.7	0.788	1.574	30.7	16.8	125 E	57	—	2 1	21 53.25	- 11 42.0	2.613	1.682	8.8	20.6	15 E	8*	4*
12 29	5 25.28	+77 31.9	0.790	1.576	30.7	16.8	125 E	57	—	2 11	22 20.00	- 9 38.1	2.626	1.673	7.0	20.5	12 E	5*	2*
12 31	5 21.71	+77 8.9	0.793	1.579	30.6	16.8	125 E	58	—	2 21	22 46.57	- 7 25.0	2.637	1.666	5.2	20.4	9 E	2*	—
1 2	5 18.74	+76 42.9	0.796	1.581	30.6	16.8	125 E	58	—	3 2	23 12.96	- 5 5.1	2.646	1.663	3.3	20.3	6 E	—	—
1 4	5 16.39	+76																	

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

19/21	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°	19/21	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°
181898 1999 RS₁₆₈										334346 2001 YA₄									
<i>(continuation)</i>										<i>(continuation)</i>									
8 19	6 14.01	+18 14.5	2.400	1.966	24.3	21.3	53 W	36*	34*	7 30	5 55.70	+36 27.7	2.334	1.684	22.7	20.6	40 W	32*	13*
8 29	6 33.92	+17 46.4	2.341	1.997	25.4	21.3	58 W	41*	36*	8 4	6 11.32	+36 22.2	2.323	1.697	23.2	20.6	41 W	34*	14*
9 8	6 52.55	+17 9.4	2.274	2.028	26.3	21.3	63 W	46*	38*	8 9	6 26.61	+36 10.7	2.310	1.710	23.7	20.6	43 W	35*	14*
9 18	7 9.76	+16 25.4	2.201	2.059	27.0	21.3	69 W	51*	40*	8 14	6 41.52	+35 53.6	2.297	1.724	24.2	20.6	44 W	37*	14*
9 28	7 25.35	+15 36.3	2.122	2.091	27.5	21.3	74 W	55*	42*	8 19	6 56.03	+35 31.4	2.282	1.738	24.7	20.6	46 W	39*	15*
10 8	7 39.14	+14 44.4	2.038	2.122	27.7	21.2	81 W	58*	45*	8 24	7 10.09	+35 4.5	2.266	1.753	25.2	20.7	48 W	41*	15*
10 18	7 50.91	+13 52.0	1.949	2.154	27.5	21.1	88 W	59*	47*	8 29	7 23.68	+34 33.4	2.249	1.768	25.7	20.7	49 W	43*	16*
10 28	8 0.37	+13 1.6	1.858	2.185	26.9	21.1	95 W	58	50*	9 3	7 36.78	+33 58.5	2.230	1.784	26.2	20.7	51 W	45*	16*
11 7	8 7.25	+12 16.2	1.767	2.216	25.8	20.9	103 W	57	51*	9 8	7 49.39	+33 20.4	2.210	1.801	26.7	20.7	53 W	47*	17*
11 17	8 11.23	+11 38.7	1.679	2.247	24.0	20.8	112 W	57	52	9 13	8 1.48	+32 39.5	2.188	1.817	27.1	20.7	55 W	49*	18*
11 27	8 12.00	+11 12.3	1.597	2.278	21.6	20.7	122 W	56	53	9 18	8 13.05	+31 56.3	2.164	1.835	27.6	20.7	58 W	51*	19*
12 7	8 9.43	+10 59.6	1.527	2.308	18.4	20.5	132 W	56	53	9 23	8 24.09	+31 11.2	2.139	1.852	28.0	20.7	60 W	53*	20*
12 17	8 3.54	+11 2.7	1.472	2.337	14.5	20.3	144 W	56	53	9 28	8 34.58	+30 24.6	2.112	1.870	28.3	20.7	62 W	55*	21*
12 27	7 54.80	+11 21.9	1.437	2.366	10.0	20.1	155 W	56	53	10 3	8 44.53	+29 37.0	2.083	1.888	28.7	20.7	65 W	58*	22*
1 6	7 44.12	+11 55.6	1.428	2.395	5.6	19.9	166 W	57	52	10 8	8 53.94	+28 48.7	2.052	1.907	28.9	20.7	67 W	60*	23*
1 16	7 32.76	+12 40.0	1.447	2.423	3.8	19.9	171 E	58	51	10 13	9 2.79	+28 0.0	2.020	1.926	29.2	20.7	70 W	62*	25*
6178 1986 DA										887 Alinda									
12 23	20 7.11	-23 15.0	3.376	2.556	10.6	20.5	29 E	11*	20*	12 7	9 57.46	+20 12.7	1.590	2.142	25.5	20.3	110 W	65	44*
1 2	20 25.31	-22 18.3	3.499	2.620	8.3	20.5	23 E	9*	14*	12 17	9 57.05	+19 15.0	1.514	2.182	22.9	20.2	120 W	64	45
1 12	20 42.85	-21 16.9	3.609	2.683	6.1	20.5	17 E	5*	9*	12 27	9 52.78	+18 27.5	1.448	2.222	19.5	20.0	131 W	63	46
1 22	20 59.72	-20 11.9	3.705	2.745	3.9	20.5	11 E	1*	4*	1 6	9 44.71	+17 48.7	1.398	2.262	15.2	19.8	143 W	63	46
2 1	21 15.95	-19 4.2	3.785	2.805	1.8	20.5	5 E	—	—	1 16	9 33.36	+17 16.1	1.369	2.301	10.2	19.6	156 W	62	47
2 11	21 31.50	-17 54.8	3.849	2.865	1.3	20.5	4 W	—	—	12 23	20 9.08	-22 26.6	4.220	3.394	8.1	20.0	29 E	12*	20*
2 21	21 46.39	-16 44.5	3.896	2.923	3.0	20.7	9 W	—	3*	1 2	20 21.60	-21 53.1	4.251	3.359	6.3	19.8	22 E	9*	13*
3 2	22 0.60	-15 34.3	3.925	2.980	5.0	20.9	15 W	—	9*	1 12	20 34.52	-21 15.1	4.264	3.323	4.4	19.7	15 E	4*	7*
3 12	22 14.12	-14 25.2	3.937	3.035	6.9	21.0	22 W	—	15*	1 22	20 47.74	-20 32.8	4.256	3.285	2.4	19.5	8 E	—	1*
3 22	22 26.92	-13 18.0	3.932	3.089	8.8	21.1	28 W	1*	22*	2 1	21 1.19	-19 46.5	4.229	3.246	0.8	19.3	3 E	—	—
4 1	22 38.98	-12 13.5	3.910	3.142	10.5	21.2	35 W	3*	29*	2 11	21 14.77	-18 56.6	4.183	3.205	2.1	19.4	7 W	—	—
4 11	22 50.24	-11 12.8	3.871	3.194	12.1	21.3	42 W	6*	36*	2 21	21 28.44	-18 3.5	4.118	3.163	4.1	19.5	13 W	—	7*
4 21	23 0.66	-10 16.7	3.818	3.245	13.5	21.3	49 W	8*	43*	3 2	21 42.12	-17 7.7	4.035	3.120	6.2	19.6	20 W	—	14*
5 1	23 10.17	-9 26.1	3.750	3.294	14.7	21.4	56 W	11*	50*	3 12	21 55.76	-16 9.8	3.935	3.076	8.2	19.6	26 W	1*	20*
5 11	23 18.68	-8 42.0	3.669	3.343	15.7	21.4	63 W	14*	57*	3 22	22 9.34	-15 10.5	3.818	3.029	10.3	19.6	33 W	3*	27*
5 21	23 26.09	-8 5.5	3.579	3.390	16.4	21.4	71 W	17*	64*	4 1	22 22.79	-14 10.4	3.687	2.982	12.3	19.6	39 W	5*	33*
5 31	23 32.27	-7 37.4	3.479	3.436	16.8	21.4	79 W	21*	69*	4 11	22 36.07	-13 10.5	3.543	2.933	14.2	19.6	46 W	6*	40*
6 10	23 37.11	-7 18.8	3.374	3.481	16.9	21.3	87 W	26*	71*	4 21	22 49.17	-12 11.6	3.387	2.882	16.0	19.6	52 W	9*	46*
6 20	23 40.44	-7 10.6	3.267	3.524	16.7	21.3	96 W	30*	71	5 1	23 2.02	-11 14.6	3.221	2.830	17.7	19.5	59 W	11*	53*
6 30	23 42.13	-7 13.5	3.161	3.567	16.0	21.2	105 W	34*	71	5 11	23 14.57	-10 20.6	3.047	2.777	19.3	19.4	65 W	13*	59*
7 10	23 42.05	-7 28.0	3.060	3.608	14.8	21.1	115 W	37*	71	5 21	23 26.78	-9 30.9	2.866	2.722	20.7	19.3	72 W	16*	64*
7 20	23 40.13	-7 53.9	2.970	3.649	13.2	21.0	125 W	37	72	5 31	23 38.55	-8 47.0	2.681	2.665	21.9	19.2	78 W	20*	69*
7 30	23 36.35	-8 30.5	2.894	3.688	11.1	20.9	136 W	36	73	6 10	23 49.80	-8 10.3	2.492	2.607	22.8	19.0	85 W	23*	72*
8 9	23 30.87	-9 15.8	2.838	3.726	8.6	20.8	147 W	36	73	6 20	0 0.39	-7 42.8	2.303	2.547	23.5	18.8	92 W	27*	72
8 19	23 23.94	-10 7.0	2.807	3.763	5.8	20.7	158 W	35	74	6 30	0 10.16	-7 26.7	2.116	2.486	23.8	18.6	99 W	31*	71
8 29	23 16.00	-11 0.3	2.804	3.799	3.0	20.5	169 W	34	75	7 10	0 18.90	-7 24.5	1.932	2.423	23.7	18.3	106 W	35*	71
9 8	23 7.64	-11 51.4	2.831	3.834	1.6	20.5	174 W	33	76	7 20	0 26.32	-7 39.2	1.753	2.359	23.2	18.0	114 W	37*	72
9 18	22 59.46	-12 36.5	2.889	3.868	3.9	20.7	165 E	32	77	7 30	0 32.07	-8 13.8	1.584	2.293	22.0	17.7	122 W	37	72
9 28	22 52.07	-13 12.4	2.977	3.901	6.5	20.9	154 E	32	77	8 9	0 35.74	-9 11.5	1.425	2.225	20.1	17.3	131 W	36	73
10 8	22 45.95	-13 37.5	3.093	3.933	8.9	21.1	143 E	31	78	8 19	0 36.82	-10 34.8	1.280	2.156	17.5	16.9	140 W	34	75
10 18	22 41.42	-13 51.0	3.231	3.964	10.8	21.3	132 E	31	78	8 29	0 34.80	-12 24.1	1.152	2.086	14.3	16.4	149 W	33	76
10 28	22 38.65	-13 53.1	3.389	3.994	12.3	21.5	121 E	31	78	9 3	0 32.52	-13 27.6	1.096	2.050	12.5	16.2	154 W	32	77
334346 2001 YA₄										887 Alinda									
12 23	20 7.64	-20 19.6	2.761	1.962	14.1	21.0	29 E	14*	19*	9 8	0 29.36	-14 35.8	1.045	2.014	10.9	16.0	158 W	30	79
1 2	20 29.56	-18 12.9	2.775	1.923	12.2	20.9	24 E	13*	13*	9 13	0 25.31	-15 47.4	0.999	1.978	9.6	15.8	161 W	29	80
1 12	20 51.69	-15 53.9	2.779	1.886	10.3	20.8	20 E	11*	8*	9 18	0 20.43	-17 0.5	0.960	1.941	9.1	15.6	162 W	28	81
1 22	21 13.99	-13 22.8	2.777	1.850	8.4	20.6	16 E	9*	4*	9 23	0 14.82	-18 12.9	0.926	1.904	9.7	15.5	161 W	27	82
2 1	21 36.47	-10 39.6	2.767	1.815	6.5	20.5	12 E	6*	—	9 28	0 8.65	-19 21.9	0.898	1.867	11.3	15.5	158 E	26	83
2 11	21 59.10	-7 45.0	2.751	1.782	4.9	20.4	9 E	3*	—	10 3	0 2.12	-20 25.1	0.876	1.829	13.8	15.5	154 E	25	84
2 21	22 21.94	-4 39.8	2.730	1.751	3.7	20.2	7 E	—	—	10 8	23 55.47	-21 20.3	0.859	1.792	16.6	15.6	149 W	24	85
3 2	22 45.04	-1 25.1	2.704	1.722	3.5	20.2	6 W	—	—	10 13	23 48.96	-22 5.3	0.847	1.754	19.7	15.7	144 E	23	86
3 12	23 8.47	+1 57.5	2.676	1.695	4.3	20.2	7 W	1*	—	10 18	23 42.87	-22 38.6	0.840	1.716	22.8	15.7	138 E	22	87
3 22	23 32.34	+5 26.2	2.645	1.671	5.7	20.2	10 W	3*	—	10 23	23 37.48	-22 59.5	0.836	1.678	25.9	15.8	133 E	22	87
4 1	23 56.77	+8 58.9	2.614	1.650	7.3	20.2	12 W	5*	2*	10 28	23 33.00	-23 7.6	0.836	1.640	28.8	15.9	127 E	22	87
4 11	0 21.87	+12 32.6	2.583	1.633	8.9	20.2	15 W	7*	5*	11 2	23 29.58	-23 3.4	0.837	1.602	31.7	16.0	122 E	22	87
4 21	0 47.79	+16 4.5	2.552	1.618	10.5	20.2	17 W	8*	7*	11 7	23 27.34	-22 47.3	0.841	1.564	34.3	16.0	117 E	22	87