

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

2021	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°	21/22	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°
349074 2007 BM₈										474611 2004 SB₅₆ (continuation)									
4 16	0 16.22	+ 7 25.7	0.764	0.386	117.7	20.3	20 W	6*	13*	8 19	4 6.44	+49 1.5	0.617	1.071	67.6	20.7	78 W	72*	15*
4 18	0 22.91	+ 5 15.0	0.811	0.378	109.9	19.9	21 W	4*	14*	8 24	4 30.16	+51 29.5	0.608	1.069	67.8	20.7	78 W	72*	12*
4 20	0 30.69	+ 3 27.3	0.861	0.375	101.3	19.5	21 W	2*	15*	8 29	4 56.50	+53 41.2	0.600	1.066	68.2	20.6	78 W	72*	10*
4 22	0 39.36	+ 2 2.9	0.914	0.378	92.6	19.3	22 W	—	16*	9 3	5 25.64	+55 32.5	0.591	1.061	68.6	20.6	78 W	71*	8*
4 24	0 48.69	+ 1 0.7	0.968	0.387	84.2	19.1	22 W	—	16*	9 8	5 57.55	+56 58.6	0.582	1.055	69.2	20.6	78 W	69*	6*
4 26	0 58.43	+ 0 18.2	1.022	0.401	76.3	19.0	23 W	—	17*	9 13	6 31.88	+57 54.7	0.573	1.047	69.9	20.5	78 W	68*	4*
4 28	1 8.35	- 0 7.5	1.076	0.419	69.3	19.0	23 W	—	16*	9 18	7 7.96	+58 16.2	0.565	1.037	70.8	20.5	77 W	66*	3*
4 30	1 18.28	- 0 19.7	1.127	0.442	63.0	19.0	23 W	—	16*	9 23	7 44.80	+57 59.7	0.556	1.026	71.9	20.5	76 W	65*	2*
5 2	1 28.06	- 0 21.2	1.178	0.467	57.6	19.1	23 W	—	16*	9 25	7 59.48	+57 42.0	0.553	1.022	72.3	20.5	76 W	65*	1*
5 4	1 37.62	- 0 14.5	1.226	0.494	52.9	19.2	23 W	—	16*	9 27	8 14.02	+57 17.9	0.549	1.017	72.8	20.5	76 W	64*	1*
5 6	1 46.91	- 0 1.8	1.272	0.522	48.9	19.2	23 W	—	16*	9 29	8 28.35	+56 47.4	0.546	1.011	73.3	20.5	75 W	64*	1*
5 8	1 55.89	- 0 15.5	1.317	0.552	45.4	19.3	23 W	—	16*	10 1	8 42.41	+56 10.5	0.543	1.006	73.8	20.5	75 W	63*	1*
5 10	2 4.56	+ 0 35.9	1.360	0.582	42.4	19.4	23 W	—	15*	10 3	8 56.14	+55 27.4	0.539	1.000	74.4	20.5	74 W	63*	—
5 12	2 12.93	+ 0 58.6	1.401	0.613	39.9	19.5	23 W	—	15*	10 5	9 9.50	+54 38.2	0.536	0.994	75.0	20.5	74 W	63*	—
5 14	2 20.98	+ 1 22.7	1.440	0.644	37.7	19.7	23 W	—	15*	10 7	9 22.46	+53 42.9	0.533	0.988	75.6	20.4	73 W	62*	—
5 16	2 28.76	+ 1 47.8	1.478	0.675	35.8	19.8	23 W	—	15*	10 9	9 35.00	+52 41.8	0.530	0.982	76.2	20.4	73 W	62*	—
5 21	2 47.02	+ 2 52.1	1.566	0.751	32.1	20.0	23 W	—	16*	10 11	9 47.11	+51 35.0	0.527	0.976	76.9	20.4	72 W	62*	1*
5 26	3 3.83	+ 3 55.4	1.647	0.826	29.5	20.3	24 W	—	16*	10 13	9 58.77	+50 22.6	0.524	0.969	77.6	20.4	72 W	61*	1*
5 31	3 19.40	+ 4 55.7	1.720	0.898	27.7	20.5	24 W	—	17*	10 18	10 26.07	+46 58.1	0.518	0.951	79.4	20.4	70 W	61*	2*
6 5	3 33.93	+ 5 51.9	1.786	0.968	26.4	20.7	25 W	—	18*	10 23	10 50.89	+43 2.1	0.513	0.933	81.4	20.4	68 W	60*	3*
6 10	3 47.55	+ 6 43.7	1.845	1.035	25.6	20.9	26 W	—	20*	10 28	11 13.58	+38 36.7	0.510	0.913	83.5	20.5	66 W	59*	5*
6 15	4 0.39	+ 7 30.8	1.899	1.100	25.1	21.1	27 W	—	21*	11 2	11 34.53	+33 44.5	0.508	0.892	85.6	20.6	64 W	57*	7*
6 20	4 12.54	+ 8 13.5	1.946	1.162	24.8	21.2	29 W	—	23*	11 7	11 54.11	+28 28.5	0.510	0.871	87.7	20.5	61 W	55*	10*
6 25	4 24.08	+ 8 52.0	1.987	1.221	24.7	21.4	30 W	—	24*	11 12	12 12.71	+22 52.5	0.514	0.848	89.7	20.6	59 W	53*	12*
										11 17	12 30.72	+17 1.2	0.523	0.826	91.5	20.6	57 W	50*	16*
										11 22	12 48.51	+11 0.9	0.536	0.803	92.9	20.7	54 W	46*	19*
										11 27	13 6.42	+ 4 58.6	0.555	0.781	93.7	20.7	52 W	42*	22*
										12 2	13 24.78	- 0 57.8	0.579	0.759	94.0	20.8	50 W	37*	26*
										12 7	13 43.88	- 6 40.6	0.609	0.738	93.5	20.8	48 W	33*	28*
										12 12	14 4.02	-12 2.7	0.644	0.719	92.3	20.8	47 W	28*	31*
										12 17	14 25.42	-16 58.3	0.686	0.701	90.3	20.8	45 W	24*	33*
										12 22	14 48.30	-21 22.4	0.732	0.686	87.7	20.8	44 W	19*	34*
										12 27	15 12.75	-25 11.4	0.784	0.674	84.5	20.8	43 W	16*	34*
										1 1	15 38.75	-28 22.6	0.838	0.666	80.8	20.8	42 W	12*	35*
										1 6	16 6.12	-30 54.4	0.895	0.661	76.7	20.7	41 W	9*	34*
										1 11	16 34.56	-32 46.3	0.954	0.660	72.5	20.7	40 W	7*	34*
										1 16	17 3.64	-33 58.8	1.013	0.663	68.2	20.7	39 W	5*	33*
										1 21	17 32.86	-34 33.9	1.071	0.670	64.0	20.8	38 W	3*	32*
225586 2000 WS₆₇										345705 2006 VB₁₄									
4 16	0 17.18	+ 0 57.1	0.829	0.384	105.7	19.8	22 W	1*	16*	4 16	0 28.40	- 4 17.9	0.695	0.445	121.8	20.9	22 W	—	15*
4 18	0 25.57	+ 0 9.5	0.885	0.380	96.9	19.5	22 W	—	16*	4 18	0 24.62	- 1 46.4	0.724	0.444	116.6	20.6	23 W	—	17*
4 20	0 34.57	- 0 18.7	0.942	0.382	88.0	19.3	22 W	—	16*	4 20	0 22.39	+ 0 45.1	0.755	0.445	110.9	20.4	24 W	2*	18*
4 22	0 44.00	- 0 29.7	1.000	0.389	79.5	19.1	22 W	—	16*	4 22	0 21.66	+ 3 13.8	0.790	0.449	105.1	20.1	26 W	4*	19*
4 24	0 53.69	- 0 26.0	1.057	0.402	71.6	19.0	22 W	—	16*	4 24	0 22.32	+ 5 37.7	0.826	0.456	99.3	20.0	27 W	7*	20*
4 26	1 3.47	- 0 10.7	1.113	0.419	64.5	19.0	22 W	—	16*	4 26	0 24.23	+ 7 55.3	0.863	0.464	93.7	19.8	27 W	9*	20*
4 28	1 13.20	+ 0 13.7	1.166	0.439	58.2	19.0	22 W	—	15*	5 1	0 33.46	+13 7.7	0.959	0.493	81.0	19.7	29 W	13*	20*
4 30	1 22.78	+ 0 44.6	1.218	0.463	52.7	19.1	21 W	—	15*	5 6	0 47.28	+17 32.9	1.054	0.531	70.4	19.7	30 W	15*	19*
5 2	1 32.13	+ 1 20.1	1.267	0.489	47.9	19.2	21 W	—	14*	5 11	1 3.95	+21 14.5	1.143	0.574	62.0	19.8	30 W	17*	18*
5 4	1 41.23	+ 1 58.6	1.315	0.516	43.9	19.2	21 W	—	14*	5 16	1 22.30	+24 18.2	1.225	0.619	55.4	19.9	30 W	18*	17*
5 6	1 50.06	+ 2 38.9	1.360	0.545	40.4	19.3	21 W	—	14*	5 21	1 41.57	+26 49.5	1.299	0.665	50.2	20.0	30 W	19*	16*
5 8	1 58.59	+ 3 20.2	1.403	0.574	37.5	19.4	20 W	—	14*	5 26	2 1.32	+28 53.2	1.367	0.709	46.1	20.2	30 W	20*	15*
5 10	2 6.85	+ 4 1.7	1.444	0.604	34.9	19.5	20 W	—	13*	5 31	2 21.25	+30 33.1	1.427	0.752	42.8	20.3	30 W	20*	14*
5 12	2 14.84	+ 4 42.9	1.483	0.634	32.8	19.6	20 W	—	13*	6 5	2 41.18	+31 52.6	1.481	0.793	40.3	20.4	30 W	20*	13*
5 14	2 22.56	+ 5 23.7	1.521	0.665	30.9	19.8	20 W	—	13*	6 10	3 0.99	+32 54.2	1.527	0.832	38.3	20.6	31 W	21*	13*
5 16	2 30.05	+ 6 3.6	1.557	0.695	29.3	19.9	20 W	—	13*	6 15	3 20.59	+33 39.9	1.568	0.868	36.8	20.7	31 W	21*	13*
5 21	2 47.78	+ 7 39.0	1.642	0.769	26.3	20.1	20 W	—	13*	6 20	3 39.92	+34 11.3	1.603	0.901	35.6	20.8	31 W	22*	12*
5 26	3 4.27	+ 9 7.2	1.719	0.842	24.3	20.3	20 W	—	14*	6 25	3 58.94	+34 29.8	1.632	0.932	34.8	20.8	32 W	22*	12*
5 31	3 19.73	+10 27.9	1.789	0.912	23.0	20.6	21 W	—	14*	6 30	4 17.64	+34 36.6	1.655	0.960	34.2	20.9	32 W	23*	13*
6 5	3 34.31	+11 41.4	1.852	0.980	22.2	20.8	21 W	—	15*	7 5	4 36.01	+34 32.5	1.673	0.985	33.9	21.0	33 W	23*	13*
6 10	3 48.12	+12 48.0	1.908	1.045	21.8	21.0	22 W	—	16*	7 10	4 54.05	+34 18.3	1.686	1.007	33.8	21.1	33 W	24*	13*
6 15	4 1.25	+13 48.3	1.959	1.107	21.6	21.1	24 W	1*	18*	7 15	5 11.75	+33 54.6	1.694	1.027</					

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

21/22	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°	2021	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°
345705 2006 VB₁₄ (continuation)										438017 2003 YO₃ (continuation)									
10 18	10 30.85	-2 46.7	1.251	0.895	52.2	20.7	45 W	28*	31*	5 11	2 30.65	+27 49.0	2.034	1.079	12.8	21.1	14 W	8*	—
10 23	10 52.30	-6 25.1	1.228	0.861	53.5	20.6	44 W	26*	31*	5 16	2 52.84	+28 53.2	2.014	1.055	12.6	21.0	13 W	7*	—
10 28	11 15.34	-10 8.5	1.210	0.825	54.6	20.5	43 W	23*	31*	5 21	3 15.85	+29 44.6	1.996	1.031	12.2	20.9	12 W	6*	—
11 2	11 40.25	-13 52.5	1.199	0.786	55.4	20.4	41 W	20*	31*	5 26	3 39.58	+30 21.4	1.981	1.010	11.7	20.8	12 W	6*	—
11 7	12 7.31	-17 30.7	1.194	0.744	55.9	20.3	38 W	17*	30*	5 31	4 3.90	+30 42.1	1.967	0.989	11.0	20.7	11 W	5*	—
11 12	12 36.80	-20 55.5	1.197	0.701	55.8	20.1	36 W	13*	28*	6 5	4 28.63	+30 45.6	1.956	0.971	10.2	20.6	10 W	4*	—
11 17	13 8.89	-23 57.7	1.208	0.656	54.9	20.0	33 W	10*	26*	6 10	4 53.59	+30 31.0	1.947	0.956	9.2	20.6	9 W	3*	—
11 22	13 43.64	-26 27.6	1.227	0.610	52.9	19.8	30 W	7*	23*	6 15	5 18.56	+29 58.0	1.941	0.943	8.0	20.5	7 W	1*	—
11 27	14 20.91	-28 15.4	1.253	0.565	49.7	19.6	26 W	4*	20*	6 20	5 43.34	+29 6.9	1.936	0.932	6.7	20.4	6 W	—	—
12 2	15 0.25	-29 12.4	1.286	0.523	44.7	19.4	22 W	2*	16*	6 25	6 7.74	+27 58.4	1.933	0.925	5.3	20.3	5 W	—	—
12 7	15 40.97	-29 12.7	1.323	0.487	37.9	19.1	18 W	—	12*	6 30	6 31.61	+26 33.6	1.933	0.920	3.8	20.2	3 W	—	—
12 12	16 22.14	-28 14.6	1.360	0.460	29.2	18.8	13 W	—	7*	7 5	6 54.86	+24 54.0	1.934	0.919	2.3	20.1	2 W	—	—
12 14	16 38.51	-27 35.7	1.374	0.452	25.3	18.6	11 W	—	5*	7 10	7 17.40	+23 1.5	1.937	0.921	0.9	20.0	1 E	—	—
12 16	16 54.74	-26 48.6	1.388	0.447	21.2	18.5	9 W	—	3*	7 15	7 39.20	+20 57.8	1.942	0.926	0.9	20.0	1 E	—	—
12 18	17 10.76	-25 54.0	1.400	0.444	17.1	18.4	8 W	—	1*	7 20	8 0.25	+18 44.9	1.949	0.934	2.3	20.2	2 E	—	—
12 20	17 26.52	-24 52.7	1.411	0.444	13.0	18.2	6 W	—	—	7 25	8 20.58	+16 24.7	1.957	0.945	3.7	20.3	3 E	—	—
12 22	17 41.99	-23 45.6	1.422	0.446	9.2	18.1	4 W	—	—	7 30	8 40.22	+13 58.9	1.968	0.959	5.0	20.4	5 E	—	—
12 24	17 57.13	-22 33.7	1.431	0.451	6.3	18.0	3 W	—	—	8 4	8 59.24	+11 29.2	1.979	0.976	6.1	20.5	6 E	—	—
12 26	18 11.92	-21 17.9	1.439	0.458	5.4	18.0	2 W	—	—	8 9	9 17.69	+8 57.0	1.993	0.994	7.2	20.6	7 E	—	—
12 28	18 26.35	-19 59.1	1.446	0.467	7.0	18.2	3 W	—	—	8 14	9 35.62	+6 23.8	2.008	1.015	8.1	20.7	8 E	—	—
12 30	18 40.41	-18 38.1	1.452	0.478	9.7	18.3	5 E	—	—	8 19	9 53.10	+3 50.7	2.024	1.037	8.8	20.8	9 E	—	—
1 1	18 54.12	-17 15.7	1.457	0.491	12.5	18.5	6 E	—	—	8 24	10 10.17	+1 18.8	2.042	1.061	9.4	20.9	10 W	—	—
1 6	19 26.88	-13 47.5	1.469	0.529	18.9	18.9	10 E	4*	—	8 29	10 26.90	+1 11.1	2.062	1.085	9.9	21.0	11 W	—	—
1 11	19 57.69	-10 21.7	1.479	0.571	23.7	19.2	14 E	7*	—	9 3	10 43.34	+3 38.1	2.083	1.111	10.3	21.1	11 W	—	—
1 16	20 26.81	-7 3.2	1.491	0.616	27.1	19.5	17 E	10*	—	9 8	10 59.52	+6 1.7	2.105	1.138	10.5	21.2	12 W	—	1*
1 21	20 54.49	-3 54.6	1.506	0.662	29.4	19.8	19 E	13*	—	9 13	11 15.50	+8 21.2	2.128	1.165	10.7	21.2	12 W	—	1*
1 21	20 54.49	-3 54.6	1.506	0.662	29.4	19.8	19 E	13*	—	9 18	11 31.29	+10 36.2	2.151	1.193	10.8	21.3	13 W	—	2*
1 21	20 54.49	-3 54.6	1.506	0.662	29.4	19.8	19 E	13*	—	9 23	11 46.94	+12 46.3	2.176	1.221	10.8	21.4	13 W	—	2*
1 21	20 54.49	-3 54.6	1.506	0.662	29.4	19.8	19 E	13*	—	9 28	12 2.48	+14 51.1	2.201	1.249	10.8	21.5	13 W	—	3*
329770 2004 JA										450779 2007 SE₁₁									
4 16	0 31.77	-16 37.7	2.192	1.429	21.2	21.4	31 W	—	20*	4 16	1 7.72	-24 17.3	2.197	1.491	22.7	21.5	35 W	—	15*
4 26	0 59.57	-12 55.6	2.079	1.338	23.6	21.2	32 W	—	22*	4 26	1 34.73	-19 37.3	2.163	1.449	23.1	21.4	34 W	—	17*
5 6	1 29.02	-8 48.4	1.967	1.241	25.9	21.0	33 W	—	24*	5 6	2 0.62	-14 51.0	2.133	1.410	23.4	21.3	34 W	—	19*
5 16	2 0.67	-4 12.3	1.858	1.137	28.2	20.8	32 W	—	24*	5 16	2 25.65	-10 1.5	2.104	1.374	23.8	21.2	33 W	—	21*
5 26	2 35.31	+0 55.8	1.756	1.027	30.4	20.5	31 W	—	24*	5 26	2 50.10	-5 10.7	2.075	1.342	24.2	21.2	33 W	—	24*
6 5	3 14.07	+6 37.2	1.665	0.911	32.0	20.2	28 W	—	22*	6 5	3 14.28	-0 20.1	2.044	1.314	24.8	21.1	33 W	—	26*
6 10	3 35.50	+9 39.3	1.626	0.852	32.4	20.0	27 W	—	21*	6 15	3 38.53	+4 29.5	2.012	1.292	25.7	21.0	33 W	—	27*
6 15	3 58.62	+12 47.0	1.591	0.792	32.5	19.8	25 W	—	19*	6 25	4 3.17	+9 17.4	1.976	1.275	26.8	21.0	34 W	4*	28*
6 20	4 23.77	+15 57.5	1.561	0.733	32.0	19.5	22 W	2*	16*	7 5	4 28.61	+14 3.1	1.937	1.264	28.2	21.0	36 W	11*	28*
6 25	4 51.32	+19 6.5	1.536	0.676	30.8	19.3	20 W	3*	13*	7 5	4 55.30	+18 45.3	1.896	1.260	29.7	21.0	38 W	18*	27*
6 30	5 21.65	+22 7.3	1.517	0.622	28.7	19.0	17 W	4*	9*	7 15	5 23.67	+23 22.0	1.853	1.263	31.4	21.0	40 W	25*	25*
7 5	5 55.10	+24 50.4	1.504	0.574	25.6	18.7	14 W	4*	5*	8 4	5 54.27	+27 49.9	1.809	1.272	33.0	21.0	43 W	31*	22*
7 7	6 9.39	+25 48.0	1.500	0.557	24.1	18.6	13 W	4*	4*	8 14	6 27.57	+32 4.1	1.767	1.287	34.4	21.0	46 W	37*	19*
7 9	6 24.20	+26 39.8	1.496	0.542	22.5	18.5	12 W	4*	2*	8 24	7 3.96	+35 57.8	1.728	1.308	35.6	21.0	49 W	42*	15*
7 11	6 39.49	+27 24.9	1.493	0.530	20.9	18.4	11 W	4*	—	9 3	7 43.65	+39 23.2	1.695	1.335	36.5	21.1	52 W	46*	11*
7 13	6 55.23	+28 2.3	1.491	0.519	19.5	18.3	10 W	4*	—	9 13	8 26.42	+42 11.8	1.668	1.366	37.1	21.1	55 W	49*	7*
7 15	7 11.34	+28 31.1	1.489	0.511	18.2	18.3	9 W	3*	—	9 23	9 11.54	+44 17.1	1.648	1.401	37.3	21.1	58 W	51*	4*
7 17	7 27.76	+28 50.6	1.488	0.506	17.4	18.2	9 W	2*	—	10 3	9 57.74	+45 35.7	1.637	1.440	37.3	21.2	61 W	52*	1*
7 19	7 44.38	+29 0.2	1.487	0.504	17.0	18.2	8 W	2*	—	10 13	10 43.45	+46 10.1	1.632	1.481	37.0	21.2	63 W	53*	—
7 21	8 1.08	+28 59.3	1.487	0.504	17.2	18.2	8 E	1*	—	10 23	11 27.13	+46 7.7	1.633	1.524	36.5	21.3	66 W	55*	—
7 23	8 17.76	+28 47.9	1.487	0.508	18.0	18.2	9 E	2*	—	11 2	12 7.74	+45 39.0	1.639	1.569	36.0	21.3	68 W	56*	—
7 25	8 34.29	+28 26.1	1.487	0.514	19.2	18.3	10 E	3*	—	11 12	12 44.68	+44 56.3	1.647	1.614	35.3	21.4	71 W	59*	—
7 27	8 50.56	+27 54.3	1.489	0.523	20.6	18.4	10 E	4*	—	11 22	13 17.79	+44 10.6	1.655	1.661	34.7	21.4	73 W	62*	—
7 29	9 6.49	+27 13.1	1.491	0.535	22.1	18.5	11 E	5*	—	12 2	13 47.19	+43 31.1	1.661	1.708	34.0	21.5	76 W	65*	—
7 31	9 22.00	+26 23.3	1.494	0.548	23.6	18.6	13 E	6*	—										
8 2	9 37.02	+25 25.8	1.497	0.564	25.1	18.7	14 E	7*	1*										
8 4	9 51.53	+24 21.5	1.502	0.581	26.4	18.8	15 E	8*	2*										
8 6	10 5.49	+23 11.4	1.508	0.600	27.5	18.9	16 E	8*	4*										
8 8	10 18.90	+21 56.6	1.515	0.620	28.4	19.0	17 E	9*	5*										
8 10	10 31.76	+20 37.9	1.524	0.641	29.2	19.1	18 E	9*	7*										
8 12	10 44.08	+19 16.1	1.533	0.663	29.8	19.2	19 E	10*	8*										

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

21/22	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°	21/22	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°
496895 2001 AF₄₇ (continuation)										514560 2017 XP (continuation)									
10 13	9 33.90	+30 52.6	1.729	1.587	34.7	20.6	65 W	58*	18*	12 2	12 48.40	+19 39.5	1.875	1.773	31.2	21.3	69 W	60*	21*
10 23	10 6.73	+30 8.8	1.658	1.578	35.7	20.6	68 W	61*	18*	12 12	13 8.69	+18 12.8	1.819	1.800	31.6	21.3	73 W	61*	26*
11 2	10 38.78	+29 11.6	1.592	1.572	36.5	20.5	71 W	64*	19*	12 22	13 27.16	+16 58.1	1.760	1.828	31.8	21.3	78 W	62*	31*
11 12	11 9.70	+28 4.8	1.530	1.570	37.2	20.4	74 W	66*	20*	1 1	13 43.65	+15 57.1	1.696	1.857	31.7	21.2	83 W	61	36*
11 22	11 39.19	+26 52.7	1.471	1.572	37.7	20.3	77 W	68*	22*	1 11	13 57.93	+15 11.1	1.629	1.888	31.4	21.2	89 W	60	42*
12 2	12 6.99	+25 39.7	1.415	1.577	38.0	20.3	80 W	69*	24*	1 21	14 9.69	+14 40.6	1.559	1.920	30.7	21.1	95 W	60	46*
12 12	12 32.83	+24 30.7	1.360	1.586	38.1	20.2	83 W	69*	27*	304153 2006 OU₁₀									
12 22	12 56.46	+23 29.4	1.307	1.599	37.9	20.1	87 W	68	31*	4 16	2 35.00	+37 41.0	2.240	1.469	20.4	21.5	31 E	23*	—
1 1	13 17.62	+22 39.3	1.254	1.615	37.5	20.0	92 W	68	34*	4 21	2 53.11	+38 34.7	2.228	1.445	20.2	21.4	30 E	22*	—
1 11	13 35.96	+22 3.3	1.200	1.634	36.7	20.0	96 W	67	38*	4 26	3 12.00	+39 21.1	2.215	1.421	20.0	21.4	29 E	22*	—
1 21	13 51.09	+21 42.5	1.148	1.657	35.6	19.9	102 W	67	41*	5 1	3 31.66	+39 59.2	2.203	1.398	19.9	21.3	28 E	21*	—
508815 2000 XE₂																			
4 16	1 44.26	+9 35.9	2.372	1.369	1.5	21.5	2 E	—	—	5 6	3 52.02	+40 27.6	2.191	1.375	19.7	21.3	27 E	21*	—
4 26	2 15.35	+12 58.0	2.350	1.344	0.5	21.3	1 E	—	—	5 11	4 13.00	+40 45.0	2.178	1.352	19.5	21.2	27 E	20*	—
5 6	2 47.81	+16 8.6	2.333	1.325	0.8	21.3	1 W	—	—	5 16	4 34.49	+40 50.5	2.167	1.330	19.3	21.2	26 E	19*	—
5 16	3 21.66	+19 2.2	2.322	1.313	1.7	21.3	2 W	—	—	5 21	4 56.34	+40 43.0	2.156	1.309	19.0	21.1	25 E	19*	—
5 26	3 56.79	+23 32.7	2.318	1.308	2.6	21.4	3 W	—	—	5 26	5 18.38	+40 21.7	2.146	1.288	18.7	21.1	24 E	18*	—
6 5	4 33.00	+23 35.3	2.319	1.310	3.4	21.4	4 W	—	—	5 31	5 40.46	+39 46.3	2.136	1.269	18.3	21.0	23 E	17*	—
361809 2008 CD₄₈																			
4 16	1 47.33	+4 15.4	3.298	2.304	2.8	21.4	6 E	—	—	6 5	6 24.00	+38 52.4	2.121	1.232	17.5	20.9	21 E	15*	—
4 26	2 6.45	+5 41.7	3.247	2.255	3.5	21.4	8 W	—	—	6 15	6 45.28	+36 34.5	2.115	1.216	17.0	20.9	20 E	14*	1*
5 6	2 26.27	+7 4.5	3.186	2.205	5.1	21.4	11 W	—	—	6 20	7 5.96	+35 3.4	2.110	1.201	16.4	20.8	19 E	13*	2*
5 16	2 46.85	+8 22.9	3.117	2.157	7.0	21.4	15 W	—	4*	6 25	7 26.02	+33 19.9	2.106	1.187	15.8	20.8	19 E	12*	3*
5 26	3 8.19	+9 35.2	3.040	2.108	9.0	21.3	19 W	—	8*	6 30	7 45.40	+31 25.1	2.104	1.175	15.1	20.7	18 E	10*	4*
6 5	3 30.32	+10 40.1	2.958	2.060	11.0	21.3	23 W	—	13*	7 5	8 4.10	+29 20.0	2.103	1.165	14.4	20.7	17 E	9*	4*
6 15	3 53.26	+11 36.1	2.870	2.013	13.0	21.3	26 W	—	17*	7 10	8 22.12	+27 5.8	2.102	1.156	13.7	20.6	16 E	7*	5*
6 25	4 17.00	+12 21.7	2.779	1.966	15.0	21.2	30 W	4*	20*	7 15	8 39.49	+24 43.5	2.103	1.149	13.0	20.6	15 E	6*	5*
7 5	4 41.53	+12 55.4	2.686	1.921	17.0	21.2	33 W	8*	24*	7 20	8 56.22	+22 14.4	2.105	1.144	12.3	20.5	14 E	4*	5*
7 15	5 6.81	+13 15.7	2.591	1.877	18.9	21.1	37 W	12*	29*	7 25	9 12.39	+19 39.5	2.108	1.141	11.6	20.5	13 E	2*	6*
7 25	5 32.76	+13 21.3	2.496	1.835	20.7	21.0	40 W	16*	34*	8 4	9 28.04	+16 59.7	2.111	1.140	11.0	20.5	12 E	1*	6*
8 4	5 59.31	+13 11.3	2.402	1.795	22.6	21.0	43 W	21*	39*	8 4	9 43.24	+14 16.2	2.116	1.141	10.4	20.5	12 E	—	5*
8 14	6 26.34	+12 45.0	2.310	1.757	24.3	20.9	46 W	25*	44*	8 9	9 58.05	+11 29.6	2.121	1.144	10.0	20.5	11 E	—	5*
8 24	6 53.72	+12 2.1	2.220	1.722	26.0	20.8	48 W	29*	49*	8 14	10 12.54	+8 40.9	2.127	1.149	9.7	20.5	11 E	—	5*
9 3	7 21.31	+11 3.1	2.132	1.690	27.6	20.7	51 W	32*	53*	8 19	10 26.76	+5 50.8	2.134	1.156	9.6	20.5	11 E	—	5*
9 13	7 48.98	+9 48.9	2.048	1.662	29.2	20.6	54 W	35*	57*	8 24	10 40.78	+3 0.1	2.141	1.165	9.5	20.5	11 E	—	4*
9 23	8 16.55	+8 21.1	1.968	1.637	30.6	20.6	56 W	38*	61*	8 29	10 54.67	+0 9.4	2.150	1.175	9.6	20.5	11 E	—	4*
10 3	8 43.93	+6 41.8	1.890	1.617	32.0	20.5	59 W	40*	65*	9 3	11 8.47	+2 40.7	2.158	1.187	9.8	20.6	12 E	—	3*
10 13	9 10.97	+4 53.9	1.816	1.601	33.2	20.4	61 W	42*	69*	9 8	11 22.24	+5 29.6	2.168	1.201	10.1	20.6	12 E	—	3*
10 23	9 37.54	+3 0.5	1.744	1.590	34.3	20.3	64 W	43*	73*	9 13	11 36.04	+8 16.7	2.178	1.216	10.4	20.7	13 E	—	2*
11 2	10 3.57	+1 5.3	1.675	1.584	35.3	20.3	67 W	43*	77*	9 18	11 49.91	+11 1.4	2.190	1.233	10.7	20.7	13 E	—	2*
11 12	10 28.90	+0 48.1	1.607	1.583	36.1	20.2	71 W	43*	81*	9 23	12 3.91	+13 43.2	2.202	1.250	11.0	20.8	14 E	—	1*
11 22	10 53.42	+2 35.5	1.541	1.587	36.8	20.1	74 W	43*	85*	9 28	12 18.07	+16 21.4	2.214	1.269	11.4	20.8	14 E	—	1*
12 2	11 16.99	+4 13.2	1.475	1.596	37.2	20.1	78 W	41	89*	10 3	12 32.44	+18 55.7	2.228	1.289	11.7	20.9	15 W	—	2*
12 12	11 39.37	+5 37.0	1.410	1.610	37.3	20.0	82 W	39	93*	10 8	12 47.07	+21 25.4	2.243	1.309	12.0	21.0	16 W	—	3*
12 22	12 0.34	+6 42.8	1.344	1.628	37.1	19.9	87 W	38	97*	10 13	13 1.99	+23 50.1	2.258	1.330	12.2	21.0	16 W	—	4*
1 1	12 19.60	+7 27.1	1.279	1.651	36.5	19.8	93 W	38	101*	10 18	13 17.21	+26 9.0	2.274	1.352	12.4	21.1	17 W	—	5*
1 11	12 36.74	+7 45.7	1.215	1.678	35.4	19.7	99 W	37	105*	10 23	13 32.79	+28 21.8	2.291	1.375	12.6	21.1	18 W	—	5*
1 21	12 51.35	+7 35.1	1.153	1.708	33.7	19.6	106 W	37	109*	10 28	13 48.72	+30 27.9	2.308	1.398	12.7	21.2	18 W	—	6*
90791 1994 PG₃₂																			
4 16	1 56.47	+15 47.9	3.456	2.465	3.1	21.5	8 E	2*	—	11 12	14 38.83	+36 1.1	2.364	1.469	13.0	21.4	20 W	—	8*
4 26	2 13.86	+17 18.8	3.497	2.494	1.6	21.4	4 E	—	—	11 17	14 56.27	+37 35.6	2.384	1.493	13.1	21.4	20 W	—	9*
5 6	2 31.19	+18 44.2	3.524	2.522	2.2	21.5	5 W	—	—	11 22	15 14.05	+39 1.3	2.403	1.517	13.1	21.5	20 W	—	10*
5 16	2 48.43	+20 3.7	3.539	2.549	4.0	21.6	10 W	1*	2*	250458 2004 BO₄₁									
5 26	3 5.55	+21 17.0	3.539	2.576	5.9	21.8	15 W	4*	7*	4 16	2 41.17	+39 30.0	2.187	1.450	22.0	21.5	33 E	25*	—
514560 2017 XP																			
4 16	2 7.34	+9 9.2	2.894	1.905	4.1	21.5	8 E	—	1*	4 26	3 14.59	+40 48.8	2.189	1.417	21.1	21.4	30 E	23*	—
4 26	2 28.02	+12 5.7	2.876	1.873	2.0	21.3	4 E	—	—	5 6	3 49.92	+41 42.2	2.181	1.377	20.2	21.3	28 E	21*	—
5 6	2 49.59	+14 58.1	2.851	1.843	0.9	21.1	2 W	—	—	5 16	4 27.01	+42 4.8	2.163	1.329	19.4	21.2	26 E	19*	—
5 16	3 12.17	+17 45.2	2.820	1.814	2.6	21.2	5 W	—	—	5 26	5 5.49	+41 50.4	2.136	1.275	18.6	21.0	24 E	17*	—
5 26	3 35.85	+20 25.3	2.784	1.787	4.6	21.3	8 W	—	2*	6 5	5 44.87	+40 53.2	2.100	1.214	17.8	20.9	22 E	15*	—
6 5	4 0.73	+22 56.7	2.743	1.762	6.7	21.3	12 W	2*	4*	6 15	6 24.55	+39 8.0	2.055	1.146	17.0	20.7	19 E		

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

21/22	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45° - 26°	2021	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45° - 26°	
250458 2004 BO₄₁ (continuation)									363075 2000 OG₈									
9 11	12 16.44	-18 42.7	1.144	0.531	61.6	19.0	28 E	—	17*	4 16	14 24.45	-21 51.5	2.574	3.548	4.6	22.9	163 W	23 86
9 13	12 28.11	-20 24.1	1.111	0.540	64.7	19.1	29 E	—	19*	4 26	14 15.15	-21 10.9	2.513	3.513	2.2	22.7	172 W	24 85
9 15	12 40.35	-22 0.4	1.079	0.550	67.5	19.1	30 E	—	20*	5 6	14 5.59	-20 21.7	2.483	3.477	3.4	22.7	168 E	25 84
9 17	12 53.21	-23 31.0	1.047	0.562	70.1	19.2	32 E	—	21*	5 16	13 56.55	-19 27.4	2.483	3.440	6.4	22.8	158 E	26 83
9 19	13 6.70	-24 54.9	1.017	0.575	72.3	19.3	33 E	—	23*	5 26	13 48.73	-18 33.1	2.510	3.401	9.5	23.0	147 E	26 83
9 21	13 20.85	-26 11.5	0.988	0.590	74.3	19.3	34 E	—	24*	363076 2000 PH₆								
9 23	13 35.67	-27 20.0	0.961	0.605	75.9	19.4	36 E	—	26*	4 16	14 25.20	-1 24.2	2.836	3.814	3.9	23.2	165 W	44 65
9 25	13 51.14	-28 19.4	0.936	0.622	77.2	19.4	37 E	—	28*	4 26	14 17.21	-0 30.3	2.804	3.792	3.4	23.2	167 W	44 65
9 27	14 7.22	-29 9.2	0.913	0.639	78.3	19.5	39 E	—	30*	5 6	14 9.10	+0 16.4	2.803	3.768	5.2	23.2	160 E	45 64
9 29	14 23.87	-29 48.5	0.893	0.657	79.0	19.5	40 E	—	31*	5 16	14 1.47	+0 52.7	2.830	3.743	7.7	23.4	150 E	46 63
10 1	14 40.99	-30 16.6	0.874	0.675	79.4	19.5	41 E	—	33*	5 26	13 54.87	+1 16.5	2.884	3.717	10.1	23.5	140 E	46 63
10 3	14 58.49	-30 33.2	0.858	0.693	79.5	19.6	43 E	—	35*	469356 2001 DR₈								
10 5	15 16.22	-30 37.8	0.845	0.712	79.4	19.6	44 E	—	37*	4 16	14 35.39	-24 32.0	1.905	2.868	6.9	23.0	160 W	20 89
10 7	15 34.07	-30 30.6	0.834	0.732	79.1	19.6	46 E	1*	39*	4 21	14 28.85	-24 13.2	1.866	2.849	5.2	22.9	165 W	21 88
10 9	15 51.87	-30 11.7	0.825	0.751	78.5	19.6	47 E	3*	41*	4 26	14 21.94	-23 49.8	1.834	2.829	3.8	22.7	169 W	21 88
10 11	16 9.48	-29 41.6	0.819	0.770	77.8	19.6	49 E	5*	43*	5 1	14 14.84	-23 22.2	1.809	2.808	3.3	22.7	171 E	22 87
10 13	16 26.77	-29 1.2	0.816	0.789	76.9	19.6	50 E	7*	44*	5 6	14 7.69	-22 50.7	1.793	2.787	4.4	22.7	168 E	22 87
10 15	16 43.61	-28 11.3	0.814	0.809	75.8	19.6	52 E	9*	46*	5 11	14 0.68	-22 16.2	1.784	2.765	6.2	22.7	163 E	23 86
10 17	16 59.92	-27 13.3	0.816	0.828	74.7	19.7	53 E	11*	47*	5 16	13 53.96	-21 39.6	1.783	2.743	8.2	22.8	157 E	23 86
10 19	17 15.62	-26 8.3	0.819	0.847	73.4	19.7	55 E	13*	49*	450257 2003 WA								
10 21	17 30.67	-24 57.6	0.825	0.866	72.1	19.7	56 E	15*	50*	4 16	14 35.62	-19 46.7	2.363	3.334	5.1	24.8	163 W	25 84
10 23	17 45.03	-23 42.5	0.832	0.884	70.8	19.7	57 E	17*	51*	4 21	14 31.18	-19 16.5	2.354	3.345	3.4	24.7	168 W	26 83
10 25	17 58.70	-22 24.2	0.842	0.903	69.4	19.7	58 E	19*	51*	4 26	14 26.63	-18 44.5	2.353	3.355	1.8	24.6	174 W	26 83
10 27	18 11.69	-21 3.7	0.853	0.921	68.0	19.8	59 E	20*	52*	5 1	14 22.08	-18 11.2	2.360	3.366	1.2	24.6	176 E	27 82
10 29	18 24.01	-19 42.1	0.866	0.939	66.6	19.8	60 E	22*	52*	5 6	14 17.63	-17 37.2	2.374	3.376	2.5	24.7	172 E	27 82
10 31	18 35.70	-18 20.1	0.880	0.957	65.3	19.8	61 E	24*	52*	5 11	14 13.38	-17 3.3	2.396	3.385	4.1	24.8	166 E	28 81
11 2	18 46.80	-16 58.4	0.896	0.975	63.9	19.9	62 E	26*	52*	5 16	14 9.40	-16 29.9	2.425	3.395	5.7	24.9	160 E	29 80
11 7	19 12.16	-13 38.7	0.940	1.018	60.7	20.0	64 E	30*	51*	494661 2001 RO₇₅								
11 12	19 34.60	-10 29.5	0.990	1.059	57.7	20.1	65 E	33*	50*	4 16	14 38.37	-17 38.5	2.661	3.633	4.6	22.5	163 W	27 82
11 17	19 54.66	-7 33.0	1.044	1.098	54.9	20.2	65 E	36*	47*	4 26	14 29.64	-17 14.0	2.622	3.625	1.5	22.3	175 W	28 81
11 22	20 12.82	-4 49.7	1.101	1.136	52.4	20.3	66 E	39*	45*	5 6	14 20.62	-16 45.1	2.613	3.616	2.1	22.3	173 E	28 81
11 27	20 29.47	-2 18.8	1.160	1.172	50.1	20.4	66 E	41*	42*	5 16	14 12.01	-16 14.8	2.635	3.606	5.2	22.5	161 E	29 80
12 2	20 44.92	+0 1.0	1.220	1.205	48.0	20.5	65 E	44*	39*	5 26	14 4.48	-15 46.6	2.685	3.595	8.2	22.7	150 E	29 80
12 7	20 59.43	+2 11.0	1.280	1.237	46.0	20.6	65 E	45*	36*	529935 2010 TE₁₇₆								
12 12	21 13.19	+4 12.7	1.341	1.268	44.2	20.8	64 E	47*	33*	4 16	14 39.66	-16 21.3	2.297	3.271	5.1	24.4	163 W	29 80
12 17	21 26.36	+6 7.4	1.401	1.296	42.6	20.8	63 E	48*	30*	4 26	14 30.95	-15 28.3	2.246	3.250	1.4	24.1	175 W	30 79
12 22	21 39.05	+7 56.1	1.460	1.323	41.0	20.9	62 E	49*	27*	5 6	14 21.82	-14 30.7	2.225	3.228	2.3	24.1	173 E	30 79
12 27	21 51.37	+9 39.7	1.518	1.347	39.6	21.0	61 E	50*	24*	5 16	14 13.08	-13 33.0	2.235	3.206	6.0	24.3	161 E	31 78
1	22 3.42	+11 19.2	1.575	1.371	38.2	21.1	60 E	50*	21*	5 26	14 5.51	-12 40.2	2.271	3.182	9.5	24.5	149 E	32 77
1 6	22 15.26	+12 55.2	1.630	1.392	36.9	21.2	58 E	50*	18*	488461 1996 FS₁								
1 11	22 26.95	+14 28.4	1.683	1.412	35.7	21.2	57 E	50*	16*	4 16	14 41.46	+27 6.6	1.704	2.552	14.8	24.2	140 W	72 37
1 16	22 38.54	+15 59.2	1.735	1.430	34.5	21.3	56 E	49*	13*	4 21	14 33.41	+28 18.4	1.710	2.553	15.0	24.2	139 W	73 36
1 21	22 50.07	+17 27.8	1.784	1.446	33.4	21.4	54 E	48*	11*	4 26	14 25.11	+29 18.8	1.722	2.554	15.5	24.3	137 W	74 35
517179 2013 RY₃									440623 2005 WH₂₇									
4 16	3 43.59	+3 29.6	2.604	1.835	17.0	21.5	32 E	11*	25*	4 16	14 33.41	+28 18.4	1.710	2.553	15.0	24.2	139 W	73 36
4 26	4 7.24	+4 44.2	2.617	1.808	15.8	21.4	29 E	7*	23*	4 26	14 25.11	+29 18.8	1.722	2.554	15.5	24.3	137 W	74 35
5 6	4 31.74	+5 50.0	2.626	1.783	14.7	21.4	27 E	3*	21*	5 1	14 16.76	+30 7.1	1.741	2.553	16.3	24.3	135 E	75 34
5 16	4 57.05	+6 45.4	2.631	1.759	13.7	21.3	24 E	—	18*	5 6	14 8.58	+30 42.9	1.766	2.551	17.2	24.4	132 E	76 33
5 26	5 23.08	+7 28.8	2.634	1.738	12.7	21.3	22 E	—	16*	5 11	14 0.74	+31 6.3	1.797	2.549	18.1	24.4	128 E	76 33
6 5	5 49.73	+7 59.1	2.635	1.718	11.7	21.2	20 E	—	13*	5 16	13 53.43	+31 17.8	1.833	2.545	19.1	24.5	125 E	76 33
6 15	6 16.89	+8 15.3	2.635	1.701	10.8	21.1	18 E	—	10*	540623 2005 WH₂₇								
6 25	6 44.41	+8 16.8	2.635	1.687	10.0	21.1	17 E	—	7*	4 16	14 42.16	-15 26.9	1.701	2.677	6.3	22.3	163 W	30 79
7 5	7 12.16	+8 3.6	2.635	1.675	9.2	21.0	15 E	—	4*	4 26	14 32.05	-14 48.3	1.651	2.656	1.8	21.9	175 W	30 79
7 15	7 40.01	+7 36.0	2.634	1.666	8.5	21.0	14 E	—	1*	5 6	14 21.26	-14 4.8	1.630	2.633	3.0	22.0	172 E	31 78
7 25	8 7.80	+6 54.7	2.634	1.660	7.9	21.0	13 W	—	2*	5 16	14 10.93	-13 21.6	1.636	2.609	7.6	22.2	160 E	32 77
8 4	8 35.44	+6 1.2	2.634	1.657	7.5	20.9	12 W	—	4*	5 26	14 2.14	-12 44.4	1.668	2.584	11.9	22.4	148 E	32 77
8 14	9 2.82	+4 56.7	2.633	1.657	7.4	20.9	12 W	—	5*	524594 2003 NW₁								
8 24	9 29.87	+3 43.3	2.631	1.660	7.7	21.0	13 W	—	7*	4 16	14 42.39	-21 56.6	2.766	3.726	5.2	24.2	160 W	23 86
9 3	9 56.55	+2 22.8	2.628	1.666	8.3	21.0	14 W	—	8*	4 26	14 32.99	-21 14.5	2.703	3.700	2.5	24.0	171 W	24 85
9 13	10 22.84	+0 57.4	2.623	1.675	9.2	21.0	15 W	3*	9*	5 6	14 23.15	-20 23.9	2.671	3.673	2.1	23.9	172 E	25 84
9 23	10 48.70	+0 30.8	2.614	1.686	10.4	21.1	18 W	6*	10*	5 16	14 13.59	-19 28.2	2.670	3.644	5.			

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

2021	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°-26°	2021	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°-26°
401998 2003 MO									464755 2003 SA₂₂₀								
4 16	14 45.23	-26 19.4	2.657	3.602	6.3	23.8	157 W	19 90	4 16	14 57.27	-18 53.6	2.628	3.581	5.9	22.7	158 W	26 83
4 21	14 39.14	-25 50.9	2.640	3.611	4.8	23.7	162 W	19 90	4 26	14 48.90	-17 50.8	2.585	3.581	2.7	22.5	170 W	27 82
4 26	14 32.92	-25 18.9	2.632	3.620	3.5	23.6	167 W	20 89	5 6	14 40.07	-16 42.5	2.573	3.581	0.8	22.4	177 E	28 81
5 1	14 26.69	-24 44.0	2.632	3.628	2.7	23.6	170 E	20 89	5 16	14 31.49	-15 32.8	2.592	3.579	4.1	22.6	165 E	29 80
5 6	14 20.54	-24 6.6	2.640	3.636	2.9	23.6	169 E	21 88	5 26	14 23.83	-14 26.4	2.641	3.577	7.2	22.8	154 E	31 78
5 11	14 14.60	-23 27.5	2.656	3.643	4.0	23.7	166 E	22 87	217796 2000 TO₆₄								
5 16	14 8.95	-22 47.4	2.681	3.650	5.3	23.8	161 E	22 87	4 16	14 58.90	-17 57.4	3.492	4.441	4.8	23.5	158 W	27 82
402756 2006 YC₃₄									4 26	14 51.28	-16 53.5	3.444	4.439	2.2	23.3	170 W	28 81
4 16	14 45.63	-6 31.8	2.634	3.604	4.8	22.5	162 W	38 71	5 6	14 43.29	-15 45.6	3.428	4.436	0.5	23.1	178 E	29 80
4 26	14 37.28	-5 58.0	2.618	3.614	2.6	22.4	171 W	39 70	5 16	14 35.45	-14 37.1	3.444	4.432	3.2	23.3	166 E	30 79
5 6	14 28.69	-5 28.5	2.632	3.624	3.4	22.4	168 E	40 69	5 26	14 28.28	-13 31.2	3.492	4.427	5.7	23.5	154 E	31 78
5 16	14 20.52	-5 6.1	2.675	3.632	6.0	22.6	158 E	40 69	523666 2012 RS₁₆								
5 26	14 13.38	-4 53.1	2.746	3.639	8.7	22.8	147 E	40 69	4 16	15 0.63	-17 36.2	0.907	1.876	11.5	23.1	158 W	27 82
406213 2007 AB₂									4 26	14 51.91	-16 15.3	0.820	1.820	5.3	22.5	170 W	29 80
4 16	14 46.81	-13 47.5	1.935	2.907	6.0	24.5	162 W	31 78	5 6	14 40.37	-14 31.2	0.755	1.763	1.9	22.1	177 E	30 79
4 21	14 41.12	-13 20.2	1.922	2.914	3.9	24.4	169 W	32 77	5 16	14 27.62	-12 32.3	0.711	1.705	9.7	22.3	163 E	32 77
4 26	14 35.23	-12 51.8	1.917	2.921	1.8	24.3	175 W	32 77	5 26	14 15.89	-10 33.8	0.689	1.648	17.6	22.4	150 E	34 75
5 1	14 29.28	-12 23.0	1.920	2.927	0.9	24.2	177 E	33 76	526788 2006 YZ₁								
5 6	14 23.40	-11 54.5	1.930	2.932	2.8	24.4	172 E	33 76	4 16	15 6.74	-51 39.5	2.850	3.624	11.4	22.9	134 W	- 64
5 11	14 17.72	-11 27.0	1.948	2.937	4.9	24.5	166 E	34 75	4 21	15 1.29	-51 39.3	2.814	3.623	10.7	22.8	138 W	- 64
5 16	14 12.37	-11 1.0	1.974	2.942	6.9	24.6	159 E	34 75	4 26	14 55.46	-51 32.7	2.784	3.622	10.1	22.8	141 W	- 64
450884 2008 AU₇₂									5 1	14 49.39	-51 19.4	2.760	3.620	9.5	22.7	144 W	- 65
4 16	14 47.20	-6 48.9	2.301	3.271	5.4	22.5	162 W	38 71	5 6	14 43.23	-50 59.5	2.742	3.618	9.1	22.7	145 E	- 65
4 26	14 38.69	-5 54.9	2.293	3.289	3.0	22.4	170 W	39 70	5 11	14 37.14	-50 33.0	2.730	3.616	8.9	22.7	147 E	- 65
5 6	14 29.95	-5 6.3	2.315	3.307	3.8	22.5	167 E	40 69	5 16	14 31.26	-50 0.5	2.725	3.613	8.8	22.7	147 E	- 66
5 16	14 21.75	-4 26.8	2.366	3.324	6.6	22.7	158 E	41 68	5 21	14 25.74	-49 22.4	2.726	3.611	9.0	22.7	146 E	- 67
5 26	14 14.74	-3 59.3	2.444	3.340	9.5	22.9	147 E	41 68	277238 2005 RD₈								
513489 2009 EV									4 16	15 8.00	-8 10.1	2.772	3.718	6.0	22.3	157 W	37 72
4 16	14 47.92	+10 57.2	1.695	2.627	10.2	23.9	152 W	56 53	4 26	15 0.66	-7 20.0	2.734	3.721	3.5	22.2	167 W	38 71
4 21	14 41.98	+11 44.4	1.684	2.624	9.8	23.9	154 W	57 52	5 6	14 52.75	-6 32.4	2.725	3.723	2.7	22.1	170 W	38 71
4 26	14 35.77	+12 25.9	1.681	2.620	9.8	23.9	154 W	57 52	5 16	14 44.87	-5 50.7	2.747	3.724	4.6	22.3	163 E	39 70
5 1	14 29.43	+13 0.8	1.683	2.616	10.4	23.9	152 E	58 51	5 26	14 37.67	-5 17.7	2.797	3.725	7.2	22.4	152 E	40 69
5 6	14 23.13	+13 28.3	1.693	2.611	11.4	23.9	149 E	58 51	541811 2012 AV								
5 11	14 17.00	+13 48.0	1.709	2.606	12.6	24.0	146 E	59 50	4 16	15 8.55	-41 21.0	2.069	2.931	12.0	22.7	143 W	4 75
5 16	14 11.21	+13 59.7	1.731	2.600	14.0	24.1	142 E	59 50	4 21	15 1.85	-41 45.8	2.058	2.949	10.8	22.7	147 W	3 74
455513 2003 WP₉₇									4 26	14 54.74	-42 3.7	2.054	2.968	9.8	22.7	150 W	3 74
4 16	14 49.26	-7 48.5	2.254	3.223	5.6	23.1	162 W	37 72	5 1	14 47.38	-42 14.5	2.056	2.986	8.9	22.6	153 W	3 74
4 26	14 40.12	-7 19.6	2.240	3.237	2.8	22.9	171 W	38 71	5 6	14 39.97	-42 18.1	2.064	3.004	8.5	22.6	154 E	3 74
5 6	14 30.67	-6 54.6	2.255	3.251	3.3	23.0	169 E	38 71	5 11	14 32.68	-42 14.8	2.080	3.022	8.4	22.7	154 E	3 74
5 16	14 21.73	-6 36.5	2.300	3.264	6.3	23.2	159 E	38 71	5 16	14 25.72	-42 5.4	2.103	3.039	8.7	22.7	153 E	3 74
5 26	14 14.01	-6 27.7	2.372	3.276	9.4	23.4	148 E	39 70	5 21	14 19.24	-41 50.5	2.132	3.056	9.3	22.8	151 E	3 74
523592 2001 SK₂₇₆									354062 2001 TU₁₁₅								
4 16	14 49.37	-41 27.0	4.090	4.943	6.7	24.5	145 W	4 75	4 16	15 19.88	-21 49.8	1.963	2.891	9.2	21.6	152 W	23 86
4 21	14 45.31	-41 20.5	4.066	4.950	6.1	24.5	148 W	4 75	4 26	15 10.85	-21 30.1	1.893	2.874	5.5	21.3	164 W	23 86
4 26	14 41.12	-41 10.5	4.048	4.957	5.5	24.5	152 W	4 75	5 6	15 0.43	-21 0.4	1.849	2.856	1.8	21.0	175 W	24 85
5 1	14 36.86	-40 57.0	4.038	4.963	5.1	24.4	154 W	4 75	5 16	14 49.61	-20 23.0	1.835	2.837	3.5	21.1	170 E	25 84
5 6	14 32.61	-40 40.1	4.034	4.969	4.8	24.4	155 E	4 75	5 26	14 39.51	-19 42.4	1.849	2.817	7.6	21.3	159 E	25 84
5 11	14 28.44	-40 20.2	4.038	4.975	4.8	24.4	156 E	5 76	6 5	14 31.06	-19 3.6	1.889	2.795	11.4	21.5	147 E	26 83
5 16	14 24.42	-39 57.5	4.049	4.981	5.0	24.4	155 E	5 76	443815 1999 TH₈₄								
5 21	14 20.61	-39 32.5	4.067	4.987	5.4	24.5	153 E	5 76	4 16	15 20.38	-21 2.7	1.279	2.219	12.0	21.4	153 W	24 85
538212 2016 CA₁₃₆									4 26	15 11.13	-21 12.5	1.206	2.191	7.2	21.0	164 W	24 85
4 16	14 50.02	-17 12.1	1.359	2.330	8.2	22.4	161 W	28 81	5 6	14 59.53	-21 11.2	1.156	2.163	2.4	20.7	175 W	24 85
4 26	14 33.88	-15 57.5	1.243	2.247	2.5	21.8	174 W	29 80	5 16	14 46.99	-20 59.9	1.132	2.134	4.9	20.7	170 E	24 85
5 6	14 14.76	-14 20.8	1.159	2.161	4.3	21.7	171 E	31 78	5 26	14 35.25	-20 42.9	1.132	2.105	10.5	21.0	158 E	24 85
5 16	13 54.42	-12 28.7	1.106	2.070	11.5	21.8	156 E	33 76	6 5	14 25.83	-20 26.5	1.155	2.076	15.8	21.2	146 E	25 84
5 26	13 35.08	-10 33.7	1.081	1.975	18.7	21.9	141 E	34 75	6 15	14 19.77	-20 16.8	1.196	2.046	20.5	21.4	135 E	25 84
523667 2012 TM₁₃₉									438342 2006 QQ₁₆₉								
4 16	14 53.29	-24 42.8	1.082	2.042	11.3	22.1	157 W	20 89	4 16	15 23.74	-15 23.7	0.989	1.939	13.5	21.3	153 W	30 79
4 21	14 48.20	-24 30.7	1.035	2.015	8.8	21.9	162 W	20 89	4 26	15 16.65	-14 49.2	0.915	1.904	8.0	20.9	165 W	30 79
4 26	14 42.33	-24 12.2	0.994	1.987	6.4	21.7	167 W	21 88	5 6	15 6.78	-14 7.0	0.863	1.870	2.3	20.4	176 W	31 78
5 1	14 35.83	-23 47.1	0.958	1.960	4.5	21.5	171 W	21 88	5 16	14 55.52	-13 22.7	0.832	1.836	5.6	20.5	170 E	32 77
5 6	14 28.89	-23 15.5	0.929	1.932	4.5	21.4	171 E	22 87	5 21	14 49.98	-13 2.4	0.825	1.819	8.9	20.6	164 E	32 77
5 11	14 21.75	-22 38.0	0.905	1.904	6.6	21.4	167 E	22 87	5 26	14 44.81	-12 44.8	0.824	1.803	12.2	20.7	158 E	32 77
5 16	14 14.72	-21 55.8	0.888	1.875	9.6	21.4	162 E	23 86	5 31	14 40.25	-12 30.8	0.827	1.786	15.5	20.8	152 E	32 77
5 21	14 8.05	-21 10.4	0.876	1.847	12.9	21.5	156 E	24 85	6 5	14 36.45	-12 21.1	0.834	1.770	18.6	20.9	146 E	33 76
5 26	14 2.01	-20 23.5	0.869	1.818	16.2	21.6	150 E	25 84	6 10	14 33.56	-12 16.5	0.845	1.754	21.5	21.0	141 E	33 76
5 31	13 56.80	-19 36.9	0.867	1.789	19.5	21.6	144 E	25 84	6 15	14 31.70	-12 17.3	0.860	1.738	24.1	21.1	136 E	33 76
458745 2011 QY₃₇									6 20	14 30.91	-12 23.7	0.878	1.722	26.6	21.2	131 E	33 76
4 16	14 54.09	-5 51.4	2.598	3.559	5.5	23.7	160 W	39 70	6 25	14 31.22							

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

2021	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45° - 26°	2021	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45° - 26°				
419666 2010 TZ₁₃₇									439845 1998 RJ₅₄ (continuation)												
4	16	15 23.98	-19 9.3	2.401	3.324	8.0	21.8	152 W	26	83	5	26	14 53.29	-9 39.6	1.845	2.811	7.7	21.8	158 E	35	74
4	26	15 15.81	-18 55.9	2.328	3.307	4.8	21.5	164 W	26	83	6	5	14 45.26	-8 57.7	1.889	2.794	11.5	22.0	147 E	36	73
5	6	15 6.46	-18 36.6	2.282	3.289	1.3	21.3	176 W	26	83	461747 2005 UV₁₅₅										
5	16	14 56.70	-18 13.3	2.267	3.271	2.5	21.3	172 E	27	82	4	16	15 31.11	-9 3.7	1.948	2.871	9.6	21.4	152 W	36	73
5	26	14 47.41	-17 49.0	2.281	3.252	6.1	21.5	160 E	27	82	4	26	15 23.05	-8 0.4	1.938	2.912	6.1	21.2	162 W	37	72
6	5	14 39.33	-17 27.0	2.322	3.232	9.4	21.7	149 E	28	81	5	6	15 14.11	-7 1.7	1.956	2.953	3.7	21.2	169 W	38	71
230508 2002 VP₁₇									377331 2004 OF₁₀												
4	16	15 25.28	-10 23.9	1.875	2.807	9.3	21.3	153 W	35	74	4	16	15 34.02	-12 17.1	1.573	2.498	11.2	21.5	151 W	33	76
4	26	15 16.98	-9 27.5	1.819	2.800	5.7	21.1	164 W	36	73	4	26	15 26.02	-11 49.3	1.493	2.470	7.1	21.2	162 W	33	76
5	6	15 7.38	-8 31.7	1.791	2.792	3.2	20.9	171 W	36	73	5	6	15 15.98	-11 20.2	1.437	2.441	3.2	20.8	172 W	34	75
5	16	14 57.43	-7 41.3	1.791	2.783	5.0	21.0	166 E	37	72	5	16	15 5.18	-6 12.1	2.003	2.993	4.8	21.3	166 E	39	70
5	26	14 48.17	-7 1.3	1.820	2.774	8.7	21.2	156 E	38	71	5	26	14 57.12	-5 35.2	2.077	3.032	7.7	21.5	156 E	39	70
6	5	14 40.43	-6 34.9	1.873	2.763	12.3	21.4	145 E	38	71	6	5	14 50.59	-5 12.8	2.177	3.071	10.6	21.8	146 E	40	69
363814 2005 ND₇									503293 2016 AA₉												
4	16	15 25.49	+61 19.2	2.218	2.667	21.3	22.7	106 W	74	3	4	16	15 34.86	-29 19.5	1.183	2.093	15.5	22.0	146 W	16	87
4	21	15 16.67	+61 51.9	2.214	2.652	21.5	22.7	105 W	73	2	4	21	15 29.81	-29 7.8	1.148	2.089	13.1	21.9	152 W	16	87
4	26	15 7.03	+62 12.7	2.212	2.637	21.8	22.7	104 W	73	2	4	26	15 23.91	-28 49.4	1.119	2.085	10.6	21.7	158 W	16	87
5	1	14 56.89	+62 20.8	2.211	2.621	22.0	22.7	103 W	73	2	5	1	15 17.31	-28 24.1	1.095	2.080	8.1	21.6	163 W	17	88
5	6	14 46.58	+62 15.7	2.213	2.605	22.3	22.7	101 E	73	2	5	6	15 10.23	-27 51.9	1.078	2.075	5.9	21.4	168 W	17	88
5	11	14 36.44	+61 57.4	2.215	2.588	22.6	22.7	100 E	73	2	5	11	15 2.92	-27 13.3	1.067	2.070	4.7	21.3	170 E	18	89
5	16	14 26.82	+61 26.1	2.219	2.571	22.9	22.7	99 E	74	3	5	16	14 55.63	-26 29.4	1.062	2.064	5.4	21.3	169 E	19	90
5	21	14 17.98	+60 42.6	2.224	2.554	23.2	22.7	97 E	74	3	5	21	14 48.66	-25 41.4	1.064	2.058	7.5	21.4	165 E	19	90
438071 2004 RW₁₂₃									458122 2010 EW₄₅												
4	16	15 26.21	-28 14.8	2.453	3.349	9.0	22.0	148 W	17	88	4	16	15 36.13	-19 50.4	1.563	2.480	11.9	21.3	149 W	25	84
4	26	15 17.41	-27 46.8	2.394	3.354	6.1	21.8	159 W	17	88	4	26	15 25.22	-19 7.2	1.439	2.416	7.4	20.8	162 W	26	83
5	6	15 7.55	-27 5.9	2.363	3.358	3.4	21.6	169 W	18	89	5	6	15 11.20	-18 7.7	1.341	2.348	2.1	20.3	175 W	27	82
5	16	14 57.47	-26 14.1	2.362	3.361	3.2	21.6	169 E	19	90	5	16	14 55.12	-16 53.6	1.273	2.278	3.9	20.3	171 E	28	81
5	26	14 48.08	-25 15.7	2.390	3.362	5.8	21.8	161 E	20	89	261938 2006 OB₅										
6	5	14 40.12	-24 15.5	2.447	3.363	8.7	22.0	150 E	21	88	4	16	15 28.41	-19 59.0	0.779	1.727	16.3	21.6	151 W	25	84
346892 2009 RY₄₂									483430 2000 QC₃₃												
4	16	15 26.29	-17 10.3	1.853	2.781	9.6	22.3	152 W	28	81	4	16	15 29.02	-11 56.2	1.406	2.341	11.5	21.4	152 W	33	76
4	26	15 17.54	-16 18.1	1.807	2.789	5.6	22.1	164 W	29	80	4	26	15 20.27	-11 25.4	1.334	2.317	7.0	21.1	164 W	34	75
5	6	15 7.57	-15 20.4	1.788	2.795	1.4	21.8	176 W	30	79	5	6	15 9.41	-10 53.7	1.287	2.292	3.1	20.8	173 W	34	75
5	16	14 57.39	-14 21.7	1.799	2.801	3.3	21.9	171 E	31	78	5	16	14 57.64	-10 25.5	1.267	2.266	5.2	20.8	168 E	35	74
5	26	14 48.07	-13 27.5	1.837	2.806	7.5	22.2	159 E	32	77	5	26	14 46.42	-10 6.4	1.272	2.240	10.2	21.0	157 E	35	74
6	5	14 40.43	-12 42.5	1.902	2.810	11.3	22.4	147 E	32	77	6	5	14 37.08	-10 0.4	1.301	2.213	15.1	21.2	145 E	35	74
347910 2002 XP₅₂									439845 1998 RJ₅₄												
4	16	15 26.61	-49 52.9	1.992	2.785	15.0	21.5	134 W	-	66	4	16	15 30.13	-13 32.6	1.943	2.868	9.5	22.1	152 W	31	78
4	21	15 21.21	-50 0.6	1.952	2.780	14.0	21.4	138 W	-	66	4	26	15 22.10	-12 34.2	1.877	2.855	5.8	21.8	163 W	32	77
4	26	15 15.13	-50 0.4	1.917	2.775	13.1	21.3	141 W	-	66	5	6	15 12.67	-11 32.7	1.837	2.841	2.5	21.6	173 W	33	76
5	1	15 8.53	-49 51.7	1.887	2.769	12.2	21.2	144 W	-	66	5	16	15 2.72	-10 32.7	1.827	2.826	3.9	21.6	169 E	34	75
5	6	15 1.59	-49 34.1	1.863	2.764	11.5	21.2	147 W	-	66	261938 2006 OB₅										
5	11	14 54.54	-49 7.4	1.845	2.758	11.0	21.1	148 E	-	67	4	16	15 28.41	-19 59.0	0.779	1.727	16.3	21.6	151 W	25	84
5	16	14 47.61	-48 32.0	1.833	2.751	10.8	21.1	149 E	-	67	4	26	15 17.62	-19 29.6	0.715	1.704	9.7	21.2	163 W	26	83
5	21	14 41.03	-47 48.5	1.828	2.745	11.0	21.1	149 E	-	68	5	6	15 2.99	-18 41.0	0.672	1.680	2.1	20.6	177 W	26	83
5	26	14 34.98	-46 58.1	1.828	2.738	11.4	21.1	148 E	-	69	5	16	14 46.64	-17 37.7	0.650	1.654	6.4	20.8	169 E	27	82
5	31	14 29.62	-46 2.0	1.835	2.731	12.1	21.1	145 E	-	70	5	26	14 31.42	-16 31.0	0.649	1.628	14.6	21.0	156 E	28	81
6	5	14 25.05	-45 1.6	1.847	2.724	13.1	21.2	143 E	-	71	6	5	14 19.77	-15 34.3	0.666	1.599	22.2	21.3	144 E	29	80
6	10	14 21.36	-43 58.4	1.865	2.716	14.1	21.2	139 E	1	72	483430 2000 QC₃₃										
6	15	14 18.58	-42 53.9	1.889	2.709	15.2	21.3	136 E	2	73	4	16	15 29.02	-11 56.2	1.406	2.341	11.5	21.4	152 W	33	76
6	20	14 16.72	-41 49.5	1.917	2.701	16.3	21.3	132 E	3*	74	4	26	15 20.27	-11 25.4	1.334	2.317	7.0	21.1	164 W	34	75
6	25	14 15.77	-40 46.4	1.950	2.693	17.4	21.4	128 E	4*	75	5	6	15 9.41	-10 53.7	1.287	2.292	3.1	20.8	173 W	34	75
6	30	14 15.68	-39 45.4	1.986	2.684	18.4	21.5	123 E	5*	76	5	16	14 57.64	-10 25.5	1.267	2.266	5.2	20.8	168 E	35	74
261938 2006 OB₅									439845 1998 RJ₅₄												
4	16	15 28.41	-19 59.0	0.779	1.727	16.3	21.6	151 W	25	84	4	16	15 30.13	-13 32.6	1.943	2.868	9.5	22.1	152 W	31	78
4	26	15 17.62	-19 29.6	0.715	1.704	9.7	21.2	163 W	26	83	4	26	15 22.10	-12 34.2	1.877	2.855	5.8	21.8	163 W	32	77
5	6	15 2.99	-18 41.0	0.672	1.680	2.1	20.6	177 W	26	83	5	6	15 12.67	-11 32.7	1.837	2.841	2.5	21.6	173 W	33	76
5	16	14 46.64	-17 37.7	0.650	1.654	6.4	20.8	169 E	27	82	5	16	15 2.72	-10 32.7	1.827	2.826	3.9	21.6	169 E	34	75
5	26	14 31.42	-16 31.0	0.649	1.628	14.6	21.0	156 E	28	81	261938 2006 OB₅										
6	5	14 19.77	-15 34.3	0.666	1.599	22.2	21.3	144 E	29	80	4	16	15 28.41	-19 59.0	0.779	1.727	16.3	21.6	151 W	25	84
483430 2000 QC₃₃									439845 1998 RJ₅₄												
4	16	15 29.02	-11 56.2	1.406	2.341	11.5	21.4	152 W	33	76	4	16	15 30.13	-13 32.6	1.943	2.868	9.5	22.1	152 W	31	78
4	26	15 20.27	-11 25.4	1.334	2.317	7.0	21.1	164 W	34	75	4	26	15 22.10	-12 34.2	1.877	2.855	5.8	21.8	163 W	32	77
5	6	15 9.41	-10 53.7	1.287	2.292	3.1	20.8	173 W	34	75	5	6	15 12.67	-11 32.7	1.837	2.841	2.5	21.6	173 W	33	76
5	16	14 57.64	-10 25.5	1.267	2.266	5.2	20.8	168 E	35	74	5	16	15 2.72	-10 32.7	1.827	2.826	3.9	21.6	169 E		

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

21/22	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45° - 26°	2021	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45° - 26°
458122 2010 EW₄₅ (continuation)									530747 2011 UO₁₃₈								
12 10	20 36.55	-18 59.4	0.361	0.795	111.2	19.1	49 E	23* 37*	4 16	15 45.69	-26 0.5	1.808	2.696	12.2	22.4	145 W	19 90
12 12	20 51.62	-18 21.5	0.339	0.812	110.9	19.0	50 E	24* 38*	4 26	15 37.96	-25 53.4	1.716	2.669	8.6	22.1	157 W	19 90
12 14	21 8.06	-17 35.3	0.318	0.829	110.0	18.9	52 E	25* 40*	5 6	15 28.03	-25 32.9	1.648	2.642	4.7	21.8	168 W	19 90
12 16	21 26.04	-16 39.1	0.298	0.847	108.6	18.7	55 E	27* 41*	5 16	15 16.84	-24 58.9	1.607	2.614	2.6	21.6	173 E	20 89
12 18	21 45.70	-15 30.8	0.281	0.866	106.6	18.5	57 E	28* 43*	5 26	15 5.65	-24 14.7	1.595	2.585	6.0	21.7	165 E	21 88
12 20	22 7.16	-14 8.3	0.265	0.885	104.0	18.3	61 E	30* 46*	6 5	14 55.71	-23 25.4	1.608	2.556	10.3	21.9	153 E	22 87
12 22	22 30.40	-12 30.1	0.252	0.905	100.8	18.1	65 E	32* 48*	440212 2004 OB								
12 24	22 55.31	-10 35.3	0.241	0.925	96.9	17.8	69 E	34* 51*	4 16	15 46.79	-15 31.1	1.480	2.389	13.0	22.3	148 W	29 80
12 26	23 21.60	-8 24.8	0.234	0.945	92.5	17.6	74 E	37 53*	4 26	15 36.19	-14 35.4	1.410	2.380	8.3	22.0	160 W	30 79
12 28	23 48.81	-6 1.4	0.229	0.966	87.6	17.4	79 E	39 56*	5 6	15 23.22	-13 32.4	1.366	2.369	3.5	21.7	172 W	31 78
12 30	0 16.35	-3 29.8	0.228	0.987	82.5	17.2	84 E	42 58*	5 16	15 9.17	-12 27.4	1.350	2.355	3.6	21.7	172 E	33 76
1 1	0 43.59	-0 56.1	0.231	1.008	77.3	17.1	89 E	44 59*	5 26	14 55.63	-11 27.4	1.363	2.340	8.7	21.9	160 E	34 75
1 2	0 56.90	+0 19.6	0.233	1.018	74.8	17.1	92 E	45 59*	6 5	14 43.99	-10 39.2	1.402	2.322	13.7	22.1	147 E	34 75
1 3	1 9.92	+1 33.6	0.237	1.029	72.3	17.1	94 E	47 59*	530682 2011 UN₃								
1 4	1 22.58	+2 45.2	0.241	1.040	69.9	17.0	97 E	48 59*	4 16	15 47.32	-8 55.7	1.379	2.290	13.6	21.4	148 W	36 73
1 5	1 34.85	+3 54.0	0.246	1.050	67.6	17.0	99 E	49 58*	4 21	15 44.78	-7 32.2	1.334	2.274	11.7	21.2	153 W	37 72
1 6	1 46.69	+4 59.6	0.251	1.061	65.4	17.0	101 E	50 58*	4 26	15 41.57	-6 4.9	1.296	2.257	10.0	21.1	157 W	39 70
1 7	1 58.07	+6 1.7	0.257	1.072	63.3	17.1	103 E	51 57*	5 1	15 37.76	-4 35.1	1.264	2.241	8.5	20.9	161 W	40 69
1 8	2 8.99	+7 0.3	0.264	1.082	61.3	17.1	105 E	52 57*	5 6	15 33.45	-3 4.5	1.239	2.224	7.6	20.8	163 W	42 67
1 9	2 19.43	+7 55.2	0.272	1.093	59.5	17.1	107 E	53 56*	5 11	15 28.78	-1 34.9	1.221	2.207	7.6	20.8	163 W	43 66
1 10	2 29.39	+8 46.6	0.280	1.104	57.7	17.1	108 E	54 55*	5 16	15 23.91	0 8.2	1.209	2.190	8.6	20.8	161 E	45 64
1 11	2 38.89	+9 34.4	0.288	1.115	56.1	17.2	110 E	55 54*	5 21	15 19.02	+1 13.6	1.204	2.173	10.4	20.9	157 E	46 63
1 13	2 56.54	+11 0.2	0.307	1.136	53.2	17.3	112 E	56 53	5 26	15 14.27	+2 28.9	1.206	2.156	12.5	20.9	153 E	47 62
1 15	3 12.50	+12 13.9	0.327	1.158	50.7	17.4	114 E	57 52	5 31	15 9.83	+3 36.3	1.213	2.139	14.7	21.0	148 E	49 60
1 17	3 26.95	+13 17.2	0.349	1.179	48.5	17.5	116 E	58 51	6 5	15 5.83	+4 34.9	1.225	2.122	16.9	21.1	143 E	50 59
1 19	3 40.05	+14 11.5	0.372	1.201	46.7	17.6	117 E	59 50	6 10	15 2.40	+5 24.1	1.243	2.105	19.0	21.2	137 E	50 59
1 21	3 51.96	+14 58.2	0.395	1.222	45.1	17.7	118 E	60 49	6 15	14 59.65	+6 3.7	1.264	2.088	21.1	21.2	132 E	51 58
313607 2003 QL₃₀									6 20	14 57.64	+6 33.9	1.289	2.071	22.9	21.3	128 E	52 57
4 16	15 36.19	-15 13.0	2.386	3.296	8.7	22.0	150 W	30 79	6 25	14 56.42	+6 55.1	1.317	2.054	24.5	21.4	123 E	52 57
4 26	15 28.21	-14 50.4	2.309	3.280	5.5	21.7	162 W	30 79	6 30	14 56.00	+7 7.9	1.347	2.038	26.0	21.5	118 E	52* 57
5 6	15 18.89	-14 24.9	2.260	3.264	2.1	21.5	173 W	31 78	351621 2005 WA₁₇₄								
5 16	15 8.99	-13 58.6	2.241	3.247	2.3	21.5	173 E	31 78	4 16	15 49.22	-13 17.5	1.877	2.775	11.3	21.3	147 W	32 77
5 26	14 59.35	-13 34.7	2.252	3.228	5.8	21.7	161 E	31 78	4 26	15 41.75	-12 41.2	1.797	2.758	7.7	21.0	159 W	32 77
6 5	14 50.78	-13 15.9	2.291	3.209	9.1	21.8	150 E	32 77	5 6	15 32.38	-12 2.7	1.744	2.741	3.9	20.8	169 W	33 76
376861 2001 TH₇									5 16	15 21.99	-11 25.4	1.718	2.723	2.9	20.7	172 E	34 75
4 16	15 38.11	-15 55.1	1.858	2.771	10.5	21.4	150 W	29 80	5 26	15 11.64	-10 53.6	1.721	2.704	6.5	20.8	163 E	34 75
4 26	15 30.46	-15 43.6	1.765	2.737	6.8	21.1	161 W	29 80	6 5	15 2.37	-10 30.9	1.750	2.684	10.5	21.0	151 E	34 75
5 6	15 20.86	-15 28.2	1.697	2.701	2.6	20.8	173 W	30 79	6 15	14 55.02	-10 20.1	1.802	2.663	14.1	21.2	140 E	35 74
5 16	15 10.18	-15 11.1	1.658	2.665	2.4	20.7	174 E	30 79	6 25	14 50.14	-10 22.7	1.874	2.641	17.2	21.4	130 E	35 74
5 26	14 59.55	-14 55.5	1.646	2.628	6.9	20.9	162 E	30 79	494726 2005 TF₃								
6 5	14 50.05	-14 44.9	1.661	2.591	11.2	21.1	150 E	30 79	4 16	15 50.23	-12 49.4	2.102	2.994	10.5	21.8	147 W	32 77
6 15	14 42.62	-14 42.5	1.698	2.553	15.2	21.2	139 E	30 79	4 26	15 43.68	-11 58.4	2.003	2.960	7.3	21.5	158 W	33 76
6 25	14 37.84	-14 50.9	1.754	2.514	18.5	21.4	128 E	30* 79	5 6	15 35.34	-11 4.1	1.930	2.924	4.1	21.2	168 W	34 75
304936 2007 SG₂									5 16	15 25.90	-10 10.3	1.885	2.888	3.1	21.1	171 E	35 74
4 16	15 41.06	+13 49.2	2.172	3.018	12.1	22.0	141 W	59 50	5 26	15 16.29	-9 21.6	1.869	2.851	6.2	21.2	162 E	36 73
4 21	15 37.30	+14 49.5	2.169	3.034	11.4	22.0	143 W	60 49	6 5	15 7.43	-8 42.3	1.880	2.814	9.9	21.4	151 E	36 73
4 26	15 33.18	+15 44.8	2.172	3.050	11.0	22.0	145 W	61 48	446742 2015 PH								
5 1	15 28.79	+16 34.3	2.182	3.066	10.7	22.0	146 W	62 47	4 16	15 51.58	+16 37.3	1.741	2.569	15.4	21.6	137 W	62 47
5 6	15 24.25	+17 17.2	2.198	3.082	10.7	22.0	145 W	62 47	4 21	15 48.17	+17 29.2	1.713	2.562	14.8	21.5	140 W	62 47
5 11	15 19.64	+17 53.0	2.221	3.097	11.0	22.1	144 W	63 46	4 26	15 44.18	+18 15.9	1.691	2.554	14.3	21.5	141 W	63 46
5 16	15 15.08	+18 21.3	2.250	3.113	11.4	22.1	142 E	63 46	5 1	15 39.70	+18 56.4	1.674	2.547	14.0	21.4	142 W	64 45
5 21	15 10.68	+18 42.0	2.284	3.128	12.0	22.2	140 E	64 45	5 6	15 34.82	+19 29.5	1.663	2.538	14.0	21.4	143 W	64 45
5 26	15 6.53	+18 55.3	2.324	3.142	12.7	22.3	137 E	64 45	5 11	15 29.68	+19 54.1	1.657	2.530	14.2	21.4	142 W	65 44
5 31	15 2.71	+19 1.4	2.370	3.157	13.4	22.3	134 E	64 45	5 16	15 24.42	+20 9.7	1.656	2.522	14.7	21.4	141 E	65 44
6 5	14 59.27	+19 0.9	2.420	3.171	14.1	22.4	130 E	64 45	5 21	15 19.18	+20 15.8	1.661	2.513	15.4	21.4	139 E	65 44
283948 2004 PU₈₅									5 26	15 14.13	+20 12.3	1.670	2.504	16.2	21.5	136 E	65 44
4 16	15 43.30	-10 41.9	1.729	2.639	11.4	21.3	149 W	34 75	5 31	15 9.38	+19 59.4	1.685	2.495	17.1	21.5	134 E	65 44
4 26	15 36.11	-9 51.1	1.646	2.612	7.8	21.0	159 W	35 74	6 5	15 5.04	+19 37.7	1.704	2.485	18.1	21.6	130 E	65 44
5 6	15 26.95	-8 59.5	1.588	2.585	4.4	20.8	169 W	36 73	6 10	15 1.22	+19 7.6	1.727	2.476	19.1	21.6	127 E	64 45
5 16	15 16.71	-8 11.8	1.558	2.557	4.5	20.7	169 E	37 72	390553 2000 SL₁₆₄								
5 26	15 6.54	-7 33.5	1.555	2.528	8.1	20.8	159 E	37 72	4 16	15 52.05	-31 31.5	1.800	2.663	13.4	21.4	142 W	13 84
6 5	14 57.53	-7 8.8	1.577	2.499	12.2	21.0	149 E	38 71	4 21	15 46.66	-32 8.4	1.768	2.668	11.8	21.		

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

2021	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°	2021	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°
363298 2002 KL₃										541912 2012 DV₃ (continuation)									
4 16	15 52.35	-1 27.2	1.336	2.234	14.9	21.4	145 W	44	65	5 31	14 58.85	-52 42.4	2.137	3.020	11.3	21.8	144 E	—	63
4 21	15 46.62	-0 54.9	1.264	2.194	13.2	21.2	150 W	44	65	6 5	14 52.11	-52 20.3	2.167	3.035	11.8	21.9	142 E	—	64
4 26	15 39.67	-0 22.6	1.199	2.153	11.4	21.0	155 W	45	64	6 10	14 46.22	-51 53.2	2.203	3.050	12.4	22.0	140 E	—	64
5 1	15 31.48	+0 8.9	1.140	2.111	9.8	20.7	159 W	45	64	491734 2012 VS₁₀									
5 6	15 22.12	+0 38.3	1.087	2.068	9.0	20.6	161 W	46	63	4 16	16 8.40	-23 2.7	1.585	2.451	14.8	21.4	141 W	22	87
5 11	15 11.69	+1 4.1	1.042	2.025	9.3	20.4	161 W	46	63	4 26	16 0.61	-21 20.9	1.543	2.483	10.5	21.2	153 W	24	85
5 16	15 0.40	+1 24.9	1.005	1.980	10.9	20.4	158 E	46	63	5 6	15 50.82	-19 27.3	1.525	2.515	5.7	21.0	166 W	26	83
5 21	14 48.52	+1 39.1	0.975	1.934	13.6	20.4	153 E	47	62	5 16	15 40.16	-17 28.4	1.536	2.546	1.1	20.7	177 W	28	81
5 26	14 36.35	+1 45.6	0.952	1.887	16.8	20.4	147 E	47	62	5 26	15 29.91	-15 32.9	1.575	2.577	4.4	21.0	169 E	29	80
5 31	14 24.24	+1 43.4	0.936	1.838	20.3	20.4	141 E	47	62	6 5	15 21.14	-13 49.1	1.643	2.606	8.8	21.4	157 E	31	78
6 5	14 12.50	+1 32.2	0.926	1.789	23.9	20.4	134 E	47	62	6 15	15 14.59	-12 23.0	1.735	2.635	12.7	21.7	145 E	33	76
6 15	13 51.31	+0 42.3	0.921	1.687	31.1	20.5	121 E	46*	63	448077 2008 GF₁₃₈									
6 25	13 34.38	-0 41.1	0.928	1.579	37.6	20.5	108 E	42*	65	4 16	16 15.18	-15 38.2	0.980	1.870	19.8	21.2	141 W	29	80
7 5	13 22.17	-2 32.5	0.940	1.466	43.5	20.6	97 E	36*	67	4 26	16 14.22	-14 48.3	0.899	1.844	15.5	20.8	151 W	30	79
7 15	13 14.41	-4 47.6	0.949	1.348	48.8	20.6	87 E	29*	69*	5 6	16 9.75	-13 50.6	0.835	1.819	10.4	20.5	161 W	31	78
7 25	13 10.31	-7 23.5	0.947	1.223	54.0	20.5	77 E	22*	67*	5 16	16 2.38	-12 50.3	0.791	1.796	5.5	20.1	170 W	32	77
8 4	13 8.78	-10 18.7	0.929	1.093	59.6	20.4	68 E	16*	62*	5 21	15 58.03	-12 21.7	0.777	1.784	4.5	20.0	172 W	33	76
8 14	13 8.37	-13 32.4	0.892	0.957	66.3	20.2	60 E	10*	54*	5 26	15 53.50	-11 55.6	0.767	1.774	5.7	20.0	170 E	33	76
8 19	13 7.89	-15 15.0	0.864	0.888	70.6	20.1	56 E	7*	50*	5 31	15 49.05	-11 32.9	0.763	1.763	8.2	20.1	166 E	33	76
8 24	13 6.60	-16 59.5	0.830	0.819	75.7	20.0	52 E	4*	45*	6 5	15 44.87	-11 14.6	0.764	1.753	11.2	20.2	160 E	34	75
8 29	13 3.83	-18 42.7	0.789	0.750	82.0	19.9	47 E	—	40*	6 10	15 41.19	-11 1.4	0.769	1.743	14.1	20.3	155 E	34	75
9 3	12 58.55	-20 17.9	0.743	0.683	90.0	19.9	43 E	—	35*	6 15	15 38.20	-10 54.0	0.778	1.734	17.1	20.5	150 E	34	75
9 5	12 55.44	-20 51.0	0.723	0.657	93.7	19.9	41 E	—	32*	6 25	15 34.86	-10 57.4	0.809	1.717	22.4	20.7	140 E	34	75
9 7	12 51.60	-21 19.5	0.703	0.632	97.9	20.0	38 E	—	30*	7 5	15 35.45	-11 23.7	0.852	1.702	26.8	20.9	131 E	34	75
9 9	12 46.92	-21 41.8	0.682	0.608	102.5	20.0	36 E	—	27*	7 15	15 40.08	-12 9.5	0.906	1.689	30.4	21.1	123 E	33*	76
9 11	12 41.30	-21 55.8	0.662	0.586	107.5	20.2	34 E	—	24*	7 25	15 48.56	-13 9.9	0.967	1.678	33.1	21.3	116 E	31*	77
9 13	12 34.65	-21 59.1	0.642	0.565	112.9	20.3	31 E	—	21*	516976 2012 HM₁									
9 15	12 26.93	-21 48.7	0.623	0.546	118.6	20.6	28 E	—	17*	4 16	16 15.23	-18 59.8	0.401	1.338	28.4	21.3	141 W	26	83
9 17	12 18.18	-21 21.9	0.605	0.529	124.6	20.9	26 E	—	13*	4 21	16 28.77	-17 36.9	0.360	1.308	28.0	21.0	142 W	27	82
9 19	12 8.53	-20 35.7	0.590	0.515	130.6	21.4	23 E	—	9*	4 26	16 43.58	-15 47.6	0.322	1.280	27.8	20.7	144 W	29	80
447281 2005 VQ₁₃										5 1	16 59.98	-13 26.7	0.287	1.252	28.0	20.4	144 W	32	77
4 16	15 56.43	-13 32.0	1.602	2.495	13.2	21.4	146 W	31	78	5 6	17 18.26	-10 28.2	0.256	1.225	29.0	20.2	144 W	35	74
4 26	15 49.89	-12 43.7	1.513	2.469	9.3	21.1	157 W	32	77	5 11	17 38.72	-6 47.0	0.230	1.200	30.9	19.9	142 W	38	71
5 1	15 40.96	-11 51.5	1.448	2.442	5.2	20.8	167 W	33	76	5 16	18 1.67	-2 20.7	0.208	1.177	33.9	19.8	140 W	43	66
5 16	15 30.50	-10 59.6	1.409	2.414	3.4	20.6	172 E	34	75	5 21	18 27.31	+2 47.3	0.191	1.156	38.0	19.6	135 W	48	61
5 26	15 19.73	-10 13.7	1.397	2.386	6.9	20.7	164 E	35	74	5 26	18 55.61	+8 25.2	0.179	1.136	43.1	19.6	130 W	53	56
6 5	15 9.93	-9 39.1	1.410	2.357	11.5	20.9	152 E	35	74	5 28	19 7.61	+10 44.4	0.176	1.129	45.3	19.6	128 W	56	53
6 15	15 2.15	-9 19.6	1.446	2.327	15.8	21.1	141 E	36	73	5 30	19 19.94	+13 3.4	0.173	1.123	47.6	19.6	125 W	58	51
6 25	14 57.15	-9 17.4	1.500	2.297	19.6	21.3	131 E	36	73	6 1	19 32.53	+15 20.5	0.172	1.116	49.8	19.7	123 W	60	49
7 5	14 55.22	-9 32.0	1.567	2.266	22.6	21.4	121 E	35*	74	6 3	19 45.33	+17 33.9	0.171	1.110	52.1	19.7	120 W	63	46
413907 2006 WO₂₉										6 5	19 58.27	+19 42.1	0.171	1.105	54.2	19.8	118 W	65	44
4 16	15 57.71	+17 40.6	2.462	3.253	12.5	21.5	135 W	63	46	6 7	20 11.27	+21 43.7	0.171	1.100	56.3	19.8	116 W	67	42
4 21	15 54.43	+18 14.4	2.426	3.242	12.0	21.4	138 W	63	46	6 9	20 24.26	+23 37.4	0.172	1.095	58.3	19.9	113 W	69	40
4 26	15 50.69	+18 44.1	2.396	3.231	11.6	21.4	140 W	64	45	6 11	20 37.15	+25 22.6	0.174	1.091	60.1	19.9	111 W	70	39
5 1	15 46.56	+19 9.1	2.371	3.220	11.3	21.3	141 W	64	45	6 13	20 49.88	+26 58.6	0.176	1.087	61.7	20.0	110 W	72	37
5 6	15 42.11	+19 28.6	2.352	3.208	11.2	21.3	142 W	64	45	6 15	21 2.38	+28 25.2	0.179	1.084	63.2	20.1	108 W	73	36
5 11	15 37.43	+19 42.0	2.339	3.196	11.2	21.3	142 W	65	44	6 20	21 32.26	+31 22.0	0.187	1.078	66.0	20.3	104 W	76*	33
5 16	15 32.62	+19 48.6	2.332	3.184	11.5	21.3	141 W	65	44	6 25	21 59.65	+33 26.9	0.197	1.075	67.7	20.4	102 W	78*	31
5 21	15 27.78	+19 48.4	2.331	3.171	11.9	21.3	140 E	65	44	6 30	22 24.17	+34 49.2	0.208	1.074	68.4	20.5	101 W	80*	29
5 26	15 23.03	+19 41.0	2.336	3.159	12.5	21.3	138 E	65	44	7 5	22 45.66	+35 37.6	0.219	1.078	68.2	20.7	100 W	80*	28
5 31	15 18.46	+19 26.7	2.346	3.146	13.2	21.3	135 E	64	45	7 10	23 4.17	+35 59.1	0.230	1.084	67.2	20.8	101 W	81*	28
6 5	15 14.15	+19 5.6	2.361	3.133	13.9	21.3	132 E	64	45	7 15	23 19.86	+35 58.9	0.242	1.093	65.5	20.8	102 W	81	28
6 10	15 10.20	+18 38.1	2.381	3.119	14.7	21.4	129 E	64	45	7 20	23 32.94	+35 40.7	0.252	1.104	63.3	20.9	104 W	81	28
6 15	15 6.67	+18 4.7	2.406	3.106	15.5	21.4	125 E	63	46	7 25	23 43.60	+35 7.1	0.263	1.119	60.5	20.9	106 W	80	29
6 20	15 3.62	+17 25.9	2.435	3.092	16.2	21.5	122 E	62	47	7 30	23 51.98	+34 19.6	0.272	1.136	57.3	20.9	110 W	79	30
285602 2000 QG₁₆₃										8 4	23 58.20	+33 18.4	0.281	1.155	53.8	20.9	113 W	78	31
4 16	16 3.56	-19 23.0	2.039	2.905	11.9	21.4	143 W	26	83	8 9	0 2.38	+32 3.3	0.290	1.177	49.8	20.9	118 W	77	32
4 26	15 57.05	-18 41.5	1.948	2.889	8.6	21.1	155 W	26	83	8 14	0 4.71	+30 33.9	0.300	1.200	45.6	20.9	122 W	76	33
5 1	15 48.54	-17 52.3	1.882	2.872	4.7	20.9	166 W	27	82	8 19	0 5.40	+28 50.4	0.309	1.225	41.0	20.9	127 W	74	35
5 16	15 38.79	-16 57.8	1.844	2.854	1.0	20.6	177 W	28	81	8 24	0 4.71	+26 53.7	0.320	1.251	36.2	20.9	133 W	72	37
5 26	15 28.76	-16 2.0	1.834	2.835	4.0	20.7	169 E	29	80	8 29	0 2.89	+24 45.3	0.332	1.279	31.3	20.9	139 W	70	39
6 5	15 19.48	-15 9.6	1.853	2.815	8.1	21.0	157 E	30	79	9 3	0 0.23	+22 27.2	0.346	1.308	26.2	20.9	145 W	67	42
6 15	15 11.81	-14 25.0	1.897	2.794	11.9	21.1	146 E	31	78	9 8	23 57.04	+20 2.6	0.363	1.					

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

2021	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45° - 26°	21/22	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45° - 26°
372789 2010 PK₂₆ (continuation)									366839 2005 PF (continuation)								
5 26	15 49.91	-5 32.9	1.393	2.382	6.9	20.7	164 E	39 70	6 5	16 8.89	-9 16.8	1.257	2.248	7.5	20.0	163 E	36 73
6 5	15 39.32	-5 7.1	1.413	2.373	10.3	20.9	155 E	40 69	6 15	15 56.93	-9 39.0	1.237	2.193	12.0	20.1	153 E	35 74
6 15	15 30.39	-5 0.8	1.457	2.363	14.2	21.1	145 E	40 69	6 25	15 46.61	-10 18.0	1.241	2.138	16.9	20.2	142 E	35 74
6 25	15 23.98	-5 14.1	1.521	2.352	17.8	21.3	135 E	40 69	7 5	15 39.03	-11 13.2	1.262	2.082	21.4	20.3	132 E	34 75
7 5	15 20.48	-5 44.8	1.600	2.341	20.7	21.5	125 E	39 70	7 15	15 34.92	-12 23.2	1.298	2.026	25.3	20.5	122 E	32 76
86326 1999 WK₁₃									438429 2006 WN₁								
4 16	16 31.11	+6 17.5	1.675	2.475	17.1	21.3	133 W	51 58	4 16	17 0.29	-23 42.4	1.025	1.836	24.9	21.3	130 W	21 88
4 21	16 26.70	+6 27.0	1.628	2.469	15.8	21.2	138 W	51 58	4 26	17 5.58	-23 23.4	0.895	1.776	22.2	20.9	138 W	22 87
4 26	16 21.46	+6 32.4	1.587	2.462	14.4	21.1	143 W	52 57	5 6	17 7.47	-22 50.6	0.778	1.717	18.4	20.4	147 W	22 87
5 1	16 15.43	+6 33.0	1.551	2.456	13.0	21.0	147 W	52 57	5 16	17 5.39	-22 1.3	0.676	1.657	13.4	19.8	158 W	23 86
5 5	16 8.72	+6 28.0	1.521	2.449	11.8	20.9	150 W	51 58	5 26	16 59.18	-20 53.1	0.591	1.597	7.1	19.2	169 W	24 85
5 11	16 1.43	+6 16.4	1.498	2.441	10.9	20.8	153 W	51 58	5 31	16 54.67	-20 11.5	0.555	1.567	3.7	18.8	177 W	25 84
5 16	15 53.74	+5 57.8	1.482	2.433	10.4	20.7	154 W	51 58	6 5	16 49.37	-19 24.9	0.524	1.538	2.1	18.6	177 E	26 83
5 21	15 45.83	+5 31.8	1.472	2.424	10.4	20.7	154 E	51 58	6 10	16 43.52	-18 34.0	0.496	1.508	5.4	18.6	172 E	26 83
5 26	15 37.90	+4 58.4	1.470	2.415	11.1	20.7	153 E	50 59	6 15	16 37.41	-17 40.0	0.474	1.479	9.7	18.7	166 E	27 82
5 31	15 30.14	+4 17.9	1.475	2.406	12.2	20.8	150 E	49 60	6 20	16 31.38	-16 44.2	0.455	1.451	14.2	18.7	160 E	28 81
6 5	15 22.72	+3 30.9	1.487	2.396	13.7	20.8	146 E	49 60	6 25	16 25.79	-15 48.4	0.440	1.423	18.7	18.7	153 E	29 80
6 10	15 15.82	+2 38.0	1.505	2.386	15.3	20.9	142 E	48 61	6 30	16 20.95	-14 54.4	0.428	1.396	23.2	18.8	147 E	29 80
6 15	15 9.56	+1 40.0	1.529	2.376	16.9	21.0	137 E	47 62	7 5	16 17.15	-14 3.9	0.419	1.369	27.6	18.8	141 E	31 78
6 20	15 4.05	+0 37.9	1.559	2.365	18.5	21.1	132 E	46 63	7 10	16 14.65	-13 18.5	0.412	1.344	31.8	18.9	136 E	32 77
6 25	14 59.36	+0 27.4	1.593	2.353	20.1	21.1	127 E	45 64	7 15	16 13.65	-12 39.3	0.407	1.319	35.7	18.9	131 E	32 77
6 30	14 55.51	-1 35.3	1.632	2.341	21.5	21.3	123 E	43* 66	7 25	16 16.58	-11 41.4	0.400	1.273	42.7	19.0	122 E	33* 76
7 5	14 52.51	-2 44.9	1.674	2.329	22.7	21.3	118 E	42* 67	8 4	16 26.29	-11 9.7	0.396	1.233	48.4	19.1	115 E	34* 75
7 10	14 50.37	-3 55.8	1.719	2.316	23.8	21.4	113 E	40* 68	8 14	16 42.87	-10 59.9	0.392	1.200	52.9	19.1	109 E	34* 75
7 15	14 49.06	-5 7.4	1.767	2.303	24.7	21.5	109 E	38* 69	8 19	16 53.73	-11 0.9	0.390	1.187	54.6	19.1	107 E	34* 75
282226 2002 AU₁₇									310522 2000 YS₆₆								
4 16	16 36.09	-30 11.0	1.939	2.730	15.4	21.5	134 W	15 86	4 16	17 5.17	-14 38.0	2.294	3.026	15.0	21.4	129 W	30 79
4 26	16 31.08	-30 15.5	1.819	2.699	12.6	21.2	144 W	15 86	4 26	17 1.67	-14 20.5	2.171	3.006	12.6	21.2	139 W	31 78
5 6	16 23.10	-30 8.1	1.719	2.668	9.2	20.9	155 W	15 86	5 6	16 55.72	-14 2.8	2.068	2.985	9.7	21.0	150 W	31 78
5 16	16 12.65	-29 45.8	1.644	2.636	5.4	20.6	166 W	15 86	5 16	16 47.60	-13 46.3	1.989	2.963	6.4	20.7	161 W	31 78
5 26	16 0.76	-29 7.8	1.596	2.602	3.3	20.4	172 E	16 87	5 26	16 37.90	-13 32.6	1.937	2.940	3.4	20.5	170 W	31 78
5 31	15 54.66	-28 43.2	1.582	2.585	4.2	20.4	169 E	16 87	6 5	16 27.47	-13 23.4	1.913	2.916	3.7	20.5	169 E	32 77
6 5	15 48.70	-28 15.7	1.575	2.568	6.0	20.5	165 E	17 88	6 15	16 17.25	-13 20.3	1.918	2.891	7.1	20.6	159 E	32 77
6 10	15 43.04	-27 45.9	1.575	2.550	8.1	20.6	159 E	17 88	6 25	16 8.23	-13 24.9	1.949	2.865	10.7	20.8	148 E	32 77
6 15	15 37.84	-27 14.6	1.581	2.532	10.2	20.7	154 E	18 89	7 5	16 1.12	-13 37.9	2.004	2.838	14.0	21.0	138 E	31 78
6 20	15 33.23	-26 42.8	1.594	2.514	12.3	20.8	148 E	18 89									
6 25	15 29.31	-26 11.5	1.611	2.496	14.4	20.8	143 E	19 90									
6 30	15 26.15	-25 41.3	1.634	2.477	16.2	20.9	137 E	19 90									
7 5	15 23.79	-25 12.9	1.661	2.458	18.0	21.0	132 E	20 89									
7 10	15 22.26	-24 47.0	1.692	2.439	19.5	21.1	127 E	20* 89									
7 15	15 21.57	-24 23.9	1.726	2.420	20.9	21.1	122 E	20* 88									
7 20	15 21.69	-24 3.9	1.763	2.401	22.2	21.2	117 E	20* 88									
7 25	15 22.62	-23 47.1	1.802	2.381	23.3	21.3	112 E	20* 88									
7 30	15 24.30	-23 33.4	1.843	2.361	24.2	21.3	108 E	20* 88									
8 4	15 26.71	-23 22.8	1.884	2.341	24.9	21.4	104 E	19* 87									
8 9	15 29.83	-23 15.1	1.927	2.320	25.5	21.4	99 E	19* 87									
8 14	15 33.61	-23 10.0	1.970	2.300	26.0	21.5	96 E	18* 87									
357594 2004 XL₃₅																	
4 16	16 46.06	+8 25.2	0.820	1.650	28.1	21.4	129 W	53 56									
4 21	16 39.32	+8 9.3	0.793	1.660	25.6	21.3	135 W	53 56									
4 26	16 31.04	+7 43.9	0.769	1.670	22.9	21.1	140 W	53 56									
5 1	16 21.36	+7 7.6	0.750	1.679	20.1	21.0	145 W	52 57									
5 6	16 10.47	+6 19.1	0.736	1.687	17.4	20.9	150 W	51 58									
5 11	15 58.68	+5 18.0	0.727	1.694	15.1	20.8	154 W	50 59									
5 16	15 46.41	+4 4.4	0.725	1.701	13.7	20.7	157 W	49 60									
5 21	15 34.11	+2 39.8	0.730	1.708	13.5	20.8	157 E	48 61									
5 26	15 22.23	+1 6.3	0.741	1.713	14.6	20.8	155 E	46 63									
5 31	15 11.16	+0 33.5	0.759	1.718	16.6	21.0	151 E	44 65									
6 5	15 1.19	-2 17.0	0.783	1.722	19.0	21.1	146 E	43 66									
6 10	14 52.55	-4 2.0	0.812	1.726	21.6	21.3	141 E	41 68									
6 15	14 45.35	-5 46.5	0.847	1.728	24.1	21.5	136 E	39 70									
509806 2008 VA																	
4 16	16 47.43	-16 34.8	0.980	1.820	23.7	21.5	133 W	28 81									
4 26	16 44.01	-12 17.2	0.906	1.815	19.3	21.2	143 W	33 76									
5 6	16 36.34	-7 26.8	0.853	1.810	14.7	20.9	153 W	38 71									
5 16	16 25.25	-2 23.8	0.825	1.804	11.7	20.7	159 W	43 66									
5 26	16 12.39	+2 21.7	0.823	1.798	12.9	20.7	157 W	47 62									
6 5	15 59.75	+6 21.2	0.846	1.792	17.2	20.9	148 E	51 58									
6 15	15 49.19	+9 18.0	0.891	1.784	22.1	21.2	139 E	54 55									
6 25	15 41.99	+11 10.2	0.951	1.777	26.4	21.4	129 E	56 53									
366839 2005 PF																	
4 16	16 49.13	-10 15.5	1.721	2.511	17.1	21.3	133 W	35 74									
4 26	16 46.40	-9 52.6	1.584	2.460	14.4	21.0	142 W	35 74									
5 6	16 40.63	-9 31.8	1.467	2.408	11.1	20.6	153 W	35 74									
5 16	16 31.96	-9 16.3	1.372	2.355	7.5	20.3	162 W	36 73									
5 26	16 21.02	-9 10.1	1.302	2.302	5.3	20.0	168 W	36 73									
12 2	23 41.88	+0 54.6	0.766	1.409	42.1	20.6	106 E	46 63*									
12 12	0 11.20	+3 4.7	0.874	1.465	40.7	20.9	104 E	48 60*									
12 22	0 38.29	+5 10.3	0.993	1.523	39.4	21.3	101 E	50 57*									
1 1	1 3.64	+7 10.5	1.123	1.582	38.1	21.6	97 E	52 54*									

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

2021	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45° - 26°	21/22	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45° - 26°
310522 2000 YS₆₆ (continuation)									283626 2002 CK₂₁₀ (continuation)								
7 15	15 56.41	-13 59.5	2.077	2.811	16.7	21.1	127 E	31 78	8 24	16 12.89	-24 52.2	2.223	2.522	23.5	21.4	95 E	18* 89*
7 25	15 54.31	-14 29.2	2.164	2.782	18.9	21.3	117 E	30* 78	8 29	16 16.95	-24 54.9	2.274	2.506	23.8	21.4	91 E	17* 85*
8 4	15 54.81	-15 5.9	2.262	2.752	20.5	21.4	108 E	29* 79	9 3	16 21.56	-24 58.8	2.324	2.491	23.9	21.4	87 E	17* 81*
8 14	15 57.81	-15 48.3	2.365	2.721	21.5	21.5	99 E	27* 80	9 8	16 26.69	-25 3.6	2.375	2.475	23.9	21.5	84 E	17* 78*
407826 2012 BG₁₃									366450 2002 AU₁₁								
4 16	17 8.81	+ 4 3.2	2.397	3.087	15.4	21.5	125 W	49 60	4 16	17 23.68	-49 43.1	2.690	3.292	15.5	21.4	119 W	— 66
4 26	17 5.37	+ 5 3.2	2.289	3.070	13.7	21.3	134 W	50 59	4 21	17 22.16	-50 4.7	2.621	3.279	14.9	21.3	123 W	— 66
5 6	16 59.67	+ 5 55.7	2.199	3.052	11.9	21.2	141 W	51 58	4 26	17 19.77	-50 24.1	2.556	3.265	14.2	21.2	127 W	— 66
5 16	16 51.97	+ 6 35.2	2.131	3.033	10.3	21.0	148 W	52 57	5 1	17 16.51	-50 40.6	2.495	3.251	13.4	21.1	131 W	— 65
5 26	16 42.85	+ 6 56.7	2.087	3.013	9.4	20.9	151 W	52 57	5 6	17 12.38	-50 53.5	2.439	3.237	12.6	21.0	136 W	— 65
6 5	16 33.04	+ 6 56.7	2.069	2.992	9.7	20.9	150 E	52 57	5 11	17 7.43	-51 2.0	2.387	3.223	11.7	20.9	140 W	— 65
6 15	16 23.42	+ 6 33.6	2.076	2.970	11.1	20.9	146 E	52 57	5 16	17 1.75	-51 5.1	2.340	3.208	10.9	20.9	143 W	— 65
6 25	16 14.82	+ 5 48.0	2.107	2.948	13.2	21.0	139 E	51 58	5 21	16 55.45	-51 2.3	2.300	3.194	10.1	20.8	147 W	— 65
7 5	16 7.92	+ 4 43.2	2.159	2.924	15.3	21.1	131 E	50 59	5 26	16 48.68	-50 52.8	2.265	3.179	9.4	20.7	149 W	— 65
7 15	16 3.15	+ 3 23.0	2.229	2.900	17.3	21.3	122 E	48 61	5 31	16 41.61	-50 36.3	2.237	3.163	8.9	20.7	151 W	— 65
7 25	16 0.74	+ 1 51.8	2.312	2.874	18.9	21.4	114 E	47* 62	6 5	16 34.43	-50 12.6	2.215	3.148	8.7	20.6	152 E	— 66
8 4	16 0.72	+ 0 13.7	2.406	2.848	20.1	21.5	105 E	44* 64	6 10	16 27.35	-49 41.8	2.200	3.132	8.8	20.6	152 E	— 66
340795 2006 TT₄₄									366450 2002 AU₁₁								
4 16	17 10.44	-22 37.5	1.276	2.047	22.9	21.4	127 W	22 87	6 20	16 14.22	-48 21.0	2.190	3.100	9.9	20.6	148 E	— 68
4 26	17 12.38	-22 33.3	1.165	2.019	20.0	21.1	137 W	22 87	6 25	16 8.50	-47 32.7	2.194	3.084	10.9	20.6	145 E	— 68
5 6	17 10.67	-22 24.2	1.069	1.991	16.1	20.7	147 W	23 86	6 30	16 3.50	-46 40.4	2.205	3.067	11.9	20.7	142 E	— 69
5 16	17 5.18	-22 9.6	0.990	1.964	11.3	20.3	158 W	23 86	7 5	15 59.29	-45 45.4	2.222	3.051	13.0	20.7	138 E	— 70
5 26	16 56.42	-21 49.3	0.931	1.936	5.5	19.9	169 W	23 86	7 10	15 55.93	-44 48.6	2.243	3.034	14.1	20.8	133 E	— 71
5 31	16 51.15	-21 37.2	0.910	1.922	2.4	19.7	175 W	23 86	7 15	15 53.43	-43 51.2	2.270	3.016	15.2	20.8	129 E	1 72
6 5	16 45.53	-21 24.0	0.895	1.909	1.0	19.5	178 E	24 85	7 20	15 51.80	-42 54.2	2.301	2.999	16.2	20.9	125 E	2* 73
6 10	16 39.81	-21 10.2	0.885	1.896	4.1	19.7	172 E	24 85	7 25	15 51.00	-41 58.3	2.337	2.981	17.1	20.9	120 E	3* 74
6 15	16 34.23	-20 56.2	0.880	1.882	7.4	19.8	166 E	24 85	7 30	15 51.01	-41 4.1	2.375	2.963	17.9	21.0	116 E	3* 75
6 20	16 29.04	-20 42.8	0.881	1.869	10.6	20.0	160 E	24 85	8 4	15 51.79	-40 12.1	2.417	2.945	18.7	21.0	112 E	4* 76
6 25	16 24.47	-20 30.6	0.887	1.856	13.7	20.1	154 E	24 85	8 9	15 53.29	-39 22.6	2.461	2.927	19.3	21.1	107 E	4* 77
6 30	16 20.69	-20 20.3	0.898	1.843	16.7	20.2	149 E	25 84	8 14	15 55.47	-38 35.8	2.506	2.908	19.8	21.1	103 E	5* 77
7 5	16 17.81	-20 12.3	0.913	1.831	19.4	20.3	143 E	25 84	8 19	15 58.28	-37 51.8	2.554	2.889	20.2	21.1	99 E	5* 78
7 15	16 15.18	-20 4.8	0.953	1.806	24.3	20.5	133 E	25 84	8 24	16 1.69	-37 10.6	2.602	2.870	20.5	21.2	95 E	5* 78*
7 25	16 16.90	-20 9.3	1.005	1.783	28.2	20.7	124 E	25* 84	8 29	16 5.63	-36 32.1	2.651	2.851	20.7	21.2	91 E	6* 77*
8 4	16 22.79	-20 24.6	1.064	1.761	31.3	20.9	116 E	24* 84	9 3	16 10.09	-35 56.1	2.700	2.831	20.8	21.2	87 E	6* 75*
8 14	16 32.52	-20 47.8	1.130	1.740	33.5	21.1	108 E	24* 85	9 8	16 15.02	-35 22.5	2.748	2.812	20.8	21.3	83 E	6* 73*
8 24	16 45.67	-21 15.4	1.198	1.720	35.1	21.2	102 E	23* 85	9 13	16 20.39	-34 51.1	2.796	2.792	20.7	21.3	79 E	6* 70*
9 3	17 1.76	-21 43.3	1.269	1.703	36.1	21.3	96 E	22* 86	9 18	16 26.17	-34 21.5	2.844	2.772	20.6	21.3	76 E	6* 67*
9 13	17 20.43	-22 7.7	1.342	1.687	36.6	21.5	91 E	22* 84*	9 23	16 32.33	-33 53.6	2.890	2.751	20.3	21.3	72 E	6* 64*
303226 2004 NY₃₀									366450 2002 AU₁₁								
4 16	17 16.27	- 5 12.8	3.845	4.500	10.5	21.5	125 W	40 69	9 28	16 38.84	-33 27.0	2.934	2.731	20.0	21.3	68 E	7* 61*
4 26	17 13.23	- 4 49.0	3.713	4.480	9.2	21.3	135 W	40 69	10 3	16 45.68	-33 1.6	2.977	2.710	19.6	21.3	65 E	7* 58*
5 6	17 8.72	- 4 28.3	3.601	4.460	7.6	21.2	144 W	41 68	10 8	16 52.83	-32 36.9	3.018	2.689	19.1	21.3	62 E	7* 55*
5 16	17 2.94	- 4 12.4	3.513	4.438	5.9	21.0	153 W	41 68	10 13	17 0.27	-32 12.8	3.057	2.668	18.5	21.3	58 E	7* 52*
5 26	16 56.22	- 4 3.1	3.452	4.417	4.6	20.9	160 W	41 68	10 18	17 7.98	-31 49.0	3.093	2.647	17.9	21.3	55 E	7* 49*
6 5	16 48.97	- 4 1.7	3.420	4.394	4.2	20.9	162 E	41 68	10 23	17 15.92	-31 25.2	3.127	2.625	17.3	21.3	51 E	7* 45*
6 15	16 41.66	- 4 9.1	3.417	4.371	5.2	20.9	157 E	41 68	10 28	17 24.10	-31 1.2	3.158	2.604	16.6	21.3	48 E	7* 42*
6 25	16 34.78	- 4 25.5	3.442	4.347	6.9	21.0	149 E	41 68	11 2	17 32.49	-30 36.6	3.186	2.582	15.8	21.2	45 E	7* 39*
7 5	16 28.76	- 4 50.5	3.493	4.323	8.7	21.1	140 E	40 69	11 7	17 41.09	-30 11.4	3.211	2.560	15.0	21.2	42 E	7* 36*
7 15	16 23.95	- 5 23.3	3.567	4.298	10.3	21.2	131 E	40 69	11 12	17 49.86	-29 45.3	3.233	2.538	14.1	21.2	39 E	7* 33*
7 25	16 20.59	- 6 2.7	3.659	4.273	11.7	21.3	121 E	39* 70	11 17	17 58.80	-29 18.1	3.252	2.515	13.2	21.1	36 E	7* 29*
8 4	16 18.78	- 6 47.3	3.765	4.247	12.8	21.4	112 E	38* 71	11 22	18 7.89	-28 49.5	3.268	2.493	12.3	21.1	33 E	6* 26*
8 14	16 18.59	- 7 35.7	3.881	4.220	13.6	21.5	103 E	36* 72	11 27	18 17.12	-28 19.4	3.281	2.470	11.4	21.0	30 E	6* 23*
283626 2002 CK₂₁₀									366450 2002 AU₁₁								
4 16	17 16.66	-27 16.2	2.143	2.845	16.7	21.3	125 W	18 89	12 2	18 26.47	-27 47.5	3.290	2.447	10.4	21.0	27 E	5* 20*
4 26	17 14.16	-27 29.8	2.017	2.825	14.4	21.1	136 W	18 89	12 7	18 35.94	-27 13.8	3.295	2.424	9.3	20.9	24 E	5* 17*
5 6	17 8.76	-27 39.0	1.908	2.805	11.5	20.8	146 W	17 88	12 12	18 45.51	-26 38.1	3.298	2.401	8.3	20.9	21 E	4* 14*
5 16	17 0.63	-27 41.7	1.822	2.784	7.9	20.6	158 W	17 88	12 17	18 55.16	-26 0.2	3.297	2.378	7.2	20.8	18 E	3* 11*
5 26	16 50.37	-27 35.9	1.761	2.762	4.0	20.3	169 W	17 88	12 22	19 4.88	-25 20.0	3.292	2.355	6.1	20.7	15 E	2* 8*
5 31	16 44.73	-27 29.5	1.740	2.750	2.4	20.2	174 W	18 89	12 27	19 14.67	-24 37.3	3.284	2.331	5.0	20.6	12 E	1* 5*
6 5	16 38.93	-27 20.8	1.727	2.738	2.1	20.1	174 E	18 89	1 1	19 24.52	-23 52.1	3.273	2.308	3.9	20.6	9 E	— 2*
6 10	16 33.13	-27 9.9	1.721	2.726	3.6	20.2	170 E	18 89	1 6	19 34.42	-23 4.3	3.259	2.284	2.8	20.5	6 E	—
6 15																	

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

2021	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45° - 26°	21/22	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45° - 26°	
445267 2009 SD ₂₂₉ (continuation)									513233 2005 WE ₂ (continuation)									
7 15	19 21.07	-12 52.8	0.234	1.247	7.7	17.4	171 E	32	6 30	16 22.28	-27 32.5	0.788	1.743	17.1	20.0	150 E	17	88
7 20	19 28.57	-15 40.6	0.228	1.242	6.9	17.3	172 E	29	7 5	16 15.06	-28 59.0	0.807	1.733	20.5	20.1	143 E	16	87
7 25	19 36.98	-18 37.3	0.226	1.239	7.8	17.3	170 E	26	7 10	16 9.12	-30 19.7	0.831	1.723	23.5	20.3	138 E	15	86
7 30	19 46.30	-21 34.7	0.227	1.238	10.0	17.4	168 E	23	7 15	16 4.59	-31 35.1	0.858	1.713	26.2	20.4	132 E	13	84
8 4	19 56.47	-24 24.2	0.231	1.238	12.7	17.5	164 E	21	8 4	15 59.98	-33 52.1	0.921	1.693	30.6	20.7	122 E	11*	82
8 9	20 7.43	-26 57.8	0.238	1.241	15.6	17.7	161 E	18	8 4	16 1.19	-35 54.2	0.992	1.674	33.9	20.9	113 E	8*	80
8 14	20 19.03	-29 9.5	0.248	1.246	18.3	17.9	157 E	16	8 14	16 7.85	-37 44.9	1.067	1.654	36.2	21.1	105 E	6*	78
8 19	20 31.10	-30 55.5	0.262	1.252	20.8	18.1	154 E	14	8 24	16 19.43	-39 25.8	1.143	1.635	37.7	21.3	99 E	4*	77
8 24	20 43.40	-32 14.5	0.278	1.261	23.0	18.3	151 E	13	9 3	16 35.43	-40 56.2	1.217	1.617	38.5	21.4	93 E	2*	74*
8 29	20 55.69	-33 7.1	0.296	1.271	24.9	18.5	148 E	12	363237 2001 YX									
9 3	21 7.80	-33 35.0	0.318	1.283	26.6	18.8	145 E	11	4 16	17 47.17	-46 47.4	2.314	2.896	18.2	21.4	116 W	-	69
9 8	21 19.62	-33 40.6	0.341	1.296	28.0	19.0	143 E	11	4 21	17 47.21	-47 2.5	2.241	2.879	17.6	21.3	120 W	-	69
9 13	21 31.11	-33 26.8	0.368	1.311	29.2	19.2	140 E	12	4 26	17 46.36	-47 15.9	2.170	2.863	16.8	21.2	124 W	-	69
9 18	21 42.23	-32 56.4	0.397	1.328	30.3	19.4	138 E	12	5 1	17 44.58	-47 27.1	2.103	2.846	16.0	21.1	129 W	-	69
9 23	21 52.95	-32 12.3	0.428	1.345	31.1	19.6	136 E	13	5 6	17 41.84	-47 35.3	2.040	2.828	15.0	20.9	133 W	-	68
9 28	22 3.29	-31 17.1	0.462	1.364	31.9	19.9	134 E	14	5 11	17 38.14	-47 39.7	1.980	2.811	14.0	20.8	138 W	-	68
10 3	22 13.27	-30 12.9	0.499	1.385	32.6	20.1	132 E	15	5 16	17 33.51	-47 39.3	1.926	2.794	12.9	20.7	142 W	-	68
10 8	22 22.95	-29 1.4	0.538	1.406	33.1	20.3	130 E	16	5 21	17 28.04	-47 33.2	1.877	2.776	11.7	20.6	146 W	-	68
10 13	22 32.39	-27 44.2	0.580	1.428	33.6	20.5	128 E	17	5 26	17 21.84	-47 20.5	1.833	2.758	10.6	20.5	150 W	-	69
10 18	22 41.62	-26 22.7	0.624	1.450	34.0	20.7	125 E	19	5 31	17 15.07	-47 0.5	1.796	2.740	9.6	20.4	153 W	-	69
10 23	22 50.66	-24 58.2	0.671	1.474	34.4	20.9	123 E	20	6 5	17 7.91	-46 32.6	1.764	2.722	8.8	20.3	156 W	-	69
10 28	22 59.55	-23 31.5	0.720	1.498	34.6	21.1	121 E	21	6 10	17 0.57	-45 56.6	1.740	2.703	8.5	20.2	157 E	-	70
11 2	23 8.31	-22 3.3	0.772	1.523	34.8	21.3	119 E	23	6 15	16 53.28	-45 12.6	1.722	2.685	8.6	20.2	157 E	-	71
11 7	23 16.98	-20 34.3	0.827	1.548	35.0	21.5	116 E	24	6 20	16 46.29	-44 21.3	1.710	2.666	9.3	20.2	155 E	-	71
486171 2012 YB ₃									6 25	16 39.78	-43 23.5	1.706	2.647	10.4	20.2	152 E	-	73
4 16	17 40.25	+12 58.9	1.019	1.708	32.1	21.4	115 W	58	6 30	16 33.92	-42 20.4	1.708	2.628	11.7	20.3	148 E	-	74
4 21	17 40.75	+13 42.0	0.985	1.710	31.1	21.3	118 W	59	7 5	16 28.85	-41 13.4	1.716	2.609	13.2	20.3	144 E	-	75
4 26	17 40.11	+14 21.1	0.953	1.712	30.0	21.2	122 W	59	7 10	16 24.65	-40 4.0	1.729	2.589	14.7	20.4	140 E	-	76
5 1	17 38.30	+14 54.8	0.922	1.714	28.7	21.1	125 W	60	7 15	16 21.39	-38 53.5	1.749	2.570	16.3	20.4	135 E	-	77
5 5	17 35.27	+15 21.3	0.894	1.715	27.3	21.0	129 W	60	7 20	16 19.09	-37 43.2	1.773	2.550	17.7	20.5	130 E	-	78
5 11	17 31.04	+15 38.7	0.868	1.717	25.9	20.8	132 W	61	7 25	16 17.73	-36 34.2	1.801	2.530	19.1	20.6	126 E	-	8*
5 16	17 25.66	+15 44.7	0.845	1.717	24.5	20.7	135 W	61	7 30	16 17.28	-35 27.3	1.833	2.510	20.3	20.6	121 E	-	9*
5 21	17 19.26	+15 37.4	0.826	1.718	23.1	20.7	138 W	61	8 4	16 17.72	-34 23.1	1.869	2.490	21.4	20.7	116 E	-	10*
5 26	17 12.00	+15 15.2	0.810	1.718	21.9	20.6	141 W	60	8 9	16 18.99	-33 22.1	1.907	2.470	22.4	20.7	112 E	-	11*
5 31	17 4.12	+14 36.9	0.798	1.718	21.0	20.5	143 W	60	8 14	16 21.05	-32 24.4	1.948	2.450	23.2	20.8	107 E	-	12*
6 5	16 55.87	+13 42.1	0.791	1.717	20.4	20.5	144 W	59	8 19	16 23.84	-31 30.2	1.990	2.430	23.9	20.8	103 E	-	12*
6 10	16 47.56	+12 30.8	0.788	1.717	20.3	20.5	144 E	58	8 24	16 27.32	-30 39.3	2.033	2.409	24.5	20.9	99 E	-	13*
6 15	16 39.50	+11 4.2	0.791	1.716	20.8	20.5	143 E	56	8 29	16 31.42	-29 51.7	2.077	2.389	24.9	20.9	95 E	-	13*
6 20	16 31.98	+9 24.1	0.798	1.714	21.6	20.5	142 E	54	9 3	16 36.10	-29 7.0	2.122	2.368	25.2	21.0	91 E	-	14*
6 25	16 25.23	+7 33.0	0.810	1.713	22.9	20.6	139 E	53	9 8	16 41.33	-28 24.9	2.166	2.348	25.4	21.0	87 E	-	14*
6 30	16 19.44	+5 33.8	0.826	1.711	24.3	20.7	136 E	51	9 13	16 47.07	-27 45.2	2.211	2.327	25.5	21.0	84 E	-	15*
7 5	16 14.72	+3 28.9	0.847	1.709	26.0	20.8	133 E	48	9 18	16 53.27	-27 7.5	2.254	2.306	25.4	21.0	80 E	-	15*
7 10	16 11.15	+1 21.0	0.872	1.706	27.6	20.9	129 E	46	9 23	16 59.90	-26 31.4	2.297	2.285	25.3	21.1	77 E	-	15*
7 15	16 8.77	-0 47.9	0.901	1.703	29.2	21.0	125 E	44	9 28	17 6.93	-25 56.6	2.339	2.265	25.1	21.1	73 E	-	16*
7 20	16 7.56	-2 55.9	0.933	1.700	30.7	21.1	121 E	42	10 3	17 14.33	-25 22.6	2.380	2.244	24.8	21.1	70 E	-	16*
7 25	16 7.49	-5 1.7	0.967	1.697	32.0	21.2	118 E	40*	10 8	17 22.09	-24 49.2	2.419	2.223	24.4	21.1	67 E	-	16*
7 30	16 8.49	-7 4.2	1.004	1.693	33.2	21.3	114 E	38*	10 13	17 30.17	-24 15.9	2.456	2.203	23.9	21.1	64 E	-	17*
8 4	16 10.51	-9 2.8	1.043	1.689	34.3	21.5	110 E	35*	10 18	17 38.55	-23 42.5	2.492	2.182	23.4	21.1	61 E	-	17*
206913 2004 PH ₂₀									10 23	17 47.21	-23 8.6	2.525	2.161	22.9	21.1	58 E	-	17*
4 16	17 41.91	+0 45.3	2.414	3.017	17.1	21.4	118 W	46	10 28	17 56.12	-22 33.9	2.557	2.141	22.2	21.1	55 E	-	18*
4 26	17 40.34	+1 41.7	2.293	3.003	15.6	21.2	127 W	47	11 2	18 5.28	-21 58.1	2.586	2.120	21.6	21.0	52 E	-	18*
5 6	17 36.37	+2 33.0	2.186	2.988	13.8	21.1	135 W	48	11 7	18 14.66	-21 20.9	2.613	2.100	20.9	21.0	49 E	-	18*
5 16	17 30.09	+3 14.5	2.099	2.971	11.8	20.9	143 W	48	11 12	18 24.26	-20 42.1	2.638	2.080	20.1	21.0	46 E	-	18*
5 26	17 21.86	+3 41.4	2.034	2.954	10.0	20.7	150 W	49	11 17	18 34.04	-20 1.5	2.660	2.060	19.3	21.0	44 E	-	18*
6 5	17 12.29	+3 49.7	1.994	2.935	9.0	20.6	153 W	49	11 22	18 44.00	-19 18.8	2.680	2.040	18.5	20.9	41 E	-	18*
6 15	17 2.19	+3 36.6	1.979	2.916	9.4	20.6	152 E	49	11 27	18 54.12	-18 33.7	2.698	2.020	17.7	20.9	38 E	-	18*
6 25	16 52.47	+3 1.6	1.991	2.895	11.1	20.7	147 E	48	12 2	19 4.40	-17 46.2	2.713	2.000	16.8	20.9	36 E	-	18*
7 5	16 43.99	+2 6.7	2.026	2.874	13.3	20.8	139 E	47	12 7	19 14.81	-16 56.1	2.726	1.981	15.9	20.8	34 E	-	18*
7 15	16 37.39	+0 55.3	2.082	2.851	15.7	20.9	131 E	46	12 12	19 25.36	-16 3.1	2.737	1.962	15.1	20.8	31 E	-	18*
7 25	16 33.11	-0 28.3	2.156	2.828	17.7	21.1	122 E	45	12 17	19 36.01	-15 7.2	2.745	1.944	14.2	20.7	29 E	-	17*
8 4	16 31.31	-1 59.8	2.243	2.803	19.4	21.2	113 E	43*	12 22	19 46.78	-14 8.3	2.751	1.925	13.3	20.7	27 E	-	17*
8 14	16 31.99	-3 35.5	2.339	2.778	20.6	21.3	105 E	41*	12 27	19 57.64	-13 6.2	2.755	1.907	12.5	20.6	25 E	-	16*
8 24	16 35.03	-5 12.4	2.442	2.752	21.4	21.4	97 E	38*	1 1	20 8.60	-12 1.0	2.757	1.889	11.7	20.6	23 E	-	15*
9 3	16 40.27	-6 48.1	2.547	2.724	21.7	21.5	89 E	36*	1 6	20 19.64	-10 52.5	2.757	1.872	10.9	20.5	21 E	-	14*
513233 200																		

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

21/22	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°	21/22	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°
191964 2005 VF₇										206999 2004 TJ₂₂₀ (continuation)									
4 16	17 49.74	-49 45.0	2.329	2.896	18.4	21.5	115 W	—	66	1 16	21 34.30	-20 54.7	2.618	1.768	13.3	20.8	24 E	9*	16*
4 21	17 49.48	-50 17.4	2.269	2.891	17.7	21.4	119 W	—	66	1 21	21 47.06	-19 45.4	2.623	1.755	12.4	20.8	23 E	9*	14*
4 26	17 48.25	-50 48.7	2.212	2.885	17.0	21.3	123 W	—	65	494690 2004 JQ₁									
5 1	17 46.00	-51 18.2	2.158	2.880	16.2	21.2	127 W	—	65	4 16	18 8.07	+19 31.6	0.624	1.327	46.4	21.3	107 W	65	44
5 6	17 42.71	-51 45.0	2.108	2.874	15.3	21.2	131 W	—	64	4 21	18 15.94	+20 16.5	0.561	1.295	47.5	21.1	108 W	65	44
5 11	17 38.37	-52 8.2	2.062	2.868	14.4	21.1	135 W	—	64	4 26	18 24.22	+21 2.2	0.497	1.262	48.7	20.8	109 W	66	43
5 16	17 33.03	-52 26.8	2.021	2.862	13.4	21.0	139 W	—	64	5 1	18 33.27	+21 48.8	0.434	1.229	50.2	20.5	110 W	67	42
5 21	17 26.79	-52 39.6	1.985	2.855	12.4	20.9	143 W	—	63	5 6	18 43.71	+22 36.3	0.371	1.194	52.0	20.1	111 W	68	41
5 26	17 19.79	-52 45.7	1.954	2.849	11.6	20.8	146 W	—	63	5 11	18 56.67	+23 25.1	0.308	1.158	54.4	19.7	111 W	68	41
5 31	17 12.21	-52 44.2	1.930	2.842	10.9	20.8	148 W	—	63	5 16	19 14.48	+24 15.2	0.246	1.121	57.7	19.3	110 W	69	40
6 5	17 4.25	-52 34.7	1.911	2.834	10.4	20.7	150 W	—	63	5 18	19 23.98	+24 35.2	0.221	1.106	59.5	19.1	110 W	70	39
6 10	16 56.18	-52 16.7	1.898	2.827	10.2	20.7	151 E	—	64	5 20	19 35.63	+24 54.6	0.197	1.091	61.6	18.9	109 W	70	39
6 15	16 48.24	-51 50.4	1.892	2.819	10.3	20.7	150 E	—	64	5 22	19 50.34	+25 12.1	0.173	1.075	64.3	18.6	107 W	70*	39
6 20	16 40.70	-51 16.3	1.892	2.811	10.8	20.7	149 E	—	65	5 24	20 9.52	+25 24.5	0.150	1.060	67.7	18.4	104 W	70*	39
6 25	16 33.77	-50 35.4	1.898	2.803	11.5	20.7	146 E	—	65	5 26	20 35.36	+25 24.6	0.128	1.044	72.3	18.2	101 W	69*	39
6 30	16 27.60	-49 48.7	1.911	2.794	12.5	20.8	144 E	—	66	5 27	20 51.78	+25 15.2	0.117	1.037	75.3	18.0	98 W	68*	39
7 5	16 22.33	-48 57.6	1.928	2.785	13.6	20.8	140 E	—	67	5 28	21 11.22	+24 55.0	0.107	1.029	78.8	18.0	95 W	66*	39
7 10	16 18.02	-48 3.3	1.952	2.776	14.7	20.9	136 E	—	68	5 29	21 34.28	+24 18.4	0.098	1.021	82.9	17.9	92 W	63*	40
7 15	16 14.74	-47 7.1	1.980	2.767	15.8	21.0	132 E	—	69	5 30	22 1.47	+23 17.7	0.090	1.013	87.8	17.9	87 W	59*	41
7 20	16 12.47	-46 10.3	2.013	2.757	16.9	21.0	128 E	—	70	5 31	22 33.09	+21 43.5	0.083	1.005	93.7	17.9	82 W	53*	42
7 25	16 11.19	-45 13.9	2.050	2.748	17.9	21.1	124 E	—	71	6 1	23 8.85	+19 27.1	0.077	0.997	100.3	18.1	75 W	47*	44*
7 30	16 10.86	-44 18.6	2.090	2.738	18.8	21.1	120 E	1*	72	6 2	23 47.64	+16 24.7	0.074	0.989	107.5	18.3	68 W	38*	46*
8 4	16 11.42	-43 25.1	2.134	2.727	19.6	21.2	115 E	1*	73	6 3	0 27.50	+12 43.2	0.073	0.982	114.9	18.8	61 W	30*	46*
8 9	16 12.82	-42 33.7	2.180	2.717	20.4	21.3	111 E	2*	73	6 4	1 6.15	+ 8 41.1	0.074	0.974	121.7	19.3	55 W	21*	44*
8 14	16 15.01	-41 44.9	2.229	2.706	21.0	21.3	107 E	2*	74	6 5	1 41.68	+ 4 41.7	0.078	0.966	127.3	19.8	49 W	12*	42*
8 19	16 17.92	-40 58.7	2.279	2.695	21.5	21.4	103 E	3*	75	6 6	2 13.00	+ 1 3.7	0.083	0.958	131.4	20.4	45 W	5*	39*
8 24	16 21.49	-40 15.2	2.331	2.684	21.8	21.4	99 E	3*	76	6 7	2 39.89	- 2 3.7	0.091	0.950	134.1	20.8	42 W	—	36*
8 29	16 25.67	-39 34.3	2.383	2.672	22.1	21.5	95 E	4*	76*	6 8	3 2.65	- 4 39.1	0.099	0.942	135.7	21.2	40 W	—	33*
206999 2004 TJ₂₂₀										345130 2005 RS₂₉									
4 16	17 52.54	-26 57.7	2.031	2.649	19.6	21.3	118 W	18	89	4 16	18 10.15	+ 3 2.1	1.252	1.859	30.4	21.3	111 W	48	61
4 26	17 53.50	-27 37.5	1.892	2.623	17.8	21.1	127 W	17	88	4 21	18 13.94	+ 4 48.1	1.207	1.853	29.8	21.2	113 W	50	59
5 6	17 51.41	-28 20.4	1.766	2.597	15.3	20.9	137 W	17	88	4 26	18 16.96	+ 6 37.7	1.164	1.846	29.2	21.1	116 W	52	57
5 16	17 46.05	-29 4.7	1.658	2.570	12.1	20.6	148 W	16	87	5 1	18 19.15	+ 8 29.9	1.124	1.839	28.6	21.0	119 W	53	56
5 26	17 37.54	-29 47.3	1.571	2.541	8.3	20.3	159 W	15	86	5 6	18 20.48	+10 23.6	1.084	1.832	27.9	20.9	122 W	55	54
5 31	17 32.26	-30 6.6	1.537	2.527	6.3	20.1	164 W	15	86	5 11	18 20.88	+12 17.4	1.054	1.825	27.2	20.8	124 W	57	52
6 5	17 26.44	-30 24.0	1.509	2.512	4.4	20.0	169 W	15	86	5 16	18 20.33	+14 9.4	1.023	1.818	26.5	20.7	127 W	59	50
6 10	17 20.23	-30 38.7	1.488	2.498	3.2	19.9	172 W	14	85	5 21	18 18.83	+15 57.7	0.996	1.811	25.8	20.7	129 W	61	48
6 15	17 13.79	-30 50.6	1.474	2.483	3.5	19.9	171 E	14	85	5 26	18 16.40	+17 40.3	0.973	1.804	25.3	20.6	131 W	63	46
6 20	17 7.34	-30 59.4	1.466	2.467	5.2	19.9	167 E	14	85	5 31	18 13.09	+19 14.9	0.953	1.796	24.8	20.5	132 W	64	45
6 25	17 1.06	-31 5.2	1.465	2.452	7.4	20.0	162 E	14	85	6 5	18 8.96	+20 39.5	0.936	1.789	24.5	20.5	133 W	66	43
6 30	16 55.14	-31 8.2	1.471	2.437	9.6	20.1	156 E	14	85	6 10	18 4.14	+21 51.6	0.924	1.781	24.5	20.4	133 W	67	42
7 5	16 49.75	-31 8.9	1.482	2.421	11.8	20.2	151 E	14	85	6 15	17 58.79	+22 49.6	0.914	1.774	24.6	20.4	133 W	68	41
7 10	16 45.03	-31 7.6	1.499	2.405	14.0	20.3	145 E	14	85	6 20	17 53.14	+23 31.9	0.909	1.766	24.9	20.4	133 E	69	40
7 15	16 41.09	-31 5.0	1.521	2.389	16.0	20.4	140 E	14	85	6 25	17 47.40	+23 57.8	0.906	1.758	25.4	20.4	132 E	69	40
7 20	16 38.03	-31 1.7	1.548	2.373	17.8	20.5	134 E	14	85	6 30	17 41.79	+24 7.0	0.907	1.750	26.0	20.4	131 E	69	40
7 25	16 35.88	-30 58.2	1.578	2.356	19.5	20.5	129 E	14	85	7 5	17 36.53	+23 59.7	0.910	1.742	26.8	20.4	129 E	69	40
7 30	16 34.66	-30 55.0	1.612	2.340	21.0	20.6	124 E	14	85	7 10	17 31.84	+23 36.7	0.916	1.735	27.7	20.4	128 E	69	40
8 4	16 34.37	-30 52.3	1.648	2.323	22.3	20.7	120 E	14*	85	7 15	17 27.89	+22 59.0	0.925	1.727	28.6	20.5	125 E	68	41
8 9	16 34.99	-30 50.4	1.687	2.306	23.5	20.8	115 E	14*	85	7 20	17 24.83	+22 8.4	0.937	1.719	29.6	20.5	123 E	67	42
8 14	16 36.51	-30 49.5	1.728	2.290	24.5	20.8	111 E	14*	85	7 25	17 22.73	+21 6.6	0.950	1.711	30.6	20.6	121 E	66	43
8 19	16 38.89	-30 49.5	1.770	2.273	25.3	20.9	106 E	14*	85	7 30	17 21.65	+19 55.3	0.965	1.703	31.6	20.6	119 E	65	44
8 24	16 42.08	-30 50.5	1.813	2.255	26.0	20.9	102 E	13*	85	8 4	17 21.60	+18 36.1	0.982	1.695	32.5	20.7	116 E	64	45
8 29	16 46.04	-30 52.2	1.856	2.238	26.5	21.0	98 E	13*	85	8 9	17 22.60	+17 10.7	1.000	1.687	33.3	20.7	114 E	62	47
9 3	16 50.73	-30 54.6	1.900	2.221	26.9	21.0	95 E	13*	85*	8 14	17 24.62	+15 40.6	1.020	1.680	34.2	20.8	111 E	61	48
9 8	16 56.11	-30 57.4	1.944	2.204	27.2	21.1	91 E	13*	83*	8 19	17 27.64	+14 7.2	1.042	1.672	34.9	20.8	109 E	59	50
9 13	17 2.15	-31 0.4	1.987	2.186	27.4	21.1	87 E	12*	80*	8 24	17 31.59	+12 32.0	1.064	1.665	35.6	20.9	107 E	58*	51
9 18	17 8.80	-31 3.3	2.030	2.168	27.4	21.1	84 E	12*	77*	8 29	17 36.44	+10 55.8	1.087	1.657	36.2	21.0	104 E	56*	53
9 23	17 16.03	-31 5.9	2.071	2.151	27.4	21.2	81 E	12*	74*	9 3	17 42.13	+ 9 19.7	1.112	1.650	36.7	21.0	102 E	54*	55
9 28	17 23.80	-31 7.8	2.112	2.133	27.3	21.2	78 E	12*	71*	9 8	17 48.62	+ 7 44.5	1.138	1.643	37.2	21.1	100 E	53*	56
10 3	17 32.07	-31 8.8	2.152	2.116	27.1	21.2	74 E	11*	68*	9 13	17 55.86	+ 6 11.1	1.164	1.636	37.6	21.1	98 E	51*	58
10 8	17 40.83	-31 8.5	2.191	2.098	26.8	21.2	71 E	11*	65*	9 18	18 3.81	+ 4 40.2	1.191	1.629	37.9	21.2	95 E	49*	59*
10 13	17 50.05	-31 6.7	2.228	2.080	26.5	21.2	68 E	11*	62*	9 23	18 12.41	+ 3 12.5	1.220	1.622	38.2				

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

21/22	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45° - 26°	2021	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45° - 26°
275568 1999 TR₃₈									394823 2008 SY₁₀₇								
<i>(continuation)</i>									<i>(continuation)</i>								
6 5	18 46.14	-13 39.2	0.857	1.814	15.5	19.7	151 W	31 78	5 26	19 8.88	-15 32.5	0.870	1.756	22.9	20.1	138 W	29 80
6 15	18 40.67	-13 3.0	0.796	1.787	10.7	19.3	161 W	32 77	6 5	19 9.96	-14 11.2	0.798	1.736	18.9	19.8	146 W	31 78
6 20	18 36.87	-12 50.0	0.772	1.774	8.4	19.2	165 W	32 77	6 10	19 9.11	-13 32.3	0.768	1.727	16.7	19.6	151 W	31 78
6 25	18 32.55	-12 41.1	0.753	1.761	6.6	19.0	168 W	32 77	6 15	19 7.37	-12 55.5	0.742	1.719	14.3	19.4	155 W	32 77
6 30	18 27.91	-12 36.4	0.739	1.748	6.2	18.9	169 E	32 77	6 20	19 4.86	-12 21.7	0.721	1.711	11.8	19.3	160 W	33 76
7 5	18 23.18	-12 36.2	0.730	1.736	7.5	19.0	167 E	32 77	6 25	19 1.71	-11 51.3	0.703	1.703	9.5	19.1	164 W	33 76
7 10	18 18.58	-12 40.5	0.725	1.724	9.8	19.0	163 E	32 77	6 30	18 58.07	-11 25.2	0.690	1.697	7.7	19.0	167 W	34 75
7 15	18 14.40	-12 49.4	0.726	1.712	12.6	19.1	158 E	32 77	7 5	18 54.15	-11 3.8	0.682	1.690	7.0	18.9	168 E	34 75
7 20	18 10.84	-13 2.3	0.731	1.701	15.5	19.2	153 E	32 77	7 10	18 50.17	-10 47.7	0.679	1.685	7.9	18.9	167 E	34 75
7 25	18 8.10	-13 18.9	0.739	1.691	18.3	19.3	149 E	32 77	7 15	18 46.40	-10 37.1	0.680	1.680	9.8	19.0	164 E	34 75
7 30	18 6.30	-13 38.7	0.752	1.681	21.0	19.4	144 E	31 78	7 25	18 40.35	-10 31.6	0.695	1.672	14.9	19.3	155 E	34 75
8 4	18 5.56	-14 1.0	0.768	1.671	23.5	19.6	139 E	31 78	8 4	18 37.42	-10 44.5	0.726	1.666	20.0	19.5	146 E	34 75
8 9	18 5.92	-14 25.3	0.787	1.662	25.8	19.7	134 E	31 78	8 14	18 38.41	-11 10.6	0.772	1.663	24.5	19.8	137 E	34 75
8 14	18 7.43	-14 50.7	0.809	1.654	27.9	19.8	130 E	30 79	8 19	18 40.47	-11 26.5	0.799	1.663	26.4	19.9	133 E	34 75
8 24	18 13.81	-15 42.5	0.859	1.639	31.4	20.0	122 E	29 80	8 24	18 43.54	-11 43.4	0.828	1.663	28.1	20.0	129 E	33 76
9 3	18 24.33	-16 31.3	0.916	1.627	34.1	20.2	115 E	28 81	8 29	18 47.57	-12 0.3	0.860	1.664	29.6	20.2	125 E	33 76
9 13	18 38.52	-17 12.3	0.980	1.617	36.0	20.4	109 E	28 81	9 3	18 52.50	-12 16.7	0.895	1.666	30.9	20.3	122 E	33 76
9 23	18 55.83	-17 41.7	1.048	1.610	37.3	20.5	103 E	27 82	9 13	19 4.82	-12 45.5	0.969	1.671	32.9	20.5	115 E	32 77
10 3	19 15.65	-17 56.1	1.120	1.606	38.1	20.7	98 E	27 82	9 23	19 19.97	-13 5.3	1.051	1.679	34.3	20.8	110 E	32 77
10 13	19 37.48	-17 53.4	1.196	1.605	38.4	20.9	94 E	27 81*	10 3	19 37.34	-13 13.3	1.139	1.689	35.1	21.0	104 E	32 77
10 23	20 0.80	-17 32.1	1.276	1.607	38.3	21.0	89 E	27 78*	10 13	19 56.46	-13 7.3	1.233	1.702	35.4	21.2	99 E	32 77
11 2	20 25.14	-16 51.7	1.358	1.612	37.8	21.1	85 E	28 73*	10 23	20 16.86	-12 46.4	1.331	1.717	35.3	21.3	94 E	32 76*
11 12	20 50.14	-15 52.6	1.444	1.619	37.2	21.2	81 E	29 68*	120966 1998 VT₂₉								
11 22	21 15.45	-14 35.8	1.533	1.630	36.2	21.4	77 E	30 63*	4 16	18 37.81	-25 39.0	2.467	2.928	19.1	21.4	107 W	19* 90
12 2	21 40.83	-13 3.2	1.625	1.643	35.1	21.5	73 E	32 58*	4 26	18 39.78	-25 39.9	2.335	2.928	17.9	21.2	117 W	19 90
455170 1999 ND₅									5 6	18 39.12	-25 42.6	2.212	2.927	16.1	21.0	127 W	19 90
4 16	18 24.22	-17 10.8	1.332	1.922	29.4	21.3	110 W	28* 81	5 16	18 35.68	-25 46.7	2.104	2.925	13.6	20.8	137 W	19 90
4 26	18 36.27	-17 1.4	1.194	1.877	28.6	21.0	117 W	28 81	5 26	18 29.50	-25 51.0	2.014	2.922	10.6	20.6	148 W	19 90
5 6	18 46.42	-16 55.4	1.065	1.831	27.2	20.7	124 W	28 81	6 5	18 20.92	-25 53.6	1.947	2.919	7.0	20.4	159 W	19 90
5 16	18 54.20	-16 57.0	0.945	1.786	25.0	20.3	132 W	28 81	6 10	18 15.90	-25 53.7	1.923	2.916	5.1	20.3	165 W	19 90
5 26	18 59.13	-17 11.6	0.838	1.741	21.9	19.9	140 W	28 81	6 15	18 10.54	-25 52.6	1.906	2.914	3.1	20.1	171 W	19 90
5 31	19 0.40	-17 25.5	0.789	1.719	19.9	19.7	145 W	28 81	6 20	18 4.97	-25 50.2	1.896	2.911	1.2	20.0	177 W	19 90
6 5	19 0.78	-17 44.6	0.743	1.697	17.7	19.4	149 W	27 82	6 25	17 59.34	-25 46.5	1.893	2.908	1.5	20.0	176 E	19 90
6 10	19 0.25	-18 9.6	0.701	1.675	15.2	19.2	154 W	27 82	6 30	17 53.77	-25 41.5	1.897	2.904	3.4	20.1	170 E	19 90
6 15	18 58.79	-18 41.0	0.664	1.654	12.4	18.9	160 W	26 83	7 5	17 48.40	-25 35.3	1.909	2.901	5.4	20.3	164 E	19 90
6 25	18 53.32	-20 3.0	0.601	1.612	6.0	18.4	170 W	25 84	7 10	17 43.37	-25 28.1	1.927	2.897	7.4	20.4	158 E	20 89
7 5	18 45.20	-21 48.1	0.556	1.572	1.8	17.9	177 E	23 86	7 15	17 38.78	-25 20.2	1.952	2.893	9.3	20.5	153 E	20 89
7 15	18 36.12	-23 48.2	0.529	1.535	9.4	18.2	166 E	21 88	7 25	17 31.31	-25 3.6	2.019	2.884	12.7	20.7	141 E	20 89
7 20	18 31.98	-24 50.2	0.522	1.517	13.3	18.3	160 E	20 89	8 4	17 26.46	-24 47.4	2.106	2.874	15.5	20.9	131 E	20 89
7 25	18 28.54	-25 51.7	0.519	1.500	17.1	18.4	154 E	19 90	8 14	17 24.40	-24 33.5	2.210	2.863	17.7	21.0	121 E	20 89
7 30	18 26.06	-26 51.2	0.519	1.484	20.7	18.5	149 E	18 89	8 24	17 25.11	-24 22.5	2.324	2.851	19.3	21.2	111 E	21* 88
8 4	18 24.77	-27 47.8	0.522	1.469	24.1	18.6	144 E	17 88	9 3	17 28.38	-24 14.3	2.446	2.839	20.3	21.3	102 E	21* 88
8 9	18 24.87	-28 40.5	0.529	1.454	27.3	18.7	139 E	16 87	9 13	17 33.97	-24 8.2	2.572	2.825	20.8	21.4	94 E	20* 87*
8 14	18 26.49	-29 28.7	0.537	1.441	30.2	18.7	134 E	16 87	377789 2006 AV₁₁								
8 24	18 34.51	-30 49.4	0.561	1.417	35.1	18.9	126 E	14 85	4 16	18 48.76	-24 39.3	1.757	2.236	25.7	21.3	105 W	20* 89
9 3	18 48.61	-31 45.5	0.590	1.398	38.8	19.1	120 E	13 84	4 26	18 59.31	-24 18.5	1.606	2.194	25.1	21.1	112 W	21* 88
9 13	19 8.19	-32 12.6	0.625	1.384	41.6	19.3	114 E	13 84	5 6	19 7.75	-23 56.3	1.463	2.153	24.0	20.8	120 W	21* 88
9 18	19 19.74	-32 14.1	0.644	1.380	42.6	19.4	112 E	13 84	5 16	19 13.65	-23 34.0	1.331	2.111	22.1	20.5	128 W	21 88
9 23	19 32.25	-32 6.8	0.665	1.376	43.4	19.5	109 E	13 84	5 26	19 16.61	-23 12.6	1.210	2.071	19.4	20.2	137 W	22 87
9 28	19 45.56	-31 50.6	0.686	1.374	44.1	19.6	107 E	13 84	6 5	19 16.31	-22 52.9	1.105	2.031	15.9	19.8	147 W	22 87
10 3	19 59.53	-31 25.0	0.709	1.373	44.6	19.6	106 E	14 85	6 15	19 12.58	-22 34.5	1.016	1.992	11.4	19.4	157 W	22 87
10 8	20 14.02	-30 50.2	0.732	1.374	44.9	19.7	104 E	14 85	6 25	19 5.76	-22 16.4	0.947	1.953	6.1	19.0	168 W	23 86
10 13	20 28.90	-30 6.2	0.758	1.376	45.1	19.8	102 E	15 86	6 30	19 1.45	-22 7.0	0.921	1.935	3.2	18.8	174 W	23 86
10 18	20 44.01	-29 13.3	0.784	1.380	45.2	19.9	101 E	16 87	7 5	18 56.73	-21 57.1	0.899	1.916	0.5	18.5	179 W	23 86
10 23	20 59.24	-28 12.1	0.812	1.385	45.1	20.0	100 E	17 88	7 10	18 51.82	-21 46.5	0.884	1.898	3.1	18.6	174 E	23 86
10 28	21 14.47	-27 2.9	0.842	1.391	45.0	20.1	98 E	18 89	7 15	18 46.95	-21 35.4	0.874	1.880	6.3	18.8	168 E	23 86
11 2	21 29.63	-25 46.6	0.873	1.399	44.8	20.1	97 E	19 90	7 20	18 42.35	-21 23.8	0.869	1.863	9.4	18.9	163 E	24 85
11 7	21 44.65	-24 23.9	0.906	1.407	44.5	20.2	96 E	21 88*	7 25	18 38.27	-21 11.9	0.869	1.846	12.5	19.0	157 E	24 85
11 12	21 59.49	-22 55.5	0.941	1.417	44.1	20.3	94 E	22 86*	7 30	18 34.86	-20 59.8	0.874	1.830	15.5	19.1	151 E	24 85
11 17	22 14.11	-21 22.4	0.978	1.429	43.7	20.4	93 E	24 83*	8 4	18 32.31	-20 47.8	0.883	1.814	18.3	19.2	146 E	24 85
11 22	22 28.46	-19 45.5	1.017	1.441	43.2	20.5	92 E	25 80*	8 14	18 30.21	-20 24.8	0.912	1.784	23.3	19.4	136 E	25 84
11 27	22 42.55	-18 5.6	1.058	1.455	42.7	20.6	91 E	27 78*	8 24	18 32.49	-20 3.3	0.954	1.757	27.4	19.5	127 E	25 84
12 2	22 56.36	-16 23.4	1.101	1.469	42.2	20.7	89 E	29 75*	9 3	18 39.06	-19 42.3	1.005	1.732	30.7	19.7	119 E	25 84
12 7	23 9.92	-14 39.6	1.145	1.484	41.6	20.8	88 E	30 72*	9 13	18 49.60	-19 19.7	1.062	1.710	33.2	19.9		

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

21/22	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°	21/22	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°
377789 2006 AV₁₁										306421 1998 QB₁									
<i>(continuation)</i>																			
1 1	22 50.65	- 3 54.7	1.929	1.711	30.6	21.1	62 E	40*	39*	4 16	19 2.63	-24 30.8	1.209	1.721	34.8	21.2	102 W	20*	89
1 11	23 15.20	- 1 30.9	2.025	1.733	29.0	21.2	59 E	40*	34*	4 26	19 25.17	-24 13.2	1.082	1.672	35.3	20.9	106 W	20*	88
1 21	23 39.54	+ 0 55.1	2.124	1.757	27.3	21.3	55 E	40*	30*	5 6	19 47.70	-23 47.4	0.962	1.623	35.5	20.6	111 W	21*	88
3496 Arioso																			
4 16	18 49.57	+ 0 44.5	3.235	3.571	16.0	21.5	101 W	45*	63	5 16	20 10.12	-23 14.3	0.852	1.577	35.4	20.3	115 W	21*	87
4 26	18 50.79	+ 1 23.5	3.075	3.544	15.5	21.3	110 W	46*	63	5 26	20 32.32	-22 35.2	0.751	1.532	35.0	19.9	120 W	22*	87
5 6	18 50.10	+ 1 58.5	2.923	3.516	14.6	21.2	118 W	47	62	6 5	20 54.20	-21 51.2	0.661	1.490	34.2	19.6	124 W	23*	86
5 16	18 47.41	+ 2 26.8	3.783	3.488	13.4	21.0	127 W	47	62	6 15	21 15.49	-21 3.9	0.580	1.452	33.1	19.2	129 W	24*	85
5 26	18 42.71	+ 2 45.0	2.658	3.458	11.8	20.8	136 W	48	61	6 25	21 35.92	-20 14.8	0.510	1.417	31.4	18.8	133 W	25	84
6 5	18 36.15	+ 2 49.8	2.554	3.428	10.0	20.7	144 W	48	61	7 5	21 55.07	-19 25.3	0.451	1.386	29.2	18.5	138 W	26	83
6 15	18 28.03	+ 2 38.4	2.473	3.396	8.4	20.5	151 W	48	61	7 15	22 12.29	-18 36.8	0.403	1.361	26.4	18.1	144 W	26	83
6 25	18 18.89	+ 2 8.9	2.418	3.364	7.5	20.4	154 W	47	62	7 25	22 27.00	-17 49.4	0.365	1.342	22.8	17.7	149 W	27	82
7 5	18 9.39	+ 1 20.9	2.391	3.330	7.9	20.4	153 E	46	63	7 30	22 33.22	-17 25.8	0.350	1.335	20.7	17.6	152 W	28	81
7 15	18 0.29	+ 0 15.9	2.391	3.296	9.4	20.4	148 E	45	64	8 4	22 38.59	-17 1.9	0.337	1.329	18.4	17.4	156 W	28	81
7 25	17 52.30	- 1 3.2	2.417	3.261	11.6	20.5	140 E	44	65	8 9	22 43.06	-16 37.5	0.328	1.325	16.0	17.3	159 W	28	81
8 4	17 45.97	- 2 32.2	2.466	3.225	13.7	20.6	131 E	42	67	8 14	22 46.68	-16 11.9	0.321	1.322	13.4	17.1	162 W	29	80
8 14	17 41.70	- 4 7.1	2.534	3.188	15.7	20.7	122 E	41	68	8 19	22 49.53	-15 44.3	0.317	1.322	10.7	17.0	166 W	29	80
8 24	17 39.68	- 5 44.3	2.617	3.149	17.2	20.8	113 E	39	70	8 24	22 51.71	-15 14.3	0.316	1.323	8.1	16.9	169 W	30	79
9 3	17 39.93	- 7 20.6	2.711	3.110	18.4	20.9	104 E	38	71	8 29	22 53.37	-14 41.4	0.318	1.325	6.0	16.8	172 W	30	79
9 13	17 42.41	- 8 53.9	2.811	3.070	19.0	20.9	95 E	36*	73*	9 3	22 54.65	-14 5.4	0.322	1.330	5.0	16.8	173 W	31	78
9 23	17 46.97	-10 22.3	2.913	3.029	19.3	21.0	87 E	34*	72*	9 8	22 55.78	-13 26.2	0.330	1.336	6.0	16.9	172 E	32	77
10 3	17 53.45	-11 44.8	3.014	2.988	19.2	21.0	79 E	32*	67*	9 13	22 56.97	-12 43.5	0.342	1.343	8.2	17.1	169 E	32	77
10 13	18 1.68	-13 0.4	3.111	2.945	18.7	21.1	71 E	30*	61*	9 23	23 0.24	-11 8.6	0.374	1.363	13.5	17.5	162 E	34	75
10 23	18 11.49	-14 8.6	3.201	2.901	17.9	21.1	64 E	28*	53*	10 3	23 5.37	- 9 24.0	0.418	1.388	18.5	18.0	154 E	36	73
11 2	18 22.72	-15 8.8	3.283	2.856	16.8	21.1	56 E	26*	46*	10 13	23 12.79	- 7 32.6	0.476	1.419	22.8	18.4	147 E	37	72
11 12	18 35.24	-16 0.7	3.353	2.811	15.5	21.0	49 E	24*	39*	10 23	23 22.51	- 5 36.5	0.545	1.454	26.3	18.9	140 E	39	70
11 22	18 48.89	-16 44.0	3.410	2.764	14.0	21.0	43 E	21*	31*	11 2	23 34.16	- 3 37.7	0.627	1.493	29.0	19.3	133 E	41	68
12 2	19 3.56	-17 18.5	3.454	2.717	12.3	20.9	36 E	19*	24*	11 12	23 47.45	- 1 37.2	0.721	1.535	31.0	19.7	127 E	43	66
12 12	19 19.14	-17 44.1	3.484	2.669	10.4	20.8	29 E	16*	18*	11 22	0 2.04	+ 0 24.2	0.825	1.580	32.4	20.1	121 E	45	64
12 22	19 35.52	-18 0.9	3.498	2.620	8.4	20.7	23 E	12*	11*	12 2	0 17.61	+ 2 25.5	0.939	1.627	33.2	20.5	115 E	47	62
1 1	19 52.62	-18 8.8	3.497	2.570	6.3	20.6	17 E	8*	6*	12 12	0 33.98	+ 4 26.1	1.063	1.675	33.6	20.9	110 E	49	60
1 11	20 10.37	-18 8.1	3.480	2.520	4.1	20.4	11 E	3*	1*	12 22	0 50.97	+ 6 25.2	1.196	1.724	33.6	21.2	104 E	51	57*
1 21	20 28.68	-17 59.1	3.448	2.469	1.8	20.2	5 E	-	-	1 1	1 8.46	+ 8 21.9	1.335	1.775	33.2	21.5	99 E	53	53*
499307 2009 WC₅₂										452666 2005 WP₅₄									
4 16	18 57.21	-12 46.9	1.074	1.611	37.6	21.2	102 W	32*	77	4 16	19 2.77	-24 38.1	2.180	2.578	22.4	21.4	102 W	20*	89
4 21	19 10.56	-11 48.0	1.007	1.575	38.4	21.0	103 W	32*	76	4 26	19 5.38	-23 40.1	2.075	2.607	21.2	21.3	111 W	21*	88
4 26	19 24.36	-10 41.6	0.943	1.540	39.3	20.9	104 W	33*	75	5 6	19 5.02	-22 40.8	1.977	2.635	19.3	21.2	120 W	22*	87
5 1	19 38.67	- 9 27.1	0.883	1.505	40.2	20.7	105 W	35*	73	5 16	19 1.56	-21 40.3	1.890	2.662	16.7	21.0	131 W	23	86
5 6	19 53.58	- 8 4.2	0.825	1.471	41.2	20.5	106 W	36*	72	5 26	18 55.08	-20 38.6	1.819	2.689	13.5	20.8	142 W	24	85
5 11	20 9.13	- 6 32.5	0.772	1.437	42.3	20.4	107 W	37*	71	6 5	18 45.97	-19 36.0	1.769	2.714	9.7	20.6	153 W	25	84
5 16	20 25.41	- 4 51.8	0.722	1.404	43.5	20.2	107 W	39*	69	6 15	18 34.92	-18 33.4	1.745	2.738	5.6	20.4	165 W	26	83
5 26	21 0.56	- 1 3.8	0.633	1.341	46.3	19.9	107 W	42*	65	6 20	18 28.99	-18 2.5	1.743	2.750	3.6	20.3	170 W	27	82
6 5	21 39.72	+ 3 15.9	0.562	1.283	49.7	19.6	105 W	46*	61	6 25	18 22.98	-17 32.3	1.749	2.762	2.3	20.3	174 W	27	82
6 15	22 23.22	+ 7 53.8	0.508	1.231	53.6	19.4	103 W	49*	56	6 30	18 17.03	-17 3.2	1.762	2.773	2.7	20.3	172 E	28	81
6 20	22 46.54	+10 12.2	0.487	1.208	55.7	19.4	101 W	51*	54	7 5	18 11.28	-16 35.3	1.782	2.784	4.4	20.5	168 E	28	81
6 25	23 10.75	+12 25.4	0.471	1.187	57.6	19.3	99 W	53*	52	7 15	18 0.92	-15 44.9	1.844	2.805	8.3	20.7	157 E	29	80
6 30	23 35.66	+14 29.3	0.459	1.169	59.5	19.3	98 W	55*	50	7 25	17 52.70	-15 2.9	1.931	2.826	11.8	21.0	145 E	30	79
7 5	0 0.96	+16 20.4	0.452	1.154	61.2	19.3	96 W	56*	48	8 4	17 47.07	-14 30.0	2.040	2.845	14.7	21.2	135 E	31	78
7 10	0 26.30	+17 55.5	0.447	1.141	62.7	19.3	94 W	57*	46	8 14	17 44.17	-14 5.9	2.167	2.864	17.0	21.5	124 E	31	78
7 15	0 51.33	+19 12.5	0.446	1.131	63.8	19.3	93 W	58*	45	205560 2001 SC₂₈₂									
7 20	1 15.70	+20 10.9	0.447	1.125	64.5	19.3	92 W	59*	44	4 16	19 16.03	- 2 57.6	2.675	2.945	19.8	21.5	95 W	40*	67
7 25	1 39.12	+20 51.0	0.451	1.121	64.9	19.3	91 W	60*	43	4 26	19 20.07	- 2 8.2	2.537	2.940	19.4	21.3	104 W	42*	66
7 30	2 1.33	+21 14.0	0.456	1.121	64.8	19.3	91 W	61*	43	5 6	19 22.04	- 1 22.2	2.404	2.934	18.6	21.2	112 W	43*	65
8 4	2 22.14	+21 21.7	0.462	1.125	64.4	19.4	91 W	62*	43	5 16	19 21.75	- 0 42.4	2.280	2.927	17.3	21.0	121 W	44	65
8 9	2 41.40	+21 15.7	0.469	1.131	63.6	19.4	92 W	62*	43	5 26	19 19.08	- 0 12.3	2.167	2.918	15.5	20.9	130 W	45	64
8 14	2 59.02	+20 57.9	0.477	1.140	62.5	19.4	93 W	63*	43	6 5	19 14.07	+ 0 4.5	2.069	2.909	13.3	20.7	139 W	45	64
8 19	3 14.97	+20 30.2	0.484	1.153	61.1	19.4	94 W	63*	43	6 15	19 6.90	+ 0 4.5	1.992	2.899	10.9	20.5	147 W	45	64
8 24	3 29.24	+19 54.1	0.491	1.168	59.4	19.4	96 W	64*	44	6 25	18 58.07	- 0 14.7	1.937	2.888	8.7	20.3	155 W	45	64
9 3	3 52.67	+18 22.3	0.504	1.207	55.3	19.4	100 W	63*	46	7 5	18 48.29	- 0 54.1	1.908	2.876	7.6	20.2	158 E	44	65
9 13	4 9.17	+16 30.4	0.514	1.254	50.2	19.4	107 W	62	47	7 15	18 38.43	- 1 52.4	1.906	2.863	8.4	20.3	156 E	43	66
9 23	4 18.73	+14 25.2	0.524	1.309	44.3	19.4	114 W	59	50	7 25	18 29.46	- 3 6.3	1.931	2.849	10.6	20.4	149 E	42	67
10 3	4 21.41	+12 12.8	0.534	1.370	37.5	19.3	124 W	57	52	8 4	18 22.13	- 4 30.9	1.980	2.835	13.2	20.5	140 E	40	69
10 8	4 20.25	+11 6.0	0.540	1.402	33.8	19.3	129 W	56	53	8 14									

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

2021	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°-26°	21/22	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°-26°
338698 2003 UV₁₉									468910 2014 KQ₇₆ (continuation)								
4 16	19 18.10	+5 49.5	1.023	1.475	42.8	21.4	93 W	49* 58	5 24	13 42.87	+10 26.1	0.293	1.233	36.5	20.8	134 E	55 54
4 21	19 27.47	+9 7.5	0.993	1.470	43.0	21.3	95 W	52* 55	5 26	13 42.47	+9 21.7	0.309	1.243	36.9	20.9	133 E	54 55
4 26	19 36.43	+12 32.5	0.965	1.464	43.1	21.2	96 W	56* 51	5 31	13 42.50	+6 56.6	0.351	1.267	38.1	21.3	130 E	52 57
5 1	19 44.96	+16 3.1	0.941	1.458	43.3	21.2	97 W	59* 48	6 5	13 43.78	+4 49.0	0.394	1.289	39.2	21.6	127 E	50 59
5 6	19 53.01	+19 37.6	0.919	1.453	43.5	21.1	98 W	63* 44	6 10	13 46.10	+2 54.3	0.439	1.309	40.3	21.9	123 E	48 61
5 11	20 0.56	+23 13.9	0.901	1.447	43.7	21.1	98 W	67* 41	6 15	13 49.30	+1 9.4	0.484	1.328	41.3	22.2	120 E	46* 63
5 16	20 7.56	+26 49.8	0.885	1.442	43.9	21.0	99 W	70* 37	525498 2005 GE₆₀								
5 21	20 13.99	+30 23.2	0.872	1.437	44.1	21.0	99 W	74* 34	4 16	19 24.01	-28 14.9	0.208	1.051	71.3	21.3	97 W	15* 88
5 26	20 19.80	+33 52.1	0.862	1.431	44.3	21.0	99 W	78* 30	4 18	19 39.78	-27 0.7	0.201	1.043	73.3	21.3	96 W	16* 89*
5 31	20 24.96	+37 14.6	0.853	1.426	44.5	20.9	99 W	82* 27	4 20	19 56.07	-25 34.8	0.195	1.036	75.4	21.3	94 W	17* 88*
6 5	20 29.40	+40 29.2	0.846	1.421	44.8	20.9	99 W	85 24	4 22	20 12.82	-23 56.6	0.189	1.028	77.7	21.3	92 W	17* 86*
6 10	20 33.05	+43 34.3	0.840	1.417	45.0	20.9	99 W	89 20	4 24	20 29.93	-22 6.1	0.184	1.020	80.2	21.3	89 W	18* 83*
6 15	20 35.83	+46 28.4	0.836	1.412	45.3	20.9	99 W	89 18	4 26	20 47.32	-20 3.6	0.180	1.013	82.9	21.3	87 W	19* 80*
6 20	20 37.72	+49 10.2	0.831	1.407	45.5	20.9	99 W	86 15	4 28	21 4.85	-17 50.1	0.178	1.005	85.6	21.4	84 W	20* 77*
6 25	20 38.64	+51 39.1	0.827	1.403	45.7	20.9	99 W	83 12	4 30	21 22.42	-15 27.0	0.176	0.996	88.5	21.4	81 W	20* 74*
6 30	20 38.56	+53 54.1	0.823	1.399	45.9	20.9	98 W	81 10	543508 2014 MG₁								
7 5	20 37.42	+55 54.6	0.819	1.395	46.1	20.8	98 W	79 8	4 16	19 41.49	-19 26.7	1.312	1.681	36.6	21.4	92 W	23* 83*
7 10	20 35.22	+57 39.6	0.813	1.392	46.3	20.8	98 W	77 6	4 26	20 2.76	-17 47.8	1.220	1.668	36.8	21.2	97 W	25* 82
7 15	20 32.03	+59 8.3	0.807	1.388	46.4	20.8	98 W	76 5	5 6	20 22.29	-15 58.9	1.133	1.658	36.6	21.1	101 W	27* 80
7 20	20 27.98	+60 20.0	0.800	1.385	46.5	20.8	99 W	75 4	5 16	20 39.72	-14 3.5	1.050	1.651	36.0	20.9	106 W	29* 78
7 25	20 23.27	+61 14.2	0.791	1.382	46.5	20.8	99 W	74 3	5 26	20 54.71	-12 5.7	0.974	1.646	34.8	20.7	112 W	32* 76
7 30	20 18.15	+61 50.4	0.781	1.380	46.5	20.7	99 W	73 2	6 5	21 6.89	-10 10.0	0.903	1.645	33.0	20.4	118 W	34* 74
8 4	20 12.91	+62 7.9	0.770	1.377	46.5	20.7	100 W	73 2	6 15	21 15.81	-8 22.0	0.840	1.646	30.5	20.2	125 W	37* 72
8 9	20 7.95	+62 6.2	0.758	1.375	46.4	20.6	101 E	73 2	6 20	21 18.92	-7 32.7	0.811	1.648	28.9	20.1	128 W	37 72
8 14	20 3.67	+61 44.9	0.744	1.373	46.2	20.6	102 E	73 2	6 25	21 21.09	-6 47.5	0.785	1.651	27.1	20.0	132 W	38 71
8 19	20 0.43	+61 4.0	0.729	1.372	46.0	20.5	103 E	74 3	6 30	21 22.30	-6 7.2	0.762	1.654	25.1	19.9	136 W	39 70
8 24	19 58.52	+60 3.4	0.713	1.371	45.7	20.5	104 E	75 4	7 5	21 22.53	-5 32.5	0.741	1.658	22.8	19.7	141 W	39 70
8 29	19 58.11	+58 42.8	0.697	1.370	45.3	20.4	105 E	76 5	7 15	21 20.17	-4 43.1	0.709	1.668	17.8	19.5	150 W	40 69
9 3	19 59.32	+57 1.6	0.680	1.369	44.9	20.4	107 E	78 7	7 25	21 14.70	-4 22.7	0.692	1.681	12.4	19.3	159 W	41 68
9 13	20 6.79	+52 35.6	0.647	1.369	43.7	20.2	110 E	82 11	8 4	21 7.36	-4 31.1	0.692	1.696	7.8	19.1	167 W	40 69
9 23	20 20.56	+46 44.1	0.618	1.371	42.3	20.1	113 E	88 17	8 9	21 3.51	-4 44.7	0.699	1.705	6.8	19.1	168 E	40 69
10 3	20 39.46	+39 31.7	0.599	1.373	40.9	20.0	116 E	85 24	8 14	20 59.85	-5 3.2	0.711	1.714	7.4	19.2	167 E	40 69
10 8	20 50.43	+35 30.4	0.594	1.375	40.4	20.0	117 E	81 28	8 19	20 56.60	-5 25.4	0.727	1.723	9.2	19.3	164 E	40 69
10 13	21 2.21	+31 18.2	0.595	1.377	40.1	19.9	117 E	76 33	8 24	20 53.93	-5 49.8	0.748	1.734	11.4	19.5	160 E	39 70
10 18	21 14.63	+27 0.8	0.600	1.379	39.9	20.0	117 E	72 37	8 29	20 51.97	-6 15.3	0.774	1.744	13.8	19.6	156 E	39 70
10 23	21 27.50	+22 44.7	0.610	1.381	40.0	20.0	117 E	68 41	9 3	20 50.83	-6 40.6	0.804	1.755	16.2	19.8	151 E	38 71
10 28	21 40.70	+18 35.8	0.626	1.384	40.3	20.1	116 E	64 45	9 8	20 50.54	-7 4.9	0.838	1.767	18.4	20.0	146 E	38 71
11 2	21 54.12	+14 39.9	0.647	1.387	40.8	20.2	114 E	60 49	9 13	20 51.16	-7 27.1	0.876	1.779	20.4	20.2	142 E	38 71
11 7	22 7.66	+11 1.5	0.673	1.391	41.4	20.3	112 E	56 53	9 23	20 55.01	-8 2.8	0.962	1.805	23.9	20.5	133 E	37 72
11 12	22 21.25	+7 43.7	0.704	1.394	42.0	20.4	110 E	53 56	10 3	21 1.99	-8 24.5	1.060	1.831	26.5	20.8	125 E	37 72
11 17	22 34.81	+4 47.9	0.739	1.398	42.5	20.5	107 E	50 59*	10 13	21 11.67	-8 30.6	1.170	1.859	28.3	21.1	118 E	36 73
11 22	22 48.28	+2 14.3	0.777	1.402	43.0	20.7	105 E	47 62*	10 23	21 23.52	-8 20.8	1.288	1.888	29.5	21.4	111 E	37 72
11 27	23 1.63	+0 2.2	0.819	1.406	43.4	20.8	102 E	45 63*	410352 2007 VC₁₁								
12 2	23 14.85	+1 49.6	0.864	1.411	43.6	20.9	99 W	43 65*	4 16	19 48.38	-23 6.0	1.711	2.001	30.1	21.4	91 W	19* 85*
12 7	23 27.92	+3 22.7	0.910	1.415	43.8	21.0	97 E	42 65*	4 26	20 5.44	-22 3.4	1.575	1.967	30.5	21.2	97 W	20* 86
12 12	23 40.84	+4 38.8	0.959	1.420	43.8	21.2	94 E	40 65*	5 6	20 21.20	-20 54.6	1.443	1.934	30.6	20.9	103 W	22* 85
12 17	23 53.61	+5 39.8	1.008	1.425	43.7	21.3	91 E	39 65*	5 16	20 35.37	-19 41.2	1.317	1.902	30.2	20.7	109 W	24* 84
12 22	0 6.22	+6 27.5	1.059	1.430	43.5	21.4	89 E	39 64*	5 26	20 47.63	-18 24.9	1.197	1.871	29.3	20.4	115 W	26* 82
12 27	0 18.69	+7 3.3	1.109	1.435	43.1	21.5	86 E	38 63*	6 5	20 57.62	-17 7.7	1.086	1.840	27.8	20.1	122 W	28* 81
4 16	19 19.05	+61 26.4	0.083	0.997	92.0	19.3	83 W	71* 3	6 15	21 4.91	-15 52.0	0.984	1.812	25.5	19.8	130 W	29 80
4 17	18 38.29	+61 22.1	0.083	1.004	87.2	19.2	88 W	73* 3	6 25	21 9.07	-14 40.0	0.894	1.785	22.4	19.5	138 W	30 79
4 18	17 59.08	+60 33.6	0.083	1.012	82.4	19.0	93 W	74 3	7 5	21 9.79	-13 34.2	0.817	1.759	18.3	19.1	147 W	31 78
4 19	17 23.32	+59 6.9	0.085	1.019	77.7	18.9	98 W	76 5	7 15	21 6.98	-12 36.9	0.755	1.736	13.4	18.8	157 W	32 77
4 20	16 52.03	+57 11.1	0.087	1.026	73.3	18.8	102 W	78 7	7 25	21 1.10	-11 49.6	0.710	1.715	7.8	18.4	167 W	33 76
4 21	16 25.34	+54 55.7	0.089	1.033	69.1	18.7	106 W	80 9	8 4	20 53.26	-11 12.7	0.684	1.697	3.7	18.1	174 E	34 75
4 22	16 2.87	+52 29.1	0.092	1.040	65.1	18.7	110 W	83 12	8 9	20 49.10	-10 58.0	0.678	1.688	4.8	18.1	172 E	34 75
4 23	15 44.02	+49 57.9	0.095	1.047	61.5	18.7	114 W	85 14	8 14	20 45.13	-10 45.5	0.677	1.681	7.5	18.2	167 E	34 75
4 24	15 28.19	+47 26.9	0.098	1.054	58.2	18.7	117 W	88 17	8 19	20 41.58	-10 34.8	0.681	1.674	10.5	18.4	162 E	34 75
4 25	15 14.82	+44 59.5	0.102	1.061	55.1	18.7	120 W	90 19	8 24	20 38.67	-10 25.4	0.689	1.668	13.6	18.5	157 E	35 74
4 26	15 3.45	+42 37.5	0.107	1.068	52.4	18.7	123 W	88 21	8 29								

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

21/22	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45° - 26°	21/22	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45° - 26°
442742 2012 WP₃									406420 2007 TF₁₇₀ (continuation)								
4 16	19 50.72	-3 55.9	1.690	1.921	31.4	21.5	87 W	37* 67*	9 8	21 30.96	-19 44.0	0.644	1.608	16.5	18.4	153 E	25 84
4 26	20 7.08	-0 37.0	1.549	1.873	32.5	21.3	92 W	41* 65	9 13	21 29.66	-19 3.5	0.661	1.606	19.2	18.5	148 E	26 83
5 6	20 22.72	+3 6.7	1.416	1.823	33.4	21.1	96 W	45* 61	9 23	21 30.15	-17 31.0	0.705	1.605	24.1	18.8	139 E	27 82
5 16	20 37.52	+7 15.8	1.291	1.774	34.1	20.8	100 W	50* 57	10 3	21 34.75	-15 46.9	0.762	1.608	28.0	19.1	131 E	29 80
5 26	20 51.38	+11 49.5	1.176	1.725	34.8	20.6	104 W	55* 52	10 13	21 43.10	-13 53.9	0.829	1.614	30.9	19.4	124 E	31 78
6 5	21 4.20	+16 46.2	1.072	1.676	35.4	20.3	107 W	61* 47	10 23	21 54.62	-11 53.7	0.906	1.623	33.0	19.6	117 E	33 76
6 10	21 10.16	+19 22.0	1.024	1.652	35.7	20.2	108 W	64* 45	11 2	22 8.61	-9 47.6	0.991	1.636	34.4	19.9	111 E	35 74
6 15	21 15.80	+22 1.7	0.978	1.628	36.1	20.1	109 W	67* 42	11 12	22 24.53	-7 36.3	1.083	1.652	35.3	20.1	106 E	37 72
6 20	21 21.09	+24 44.5	0.936	1.604	36.4	20.0	110 W	70 39	11 22	22 41.90	-5 20.5	1.182	1.671	35.6	20.3	100 E	40 69*
6 25	21 26.04	+27 29.2	0.896	1.581	36.8	19.8	111 W	72 37	12 2	23 0.32	-3 1.2	1.287	1.693	35.4	20.5	95 E	42 64*
6 30	21 30.60	+30 14.8	0.859	1.558	37.2	19.7	112 W	75 34	12 12	23 19.54	-0 39.5	1.397	1.717	35.0	20.7	91 E	44 59*
7 5	21 34.76	+32 59.9	0.824	1.535	37.7	19.6	113 W	78 31	12 22	23 39.34	+1 43.4	1.511	1.744	34.2	20.9	86 E	47 53*
7 10	21 38.49	+35 42.8	0.792	1.513	38.2	19.5	113 W	81 28	1 1	23 59.56	+4 6.2	1.630	1.772	33.3	21.1	81 E	49 48*
7 15	21 41.76	+38 21.8	0.761	1.492	38.7	19.4	113 W	83 26	1 11	0 20.14	+6 27.7	1.752	1.802	32.1	21.3	77 E	51* 42*
7 20	21 44.60	+40 55.2	0.733	1.471	39.3	19.3	114 W	86 23	1 21	0 40.99	+8 46.5	1.876	1.834	30.7	21.4	72 E	53* 38*
7 25	21 47.01	+43 21.3	0.706	1.451	39.9	19.2	114 W	88 21	491234 2011 UW₁₉₂								
7 30	21 49.00	+45 38.6	0.681	1.432	40.5	19.1	114 W	89 18	4 16	20 6.61	-15 14.6	1.481	1.721	35.5	21.5	85 W	25* 76*
8 4	21 50.59	+47 45.3	0.656	1.413	41.1	19.0	114 W	87 16	4 26	20 29.82	-13 50.8	1.372	1.692	36.5	21.3	89 W	26* 77*
8 9	21 51.85	+49 39.5	0.633	1.396	41.6	19.0	114 W	85 14	5 6	20 52.47	-12 19.4	1.268	1.665	37.2	21.1	93 W	28* 76
8 14	21 52.90	+51 19.5	0.611	1.380	42.1	18.9	114 W	84 13	5 16	21 14.38	-10 43.2	1.170	1.641	37.7	20.9	97 W	30* 75
8 19	21 53.91	+52 43.9	0.589	1.365	42.5	18.8	114 W	82 11	5 26	21 35.37	-9 5.9	1.078	1.619	37.8	20.7	101 W	32* 73
8 24	21 55.07	+53 51.2	0.567	1.351	42.8	18.7	115 E	81 10	6 5	21 55.27	-7 31.2	0.991	1.601	37.6	20.5	106 W	34* 72
8 29	21 56.57	+54 40.1	0.545	1.339	42.9	18.6	115 E	80 9	6 15	22 13.75	-6 4.2	0.911	1.586	36.8	20.3	111 W	37* 70
9 3	21 58.68	+55 8.7	0.524	1.327	42.9	18.5	116 E	80 9	6 25	22 30.50	-4 50.1	0.838	1.574	35.6	20.1	116 W	39* 69
9 8	22 1.66	+55 15.0	0.503	1.318	42.7	18.4	118 E	80 9	7 5	22 45.10	-3 54.5	0.772	1.566	33.6	19.8	122 W	41* 68
9 13	22 5.82	+54 57.0	0.482	1.310	42.2	18.2	119 E	80 9	7 10	22 51.43	-3 35.7	0.741	1.563	32.3	19.7	125 W	41 68
9 18	22 11.39	+54 12.8	0.462	1.303	41.5	18.1	121 E	81 10	7 15	22 57.02	-3 23.8	0.713	1.562	30.8	19.6	128 W	42 67
9 23	22 18.50	+52 59.8	0.442	1.298	40.4	18.0	123 E	82 11	7 20	23 1.83	-3 19.4	0.687	1.561	29.9	19.4	132 W	42 67
9 28	22 27.17	+51 15.1	0.424	1.295	39.1	17.9	125 E	84 13	7 25	23 5.79	-3 23.1	0.663	1.561	27.0	19.3	136 W	42 67
10 3	22 37.35	+48 55.9	0.407	1.293	37.3	17.7	128 E	86 15	8 4	23 11.01	-3 55.7	0.624	1.564	22.2	19.0	144 W	41 68
10 8	22 48.89	+46 0.2	0.393	1.294	35.3	17.6	132 E	89 18	8 14	23 12.52	-5 1.1	0.597	1.572	16.4	18.7	154 W	40 69
10 13	23 1.56	+42 27.9	0.381	1.295	33.1	17.5	135 E	87 22	8 24	23 10.83	-6 32.1	0.585	1.582	9.8	18.5	165 W	38 71
10 18	23 15.06	+38 22.2	0.374	1.299	30.8	17.4	138 E	83 26	8 29	23 9.09	-7 22.9	0.585	1.589	6.3	18.3	170 W	38 71
10 23	23 29.05	+33 49.6	0.371	1.304	28.8	17.3	141 E	79 30	9 3	23 6.99	-8 14.6	0.589	1.597	3.0	18.2	175 W	37 72
10 25	23 34.70	+31 55.2	0.372	1.307	28.2	17.3	142 E	77 32	9 8	23 4.75	-9 4.9	0.598	1.605	2.1	18.2	177 E	36 73
10 27	23 40.37	+29 58.9	0.373	1.309	27.6	17.3	142 E	75 34	9 13	23 2.59	-9 51.5	0.612	1.614	4.9	18.4	172 E	35 74
10 29	23 46.03	+28 1.5	0.375	1.312	27.2	17.3	143 E	73 36	9 18	23 0.73	-10 32.5	0.630	1.625	8.2	18.6	167 E	34 75
10 31	23 51.67	+26 3.9	0.379	1.316	26.9	17.3	143 E	71 38	9 23	22 59.34	-11 6.6	0.653	1.635	11.3	18.8	161 E	34 75
11 2	23 57.29	+24 7.0	0.383	1.319	26.7	17.3	143 E	69 40	9 28	22 58.54	-11 32.9	0.679	1.647	14.2	19.1	156 E	33 76
11 4	0 2.86	+22 11.7	0.388	1.323	26.7	17.4	143 E	67 42	10 3	22 58.44	-11 51.1	0.710	1.659	16.9	19.3	151 E	33 76
11 6	0 8.39	+20 18.7	0.394	1.327	26.8	17.4	143 E	65 44	10 13	23 0.50	-12 2.7	0.784	1.685	21.5	19.7	142 E	33 76
11 8	0 13.87	+18 28.9	0.401	1.331	27.1	17.5	142 E	63 46	10 23	23 5.61	-11 43.6	0.871	1.714	25.0	20.0	133 E	33 76
11 10	0 19.29	+16 42.8	0.410	1.336	27.4	17.5	142 E	62 47	11 2	23 13.42	-10 58.8	0.971	1.744	27.7	20.4	125 E	34 75
11 12	0 24.64	+15 1.0	0.419	1.340	27.9	17.6	141 E	60 49	11 7	23 18.20	-10 28.2	1.025	1.760	28.6	20.5	122 E	35 74
11 17	0 37.73	+11 7.8	0.445	1.353	29.2	17.8	138 E	56 53	11 12	23 23.51	-9 52.9	1.081	1.776	29.5	20.7	118 E	35 74
11 22	0 50.36	+7 47.3	0.477	1.367	30.7	18.0	135 E	53 56	11 17	23 29.27	-9 13.5	1.139	1.793	30.1	20.9	115 E	36 73
11 27	1 2.53	+5 0.1	0.513	1.382	32.2	18.2	132 E	50 59	11 22	23 35.43	-8 30.5	1.200	1.810	30.6	21.0	111 E	36 73
12 2	1 14.28	+2 44.4	0.554	1.399	33.6	18.4	128 E	48 61	11 27	23 41.94	-7 44.5	1.262	1.827	30.9	21.1	108 E	37 72
12 7	1 25.67	+0 57.4	0.598	1.416	34.7	18.7	125 E	46 63	12 2	23 48.77	-6 55.8	1.327	1.845	31.1	21.3	105 E	38 71
12 12	1 36.74	-0 24.4	0.646	1.435	35.7	18.9	122 E	45 64	12 7	23 55.87	-6 4.7	1.392	1.863	31.2	21.4	102 E	39 70*
12 17	1 47.54	-1 24.5	0.696	1.454	36.4	19.1	119 E	44 65	488736 2004 RG₁₁₂								
12 22	1 58.10	-2 6.4	0.749	1.474	36.9	19.3	116 E	43 66	4 16	20 12.20	+1 22.2	1.891	1.996	29.8	21.4	81 W	40* 61*
12 27	2 8.47	-2 32.9	0.804	1.495	37.2	19.5	113 E	42 67	4 26	20 28.51	+4 25.6	1.768	1.962	30.7	21.2	85 W	43* 59*
1 1	2 18.68	-2 46.7	0.862	1.516	37.4	19.7	110 E	42 67	5 6	20 43.96	+7 42.6	1.649	1.928	31.5	21.1	90 W	47* 56
1 6	2 28.78	-2 49.9	0.921	1.538	37.5	19.9	108 E	42 67	5 16	20 58.38	+11 11.4	1.536	1.896	32.2	20.9	94 W	51* 53
1 11	2 38.79	-2 44.4	0.981	1.561	37.4	20.0	105 E	42 67*	5 26	21 11.63	+14 49.1	1.430	1.864	32.6	20.7	98 W	56* 49
1 16	2 48.75	-2 32.1	1.043	1.584	37.3	20.2	103 E	42 66*	6 5	21 23.52	+18 32.4	1.330	1.832	32.8	20.5	102 W	61* 45
1 21	2 58.65	-2 14.2	1.107	1.607	37.0	20.3	100 E	43 66*	6 15	21 33.77	+22 16.5	1.237	1.803	32.8	20.3	106 W	67* 42
4 16	20 1.96	-26 56.0	1.701	1.958	30.8	21.3	89 W	14* 83*	6 20	21 38.20	+24 6.9	1.194	1.788	32.8	20.2	108 W	69* 40
4 26	20 21.72	-26 21.3	1.567	1.922	31.5	21.1	94 W	15* 88*	6 25	21 42.11	+25 55.1	1.152	1.774	32.7	20.1	110 W	71 38
5 6	20 40.56	-25 42.9	1.438	1.888	31.8	20.9	100 W	16* 90	6 30	21 45.47	+27 40.1	1.112	1.761	32.5	20.0	112 W	73 36
5 16	20 58.24	-25 2.8	1.313	1.854	31.8	20.7	105 W	17* 89	7 5	21 48.23	+29 20.8	1.073	1.747	32.3	19.9	113 W	74 35
5 26	21 14.50	-24 23.2	1.195	1.821	31.3	20.4	111 W	19* 88	7 10	21 50.35	+30 55.8	1.037	1.735	32.0	19.8	115 W	76 33
6 5	21 29.02	-23 46.2	1.085	1.790	30.4	20.2	117 W	20* 88	7 15	21 51.79	+32 23.8	1.002	1.722	31.7			

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

21/22	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°	21/22	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°
488736 2004 RG₁₁₂										399891 2005 WX₅₅									
<i>(continuation)</i>										<i>(continuation)</i>									
9 13	21 36.80	+31 54.8	0.741	1.623	25.5	18.8	136 E	77	32	1 6	1 56.88	+ 1 13.9	0.986	1.532	38.9	19.7	102 E	46	62*
9 18	21 37.29	+29 59.4	0.736	1.620	25.3	18.7	136 E	75	34	1 11	2 4.93	+ 4 11.9	1.040	1.551	38.6	19.9	100 E	49	58*
9 23	21 38.78	+27 51.4	0.736	1.617	25.4	18.7	136 E	73	36	1 16	2 13.32	+ 6 58.1	1.097	1.571	38.3	20.0	98 E	52	55*
9 28	21 41.31	+25 33.7	0.739	1.615	25.7	18.8	136 E	71	38	1 21	2 22.03	+ 9 33.0	1.156	1.591	38.0	20.1	96 E	55	52*
10 3	21 44.87	+23 9.8	0.746	1.614	26.3	18.8	134 E	68	41	484402 2007 XH₁₆									
10 8	21 49.45	+20 43.2	0.757	1.613	27.0	18.8	133 E	66	43	4 16	20 24.07	- 0 54.0	0.784	1.142	59.4	21.5	78 W	36*	62*
10 13	21 55.01	+18 17.4	0.773	1.614	27.8	18.9	131 E	63	46	4 21	20 34.69	- 2 8.4	0.767	1.161	58.6	21.5	81 W	35*	64*
10 18	22 1.46	+15 55.6	0.793	1.615	28.8	19.0	129 E	61	48	4 26	20 45.09	- 3 28.7	0.748	1.180	57.8	21.4	83 W	34*	66*
10 23	22 8.71	+13 40.6	0.817	1.617	29.8	19.1	126 E	59	50	5 1	20 55.27	- 4 56.0	0.727	1.199	57.0	21.4	86 W	33*	68*
10 28	22 16.65	+11 34.4	0.845	1.620	30.8	19.2	123 E	57	52	5 6	21 5.19	- 6 32.0	0.705	1.217	56.0	21.3	89 W	32*	70*
11 2	22 25.21	+ 9 38.4	0.877	1.624	31.8	19.3	121 E	55	54	5 11	21 14.84	- 8 18.2	0.681	1.235	54.9	21.2	92 W	31*	72
11 7	22 34.30	+ 7 53.9	0.912	1.628	32.6	19.4	118 E	53	56	5 16	21 24.17	-10 16.5	0.657	1.252	53.6	21.1	95 W	29*	74
11 12	22 43.83	+ 6 21.4	0.951	1.634	33.4	19.6	115 E	51	58	5 21	21 33.14	-12 28.8	0.632	1.269	52.1	21.0	98 W	27*	76
11 22	23 3.92	+ 3 52.7	1.037	1.647	34.6	19.8	109 E	49	60	5 26	21 41.73	-14 57.1	0.608	1.285	50.5	20.9	102 W	26*	79
12 2	23 24.92	+ 2 9.3	1.134	1.662	35.3	20.0	103 E	47	61*	5 31	21 49.86	-17 43.2	0.584	1.301	48.6	20.8	106 W	24*	82
12 12	23 46.47	+ 1 6.2	1.240	1.681	35.5	20.3	97 E	46	61*	6 5	21 57.45	-20 48.7	0.562	1.316	46.5	20.7	110 W	21*	85
12 17	23 57.37	+ 0 47.7	1.296	1.691	35.5	20.4	95 E	46	60*	6 10	22 4.38	-24 14.8	0.541	1.330	44.2	20.6	114 W	19*	88
12 22	0 8.31	+ 0 36.7	1.353	1.701	35.3	20.5	92 E	46	58*	6 15	22 10.51	-28 1.6	0.523	1.344	41.8	20.5	118 W	16*	88
12 27	0 19.26	+ 0 32.6	1.411	1.713	35.0	20.6	90 E	46	57*	6 20	22 15.67	-32 7.8	0.508	1.357	39.2	20.4	122 W	12*	84
1 1	0 30.23	+ 0 34.4	1.470	1.725	34.7	20.7	87 E	46	55*	6 25	22 19.67	-36 30.2	0.497	1.370	36.8	20.3	126 W	8*	79
1 6	0 41.20	+ 0 41.5	1.531	1.737	34.3	20.7	84	46	54*	6 30	22 22.24	-41 4.0	0.489	1.382	34.5	20.2	130 W	4*	75
1 11	0 52.16	+ 0 53.2	1.592	1.750	33.8	20.8	82 E	46	52*	7 5	22 23.02	-45 42.4	0.487	1.393	32.5	20.1	133 W	-	70
1 16	1 3.12	+ 1 8.8	1.653	1.763	33.3	20.9	80 E	46	50*	7 7	22 22.75	-47 33.2	0.487	1.397	31.9	20.1	133 W	-	68
1 21	1 14.05	+ 1 27.7	1.715	1.777	32.7	21.0	77 E	46	49*	7 9	22 22.09	-49 22.8	0.488	1.401	31.4	20.1	134 W	-	67
399891 2005 WX₅₅										484402 2007 XH₁₆									
4 16	20 18.26	-24 28.8	1.840	2.014	29.7	21.4	85 W	15*	79*	7 11	22 21.02	-51 10.6	0.490	1.405	30.9	20.1	135 W	-	65
4 26	20 38.31	-25 18.1	1.686	1.967	30.8	21.2	90 W	15*	84*	7 13	22 19.51	-52 56.1	0.492	1.409	30.6	20.1	135 W	-	63
5 6	20 58.65	-26 20.3	1.536	1.920	31.5	21.0	96 W	14*	89*	7 15	22 17.54	-54 38.5	0.496	1.413	30.4	20.1	135 W	-	61
5 16	21 19.35	-27 39.8	1.393	1.873	32.0	20.7	101 W	13*	88	7 17	22 15.08	-56 17.5	0.500	1.416	30.3	20.2	135 W	-	60
5 26	21 40.52	-29 21.6	1.258	1.825	32.2	20.5	106 W	12*	87	7 19	22 12.10	-57 52.4	0.504	1.420	30.3	20.2	135 W	-	58
6 5	22 2.33	-31 30.6	1.133	1.778	32.0	20.2	112 W	11*	84	7 21	22 8.58	-59 22.9	0.510	1.423	30.3	20.2	135 W	-	57
6 15	22 24.89	-34 11.2	1.021	1.732	31.7	19.9	116 W	9*	82	7 23	22 4.51	-60 48.4	0.516	1.426	30.5	20.2	135 W	-	55
6 20	22 36.49	-35 44.2	0.971	1.709	31.5	19.7	119 W	8*	80	7 25	21 59.88	-62 8.6	0.523	1.429	30.7	20.3	134 W	-	54
6 25	22 48.33	-37 25.4	0.923	1.686	31.2	19.6	121 W	6*	79	7 30	21 45.85	-65 4.1	0.543	1.437	31.6	20.4	132 W	-	51
6 30	23 0.43	-39 14.7	0.880	1.664	31.1	19.5	122 W	5*	77	8 4	21 28.70	-67 21.2	0.566	1.443	32.8	20.5	130 W	-	49
7 5	23 12.76	-41 11.4	0.841	1.642	30.9	19.3	124 W	3*	75	8 9	21 9.49	-68 58.9	0.591	1.449	34.0	20.7	127 E	-	47
7 10	23 25.30	-43 14.3	0.806	1.620	30.9	19.2	125 W	2*	73	8 14	20 49.89	-69 59.0	0.620	1.453	35.3	20.8	124 E	-	46
7 15	23 38.01	-45 21.9	0.775	1.599	31.0	19.1	126 W	-	71	8 19	20 31.75	-70 26.1	0.649	1.458	36.5	21.0	121 E	-	46
7 20	23 50.85	-47 32.0	0.748	1.578	31.3	19.0	126 W	-	68	8 24	20 16.52	-70 26.2	0.681	1.461	37.6	21.1	118 E	-	46
7 25	0 3.73	-49 42.5	0.724	1.558	31.7	18.9	126 W	-	66	8 29	20 5.01	-70 5.5	0.713	1.463	38.6	21.2	115 E	-	46
7 30	0 16.54	-51 50.9	0.705	1.538	32.3	18.8	126 W	-	64	9 3	19 57.43	-69 29.1	0.745	1.465	39.6	21.4	112 E	-	47
8 4	0 29.09	-53 55.1	0.688	1.520	33.1	18.8	125 W	-	62	9 8	19 53.58	-68 41.2	0.779	1.466	40.4	21.5	110 E	-	47
8 9	0 41.15	-55 52.6	0.675	1.502	33.9	18.7	124 W	-	60	495187 2012 VO₇₆									
8 14	0 52.50	-57 41.2	0.664	1.484	34.9	18.7	123 W	-	58	4 16	20 25.66	-29 37.5	0.343	1.028	76.2	21.5	84 W	10*	77*
8 19	1 2.85	-59 19.0	0.656	1.468	35.9	18.7	122 W	-	57	4 21	20 23.25	-29 39.7	0.325	1.043	74.2	21.3	88 W	20*	81*
8 24	1 11.94	-60 44.5	0.649	1.453	36.9	18.7	120 W	-	55	4 26	20 20.37	-30 54.7	0.314	1.059	71.8	21.2	91 W	30*	75*
8 29	1 19.48	-61 56.8	0.644	1.438	37.8	18.7	119 W	-	54	5 1	20 16.84	-32 45.5	0.311	1.075	69.2	21.2	94 W	41*	65
9 3	1 25.19	-62 54.7	0.640	1.425	38.7	18.6	118 W	-	53	5 6	20 12.45	+ 9 16.8	0.316	1.091	66.6	21.1	97 W	51*	55
9 8	1 28.89	-63 36.9	0.637	1.413	39.6	18.6	117 W	-	52	5 11	20 6.98	+18 41.6	0.329	1.108	64.3	21.2	99 W	62*	45
9 13	1 30.53	-64 2.1	0.634	1.402	40.3	18.6	116 W	-	52	5 16	20 0.26	+27 6.9	0.348	1.125	62.2	21.3	100 W	71*	37
9 18	1 30.23	-64 9.0	0.631	1.393	40.9	18.6	115 W	-	52	5 21	19 52.16	+34 22.1	0.373	1.143	60.4	21.4	101 W	79*	30
9 23	1 28.23	-63 56.2	0.629	1.384	41.4	18.6	114 W	-	52	357063 2001 PO₅₉									
9 25	1 27.03	-63 45.4	0.628	1.381	41.6	18.6	114 W	-	52	4 16	20 42.35	-24 26.7	1.677	1.790	33.5	21.4	79 W	13*	73*
9 27	1 25.63	-63 31.1	0.627	1.379	41.8	18.6	114 W	-	52	4 26	21 6.20	-22 56.6	1.559	1.757	34.7	21.2	83 W	14*	77*
9 29	1 24.07	-63 13.3	0.626	1.376	41.9	18.6	113 W	-	53	5 6	21 29.42	-21 14.9	1.446	1.726	35.7	21.0	87 W	16*	81*
10 1	1 22.38	-62 51.9	0.625	1.374	42.0	18.6	113 W	-	53	5 16	21 51.85	-19 23.0	1.337	1.697	36.5	20.9	92 W	18*	83*
10 3	1 20.59	-62 26.8	0.624	1.372	42.1	18.6	113 W	-	54	5 26	22 13.35	-17 22.3	1.232	1.670	37.1	20.7	96 W	21*	81
10 5	1 18.74	-61 58.0	0.624	1.370	42.2	18.6	113 W	-	54	6 5	22 33.7								

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

21/22	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°-26°	2021	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°-26°		
357063 2001 PO₅₉ (continuation)									489900 2008 KP (continuation)										
11 22	23 45.49	+ 8 11.2	0.994	1.716	29.9	20.1	120 E	53	56	5 2	23 26.43	-40 35.2	0.703	1.026	68.4	20.6	71 W	—	53*
12 2	23 57.95	+ 9 12.6	1.104	1.746	31.3	20.4	113 E	54	55	5 4	23 48.98	-40 1.3	0.686	0.998	70.8	20.6	69 W	—	50*
12 12	0 12.27	+10 22.8	1.222	1.778	32.0	20.6	107 E	55	53*	5 6	0 12.07	-39 8.5	0.673	0.969	73.4	20.5	67 W	—	47*
12 22	0 28.04	+11 40.4	1.346	1.811	32.2	20.9	101 E	57	50*	5 8	0 35.34	-37 55.8	0.663	0.939	75.9	20.5	65 W	—	45*
1 1	0 44.93	+13 3.2	1.476	1.845	32.1	21.1	95 E	58	47*	5 10	0 58.38	-36 23.0	0.656	0.909	78.5	20.5	62 W	—	42*
1 11	1 2.74	+14 29.6	1.610	1.880	31.5	21.3	90 E	59	43*	5 12	1 20.83	-34 31.0	0.654	0.878	81.1	20.5	59 W	—	39*
390572 2001 HJ₂₁																			
4 16	20 50.79	-13 32.9	1.591	1.641	36.1	21.5	75 W	22*	67*	5 18	2 21.80	-27 23.0	0.671	0.780	88.0	20.6	50 W	—	30*
4 26	21 14.21	-11 35.9	1.515	1.641	36.9	21.4	78 W	24*	70*	5 20	2 39.49	-24 39.6	0.685	0.746	89.9	20.6	47 W	—	27*
5 6	21 36.32	- 9 34.5	1.441	1.643	37.5	21.3	82 W	26*	71*	5 22	2 55.81	-21 50.8	0.703	0.711	91.5	20.6	45 W	—	25*
5 16	21 56.95	- 7 32.2	1.368	1.649	37.7	21.2	86 W	28*	71*	5 24	3 10.81	-18 58.9	0.725	0.674	92.7	20.6	42 W	—	23*
5 26	22 15.95	- 5 32.7	1.297	1.657	37.7	21.1	91 W	31*	70	5 26	3 24.58	-16 5.9	0.750	0.637	93.5	20.6	39 W	—	20*
6 5	22 33.12	- 3 39.6	1.227	1.668	37.2	21.0	96 W	34*	68	5 28	3 37.21	-13 12.7	0.779	0.599	93.8	20.6	36 W	—	18*
6 15	22 48.20	- 1 56.6	1.159	1.682	36.4	20.8	101 W	38*	66	5 30	3 48.84	-10 19.7	0.811	0.559	93.6	20.5	33 W	—	17*
6 25	23 0.87	- 0 28.0	1.093	1.697	34.9	20.7	107 W	42*	64	6 1	3 59.59	- 7 26.9	0.846	0.519	92.8	20.4	31 W	—	15*
7 5	23 10.79	+ 0 42.4	1.030	1.715	32.8	20.5	114 W	45*	63	6 3	4 9.60	- 4 33.4	0.885	0.478	91.2	20.3	28 W	—	13*
7 15	23 17.52	+ 1 29.9	0.972	1.735	30.0	20.3	121 W	46	63	6 5	4 19.01	- 1 37.7	0.926	0.436	88.7	20.1	25 W	—	12*
7 25	23 20.72	+ 1 50.5	0.922	1.757	26.3	20.1	130 W	47	62	6 7	4 27.98	+ 1 22.0	0.970	0.394	85.0	19.8	23 W	—	11*
8 4	23 20.20	+ 1 41.1	0.881	1.780	21.6	19.9	140 W	47	62	6 9	4 36.73	+ 4 28.5	1.017	0.352	79.7	19.5	20 W	—	9*
8 14	23 16.09	+ 1 0.7	0.854	1.805	16.1	19.7	150 W	46	63	6 11	4 45.49	+ 7 45.1	1.065	0.312	72.4	19.0	17 W	—	8*
8 19	23 12.90	+ 0 29.8	0.846	1.818	13.1	19.6	156 W	45	64	6 13	4 54.64	+ 11 15.2	1.114	0.276	62.3	18.6	14 W	—	6*
8 24	23 9.14	- 0 7.1	0.844	1.832	9.9	19.5	162 W	45	64	6 15	5 4.62	+ 15 1.0	1.160	0.248	49.2	18.0	11 W	—	4*
8 29	23 4.98	- 0 48.6	0.846	1.845	6.7	19.4	168 W	44	65	6 16	5 10.10	+ 16 59.3	1.182	0.239	41.7	17.8	9 W	—	3*
9 3	23 0.61	- 1 33.4	0.853	1.859	3.7	19.3	173 W	43	66	6 17	5 15.98	+ 18 59.9	1.201	0.233	34.0	17.5	7 W	—	1*
9 8	22 56.25	- 2 19.7	0.867	1.873	2.3	19.2	176 E	43	66	6 18	5 22.31	+ 21 1.3	1.217	0.232	26.7	17.4	6 W	—	—
9 13	22 52.10	- 3 5.7	0.885	1.887	4.2	19.4	172 E	42	67	6 19	5 29.10	+ 23 1.7	1.231	0.235	21.1	17.2	5 W	—	—
9 18	22 48.37	- 3 49.8	0.910	1.901	7.1	19.6	167 E	41	68	6 20	5 36.33	+ 24 59.0	1.242	0.242	18.4	17.2	4 W	—	—
9 23	22 45.21	- 4 30.5	0.939	1.916	9.9	19.8	161 E	40	69	6 21	5 43.98	+ 26 51.7	1.251	0.252	19.2	17.4	5 W	—	—
9 28	22 42.72	- 5 6.9	0.974	1.931	12.5	20.0	155 E	40	69	6 22	5 52.01	+ 28 38.5	1.257	0.266	22.3	17.6	6 W	—	—
10 3	22 40.98	- 5 38.1	1.014	1.946	15.0	20.2	150 E	39	70	6 23	6 0.38	+ 30 18.7	1.262	0.282	26.2	17.8	7 W	—	—
10 13	22 39.91	- 6 23.4	1.108	1.976	19.2	20.6	139 E	39	70	6 24	6 9.04	+ 31 52.1	1.265	0.299	30.0	18.1	8 W	—	1*
10 23	22 42.04	- 6 45.1	1.217	2.006	22.3	20.9	130 E	38	71	6 25	6 17.97	+ 33 18.4	1.267	0.318	33.5	18.3	10 E	—	3*
11 2	22 47.02	- 6 44.6	1.338	2.037	24.7	21.2	121 E	38	71	6 27	6 36.51	+ 35 50.5	1.270	0.359	39.1	18.7	13 E	—	6*
11 12	22 54.45	- 6 24.3	1.470	2.067	26.2	21.5	113 E	39	70	6 29	6 55.79	+ 37 56.4	1.272	0.401	43.1	19.1	16 E	—	9*
380163 2000 QG₅₉																			
4 16	21 0.18	-23 42.8	2.149	2.130	27.1	21.4	75 W	12*	69*	7 1	7 15.60	+ 39 37.8	1.275	0.443	45.8	19.4	18 E	—	12*
4 26	21 19.59	-22 38.0	2.004	2.088	28.4	21.3	80 W	13*	74*	7 3	7 35.75	+ 40 56.3	1.279	0.485	47.5	19.7	21 E	—	14*
5 6	21 38.47	-21 29.2	1.860	2.047	29.4	21.1	86 W	15*	79*	7 5	7 56.00	+ 41 53.5	1.285	0.526	48.6	19.9	23 E	—	17*
5 16	21 56.71	-20 17.8	1.719	2.006	30.3	20.9	91 W	17*	83*	7 7	8 16.13	+ 42 31.1	1.293	0.566	49.1	20.1	25 E	—	19*
5 26	22 14.18	-19 5.2	1.582	1.966	30.8	20.7	96 W	19*	83	7 9	8 35.91	+ 42 50.8	1.302	0.605	49.3	20.2	27 E	—	21*
6 5	22 30.76	-17 52.9	1.450	1.928	31.1	20.5	101 W	22*	82	7 11	8 55.16	+ 42 54.3	1.314	0.643	49.1	20.4	29 E	—	23*
6 15	22 46.20	-16 42.7	1.324	1.890	30.9	20.2	107 W	24*	81	7 13	9 13.71	+ 42 43.5	1.328	0.680	48.7	20.5	30 E	—	24*
6 25	23 0.27	-15 36.4	1.205	1.855	30.3	20.0	113 W	27*	80	7 15	9 31.44	+ 42 20.3	1.343	0.716	48.2	20.6	32 E	—	25*
7 5	23 12.64	-14 35.4	1.094	1.821	29.2	19.7	119 W	30*	79	7 17	9 48.27	+ 41 46.6	1.360	0.752	47.5	20.7	33 E	—	27*
7 15	23 22.86	-13 41.5	0.992	1.789	27.4	19.4	126 W	31*	78	7 19	10 4.16	+ 41 4.1	1.379	0.786	46.7	20.8	34 E	—	28*
7 25	23 30.48	-12 55.5	0.900	1.759	24.9	19.0	133 W	32	77	7 21	10 19.09	+ 40 14.4	1.400	0.819	45.8	20.9	35 E	—	29*
8 4	23 35.01	-12 17.5	0.820	1.732	21.5	18.7	141 W	33	76	7 23	10 33.10	+ 39 18.9	1.421	0.852	44.9	21.0	36 E	—	29*
8 14	23 36.02	-11 46.1	0.753	1.708	17.1	18.4	150 W	33	76	7 25	10 46.21	+ 38 18.9	1.444	0.883	44.0	21.1	37 E	—	30*
8 24	23 33.50	-11 17.5	0.702	1.688	11.9	18.0	160 W	34	75	7 27	10 58.48	+ 37 15.5	1.469	0.914	43.1	21.2	38 E	—	30*
8 29	23 31.04	-11 2.6	0.683	1.678	9.1	17.8	165 W	34	75	7 29	11 9.96	+ 36 9.7	1.494	0.944	42.1	21.3	39 E	—	31*
9 3	23 27.94	-10 46.3	0.668	1.670	6.3	17.6	170 W	34	75	7 31	11 20.70	+ 35 2.3	1.521	0.974	41.1	21.4	39 E	—	31*
9 8	23 24.37	-10 27.8	0.658	1.663	4.0	17.5	173 W	35	74	8 2	11 30.77	+ 33 53.8	1.548	1.002	40.2	21.4	40 E	—	31*
9 13	23 20.56	-10 6.2	0.653	1.657	3.8	17.4	174 E	35	74	31345 1998 PG									
9 18	23 16.77	- 9 41.0	0.652	1.651	6.0	17.5	170 E	35	74	4 16	21 9.51	-10 38.6	1.842	1.761	32.2	21.4	69 W	22*	62*
9 23	23 13.23	- 9 11.8	0.656	1.647	8.9	17.7	165 E	36	73	4 26	21 33.16	- 8 16.1	1.709	1.709	34.2	21.2	73 W	24*	64*
10 3	23 7.75	- 8 1.2	0.678	1.641	14.9	18.0	155 E	37	72	5 6	21 57.28	- 5 38.3	1.581	1.658	36.2	21.1	76 W	26*	65*
10 13	23 5.50	- 6 35.1	0.717	1.639	20.3	18.3	145 E	38	71	5 16	22 22.01	- 2 45.6	1.459	1.607	38.1	20.9	79 W	29*	65*
10 23	23 7.13	- 4 55.6	0.770	1.641	24.7	18.6	136 E	40	69	5 26	22 47.55	+ 0 21.1	1.344	1.556	40.1	20.7	81 W	32*	63*
11 2	23 12.56	- 3 5.6	0.836</																

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

21/22	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°	21/22	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°
31345 1998 PG										448724 2011 BB₄₅									
<i>(continuation)</i>										<i>(continuation)</i>									
9 23	5 41.57	+25 43.9	0.653	1.235	54.1	19.0	94 W	70*	38*	8 14	3 15.87	+40 35.5	0.834	1.244	54.1	21.5	84 W	75*	23
9 28	5 56.99	+24 56.2	0.644	1.242	53.4	19.0	95 W	70*	39*	8 19	3 27.28	+42 35.5	0.833	1.264	53.0	21.5	86 W	78*	21
10 3	6 11.25	+24 1.5	0.635	1.250	52.6	18.9	97 W	69	40*	8 24	3 38.17	+44 28.6	0.830	1.285	51.8	21.5	88 W	81*	20
10 13	6 35.94	+21 55.9	0.618	1.272	50.3	18.8	101 W	67	42*	8 29	3 48.44	+46 15.4	0.826	1.307	50.6	21.4	90 W	84*	18
10 23	6 55.15	+19 37.6	0.601	1.300	47.2	18.7	106 W	65	44	9 3	3 57.92	+47 56.2	0.821	1.328	49.4	21.4	93 W	86*	16
11 2	7 8.47	+17 15.6	0.585	1.334	43.2	18.6	113 W	62	47	9 8	4 6.43	+49 31.6	0.814	1.350	48.0	21.4	95 W	85	14
11 7	7 12.78	+16 6.0	0.577	1.353	40.9	18.6	117 W	61	48	9 13	4 13.80	+51 1.8	0.807	1.372	46.6	21.4	98 W	84	13
11 12	7 15.47	+14 58.9	0.570	1.372	38.2	18.5	121 W	60	49	9 18	4 19.82	+52 26.9	0.798	1.394	45.1	21.4	101 W	83	12
11 17	7 16.55	+13 55.1	0.564	1.393	35.4	18.4	125 W	59	50	9 23	4 24.28	+53 47.1	0.789	1.417	43.5	21.3	104 W	81	10
11 22	7 16.03	+12 55.8	0.559	1.414	32.2	18.4	130 W	58	51	9 28	4 26.93	+55 2.1	0.779	1.439	41.8	21.3	107 W	80	9
11 27	7 13.97	+12 1.9	0.556	1.437	28.9	18.3	135 W	57	52	10 3	4 27.51	+56 11.0	0.770	1.461	39.9	21.2	111 W	79	8
12 2	7 10.46	+11 14.5	0.556	1.460	25.3	18.2	141 W	56	53	10 8	4 25.75	+57 12.4	0.760	1.483	38.0	21.2	114 W	78	7
12 7	7 5.67	+10 34.4	0.559	1.483	21.6	18.1	146 W	56	53	10 13	4 21.50	+58 4.4	0.751	1.504	35.9	21.1	118 W	77	6
12 12	6 59.86	+10 2.4	0.565	1.507	17.9	18.1	152 W	55	54	10 18	4 14.70	+58 44.4	0.744	1.526	33.7	21.1	122 W	76	5
12 17	6 53.36	+9 38.8	0.576	1.532	14.3	18.0	157 W	55	54	10 23	4 5.46	+59 9.5	0.737	1.547	31.4	21.0	126 W	76	5
12 22	6 46.51	+9 23.8	0.591	1.556	11.2	18.0	162 W	54	55	10 28	3 54.12	+59 16.6	0.733	1.568	29.2	21.0	130 W	76	5
12 27	6 39.65	+9 16.9	0.610	1.581	9.0	18.0	165 W	54	55	11 2	3 41.25	+59 2.8	0.732	1.588	26.9	20.9	134 W	76	5
1 1	6 33.11	+9 17.7	0.635	1.607	8.5	18.1	166 E	54	55	11 7	3 27.65	+58 26.4	0.734	1.609	24.8	20.9	137 W	77	6
1 6	6 27.19	+9 25.4	0.665	1.632	9.7	18.3	164 E	54	55	11 12	3 14.25	+57 27.2	0.740	1.628	22.9	20.9	140 W	78	7
1 11	6 22.14	+9 38.8	0.699	1.658	11.7	18.5	160 E	55	54	11 17	3 1.87	+56 7.3	0.750	1.648	21.5	20.9	142 E	79	8
1 16	6 18.10	+9 56.8	0.739	1.684	14.1	18.8	155 E	55	54	11 22	2 51.11	+54 30.0	0.764	1.667	20.5	20.9	144 E	80	9
1 21	6 15.15	+10 18.2	0.783	1.709	16.5	19.0	150 E	55	54	11 27	2 42.33	+52 39.9	0.784	1.685	20.1	21.0	144 E	82	11
388034 2005 SN₁₂₄										190274 3117 P-L									
4 16	21 12.78	-10 44.5	1.638	1.580	36.3	21.4	69 W	22*	61*	4 16	21 19.33	-15 15.3	1.821	1.727	32.7	21.5	68 W	17*	62*
4 26	21 38.96	-8 38.5	1.564	1.570	37.5	21.4	72 W	23*	63*	4 26	21 42.91	-12 54.5	1.722	1.706	34.1	21.4	72 W	19*	65*
5 6	22 4.40	-6 27.4	1.492	1.564	38.5	21.3	75 W	25*	65*	5 6	22 5.83	-10 23.6	1.626	1.687	35.4	21.2	76 W	21*	67*
5 16	22 28.99	-4 14.5	1.422	1.560	39.3	21.2	78 W	27*	65*	5 16	22 28.03	-7 45.0	1.533	1.671	36.5	21.1	79 W	24*	69*
5 26	22 52.62	-2 3.6	1.355	1.560	39.9	21.1	81 W	29*	65*	5 26	22 49.43	-5 0.7	1.443	1.657	37.3	21.0	83 W	27*	68*
6 5	23 15.21	+0 1.8	1.290	1.564	40.2	21.0	85 W	32*	64*	6 5	23 9.98	-2 13.2	1.356	1.645	38.0	20.9	87 W	31*	66*
6 15	23 36.58	+1 57.9	1.226	1.571	40.3	20.9	88 W	36*	62	6 15	23 29.54	+0 35.0	1.272	1.636	38.4	20.9	91 W	36*	63
6 25	23 56.50	+3 41.1	1.164	1.581	40.0	20.8	93 W	40*	60	6 25	23 47.94	+3 21.1	1.192	1.630	38.4	20.6	95 W	41*	61
7 5	0 14.74	+5 8.3	1.103	1.594	39.2	20.7	97 W	44*	59	7 5	0 4.99	+6 2.5	1.115	1.627	38.1	20.4	99 W	46*	58
7 15	0 30.91	+6 15.6	1.043	1.611	38.0	20.6	103 W	48*	58	7 15	0 20.33	+8 36.1	1.042	1.626	37.3	20.3	104 W	52*	55
7 25	0 44.59	+6 59.7	0.986	1.630	36.1	20.4	109 W	51*	57	7 25	0 33.58	+10 58.7	0.974	1.628	35.9	20.1	110 W	56*	53
8 4	0 55.30	+7 17.7	0.932	1.651	33.5	20.2	116 W	52*	57	7 30	0 39.28	+12 4.8	0.941	1.630	35.0	20.0	113 W	57*	52
8 14	1 2.48	+7 6.3	0.883	1.675	30.1	20.1	124 W	52*	57	8 4	0 44.27	+13 6.7	0.910	1.633	34.0	19.9	116 W	58	51
8 24	1 5.75	+6 24.0	0.841	1.701	25.7	19.9	133 W	51	58	8 9	0 48.46	+14 4.0	0.880	1.636	32.7	19.8	119 W	59	50
9 3	1 4.92	+5 11.8	0.810	1.729	20.3	19.6	143 W	50	59	8 14	0 51.79	+14 55.8	0.852	1.641	31.2	19.7	123 W	60	49
9 8	1 3.03	+4 25.6	0.800	1.743	17.3	19.5	149 W	49	60	8 19	0 54.20	+15 41.6	0.826	1.645	29.5	19.6	127 W	61	48
9 13	1 0.28	+3 34.2	0.794	1.758	14.1	19.4	155 W	49	60	8 24	0 55.65	+16 20.8	0.801	1.651	27.6	19.4	131 W	61	48
9 18	0 56.81	+2 39.2	0.793	1.773	10.8	19.3	161 W	48	61	8 29	0 56.09	+16 52.7	0.780	1.657	25.4	19.3	135 W	62	47
9 23	0 52.82	+1 42.3	0.797	1.788	7.5	19.2	167 W	47	62	9 3	0 55.51	+17 16.5	0.761	1.664	23.1	19.2	140 W	62	47
9 28	0 48.49	+0 45.6	0.806	1.804	4.3	19.1	172 W	46	63	9 13	0 51.45	+17 37.1	0.733	1.679	17.7	19.0	149 W	63	46
10 3	0 44.06	+0 9.1	0.821	1.820	2.5	19.0	175 W	45	64	9 23	0 44.35	+17 20.7	0.720	1.697	12.0	18.8	159 W	62	47
10 8	0 39.74	+0 59.9	0.841	1.836	4.1	19.2	172 E	44	65	10 3	0 35.74	+16 30.9	0.726	1.716	7.3	18.6	167 W	62	47
10 13	0 35.75	+1 44.9	0.867	1.853	7.0	19.4	167 E	43	66	10 8	0 31.46	+15 56.3	0.736	1.727	6.7	18.6	168 E	61	48
10 18	0 32.28	+2 23.1	0.898	1.869	9.9	19.7	161 E	43	66	10 13	0 27.55	+15 17.9	0.751	1.738	7.6	18.7	167 E	60	49
10 23	0 29.44	-2 53.8	0.935	1.886	12.6	19.9	156 E	42	67	10 18	0 24.21	+14 37.7	0.772	1.749	9.6	18.9	163 E	60	49
11 2	0 26.00	-3 31.5	1.022	1.919	17.4	20.3	145 E	41	68	10 23	0 21.59	+13 57.7	0.797	1.761	12.0	19.1	158 E	59	50
11 12	0 25.73	-3 38.8	1.126	1.953	21.1	20.6	135 E	41	68	10 28	0 19.79	+13 19.5	0.827	1.773	14.5	19.2	153 E	58	51
11 22	0 28.52	-3 19.5	1.245	1.988	23.9	21.0	125 E	42	67	11 2	0 18.88	+12 44.6	0.862	1.785	16.9	19.4	149 E	58	51
12 2	0 33.99	-2 38.7	1.375	2.022	25.8	21.3	117 E	42	67	11 7	0 18.89	+12 14.0	0.901	1.798	19.1	19.6	144 E	57	52
448724 2011 BB₄₅										401858 2000 QJ₅₄									
4 16	21 18.69	-35 15.1	0.870	1.154	57.4	21.5	76 W	-	65*	4 16	21 25.43	-22 38.7	1.950	1.855	30.5	21.4	70 W	10*	63*
4 21	21 40.40	-32 37.9	0.853	1.139	58.5	21.4	75 W	1*	65*	4 26	21 48.62	-20 50.8	1.834	1.825	31.9	21.3	74 W	12*	67*
4 26	22 0.97	-29 44.8	0.838	1.125	59.6	21.4	75 W	3*	66*	5 6	22 11.22	-18 53.6	1.721	1.797	33.2	21.1	77 W	13*	71*
5 1	22 20.45	-26 37.9	0.825	1.112	60.5	21.4	74 W	4*	66*	5 16	22 33.13	-16 48.5	1.611	1.770	34.4	21.0	81 W	16*	75*
5 6	22 38.93	-23 19.3	0.814	1.101	61.4	21.4	73 W	6*	67*	5 26	22 54.27	-14 37.1	1.503	1.745	35.4	20.8	85 W	18*	77*
5 11	22 56.47	-19 51.2	0.805	1.092	62.2	21.3	73 W	8*	67*	6 5	23 14.57	-12 20.6	1.400	1.722	36.1	20.7	90 W	22*	76*
5 16	23 13.19	-16 15.7	0.798	1.084	62.8	21.3	73 W	11*	67*	6 15	23 33.86	-10 0.8	1.300	1.702	36.6	20.5	94 W	26*	74
5 21	23 29.17	-12 35.0	0.794	1.078	63.3	21.3	72 W	13*	66*	6 25	23 51.97	-7 39.3	1.204	1.684	36.7	20.3	98 W	31*	72
5 26	23 44.54	-8 50.9	0.791	1.074	63.7	21.3	72 W	16*	65*	7 5	0 8.69	-5 17.3	1.114	1.668	36.4	20.1	103 W	35*	69
5 31	23 59.40	-5 5.3	0.789	1.072	63.9	21.3	72 W	19*	63*	7 15									

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

21/22	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°	21/22	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°
401858 2000 QJ₅₄										357035 2000 LD₁₅									
<i>(continuation)</i>										<i>(continuation)</i>									
9 3	0 55.64	+7 29.7	0.707	1.638	20.9	18.6	145 W	52	57	8 24	1 25.48	+5 21.7	0.969	1.787	26.1	20.2	129 W	50	59
9 13	0 50.42	+9 2.0	0.676	1.643	15.1	18.4	155 W	54	55	9 3	1 25.37	+4 24.8	0.932	1.818	21.4	20.0	139 W	49	60
9 23	0 41.93	+10 15.4	0.662	1.653	8.9	18.1	165 W	55	54	9 8	1 23.85	+3 47.9	0.919	1.833	18.7	19.9	144 W	49	60
9 28	0 36.94	+10 44.3	0.662	1.658	6.1	18.0	170 W	56	53	9 13	1 21.42	+3 6.5	0.909	1.849	15.9	19.8	150 W	48	61
10 3	0 31.80	+11 8.2	0.667	1.665	4.4	17.9	173 E	56	53	9 18	1 18.20	+2 21.8	0.904	1.866	12.9	19.7	155 W	47	62
10 8	0 26.78	+11 27.4	0.677	1.672	5.2	18.0	171 E	56	53	9 23	1 14.33	+1 35.2	0.904	1.883	9.9	19.6	161 W	47	62
10 13	0 22.17	+11 42.8	0.692	1.679	7.7	18.2	167 E	57	52	9 28	1 9.99	+0 48.1	0.910	1.899	6.9	19.5	167 W	46	63
10 18	0 18.21	+11 55.4	0.712	1.688	10.5	18.4	162 E	57	52	10 3	1 5.37	+0 2.3	0.921	1.916	4.3	19.4	172 W	45	64
10 23	0 15.06	+12 6.3	0.737	1.697	13.3	18.6	157 E	57	52	10 8	1 0.67	+0 40.6	0.938	1.934	3.4	19.4	173 W	44	65
10 28	0 12.84	+12 16.4	0.766	1.707	16.0	18.7	152 E	57	52	10 13	0 56.13	-1 19.2	0.961	1.951	5.0	19.6	170 E	44	65
11 2	0 11.62	+12 26.5	0.799	1.717	18.5	18.9	147 E	57	52	10 18	0 51.94	-1 52.2	0.989	1.969	7.5	19.8	165 E	43	66
11 7	0 11.42	+12 37.7	0.836	1.728	20.7	19.1	142 E	58	51	10 23	0 48.24	-2 18.8	1.023	1.986	10.1	20.0	160 E	43	66
11 12	0 12.25	+12 50.5	0.877	1.739	22.7	19.3	137 E	58	51	11 2	0 42.79	-2 51.6	1.108	2.022	14.8	20.4	149 E	42	67
11 22	0 16.74	+13 22.7	0.968	1.764	25.9	19.6	129 E	58	51	11 12	0 40.33	-2 57.0	1.211	2.058	18.7	20.7	138 E	42	67
12 2	0 24.56	+14 4.7	1.071	1.790	28.2	20.0	121 E	59	50	11 22	0 40.95	-2 37.8	1.331	2.093	21.7	21.1	128 E	42	67
12 12	0 35.17	+14 56.7	1.183	1.818	29.7	20.3	114 E	60	49	12 2	0 44.36	-1 58.4	1.463	2.129	23.8	21.4	120 E	43	66
12 22	0 48.03	+15 57.5	1.302	1.847	30.6	20.5	107 E	61	47*	259555 2003 UL₁₄₇									
1	1 2.69	+17 5.3	1.428	1.878	31.0	20.8	101 E	62	45*	4 16	21 36.45	-17 41.5	2.039	1.859	29.4	21.5	65 W	13*	59*
1 11	1 18.81	+18 18.2	1.559	1.909	30.9	21.0	95 E	63	41*	4 26	21 59.96	-16 5.7	1.925	1.829	31.0	21.4	69 W	14*	63*
1 21	1 36.11	+19 34.3	1.694	1.942	30.4	21.2	89 E	65	38*	5 6	22 23.21	-14 23.7	1.813	1.801	32.4	21.2	73 W	16*	67*
370199 2002 DG₂										5 16	22 46.14	-12 37.2	1.704	1.774	33.7	21.1	77 W	17*	70*
4 16	21 26.45	-40 30.1	2.890	2.830	20.2	21.5	76 W	—	62*	5 26	23 8.71	-10 48.2	1.598	1.749	34.9	21.0	81 W	20*	72*
4 26	21 40.11	-40 8.7	2.735	2.795	20.9	21.3	83 W	—	67*	6 5	23 30.86	-8 58.7	1.496	1.726	35.8	20.8	85 W	23*	72*
5 6	21 52.38	-39 54.0	2.578	2.759	21.4	21.2	89 W	—	72*	6 15	23 52.48	-7 11.0	1.398	1.706	36.5	20.7	88 W	26*	71*
5 16	22 3.02	-39 47.7	2.421	2.722	21.7	21.0	96 W	—	75*	6 25	0 13.42	-5 27.6	1.304	1.688	37.0	20.5	92 W	30*	69
5 26	22 11.73	-39 51.2	2.266	2.685	21.6	20.9	103 W	—	76	7 5	0 33.51	-3 50.5	1.215	1.673	37.1	20.3	97 W	34*	68
6 5	22 18.15	-40 5.4	2.115	2.647	21.0	20.7	110 W	2*	76	7 15	0 52.47	-2 22.5	1.131	1.661	36.9	20.2	101 W	39*	66
6 15	22 21.82	-40 30.5	1.971	2.608	20.1	20.5	118 W	3*	75	7 25	1 9.95	-1 5.7	1.051	1.652	36.2	20.0	106 W	42*	65
6 20	22 22.45	-40 46.7	1.903	2.589	19.4	20.3	122 W	3*	75	8 4	1 25.55	-0 1.9	0.976	1.646	35.0	19.8	112 W	45*	64
6 25	22 22.20	-41 5.0	1.837	2.569	18.7	20.2	126 W	4*	75	8 14	1 38.69	+0 47.1	0.907	1.644	33.1	19.6	118 W	46	63
6 30	22 21.00	-41 24.7	1.775	2.549	17.8	20.1	130 W	4*	75	8 24	1 48.80	+1 20.7	0.845	1.645	30.4	19.3	125 W	46	63
7 5	22 18.78	-41 45.3	1.716	2.530	16.8	20.0	134 W	3	74	9 3	1 55.29	+1 39.1	0.792	1.649	26.9	19.1	132 W	47	62
7 10	22 15.49	-42 5.6	1.661	2.509	15.8	19.9	138 W	3	74	9 13	1 57.64	+1 44.1	0.748	1.657	22.4	18.8	141 W	47	62
7 15	22 11.11	-42 24.4	1.610	2.489	14.7	19.7	142 W	3	74	9 23	1 55.76	+1 39.8	0.717	1.667	17.0	18.6	151 W	47	62
7 20	22 5.65	-42 40.4	1.565	2.469	13.6	19.6	145 W	2	73	9 28	1 53.37	+1 36.0	0.708	1.674	14.1	18.5	156 W	47	62
7 25	21 59.17	-42 51.8	1.525	2.449	12.5	19.5	148 W	2	73	10 3	1 50.15	+1 32.2	0.702	1.681	11.0	18.3	161 W	47	62
7 30	21 51.76	-42 57.2	1.490	2.428	11.7	19.4	151 W	2	73	10 8	1 46.28	+1 29.6	0.701	1.689	8.1	18.2	166 W	46	63
8 4	21 43.59	-42 54.9	1.462	2.408	11.2	19.3	152 W	2	73	10 13	1 42.00	+1 29.1	0.705	1.697	5.6	18.1	170 W	46	63
8 9	21 34.88	-42 43.5	1.440	2.387	11.2	19.3	153 W	2	73	10 18	1 37.57	+1 31.7	0.715	1.707	4.7	18.1	172 W	47	62
8 14	21 25.89	-42 22.0	1.424	2.366	11.6	19.2	152 E	3	74	10 23	1 33.24	+1 38.1	0.729	1.717	6.1	18.3	170 E	47	62
8 19	21 16.92	-41 49.9	1.414	2.346	12.5	19.2	150 E	3	74	11 2	1 25.72	+2 4.1	0.772	1.738	11.2	18.6	160 E	47	62
8 24	21 8.27	-41 7.2	1.411	2.325	13.7	19.3	147 E	4	75	11 12	1 20.89	+2 48.7	0.835	1.762	16.4	19.0	150 E	48	61
8 29	21 0.19	-40 14.6	1.413	2.304	15.2	19.3	143 E	5	76	11 22	1 19.52	+3 50.7	0.915	1.788	20.8	19.4	140 E	49	60
9 3	20 52.91	-39 13.1	1.422	2.283	16.8	19.4	139 E	6	77	12 2	1 21.64	+5 6.8	1.010	1.816	24.2	19.7	131 E	50	59
9 8	20 46.60	-38 4.0	1.436	2.262	18.4	19.4	135 E	7	78	12 12	1 26.99	+6 33.9	1.118	1.846	26.7	20.1	123 E	52	57
9 13	20 41.38	-36 48.7	1.455	2.241	20.0	19.5	130 E	8	79	12 22	1 35.15	+8 8.6	1.236	1.876	28.4	20.4	115 E	53	56
9 18	20 37.31	-35 28.7	1.478	2.221	21.5	19.5	126 E	10	81	1	1 45.62	+9 47.9	1.362	1.908	29.4	20.7	108 E	55	54*
9 23	20 34.38	-34 5.4	1.506	2.200	23.0	19.6	121 E	11	82	1 11	1 58.03	+11 29.5	1.496	1.941	29.8	20.9	101 E	56	51*
9 28	20 32.56	-32 39.9	1.536	2.179	24.3	19.7	117 E	12	83	1 21	2 12.02	+13 11.2	1.635	1.975	29.8	21.1	95 E	58	47*
10 3	20 31.82	-31 13.0	1.570	2.158	25.4	19.7	112 E	14	85	4341 Poseidon									
10 8	20 32.09	-29 45.5	1.606	2.138	26.4	19.8	108 E	15	86	4 16	22 57.29	-13 1.1	3.283	2.680	15.5	21.5	46 W	5*	40*
10 13	20 33.29	-28 17.9	1.644	2.117	27.2	19.8	104 E	17	88	4 26	23 10.63	-12 2.9	3.132	2.635	17.5	21.4	52 W	7*	46*
10 18	20 35.35	-26 50.4	1.683	2.097	27.9	19.9	100 E	18	89	5 6	23 23.76	-11 7.8	2.970	2.587	19.4	21.3	58 W	9*	52*
10 23	20 38.19	-25 23.2	1.724	2.076	28.5	19.9	96 E	20	89*	5 16	23 36.66	-10 17.0	2.798	2.537	21.1	21.2	65 W	12*	59*
11 2	20 45.93	-22 29.8	1.806	2.036	29.2	20.0	88 E	23	80*	5 26	23 49.27	-9 32.0	2.619	2.484	22.7	21.1	71 W	15*	64*
11 12	20 56.01	-19 37.0	1.888	1.997	29.4	20.1	81 E	25	71*	6 5	0 1.55	-8 54.4	2.434	2.428	24.1	20.9	78 W	18*	69*
11 22	21 7.99	-16 43.7	1.968	1.958	29.1	20.1	75 E	28	62*	6 15	0 13.40	-8 26.0	2.245	2.369	25.3	20.7	84 W	22*	72*
12 2</																			

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

2021	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°	2021	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°
4341 Poseidon (continuation)										496869 2000 QU₇ (continuation)									
10 13	23 54.92	-37 37.4	0.507	1.386	32.8	16.5	131 E	7	78	7 10	6 27.47	+33 20.2	1.746	0.813	19.5	19.8	15 W	9*	—
10 18	23 37.29	-39 49.3	0.487	1.332	38.3	16.5	124 E	5	76	7 15	6 57.52	+32 29.8	1.775	0.827	17.3	19.8	14 W	8*	—
10 23	23 18.44	-41 39.0	0.470	1.277	44.1	16.5	117 E	3	74	7 20	7 26.00	+31 14.0	1.809	0.847	15.2	19.9	13 W	7*	—
10 28	22 58.85	-43 4.4	0.455	1.221	50.3	16.5	109 E	2	73	7 25	7 52.66	+29 37.8	1.845	0.873	13.2	19.9	11 W	5*	—
11 2	22 38.94	-44 5.6	0.442	1.164	56.7	16.5	101 E	1	72	7 30	8 17.44	+27 45.9	1.885	0.904	11.5	20.0	10 W	4*	—
11 7	22 18.96	-44 44.5	0.429	1.106	63.4	16.5	94 E	—	71*	8 4	8 40.38	+25 42.9	1.927	0.939	9.9	20.0	9 W	3*	—
11 12	21 58.84	-45 4.1	0.415	1.048	70.5	16.6	86 E	—	71*	8 9	9 1.56	+23 32.6	1.970	0.978	8.6	20.1	8 W	2*	—
11 14	21 50.64	-45 7.3	0.410	1.024	73.6	16.6	83 E	—	70*	8 14	9 21.16	+21 18.0	2.015	1.019	7.5	20.2	8 W	1*	—
11 16	21 42.28	-45 8.0	0.404	1.001	76.7	16.6	80 E	—	68*	8 19	9 39.32	+19 1.6	2.060	1.063	6.6	20.3	7 W	1*	—
11 18	21 33.71	-45 6.3	0.398	0.977	80.0	16.6	77 E	—	67*	8 24	9 56.22	+16 45.3	2.106	1.108	6.1	20.4	7 W	1*	—
11 20	21 24.83	-45 2.1	0.391	0.953	83.4	16.7	73 E	—	64*	8 29	10 12.01	+14 30.3	2.152	1.155	5.8	20.5	7 W	1*	—
11 22	21 15.58	-44 55.2	0.385	0.930	87.0	16.7	70 E	—	62*	9 3	10 26.82	+12 17.6	2.197	1.202	5.8	20.7	7 W	1*	—
11 24	21 5.86	-44 45.5	0.378	0.907	90.8	16.8	67 E	—	59*	9 8	10 40.78	+10 7.8	2.242	1.250	6.1	20.8	8 W	1*	—
11 26	20 55.57	-44 32.3	0.372	0.883	94.9	16.9	63 E	—	56*	9 13	10 53.98	+ 8 1.3	2.285	1.298	6.6	21.0	8 W	2*	—
11 28	20 44.62	-44 15.2	0.365	0.860	99.2	17.0	59 E	—	52*	9 18	11 6.52	+ 5 58.3	2.327	1.346	7.2	21.1	10 W	3*	—
11 30	20 32.91	-43 53.1	0.358	0.837	103.9	17.1	56 E	—	49*	9 23	11 18.47	+ 3 59.1	2.366	1.395	7.9	21.3	11 W	4*	2*
12 2	20 20.38	-43 25.0	0.352	0.815	108.8	17.3	51 E	—	45*	9 28	11 29.91	+ 2 3.5	2.404	1.443	8.7	21.4	13 W	5*	3*
12 4	20 6.96	-42 49.6	0.346	0.792	114.1	17.5	47 E	—	41*	137175 1999 JA₁₁									
12 6	19 52.67	-42 5.4	0.341	0.771	119.8	17.8	43 E	—	36*	4 26	0 20.37	- 5 10.7	1.947	1.242	26.7	21.4	34 W	—	27*
12 8	19 37.55	-41 10.8	0.336	0.750	125.9	18.2	38 E	—	32*	5 6	0 54.96	- 2 24.8	1.874	1.188	28.7	21.3	34 W	—	28*
12 10	19 21.74	-40 4.2	0.333	0.729	132.4	18.8	33 E	—	27*	5 16	1 31.41	+ 0 30.7	1.808	1.133	30.5	21.2	35 W	—	29*
12 12	19 5.45	-38 44.8	0.332	0.709	139.2	19.5	28 E	—	22*	5 26	2 9.91	+ 3 32.3	1.752	1.078	31.9	21.0	34 W	1*	28*
12 14	18 49.01	-37 12.2	0.332	0.690	146.3	20.5	23 E	—	16*	6 5	2 50.66	+ 6 35.1	1.708	1.023	32.9	20.9	33 W	1*	27*
276770 2004 HC										6 15	3 33.75	+ 9 32.3	1.676	0.971	33.3	20.8	32 W	2*	26*
4 16	23 13.35	+13 9.1	0.822	0.577	89.9	21.5	35 W	21*	23*	6 25	4 19.11	+12 15.6	1.659	0.924	32.9	20.6	30 W	3*	23*
4 21	23 51.57	+15 18.7	0.895	0.505	87.1	21.2	30 W	18*	18*	7 5	5 6.50	+14 35.9	1.656	0.884	31.7	20.5	27 W	5*	20*
4 26	0 30.22	+16 39.9	0.984	0.434	80.3	20.9	25 W	14*	14*	7 10	5 30.83	+15 34.4	1.660	0.867	30.8	20.4	26 W	5*	19*
5 1	1 10.27	+17 14.1	1.086	0.369	68.0	20.3	20 W	9*	10*	7 15	5 55.48	+16 23.7	1.666	0.853	29.6	20.4	25 W	6*	17*
5 6	1 52.80	+17 5.9	1.192	0.326	49.1	19.7	14 W	4*	6*	7 20	6 20.35	+17 2.8	1.676	0.843	28.3	20.3	23 W	6*	16*
5 8	2 10.53	+16 52.9	1.232	0.318	40.1	19.4	12 W	2*	4*	7 25	6 45.33	+17 31.1	1.688	0.835	26.9	20.3	22 W	7*	14*
5 10	2 28.51	+16 35.9	1.268	0.317	31.0	19.3	9 W	—	3*	8 4	7 35.22	+17 53.3	1.719	0.831	23.7	20.2	19 W	7*	11*
5 12	2 46.54	+16 16.2	1.301	0.323	22.5	19.1	7 W	—	1*	8 14	8 24.22	+17 29.2	1.756	0.842	20.7	20.2	17 W	8*	7*
5 14	3 4.40	+15 54.7	1.330	0.336	15.7	19.0	5 W	—	—	8 24	9 11.47	+16 22.3	1.798	0.866	18.1	20.2	15 W	8*	5*
5 16	3 21.91	+15 32.3	1.355	0.354	11.8	19.0	4 W	—	—	8 29	9 34.25	+15 34.8	1.820	0.882	17.0	20.2	15 W	8*	3*
5 18	3 38.94	+15 9.7	1.376	0.375	11.7	19.2	4 E	—	—	9 3	9 56.41	+14 39.3	1.843	0.901	16.1	20.3	14 W	8*	2*
5 20	3 55.41	+14 47.1	1.395	0.400	14.1	19.4	6 E	—	—	9 8	10 17.92	+13 37.0	1.866	0.922	15.5	20.3	14 W	8*	1*
5 22	4 11.30	+14 24.7	1.413	0.427	17.1	19.7	7 E	—	—	9 13	10 38.76	+12 29.1	1.889	0.945	15.0	20.4	14 W	8*	—
5 24	4 26.62	+14 2.6	1.429	0.455	19.8	20.0	9 E	—	2*	9 18	10 58.94	+11 16.8	1.913	0.970	14.6	20.5	14 W	8*	—
5 26	4 41.36	+13 40.8	1.445	0.484	22.1	20.2	10 E	—	4*	9 23	11 18.47	+10 1.1	1.936	0.995	14.4	20.5	14 W	8*	—
5 31	5 15.91	+12 47.2	1.483	0.556	26.2	20.7	14 E	—	8*	9 28	11 37.40	+ 8 43.0	1.960	1.022	14.3	20.6	15 W	9*	—
6 5	5 47.49	+11 54.7	1.522	0.626	28.3	21.0	17 E	—	11*	10 3	11 55.75	+ 7 23.5	1.983	1.049	14.3	20.7	15 W	9*	—
6 10	6 16.48	+11 2.8	1.563	0.693	29.1	21.3	19 E	—	13*	10 8	12 13.56	+ 6 3.4	2.005	1.076	14.4	20.8	16 W	9*	—
6 15	6 43.22	+10 11.5	1.606	0.755	29.2	21.6	21 E	—	15*	10 13	12 30.86	+ 4 43.5	2.027	1.104	14.5	20.9	16 W	10*	—
333284 1999 PJ₁										10 18	12 47.69	+ 3 24.5	2.048	1.132	14.7	21.0	17 W	11*	—
4 16	23 16.90	- 3 16.3	2.008	1.351	26.6	21.5	37 W	9*	31*	10 23	13 4.09	+ 2 6.8	2.068	1.159	15.0	21.0	18 W	12*	—
4 26	23 42.48	- 2 17.5	1.921	1.302	29.1	21.4	39 W	12*	32*	10 28	13 20.10	+ 0 51.0	2.087	1.187	15.5	21.1	18 W	12*	—
5 6	0 9.48	+ 8 14.1	1.840	1.255	31.4	21.3	40 W	16*	32*	11 2	13 35.75	- 0 22.5	2.105	1.214	15.7	21.2	19 W	13*	—
5 16	0 38.58	+14 29.1	1.768	1.211	33.5	21.2	41 W	19*	31*	11 7	13 51.07	- 1 33.4	2.122	1.241	16.1	21.3	20 W	14*	—
5 26	1 10.64	+20 53.8	1.710	1.171	35.3	21.1	42 W	23*	28*	11 12	14 6.08	- 2 41.3	2.137	1.267	16.5	21.3	21 W	15*	1*
6 5	1 46.70	+27 14.2	1.666	1.137	36.7	21.0	42 W	26*	25*	11 17	14 20.81	- 3 46.0	2.150	1.293	17.0	21.4	22 W	16*	2*
6 15	2 27.81	+33 10.0	1.638	1.109	37.5	20.9	42 W	29*	20*	11 22	14 35.29	- 4 47.3	2.161	1.318	17.5	21.5	24 W	17*	3*
6 25	3 14.68	+38 15.6	1.628	1.088	37.7	20.9	41 W	31*	16*	481918 2009 BE₇₇									
7 5	4 7.12	+42 4.3	1.634	1.076	37.4	20.8	40 W	32*	11*	4 26	0 34.29	+15 16.8	0.713	0.460	116.6	20.3	24 W	12*	14*
7 15	5 3.24	+44 15.4	1.654	1.073	36.5	20.8	39 W	32*	7*	4 28	0 30.65	+15 44.7	0.755	0.475	107.7	19.9	27 W	14*	16*
7 25	5 59.63	+44 41.8	1.684	1.080	35.2	20.8	38 W	32*	5*	4 30	0 28.72	+16 9.5	0.797	0.495	99.8	19.7	29 W	15*	18*
8 4	6 52.70	+43 33.2	1.720	1.095	33.9	20.9	37 W	31*	3*	5 2	0 28.17	+16 32.1	0.840	0.517	92.8	19.6	31 W	16*	20*
8 14	7 40.12	+41 10.4	1.758	1.118	32.5	20.9	36 W	30*	2*	5 4	0 28.71	+16 53.2	0.882	0.542	86.7	19.5	32 W	17*	21*
8 24	8 21.25	+37 56.4	1.794	1.148	31.4	21.0	36 W	30*	3*	5 6	0 30.09	+17 13.0	0.922	0.568	81.4	19.5	34 W	18*	23*
9 3	8 56.61	+34 10.8	1.826	1															