

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

20/22	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°	20/22	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°
380393 2002 XL₆₃										47648 2000 CA₄₀ (continuation)									
12 27	23 47.75	-4 29.7	1.380	1.550	38.7	20.9	80 E	41	55*	9 3	9 24.66	+7 5.8	3.226	2.309	8.8	20.2	21 W	8*	13*
1 6	0 11.85	+1 58.6	1.451	1.549	38.1	21.0	76 E	43	50*	9 13	9 42.37	+6 7.8	3.213	2.344	10.6	20.3	25 W	13*	15*
1 16	0 36.67	+0 38.8	1.525	1.553	37.3	21.1	73 E	45*	46*	9 23	9 59.39	+5 7.9	3.188	2.378	12.3	20.3	30 W	19*	18*
1 26	1 2.08	+3 18.6	1.602	1.561	36.2	21.2	70 E	47*	42*	10 3	10 15.71	+4 7.4	3.150	2.411	14.1	20.4	36 W	24*	22*
2 5	1 27.98	+5 57.2	1.681	1.573	35.1	21.3	66 E	48*	38*	10 13	10 31.30	+3 7.7	3.099	2.444	15.7	20.5	42 W	29*	25*
2 15	1 54.32	+8 31.0	1.764	1.590	33.7	21.3	63 E	47*	36*	10 23	10 46.09	+2 10.5	3.036	2.477	17.3	20.5	48 W	34*	29*
2 25	2 21.03	+10 56.8	1.850	1.609	32.3	21.4	60 E	46*	33*	11 2	11 0.04	+1 17.2	2.961	2.508	18.6	20.5	54 W	38*	33*
68134 2001 AT₁₈																			
12 27	23 47.87	+29 27.6	1.239	1.635	36.9	17.2	94 E	74	28*	12 2	12 11 35.75	+0 41.0	2.673	2.599	21.5	20.5	75 W	44*	48*
1 1	0 2.34	+28 58.6	1.273	1.638	36.9	17.3	92 E	74	28*	12 12	12 11 45.11	+0 59.7	2.562	2.628	21.8	20.4	83 W	44	54*
1 6	0 16.99	+28 32.1	1.309	1.641	36.8	17.4	90 E	74	27*	12 22	12 11 52.88	+1 4.3	2.446	2.656	21.7	20.3	91 W	44	60*
1 11	0 31.76	+28 7.9	1.348	1.646	36.7	17.4	88 E	73*	27*	1 1	11 58.82	+0 52.3	2.329	2.683	21.1	20.2	100 W	44	64*
1 16	0 46.60	+27 45.9	1.388	1.651	36.5	17.5	86 E	73*	27*	1 11	12 2.65	+0 21.3	2.216	2.710	20.0	20.1	110 W	45	64
1 21	1 16.34	+27 7.0	1.475	1.663	36.0	17.6	82 E	71*	27*	1 21	12 4.17	+0 30.7	2.109	2.735	18.2	19.9	120 W	46	63
2 5	1 45.89	+26 33.3	1.569	1.677	35.2	17.7	78 E	68*	26*	8035 1992 TB									
2 15	2 15.07	+26 2.6	1.668	1.695	34.1	17.9	74 E	65*	26*	12 27	23 48.47	-11 34.3	1.870	1.915	30.1	21.2	77 E	33	60*
2 25	2 43.76	+25 32.9	1.773	1.715	32.9	18.0	70 E	61*	26*	1 6	0 1.29	-10 49.3	1.978	1.895	29.3	21.2	71 E	34*	53*
3 7	3 11.85	+25 2.3	1.881	1.737	31.5	18.1	66 E	57*	27*	1 16	0 15.39	-9 52.4	2.076	1.871	28.3	21.3	64 E	34*	47*
3 17	3 39.32	+24 29.0	1.992	1.761	29.9	18.2	62 E	53*	27*	1 26	0 30.61	-8 46.1	2.161	1.844	27.0	21.3	58 E	33*	42*
3 27	4 6.14	+23 51.8	2.104	1.787	28.2	18.3	58 E	48*	27*	2 5	0 46.83	-7 32.5	2.234	1.813	25.6	21.3	53 E	31*	37*
4 6	4 32.28	+23 9.3	2.216	1.814	26.4	18.4	54 E	43*	27*	2 15	1 4.01	-6 13.2	2.293	1.777	24.1	21.3	47 E	28*	33*
4 16	4 57.74	+22 20.7	2.326	1.843	24.5	18.5	50 E	37*	27*	2 25	1 22.12	-4 49.8	2.337	1.739	22.5	21.2	42 E	25*	30*
4 26	5 22.53	+21 25.3	2.434	1.873	22.6	18.6	46 E	32*	27*	3 7	1 41.17	-3 23.7	2.367	1.696	21.0	21.1	38 E	21*	27*
5 6	5 46.63	+20 22.6	2.538	1.904	20.6	18.6	42 E	26*	26*	3 17	2 1.22	-1 56.0	2.383	1.649	19.5	21.1	34 E	17*	24*
5 16	6 10.07	+19 12.4	2.638	1.936	18.5	18.7	38 E	20*	25*	3 27	2 22.35	-0 28.1	2.383	1.599	18.2	20.9	30 E	13*	22*
5 26	6 32.84	+17 54.6	2.732	1.969	16.5	18.7	34 E	14*	24*	4 6	2 44.65	+0 58.8	2.370	1.544	17.0	20.8	27 E	9*	20*
6 5	6 54.94	+16 29.2	2.820	2.002	14.5	18.8	30 E	9*	22*	4 16	3 8.28	+2 23.6	2.345	1.486	16.0	20.7	24 E	4*	18*
6 15	7 16.41	+14 56.5	2.902	2.035	12.5	18.8	26 E	3*	19*	4 26	3 33.40	+3 45.0	2.307	1.424	15.3	20.5	22 E	1*	16*
6 25	7 37.24	+13 16.6	2.976	2.069	10.6	18.8	22 E	—	16*	5 6	4 0.18	+5 1.6	2.258	1.358	14.9	20.4	20 E	—	14*
7 5	7 57.46	+11 29.9	3.042	2.103	8.8	18.8	18 E	—	12*	5 16	4 28.89	+6 12.1	2.201	1.288	14.9	20.2	19 E	—	12*
7 15	8 17.09	+9 36.8	3.099	2.136	7.2	18.8	15 E	—	8*	5 26	4 59.74	+7 14.8	2.136	1.216	15.1	20.0	18 E	—	11*
7 25	8 36.14	+7 37.7	3.148	2.170	6.0	18.8	13 E	—	4*	6 5	5 33.00	+8 8.1	2.067	1.140	15.5	19.8	17 E	—	9*
8 4	8 54.64	+5 33.0	3.187	2.203	5.4	18.9	12 W	—	—	6 15	6 8.96	+8 50.2	1.994	1.063	16.0	19.6	17 E	—	8*
8 14	9 12.62	+3 23.3	3.216	2.236	5.5	18.9	12 W	—	4*	6 25	6 47.84	+9 19.5	1.921	0.986	16.7	19.4	16 E	—	7*
8 24	9 30.07	+1 9.0	3.235	2.269	6.3	19.0	14 W	—	8*	7 5	7 29.80	+9 34.7	1.849	0.911	17.3	19.1	15 E	—	7*
9 3	9 47.03	-1 9.5	3.243	2.301	7.6	19.1	18 W	—	11*	7 15	8 14.91	+9 34.9	1.781	0.842	18.3	18.9	15 E	—	8*
9 13	10 3.49	+3 31.7	3.241	2.333	9.0	19.2	21 W	3*	15*	7 25	9 2.99	+9 20.1	1.717	0.783	19.9	18.7	15 E	—	9*
9 23	10 19.46	+5 57.0	3.228	2.364	10.6	19.3	26 W	7*	19*	8 4	9 53.64	+8 50.5	1.658	0.742	22.7	18.6	16 E	—	10*
10 3	10 34.92	-8 25.0	3.204	2.395	12.2	19.4	30 W	11*	23*	8 14	10 46.14	+8 5.7	1.604	0.722	26.8	18.6	19 E	1*	13*
10 13	10 49.87	-10 55.4	3.170	2.425	13.7	19.4	35 W	15*	27*	8 24	11 39.56	+7 4.7	1.557	0.729	31.6	18.7	22 E	6*	15*
10 23	11 4.24	-13 27.6	3.125	2.454	15.2	19.5	40 W	18*	32*	9 3	12 32.66	+5 45.6	1.521	0.760	35.9	18.9	26 E	11*	18*
11 2	11 18.01	-16 1.1	3.070	2.483	16.7	19.5	46 W	21*	36*	9 13	13 25.66	+4 8.7	1.499	0.811	38.9	19.1	30 E	16*	21*
11 12	11 31.08	-18 35.5	3.006	2.510	18.0	19.5	51 W	22*	42*	9 23	14 16.97	+2 17.8	1.495	0.875	40.4	19.3	34 E	20*	24*
11 22	11 43.35	-21 10.3	2.932	2.537	19.1	19.5	57 W	22*	48*	9 28	14 41.97	+1 19.3	1.501	0.911	40.6	19.4	36 E	21*	25*
12 2	11 54.69	-23 44.9	2.851	2.564	20.1	19.5	63 W	21*	54*	10 3	15 6.47	+0 20.2	1.511	0.948	40.4	19.5	38 E	23*	26*
12 12	12 4.90	-26 18.6	2.762	2.589	20.9	19.5	70 W	19	62*	10 8	15 30.41	+0 38.3	1.527	0.986	40.0	19.6	39 E	24*	27*
12 22	12 13.76	-28 50.5	2.668	2.614	21.4	19.5	76 W	16	69*	10 13	15 53.77	+1 35.0	1.548	1.024	39.4	19.7	41 E	25*	27*
1 1	12 21.00	-31 19.4	2.571	2.637	21.7	19.4	83 W	14	77*	10 18	16 16.48	-2 29.0	1.575	1.063	38.6	19.8	42 E	26*	28*
1 11	12 26.26	-33 43.4	2.472	2.660	21.7	19.3	90 W	11	82*	10 23	16 38.55	-3 19.2	1.605	1.102	37.6	19.9	43 E	27*	28*
1 21	12 29.19	-36 0.0	2.374	2.682	21.3	19.3	97 W	9	80	11 2	17 20.64	-4 46.0	1.680	1.178	35.4	20.0	44 E	28*	28*
47648 2000 CA₄₀																			
12 27	23 47.90	-19 20.7	1.601	1.642	35.3	18.7	75 E	26	63*	11 12	18 0.03	-5 51.8	1.768	1.252	33.0	20.2	44 E	29*	27*
1 1	23 59.61	-18 24.1	1.640	1.642	34.9	18.8	73 E	27	60*	11 22	18 36.76	-6 35.4	1.868	1.324	30.4	20.4	43 E	29*	25*
1 6	0 11.42	-17 23.8	1.680	1.644	34.4	18.8	71 E	28	58*	12 2	19 11.00	-6 57.6	1.975	1.391	27.7	20.5	41 E	29*	22*
1 11	0 23.30	-16 20.0	1.719	1.646	33.9	18.9	69 E	29	56*	12 12	19 42.97	-7 0.2	2.086	1.456	25.1	20.7	39 E	28*	19*
1 16	0 35.26	-15 13.3	1.758	1.650	33.4	18.9	67 E	30*	54*	12 22	20 12.88	-6 45.6	2.198	1.516	22.4	20.8	36 E	27*	15*
1 21	0 47.28	-14 4.1	1.797	1.654	32.8	18.9	66 E	30*	52*	1 1	20 40.98	-6 16.3	2.308	1.572	19.7	20.9	33 E	25*	11*
1 26	0 59.35	-12 52.8	1.836	1.659	32.2	19.0	64 E	31*	50*	1 11	21 7.50	-5 34.6	2.413	1.625	17.1	21.0	29 E	22*	8*
2 5	1 23.59	-10 26.0	1.914	1.671	31.0	19.1	61 E	32*	47*	1 21	21 32.63	-4 4							

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

20/22	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°	20/21	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°
349694 2008 XF₃										353967 1999 XM₁₃₆									
<i>(continuation)</i>										<i>(continuation)</i>									
2 25	2 19.81	- 6 53.0	2.080	1.738	28.3	20.4	56 E	31*	44*	1 31	2 1.62	+43 1.2	1.241	1.620	37.4	18.7	93 E	87*	16*
3 7	2 42.88	- 3 1.5	2.183	1.776	26.6	20.5	53 E	30*	40*	2 5	2 20.61	+42 31.7	1.283	1.635	37.1	18.8	91 E	85*	17*
3 17	3 5.66	+ 0 32.6	2.291	1.816	24.7	20.6	50 E	29*	37*	2 10	2 39.34	+41 58.3	1.328	1.652	36.7	18.9	90 E	84*	17*
3 27	3 28.20	+ 3 48.1	2.402	1.858	22.8	20.7	46 E	27*	34*	2 15	2 57.74	+41 21.3	1.376	1.669	36.3	19.0	88 E	82*	18*
4 6	3 50.54	+ 6 44.1	2.515	1.901	20.8	20.8	42 E	24*	31*	2 20	3 15.75	+40 41.3	1.427	1.686	35.8	19.1	87 E	80*	19*
4 16	4 12.70	+ 9 20.7	2.627	1.945	18.8	20.9	39 E	21*	28*	2 25	3 33.31	+39 58.5	1.480	1.705	35.3	19.2	85 E	79*	20*
4 26	4 34.69	+11 38.1	2.737	1.991	16.6	21.0	34 E	17*	25*	3 2	3 50.40	+39 13.3	1.535	1.724	34.8	19.3	83 E	77*	21*
5 6	4 56.48	+13 37.0	2.844	2.037	14.4	21.0	30 E	13*	21*	3 7	4 6.99	+38 25.9	1.593	1.744	34.2	19.3	81 E	75*	21*
5 16	5 18.07	+15 18.2	2.946	2.084	12.2	21.1	26 E	8*	18*	3 12	4 23.08	+37 36.8	1.653	1.764	33.6	19.4	79 E	72*	22*
5 26	5 39.42	+16 42.8	3.042	2.131	10.0	21.1	21 E	4*	14*	3 17	4 38.69	+36 46.2	1.715	1.785	32.9	19.5	77 E	70*	23*
6 5	6 0.48	+17 51.9	3.129	2.178	7.7	21.1	17 E	1*	10*	3 22	4 53.82	+35 54.3	1.779	1.807	32.3	19.6	75 E	68*	24*
6 15	6 21.21	+18 46.7	3.208	2.225	5.5	21.1	12 E	—	6*	3 27	5 8.48	+35 1.5	1.844	1.829	31.5	19.7	73 E	65*	25*
6 25	6 41.57	+19 28.4	3.276	2.272	3.3	21.1	7 E	—	1*	4 1	5 22.68	+34 7.7	1.911	1.851	30.8	19.8	71 E	63*	26*
7 5	7 1.51	+19 58.6	3.333	2.319	1.4	21.0	3 E	—	—	4 6	5 36.45	+33 13.2	1.979	1.874	30.0	19.8	69 E	60*	26*
7 15	7 21.00	+20 18.5	3.378	2.365	1.7	21.1	4 W	—	—	4 11	5 49.81	+32 18.1	2.047	1.897	29.1	19.9	67 E	57*	27*
7 25	7 39.98	+20 29.5	3.410	2.411	3.7	21.3	9 W	—	1*	4 16	6 2.78	+31 22.3	2.117	1.920	28.3	20.0	65 E	54*	28*
8 4	7 58.43	+20 33.2	3.429	2.457	5.7	21.5	14 W	5*	5*	4 26	6 27.63	+29 29.4	2.256	1.967	26.4	20.1	61 E	48*	29*
348028 2003 UD₄										353967 1999 XM₁₃₆									
12 27	23 49.96	+10 34.9	1.708	1.920	30.8	20.6	87 E	56	44*	5 6	6 51.13	+27 34.7	2.396	2.015	24.5	20.3	56 E	42*	30*
1 6	0 7.29	+10 10.0	1.789	1.890	30.8	20.7	80 E	55*	41*	5 16	7 13.44	+25 38.4	2.535	2.064	22.6	20.4	52 E	36*	30*
1 16	0 26.02	+10 3.9	1.869	1.861	30.6	20.7	74 E	54*	37*	5 26	7 34.68	+23 40.5	2.671	2.113	20.5	20.5	47 E	29*	30*
1 26	0 45.97	+10 13.2	1.946	1.834	30.0	20.8	69 E	53*	34*	6 5	7 54.95	+21 41.0	2.802	2.162	18.4	20.6	42 E	23*	29*
2 5	1 6.96	+10 34.3	2.020	1.808	29.2	20.8	63 E	50*	32*	6 15	8 14.35	+19 40.1	2.928	2.211	16.3	20.6	38 E	17*	27*
2 15	1 28.90	+11 4.0	2.089	1.783	28.2	20.8	58 E	46*	29*	6 25	8 32.96	+17 37.7	3.046	2.260	14.1	20.7	33 E	11*	24*
2 25	1 51.71	+11 39.0	2.153	1.760	27.0	20.8	54 E	43*	27*	7 5	8 50.85	+15 33.9	3.157	2.309	11.9	20.7	28 E	6*	21*
3 7	2 15.31	+12 16.1	2.213	1.739	25.7	20.8	49 E	39*	26*	7 15	9 8.08	+13 28.7	3.258	2.357	9.8	20.8	23 E	2*	17*
3 17	2 39.66	+12 52.7	2.268	1.720	24.3	20.8	45 E	34*	25*	7 25	9 24.71	+11 22.4	3.348	2.405	7.6	20.8	18 E	—	12*
3 27	3 4.70	+13 25.7	2.318	1.703	22.8	20.8	41 E	30*	24*	8 4	9 40.76	+ 9 14.9	3.428	2.453	5.6	20.8	14 E	—	7*
4 6	3 30.37	+13 52.7	2.363	1.688	21.3	20.7	38 E	26*	23*	8 14	9 56.29	+ 7 6.5	3.495	2.500	3.7	20.8	9 E	—	2*
4 16	3 56.61	+14 11.5	2.404	1.677	19.8	20.7	35 E	21*	22*	8 24	10 11.31	+ 4 57.3	3.548	2.546	2.5	20.8	6 E	—	—
4 26	4 23.32	+14 19.8	2.441	1.667	18.4	20.7	31 E	17*	21*	9 3	10 25.84	+ 2 47.5	3.589	2.591	2.8	20.8	7 W	—	1*
5 6	4 50.42	+14 16.0	2.474	1.661	16.9	20.7	29 E	12*	20*	9 13	10 39.89	+ 0 37.1	3.615	2.636	4.3	21.0	11 W	—	5*
5 16	5 17.80	+13 58.8	2.505	1.658	15.6	20.6	26 E	8*	19*	9 23	10 53.44	- 1 33.5	3.626	2.680	6.1	21.1	17 W	5*	10*
5 26	5 45.33	+13 27.1	2.533	1.657	14.3	20.6	24 E	3*	17*	10 3	11 6.50	- 3 44.1	3.623	2.724	8.0	21.2	22 W	10*	14*
6 5	6 12.88	+12 40.5	2.560	1.660	13.0	20.6	22 E	—	16*	10 13	11 19.01	- 5 54.7	3.605	2.766	9.8	21.3	28 W	15*	19*
6 15	6 40.35	+11 38.9	2.585	1.665	11.9	20.6	20 E	—	14*	10 23	11 30.94	- 8 5.0	3.573	2.808	11.5	21.4	34 W	19*	23*
6 25	7 7.59	+10 22.8	2.609	1.673	10.9	20.6	18 E	—	11*	11 2	11 42.22	-10 14.7	3.526	2.848	13.1	21.5	41 W	23*	29*
7 5	7 34.53	+ 8 53.0	2.632	1.684	10.0	20.6	17 E	—	9*	137799 1999 YB									
7 15	8 1.07	+ 7 10.7	2.655	1.697	9.2	20.6	16 E	—	6*	12 27	23 51.85	+ 0 51.8	1.150	1.420	43.4	21.2	83 E	46	52*
7 25	8 27.15	+ 5 17.3	2.677	1.713	8.6	20.6	15 E	—	3*	1 6	0 13.39	+ 3 53.7	1.228	1.420	42.8	21.4	79 E	49	46*
8 4	8 52.73	+ 3 14.6	2.698	1.732	8.2	20.6	14 W	—	1*	1 16	0 35.76	+ 6 53.3	1.304	1.418	42.1	21.5	75 E	52*	41*
8 14	9 17.79	+ 1 4.4	2.718	1.752	8.0	20.7	14 W	—	3*	1 26	0 58.99	+ 9 49.5	1.378	1.416	41.2	21.6	71 E	53*	37*
8 24	9 42.33	- 1 11.6	2.737	1.775	8.1	20.7	14 W	—	6*	2 5	1 23.09	+12 40.4	1.449	1.413	40.3	21.6	68 E	53*	33*
9 3	10 6.35	- 3 31.2	2.753	1.799	8.5	20.8	15 W	—	8*	125475 2001 WA₁₅									
9 13	10 29.89	- 5 53.0	2.766	1.825	9.1	20.8	17 W	—	10*	12 27	23 52.34	- 5 48.3	1.618	1.750	33.7	20.5	81 E	39	57*
9 23	10 52.96	- 8 14.9	2.775	1.852	9.9	20.9	19 W	—	13*	1 6	0 13.07	- 3 35.2	1.731	1.772	32.6	20.6	76 E	41	51*
10 3	11 15.60	-10 35.5	2.780	1.880	11.0	21.0	21 W	3*	15*	1 16	0 33.99	- 1 19.5	1.845	1.796	31.3	20.7	72 E	43*	46*
10 13	11 37.82	-12 53.3	2.779	1.909	12.2	21.1	24 W	6*	17*	1 26	0 55.05	+ 0 56.6	1.961	1.821	29.9	20.9	67 E	44*	42*
10 23	11 59.63	-15 6.9	2.772	1.940	13.5	21.1	27 W	9*	20*	2 5	1 16.23	+ 3 11.0	2.076	1.847	28.3	21.0	63 E	44*	38*
11 2	12 21.06	-17 14.9	2.758	1.971	14.9	21.2	31 W	12*	23*	2 15	1 37.53	+ 5 21.9	2.191	1.874	26.7	21.1	58 E	43*	34*
11 12	12 42.08	-19 16.4	2.736	2.002	16.3	21.3	35 W	14*	26*	2 25	1 58.96	+ 7 27.7	2.305	1.902	24.9	21.2	54 E	40*	31*
11 22	13 2.66	-21 10.1	2.705	2.034	17.8	21.3	39 W	16*	30*	3 7	2 20.49	+ 9 26.8	2.416	1.930	23.1	21.2	50 E	37*	29*
12 2	13 22.76	-22 55.4	2.665	2.066	19.2	21.4	44 W	17*	35*	3 17	2 42.15	+11 18.0	2.524	1.959	21.2	21.3	45 E	34*	26*
12 12	13 42.27	-24 31.4	2.615	2.098	20.6	21.4	49 W	18*	40*	3 27	3 9.92	+13 0.2	2.628	1.988	19.3	21.4	41 E	30*	24*
12 22	14 1.09	-25 57.5	2.556	2.130	21.9	21.4	54 W	18*	45*	4 6	3 25.77	+14 32.4	2.727	2.018	17.3	21.4	37 E	25*	21*
1 1	14 19.08	-27 13.0	2.488	2.162	23.1	21.4	60 W	17*	52*	4 16	3 47.70	+15 53.9	2.821	2.047	15.3	21.5	33 E	21*	19*
1 11	14 36.02	-28 17.7	2.411	2.194	24.1	21.4	66 W	17*	58*	4 26	4 9.66	+17 4.1	2.909	2.077	13.2	21.5	28 E	16*	17*
1 21	14 51.69	-29 11.0	2.326	2.226	24.8	21.4	72 W	16	65*	5 6	4 31.61	+18 2.5	2.989	2.107	11.2	21.5	24 E	1	

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

20/22	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°	20/22	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°
33881 2000 JK₆₆ (continuation)										219844 2002 CQ₁₄₈ (continuation)									
5 16	4 55.64	+17 36.2	3.069	2.148	9.3	19.0	20 E	6*	12*	10 23	2 48.17	+16 50.9	3.669	4.637	3.2	19.8	165 W	62	47
5 26	5 16.93	+18 25.7	3.140	2.182	7.2	19.0	16 E	2*	9*	11 2	2 42.73	+16 23.5	3.646	4.637	0.8	19.6	176 W	61	48
6 5	5 38.03	+19 2.8	3.202	2.216	5.2	19.0	11 E	—	5*	11 12	2 37.18	+15 54.4	3.654	4.637	1.6	19.7	172 E	61	48
6 15	5 58.88	+19 28.2	3.254	2.249	3.2	18.9	7 E	—	1*	11 22	2 31.98	+15 26.2	3.692	4.637	4.0	19.8	161 E	60	49
6 25	6 19.41	+19 42.2	3.295	2.282	1.7	18.9	4 E	—	—	12 2	2 27.53	+15 1.0	3.759	4.637	6.2	20.0	150 E	60	49
7 5	6 39.57	+19 45.8	3.326	2.314	2.2	19.0	5 W	—	—	12 12	2 24.17	+14 40.7	3.852	4.637	8.1	20.1	139 E	60	49
7 15	6 59.31	+19 39.6	3.344	2.346	3.9	19.1	9 W	—	3*	12 22	2 22.13	+14 26.8	3.967	4.637	9.6	20.3	128 E	59	50
7 25	7 18.56	+19 24.6	3.351	2.377	5.8	19.3	14 W	3*	6*	1 1	2 21.50	+14 20.1	4.100	4.638	10.8	20.4	118 E	59	50
8 4	7 37.28	+19 1.8	3.345	2.407	7.8	19.4	19 W	8*	10*	1 11	2 22.34	+14 20.9	4.245	4.638	11.7	20.5	108 E	59	49*
8 14	7 55.42	+18 32.2	3.326	2.436	9.7	19.5	24 W	13*	13*	1 21	2 24.59	+14 28.8	4.399	4.639	12.1	20.6	98 E	59	47*
8 24	8 12.92	+17 57.1	3.295	2.464	11.6	19.6	29 W	19*	16*	343098 2009 DV₄₂									
9 3	8 29.75	+17 17.7	3.250	2.492	13.4	19.6	35 W	25*	19*	12 27	23 53.98	-24 32.1	1.209	1.335	45.1	21.5	74 E	20	66*
9 13	8 45.85	+16 35.2	3.193	2.518	15.1	19.7	41 W	31*	21*	1 6	0 17.06	-20 22.5	1.227	1.301	45.7	21.5	71 E	25	60*
9 23	9 1.14	+15 51.2	3.124	2.544	16.7	19.7	47 W	36*	24*	1 16	0 41.33	-15 53.6	1.242	1.270	46.1	21.4	68 E	29*	55*
10 3	9 15.57	+15 7.2	3.043	2.568	18.1	19.7	53 W	42*	27*	1 26	1 6.76	-11 7.8	1.254	1.242	46.5	21.4	66 E	33*	51*
10 13	9 29.04	+14 24.7	2.950	2.592	19.4	19.7	60 W	47*	31*	2 5	1 33.34	-6 8.8	1.265	1.217	46.8	21.4	64 E	36*	47*
10 23	9 41.44	+13 45.7	2.848	2.615	20.4	19.7	66 W	52*	34*	2 15	2 1.19	-1 1.0	1.277	1.198	46.9	21.4	62 E	39*	43*
11 2	9 52.64	+13 11.9	2.738	2.637	21.2	19.6	74 W	56*	38*	2 25	2 30.47	+4 9.2	1.290	1.183	46.9	21.4	61 E	42*	40*
11 12	10 2.46	+12 45.7	2.620	2.658	21.6	19.6	81 W	58*	42*	3 7	3 1.31	+9 14.3	1.307	1.174	46.8	21.4	60 E	43*	36*
11 22	10 10.69	+12 29.4	2.499	2.678	21.6	19.5	89 W	57*	46*	3 17	3 33.92	+14 5.8	1.328	1.170	46.4	21.4	58 E	44*	34*
12 2	10 17.12	+12 25.1	2.375	2.696	21.2	19.4	98 W	57*	49*	3 27	4 8.43	+18 34.6	1.355	1.173	45.8	21.4	57 E	45*	31*
12 12	10 21.45	+12 35.5	2.254	2.714	20.3	19.2	107 W	58	51*	4 6	4 44.84	+22 31.6	1.387	1.181	45.0	21.5	57 E	45*	30*
12 22	10 23.43	+13 2.5	2.138	2.731	18.7	19.1	117 W	58	51	375103 2007 TD₇₁									
1 1	10 22.81	+13 47.2	2.033	2.747	16.5	18.9	128 W	59	50	12 27	23 54.18	-18 50.4	1.226	1.376	43.9	21.2	76 E	26	64*
1 11	10 19.45	+14 49.3	1.944	2.762	13.5	18.7	139 W	60	49	1 1	0 2.52	-14 48.5	1.286	1.395	42.8	21.3	75 E	30	60*
1 21	10 13.44	+16 6.3	1.875	2.775	10.0	18.5	151 W	61	48	1 6	0 10.62	-11 3.4	1.348	1.414	41.6	21.4	73 E	34	55*
99907 1989 VA										1 11	0 18.54	-7 33.7	1.413	1.431	40.5	21.5	71 E	37*	51*
12 27	23 53.51	-7 11.2	0.791	1.153	57.2	19.8	80 E	38	58*	1 16	0 26.37	-4 17.9	1.479	1.448	39.3	21.6	69 E	40*	47*
1 1	0 4.01	-7 29.1	0.835	1.144	57.0	19.9	78 E	38	56*	178287 1981 UW₂₇									
1 6	0 14.16	-7 40.4	0.876	1.132	56.9	19.9	75 E	37	54*	12 27	23 54.33	+1 35.1	1.418	1.638	36.7	19.6	84 E	47	52*
1 11	0 24.05	-7 46.4	0.914	1.116	56.9	20.0	72 E	37	52*	1 6	0 15.72	+4 20.3	1.509	1.648	35.9	19.7	80 E	49	47*
1 16	0 33.72	-7 48.1	0.948	1.097	56.9	20.0	69 E	37	50*	1 16	0 37.89	+7 4.7	1.604	1.662	35.0	19.9	76 E	52*	42*
1 21	0 43.21	-7 46.6	0.977	1.075	57.1	20.1	66 E	36	48*	1 26	1 0.74	+9 45.9	1.701	1.678	33.9	20.0	72 E	53*	37*
1 26	0 52.55	-7 42.7	1.002	1.049	57.4	20.1	64 E	36	46*	2 5	1 24.18	+12 21.6	1.800	1.698	32.6	20.1	68 E	53*	34*
1 31	1 1.73	-7 37.1	1.020	1.019	57.8	20.1	61 E	35	44*	2 15	1 48.16	+14 49.8	1.901	1.720	31.1	20.2	64 E	52*	30*
2 5	1 10.75	-7 30.4	1.034	0.985	58.4	20.0	58 E	33	43*	2 25	2 12.63	+17 8.3	2.004	1.744	29.6	20.3	60 E	50*	28*
2 15	1 28.20	-7 15.9	1.040	0.905	60.6	19.9	53 E	30	39*	3 7	2 37.53	+19 15.4	2.107	1.770	28.0	20.4	57 E	47*	25*
2 25	1 44.24	-7 3.0	1.016	0.808	64.6	19.8	48 E	26	36*	3 17	3 2.82	+21 9.5	2.211	1.798	26.2	20.5	53 E	44*	24*
3 7	1 57.01	-6 53.7	0.956	0.693	72.0	19.5	42 E	21	32*	3 27	3 28.43	+22 49.4	2.315	1.828	24.4	20.6	49 E	41*	22*
3 12	2 0.81	-6 48.8	0.911	0.627	78.1	19.4	38 E	17	30*	4 6	3 54.24	+24 14.0	2.417	1.859	22.6	20.6	46 E	37*	20*
3 17	2 1.33	-6 39.9	0.857	0.557	86.7	19.3	34 E	13	27*	4 16	4 20.19	+25 22.7	2.518	1.891	20.7	20.7	42 E	33*	19*
3 22	1 56.24	-6 18.3	0.796	0.484	99.3	19.4	29 E	9	22*	4 26	4 46.14	+26 15.0	2.616	1.924	18.7	20.8	38 E	29*	18*
3 27	1 41.87	-5 22.5	0.736	0.410	118.3	20.0	21 E	2	15*	5 6	5 11.96	+26 50.9	2.711	1.958	16.8	20.8	34 E	24*	16*
3 29	1 32.59	-4 41.6	0.716	0.382	128.2	20.6	17 E	—	11*	5 16	5 37.55	+27 10.7	2.802	1.993	14.8	20.9	30 E	20*	14*
3 31	1 21.13	-3 44.8	0.702	0.355	139.4	21.7	13 E	—	7*	5 26	6 2.77	+27 15.0	2.887	2.028	12.7	20.9	26 E	16*	13*
4 2	1 7.83	-2 28.9	0.696	0.332	151.0	23.3	9 E	—	2*	6 5	6 27.52	+27 4.6	2.968	2.064	10.7	20.9	22 E	12*	10*
4 4	0 53.55	-0 53.2	0.701	0.313	158.9	25.2	6 E	—	—	6 15	6 51.69	+26 40.4	3.041	2.099	8.6	20.9	18 E	8*	8*
219844 2002 CQ₁₄₈										6 25	7 15.22	+26 3.8	3.107	2.135	6.6	20.9	14 E	5*	5*
12 27	23 53.61	+1 3.3	4.699	4.692	12.0	20.7	84 E	46	52*	7 5	7 38.03	+25 15.9	3.165	2.171	4.6	20.9	10 E	2*	1*
1 6	23 58.70	+1 31.1	4.851	4.689	11.7	20.8	75 E	46*	45*	7 15	8 0.11	+24 18.1	3.215	2.206	2.8	20.8	6 E	—	—
1 16	0 4.72	+2 5.3	4.996	4.685	11.1	20.8	66 E	45*	38*	7 25	8 21.42	+23 11.7	3.254	2.242	1.6	20.8	4 E	—	—
1 26	0 11.54	+2 45.2	5.132	4.682	10.2	20.9	58 E	42*	32*	8 4	8 41.95	+21 58.2	3.284	2.277	2.5	20.9	6 W	—	—
2 5	0 19.04	+3 29.7	5.257	4.679	9.2	20.9	50 E	38*	26*	8 14	9 1.71	+20 38.7	3.303	2.311	4.3	21.1	10 W	4*	—
2 15	0 27.12	+4 18.1	5.367	4.676	8.1	20.9	42 E	32*	20*	8 24	9 20.70	+19 14.7	3.310	2.345	6.2	21.2	15 W	8*	1*
2 25	0 35.68	+5 9.7	5.462	4.674	6.8	20.8	34 E	26	15*	9 3	9 38.93	+17 47.3	3.305	2.379	8.2	21.3	20 W	13*	4*
3 7	0 44.63	+6 3.5	5.540	4.671	5.4	20.8	26 E	19	10*	9 13	9 56.40	+16 17.8	3.288	2.412	10.1	21.4	25 W	18*	7*
3 17	0 53.87	+6 58.9	5.599	4.668	3.9	20.7	19 E	12	5*	63164 2000 YU₁₄									
3 27	1 3.34	+7 55.2	5.640	4.666	2.4	20.7	11 E	5*	1*	12 27	23 56.02	+0 20.8	1.561	1.753	33.9	19.4	84 E	45	53*
4 6	1 12.96	+8 51.8	5.661	4.663	0.9	20.6	4 E	—	—	1 6	0 16.31	+2 47.7	1.683	1.784	32.8	19.6	79 E	48	48*
4 16	1 22.67	+9 47.9	5.663	4.661	0.7	20.5	3 W	—	—	1 16	0 36.81	+5 12.2	1.808	1.816	31.5	19.7	75 E	50*	43*
4 26	1 32.38	+10 43.1	5.645	4.659	2.2	20.7	10 W	—	4*	1 26	0 57.50	+7 33.1	1.935	1.850	30.0	19.9	70 E	51*	38*
5 6	1 42.04	+11 36.8	5.608	4.657	3.8	20.7	18 W	2*	11*	2 5	1 18.35	+9 49.0	2.063	1.885	28.5	20.0	66 E	50*	34*
5 16	1 51.57	+12 28.6	5.554	4.655	5.2	20.8	25 W	5*	18*	2 15	1 39.35	+11 58.9	2.191	1.920	26.8	20.1	61 E	49*	31*
5 26	2 0.89	+13 17.9	5.481	4.653	6.6	20.8	32 W	9*	25*	2 25	2 0.51	+14 1.7	2.318	1.956	25.0	20.2	57 E	46*	28*
6 5	2 9.94	+14 4.4	5.3																

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

20/22	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°	20/22	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°
63164 2000 YU₁₄										2201 Oljato									
<i>(continuation)</i>										<i>(continuation)</i>									
7 25	7 16.55	+24 38.7	3.448	2.479	6.0	20.9	15 W	7*	4*	1 6	18 52.63	-23 29.8	2.320	1.340	2.4	18.0	3 W	—	—
8 4	7 35.08	+24 4.6	3.438	2.510	8.0	21.0	20 W	12*	7*	1 11	19 8.46	-23 11.6	2.374	1.396	3.4	18.2	5 W	—	—
8 14	7 52.96	+23 24.5	3.416	2.539	9.9	21.1	25 W	17*	11*	1 16	19 23.48	-22 48.8	2.425	1.452	4.3	18.4	6 W	—	—
8 24	8 10.13	+22 39.6	3.380	2.567	11.7	21.2	31 W	23*	14*	1 21	19 37.75	-22 22.1	2.474	1.506	5.3	18.6	8 W	—	2*
9 3	8 26.54	+21 51.1	3.331	2.595	13.5	21.3	37 W	28*	16*	114553 2003 BH₄₂									
9 13	8 42.14	+21 0.1	3.269	2.622	15.1	21.3	43 W	34*	19*	12 27	23 58.11	-6 19.5	1.917	2.024	28.7	19.2	82 E	39	58*
9 23	8 56.84	+20 8.0	3.195	2.648	16.6	21.3	49 W	40*	22*	1 6	0 12.38	-5 48.8	1.999	1.987	28.6	19.3	75 E	39	53*
10 3	9 10.59	+19 16.1	3.110	2.672	18.0	21.3	55 W	46*	26*	1 16	0 28.21	-5 3.1	2.075	1.949	28.1	19.3	69 E	39*	47*
10 13	9 23.27	+18 26.0	3.013	2.696	19.1	21.3	62 W	51*	29*	1 26	0 45.43	-4 4.9	2.144	1.913	27.3	19.3	63 E	39*	43*
10 23	9 34.76	+17 39.3	2.907	2.719	20.0	21.3	69 W	56*	32*	2 5	1 3.89	-2 56.9	2.206	1.878	26.4	19.3	58 E	37*	39*
11 2	9 44.92	+16 57.7	2.793	2.741	20.6	21.2	77 W	60*	36*	2 15	1 23.50	-1 41.4	2.260	1.844	25.2	19.3	53 E	35*	35*
11 12	9 53.55	+16 23.0	2.673	2.762	20.9	21.2	85 W	61*	40*	2 25	1 44.19	-0 20.7	2.307	1.811	24.2	19.2	49 E	32*	33*
11 22	10 0.44	+15 57.2	2.550	2.782	20.8	21.1	93 W	61*	44*	3 7	2 5.92	+1 3.0	2.347	1.780	23.0	19.2	44 E	28*	30*
12 2	10 5.36	+15 42.1	2.427	2.801	20.2	21.0	102 W	61*	47*	3 17	2 28.66	+2 27.3	2.381	1.751	21.8	19.2	41 E	25*	28*
12 12	10 8.01	+15 39.4	2.307	2.819	19.0	20.8	111 W	61	48*	3 27	2 52.38	+3 50.1	2.408	1.724	20.5	19.1	37 E	21*	26*
12 22	10 8.17	+15 50.2	2.195	2.836	17.2	20.7	122 W	61	48	4 6	3 17.06	+5 8.9	2.431	1.700	19.3	19.1	34 E	17*	25*
1 1	10 5.66	+16 14.7	2.095	2.852	14.8	20.5	132 W	61	48	4 16	3 42.66	+6 21.5	2.450	1.678	18.2	19.0	31 E	13*	23*
1 11	10 0.43	+16 51.8	2.013	2.867	11.7	20.3	144 W	62	47	4 26	4 9.13	+7 25.7	2.466	1.660	17.1	19.0	29 E	9*	22*
1 21	9 52.73	+17 38.1	1.955	2.881	8.0	20.1	156 W	63	46	5 6	4 36.38	+8 19.2	2.481	1.644	16.0	18.9	27 E	5*	20*
240570 2004 TZ₉										5 16	5 4.33	+9 0.4	2.494	1.632	15.0	18.9	25 E	2*	19*
12 27	23 57.70	-3 15.0	1.840	1.974	29.6	21.5	83 E	42	56*	5 26	5 32.82	+9 27.4	2.508	1.623	14.0	18.8	23 E	—	17*
1 6	0 13.71	-0 56.1	1.979	2.005	28.6	21.7	77 E	44	50*	6 5	6 1.70	+9 39.2	2.523	1.618	13.1	18.8	21 E	—	15*
1 16	0 30.23	+1 21.3	2.118	2.036	27.3	21.8	72 E	46*	44*	6 15	6 30.79	+9 35.2	2.539	1.617	12.1	18.8	19 E	—	13*
1 26	0 47.17	+3 36.7	2.255	2.066	25.9	21.9	66 E	46*	39*	6 25	6 59.91	+9 15.1	2.557	1.619	11.1	18.8	18 E	—	10*
2 5	1 4.47	+5 49.0	2.390	2.097	24.3	22.0	61 E	45*	34*	7 5	7 28.87	+8 39.6	2.577	1.625	10.0	18.8	16 E	—	7*
2201 Oljato										7 15	7 57.53	+7 49.6	2.598	1.635	9.0	18.7	15 E	—	5*
12 27	23 58.03	-2 34.5	3.034	3.075	18.5	21.1	83 E	42	56*	7 25	8 25.72	+6 46.6	2.621	1.648	8.0	18.7	13 E	—	2*
1 6	0 2.88	-1 54.4	3.140	3.026	18.2	21.1	74 E	43*	48*	8 4	8 53.36	+5 32.4	2.644	1.664	7.2	18.7	12 W	—	—
1 16	0 9.27	-1 5.0	3.238	2.975	17.6	21.1	66 E	43*	41*	8 14	9 20.37	+4 9.1	2.668	1.684	6.5	18.8	11 W	—	2*
1 26	0 17.02	-0 7.5	3.324	2.922	16.6	21.1	58 E	40*	35*	8 24	9 46.71	+2 38.7	2.690	1.706	6.2	18.8	11 W	—	3*
2 5	0 25.95	+0 56.7	3.395	2.867	15.3	21.1	50 E	36*	29*	9 3	10 12.36	+1 3.4	2.711	1.731	6.4	18.8	11 W	—	5*
2 15	0 35.94	+2 6.8	3.451	2.809	13.8	21.0	43 E	32*	23*	9 13	10 37.33	-0 34.8	2.728	1.759	7.1	18.9	12 W	—	6*
2 25	0 46.89	+3 21.8	3.490	2.749	12.2	20.9	36 E	26*	18*	9 23	11 1.64	-2 13.7	2.741	1.788	8.2	19.0	15 W	3*	8*
3 7	0 58.70	+4 40.8	3.511	2.687	10.3	20.8	29 E	20*	14*	10 3	11 25.31	-3 51.6	2.749	1.820	9.5	19.1	18 W	6*	10*
3 17	1 11.33	+6 3.2	3.514	2.622	8.3	20.7	22 E	14*	10*	10 13	11 48.38	-5 26.8	2.750	1.853	11.1	19.2	21 W	10*	12*
3 27	1 24.75	+7 28.1	3.498	2.555	6.2	20.5	16 E	8*	6*	10 23	12 10.84	-6 57.4	2.744	1.887	12.8	19.3	25 W	14*	14*
4 6	1 38.95	+8 54.9	3.464	2.485	4.1	20.3	10 E	3*	2*	11 2	12 32.73	-8 22.1	2.730	1.923	14.5	19.4	29 W	17*	17*
4 16	1 53.96	+10 23.0	3.412	2.412	1.8	20.1	4 E	—	—	11 12	12 54.03	-9 39.4	2.707	1.959	16.2	19.5	34 W	21*	20*
4 26	2 9.80	+11 51.6	3.342	2.337	0.8	19.9	2 W	—	—	11 22	13 14.71	-10 47.8	2.675	1.997	17.9	19.6	38 W	24*	24*
5 6	2 26.54	+13 20.0	3.257	2.258	3.1	19.9	7 W	—	1*	12 2	13 34.73	-11 46.2	2.633	2.034	19.5	19.6	44 W	26*	28*
5 16	2 44.29	+14 47.6	3.156	2.177	5.5	19.9	12 W	—	6*	12 12	13 54.02	-12 33.3	2.582	2.073	21.0	19.7	49 W	28*	33*
5 26	3 3.16	+16 13.5	3.042	2.092	8.0	19.9	17 W	1*	10*	12 22	14 12.46	-13 7.9	2.521	2.111	22.3	19.7	55 W	30*	35*
6 5	3 23.31	+17 36.7	2.915	2.004	10.6	19.8	21 W	4*	14*	1 1	14 29.93	-13 29.2	2.452	2.150	23.5	19.7	61 W	31*	45*
6 15	3 44.95	+18 55.8	2.778	1.913	13.3	19.7	26 W	7*	18*	1 11	14 46.24	-13 35.9	2.374	2.188	24.5	19.7	67 W	31*	52*
6 25	4 8.34	+20 9.3	2.633	1.818	16.0	19.6	29 W	11*	20*	1 21	15 1.21	-13 27.2	2.289	2.227	25.1	19.7	74 W	32*	59*
7 5	4 33.81	+21 14.9	2.481	1.719	18.8	19.4	33 W	15*	22*	508779 1999 VB₁₃₈									
7 10	4 47.45	+21 43.8	2.404	1.668	20.2	19.3	34 W	17*	23*	12 27	23 58.47	+0 11.7	1.281	1.536	39.6	20.8	84 E	45	54*
7 15	5 1.75	+22 9.4	2.326	1.617	21.6	19.2	36 W	19*	24*	1 6	0 21.16	+3 55.7	1.369	1.553	38.7	21.0	81 E	49	48*
7 20	5 16.79	+22 31.2	2.248	1.564	23.1	19.1	37 W	21*	24*	1 16	0 44.48	+7 30.9	1.462	1.574	37.6	21.1	77 E	52*	42*
7 25	5 32.62	+22 48.4	2.170	1.510	24.6	19.0	38 W	23*	24*	1 26	1 8.37	+10 55.3	1.560	1.599	36.3	21.3	74 E	55*	38*
7 30	5 49.32	+23 0.1	2.093	1.456	26.2	18.9	39 W	25*	24*	2 5	1 32.80	+14 6.8	1.662	1.626	34.9	21.4	71 E	56*	34*
8 4	6 6.96	+23 5.4	2.017	1.400	27.7	18.8	40 W	26*	24*	347548 2000 QA₅₀									
8 9	6 25.60	+23 3.1	1.943	1.344	29.3	18.7	40 W	27*	23*	1 6	8 1.04	+15 13.1	2.160	3.121	4.5	22.3	165 W	60	49
8 14	6 45.31	+22 51.8	1.872	1.287	30.9	18.5	41 W	28*	23*	1 16	7 51.10	+15 51.9	2.153	3.134	1.6	22.2	175 W	61	48
8 19	7 6.12	+22 30.0	1.803	1.229	32.5	18.4	41 W	29*	22*	1 26	7 41.19	+16 32.8	2.178	3.146	3.9	22.3	167 E	62	47
8 24	7 28.08	+21 56.1	1.739	1.170	34.1	18.3	40 W	30*	22*	2 5	7 32.24	+17 12.7	2.234	3.158	7.4	22.6	156 E	62	47
8 29	7 51.20	+21 8.2	1.679	1.111	35.6	18.1	40 W	30*	21*	2 15	7 25.03	+17 49.4	2.317	3.168	10.6	22.8	144 E	63	46
9 3	8 15.47	+20 4.6	1.625	1.052	37.0	18.0	39 W	29*	20*	306918 2001 UQ₁₁									
9 8	8 40.84	+18 43.7	1.578	0.992	38.3	17.8	38 W	28*	18*	1 6	8 8.50	+24 40.4	3.050	4.011	3.4	22.9	166 W	70	39
9 13	9 7.22	+17 4.5	1.538	0.934	39.2	17.6	36 W	27*	17*	1 16	7 59.38	+25 10.7	3.023	4.005	1.1	22.7	175 W	70	39
9 23	10 2.50	+12 49.4	1.483	0.821	40.0	17.3	32 W	24*	14*	1 26	7 50.05	+25 36.6	3.030	3.998	3.0	22.8	168 E	71	38
10 3	11 0.23	+7 25.1	1.467	0.723	37.9	16.9	26 W	19*	10*	2 5	7 41.24	+25 56.3	3.068	3.990	5.7	23.0	156 E	71	38
10 13	11 59.27	+1 13.6	1.488	0.651	32.0	16.6	20 W	13*	6*	2 15	7 33.60	+26 9.0	3.136	3.981	8.3	23.2	144 E	71	38
10 18	12 28.97	-1 59.1	1.511	0.631	27.7	16.4	17 W	10*	4*	186844 2004 GA₁									
10 23	12 58.61	-5 9.7	1.541	0.624	22.8	16.3	14 W</												

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°
363599 2004 FG₁₁ (continuation)										523599 2003 RM									
1 31	7 27.39	+24 45.2	1.588	2.530	8.2	24.6	159 E	70	39	1 6	8 43.10	+26 13.8	3.753	4.679	4.5	26.2	158 W	71	38
2 5	7 19.97	+24 58.6	1.636	2.548	10.5	24.8	152 E	70	39	1 16	8 35.14	+26 40.2	3.710	4.678	2.4	26.1	168 W	72	37
451397 2011 EZ₇₈										443962 2003 QR₄₂									
1 6	8 15.54	+22 55.7	2.700	3.656	4.2	22.4	164 W	68	41	1 6	8 44.84	+18 20.1	2.386	3.313	6.7	23.2	157 W	63	46
1 11	8 10.68	+23 24.2	2.678	3.651	2.6	22.3	170 W	68	41	1 16	8 35.81	+18 54.6	2.353	3.324	3.2	23.0	169 W	64	45
1 16	8 5.60	+23 52.4	2.665	3.646	1.2	22.2	176 W	69	40	1 26	8 26.65	+27 2.6	3.701	4.677	1.8	26.0	172 E	72	37
1 21	8 0.41	+24 19.6	2.660	3.641	1.4	22.2	175 E	69	40	2 5	8 18.19	+27 18.9	3.724	4.674	3.6	26.1	163 E	72	37
1 26	7 55.22	+24 45.5	2.663	3.635	2.9	22.3	169 E	70	39	2 15	8 10.35	+27 28.2	3.778	4.671	5.8	26.3	152 E	72	37
1 31	7 50.13	+25 9.6	2.674	3.629	4.5	22.4	163 E	70	39	301844 1990 UA									
2 5	7 45.25	+25 31.6	2.694	3.622	6.1	22.5	157 E	71	38	1 6	8 46.02	+18 24.4	1.553	2.486	9.0	23.1	157 W	63	46
516454 2005 FN₄										1 11	8 39.17	+18 52.2	1.532	2.491	6.5	23.0	163 W	64	45
1 6	8 16.18	-14 34.3	3.838	4.628	8.0	25.4	139 W	30	79	1 16	8 31.80	+19 20.7	1.520	2.495	3.8	22.8	170 W	64	45
1 16	8 8.21	-14 24.6	3.780	4.615	7.1	25.3	144 W	31	78	1 21	8 24.12	+19 49.0	1.515	2.498	1.1	22.7	177 W	65	44
1 26	7 59.95	-13 57.5	3.750	4.601	6.8	25.3	146 E	31	78	1 26	8 16.34	+20 16.0	1.518	2.501	1.7	22.7	176 E	65	44
2 5	7 51.92	-13 14.4	3.748	4.586	7.2	25.3	144 E	32	77	1 31	8 8.67	+20 41.1	1.530	2.503	4.4	22.9	169 E	66	43
2 15	7 44.63	-12 17.7	3.775	4.570	8.1	25.4	139 E	33	76	2 5	8 1.33	+21 3.8	1.549	2.505	7.0	23.1	162 E	66	43
385402 2002 WZ₂										2 10	7 54.49	+21 23.6	1.575	2.506	9.5	23.2	155 E	66	43
1 6	8 17.09	-34 49.4	3.394	3.982	12.3	23.4	120 W	10	81	528609 2008 VU₄									
1 11	8 11.20	-35 11.0	3.349	3.960	12.1	23.3	122 W	10	81	1 6	8 46.92	+14 7.9	3.099	4.012	5.9	23.5	155 W	59	50
1 16	8 5.01	-35 25.5	3.309	3.938	12.0	23.3	123 W	10	81	1 16	8 37.31	+14 32.1	3.069	4.034	3.1	23.4	167 W	60	49
1 21	7 58.62	-35 32.4	3.274	3.916	12.0	23.3	124 E	9	80	1 26	8 27.15	+14 58.8	3.072	4.055	1.0	23.2	176 E	60	49
1 26	7 52.13	-35 31.7	3.246	3.893	12.0	23.2	125 E	9	80	2 5	8 17.14	+15 25.7	3.110	4.074	3.3	23.4	166 E	60	49
1 31	7 45.67	-35 23.2	3.222	3.869	12.1	23.2	125 E	10	81	2 15	8 7.96	+15 50.8	3.181	4.093	6.0	23.6	154 E	61	48
2 5	7 39.33	-35 7.2	3.205	3.846	12.3	23.2	124 E	10	81	408869 2001 SD₃₄₈									
397254 2006 QG₉₉										1 6	8 49.17	- 4 57.5	1.623	2.480	13.8	22.8	143 W	40	69
1 6	8 17.16	+13 34.1	2.544	3.489	5.2	22.7	161 W	59	50	1 16	8 38.85	- 4 52.9	1.560	2.471	10.9	22.6	152 W	40	69
1 16	8 8.35	+14 8.7	2.505	3.482	2.2	22.5	172 W	59	50	1 26	8 27.04	- 4 19.1	1.524	2.459	9.1	22.5	157 E	41	68
1 26	7 59.13	+14 47.6	2.499	3.474	2.6	22.5	171 E	60	49	2 5	8 15.01	- 3 18.4	1.514	2.447	9.5	22.5	156 E	42	67
2 5	7 50.33	+15 27.8	2.524	3.466	5.6	22.7	160 E	60	49	2 15	8 4.10	- 1 56.5	1.532	2.433	12.1	22.6	149 E	43	66
2 15	7 42.68	+16 6.7	2.578	3.456	8.7	22.8	148 E	61	48	524268 2001 TO₄₈									
434419 2005 MH₄										1 6	8 50.98	+14 25.6	1.916	2.834	8.7	24.0	154 W	59	50
1 6	8 25.92	+24 52.5	1.988	2.938	6.0	22.4	162 W	70	39	1 16	8 39.70	+15 19.7	1.851	2.819	4.5	23.7	167 W	60	49
1 11	8 20.75	+25 20.0	1.970	2.939	4.1	22.3	168 W	70	39	1 26	8 26.96	+16 20.1	1.818	2.802	1.0	23.4	177 E	61	48
1 16	8 15.26	+25 46.5	1.960	2.939	2.4	22.2	173 W	71	38	2 5	8 13.94	+17 21.0	1.817	2.783	5.1	23.6	165 E	62	47
1 21	8 9.61	+26 11.2	1.958	2.938	2.1	22.1	174 E	71	38	2 15	8 1.93	+18 17.3	1.847	2.761	9.5	23.9	153 E	63	46
1 26	8 3.95	+26 33.7	1.964	2.938	3.4	22.2	170 E	72	37	535844 2015 BY₃₁₀									
1 31	7 58.43	+26 53.5	1.977	2.937	5.3	22.4	164 E	72	37	1 6	8 51.58	+29 26.3	0.344	1.304	18.1	20.9	156 W	74	35
2 5	7 53.18	+27 10.3	1.998	2.936	7.2	22.5	158 E	72	37	1 11	8 51.03	+29 38.7	0.305	1.275	15.2	20.5	160 W	75	34
436802 2012 QA₃₅										1 16	8 48.98	+29 48.9	0.270	1.245	12.4	20.1	164 W	75	34
1 6	8 39.97	+14 50.9	1.883	2.813	7.9	22.6	157 W	60	49	1 21	8 45.33	+29 53.9	0.236	1.216	10.0	19.6	168 W	75	34
1 16	8 30.05	+15 16.5	1.829	2.802	3.8	22.3	169 W	60	49	1 26	8 39.97	+29 49.6	0.206	1.187	9.2	19.3	169 W	75	34
1 26	8 19.05	+15 47.1	1.806	2.789	1.6	22.1	175 E	61	48	1 31	8 32.77	+29 30.5	0.178	1.159	11.0	19.0	167 E	75	34
2 5	8 8.14	+16 18.7	1.813	2.775	5.6	22.4	164 E	61	48	2 5	8 23.51	+28 49.0	0.152	1.132	15.0	18.7	163 E	74	35
2 15	7 58.43	+16 48.1	1.850	2.760	9.7	22.6	152 E	62	47	443831 2000 HV₈₀									
443831 2000 HV₈₀										2 7	8 19.17	+28 23.7	0.142	1.121	17.1	18.6	160 E	73	36
1 6	8 40.37	+14 58.3	2.406	3.332	6.7	22.7	157 W	60	49	2 9	8 14.43	+27 52.0	0.133	1.111	19.4	18.5	158 E	73	36
1 16	8 31.35	+15 40.6	2.353	3.324	3.2	22.5	169 W	61	48	2 11	8 9.28	+27 12.9	0.124	1.101	21.8	18.4	155 E	72	37
1 26	8 21.48	+16 27.0	2.332	3.315	1.1	22.3	176 E	61	48	2 13	8 3.66	+26 24.7	0.115	1.091	24.5	18.3	153 E	71	38
2 5	8 11.64	+17 13.6	2.343	3.305	4.4	22.5	165 E	62	47	2 15	7 57.55	+25 25.8	0.106	1.081	27.3	18.2	150 E	70	39
2 15	8 2.70	+17 57.1	2.385	3.294	7.9	22.7	153 E	63	46	2 17	7 50.86	+24 13.7	0.098	1.071	30.4	18.1	147 E	69	40
329291 2000 JB₆										2 19	7 43.51	+22 45.6	0.090	1.062	33.7	18.0	143 E	68	41
1 6	8 41.59	+20 47.9	1.433	2.374	8.9	22.4	158 W	66	43	2 21	7 35.34	+20 57.5	0.082	1.053	37.2	17.9	140 E	66	43
1 11	8 35.67	+21 33.2	1.406	2.369	6.3	22.2	165 W	67	42	2 23	7 26.17	+18 44.1	0.074	1.044	41.2	17.8	136 E	64	45
1 16	8 29.14	+22 19.5	1.386	2.363	3.7	22.0	171 W	67	42	2 25	7 15.74	+15 58.3	0.067	1.036	45.6	17.6	132 E	61	48
1 21	8 22.19	+23 5.6	1.374	2.357	1.6	21.9	176 W	68	41	306436 1998 SB₁₆₃									
1 26	8 15.02	+23 50.0	1.369	2.350	2.8	21.9	173 E	69	40	2 26	7 9.93	+14 20.3	0.063	1.031	48.0	17.6	129 E	59	50
1 31	8 7.88	+24 31.7	1.372	2.343	5.4	22.1	167 E	70	39	2 27	7 3.65	+12 30.4	0.060	1.027	50.5	17.5	127 E	58	51
2 5	8 0.96	+25 9.7	1.383	2.336	8.1	22.2	161 E	70	39	2 28	6 56.83	+10 26.9	0.057	1.023	53.3	17.5	124 E	55	54
2 10	7 54.50	+25 43.6	1.400	2.328	10.7	22.3	154 E	71	38	3 1	6 49.38	+ 8 7.9	0.054	1.019	56.3	17.4	121 E	53	56
2 15	7 48.67	+26 12.8	1.424	2.319	13.2	22.5	148 E	71	38	3 2	6 41.22	+ 5 31.4	0.051	1.016	59.5	17.4	118 E	51	58
306436 1998 SB₁₆₃										3 3	6 32.22	+ 2 35.5	0.048	1.012	63.1	17.4	114 E	48	61
1 6	8 41.94	+28 2.6	2.687	3.618	5.8	22.4	158 W	73	36	3 4	6 22.26	- 0 41.7	0.045	1.008	66.9	17.3	111 E	44</	

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°										
535844 2015 BY₃₁₀ (continuation)										470069 2006 ST₂₇₈ (continuation)																			
3 16	2 23.49	-49 5.6	0.043	0.973	119.5	19.6	58 E	—	40*	2 15	8 13.50	+9 10.2	1.840	2.767	8.6	21.5	155 E	54	55	2 25	8 5.95	+9 48.7	1.916	2.778	12.1	21.8	144 E	55	54
3 17	1 57.23	-50 38.8	0.046	0.970	121.3	19.9	56 E	—	36*	322966 2002 KF₄																			
3 18	1 32.32	-51 41.2	0.048	0.968	122.7	20.1	55 E	—	31*	1 6	8 55.97	+51 55.1	2.982	3.822	8.7	22.8	144 W	83	12	1 11	8 50.26	+52 45.2	2.952	3.803	8.4	22.7	145 W	82	11
3 19	1 9.22	-52 18.3	0.051	0.966	123.5	20.3	54 E	—	27*	1 16	8 43.95	+53 31.0	2.929	3.784	8.4	22.7	146 W	81	10	1 21	8 37.13	+54 11.4	2.913	3.765	8.5	22.7	145 W	81	10
3 20	0 48.16	-52 35.6	0.054	0.964	124.0	20.5	53 E	—	24*	1 26	8 29.94	+54 45.7	2.904	3.746	8.9	22.7	144 E	80	9	1 31	8 22.56	+55 13.2	2.902	3.726	9.4	22.7	142 E	80	9
3 21	0 29.23	-52 37.7	0.057	0.963	124.2	20.6	53 E	—	21*	2 5	8 15.16	+55 33.8	2.906	3.706	10.1	22.7	139 E	79	8	2 10	8 7.94	+55 47.2	2.917	3.686	10.8	22.7	135 E	79	8
3 22	0 12.35	-52 28.6	0.061	0.961	124.1	20.7	53 E	—	18*	513312 2007 DM₄₁																			
3 23	23 57.40	-52 11.5	0.064	0.959	123.8	20.8	53 W	—	18*	1 6	8 55.97	+22 10.8	0.748	1.691	14.2	23.3	155 W	67	42	1 11	8 45.66	+22 59.6	0.710	1.674	10.3	23.0	162 W	68	41
3 24	23 44.20	-51 48.7	0.068	0.958	123.3	20.9	53 W	—	21*	1 16	8 33.45	+23 50.3	0.678	1.655	6.0	22.7	170 W	69	40	1 21	8 19.60	+24 39.7	0.652	1.635	3.0	22.4	175 W	70	39
3 25	23 32.55	-51 22.2	0.071	0.957	122.7	20.9	54 W	—	23*	1 26	8 4.55	+25 24.6	0.634	1.614	5.7	22.5	171 E	70	39	1 31	7 48.91	+26 1.7	0.623	1.591	10.6	22.7	163 E	71	38
3 26	23 22.29	-50 53.1	0.075	0.956	122.0	21.0	54 W	—	25*	2 5	7 33.36	+26 29.2	0.619	1.567	15.8	22.8	154 E	71	38	2 10	7 18.61	+26 46.4	0.621	1.542	20.9	22.9	146 E	72	37
3 27	23 13.24	-50 22.6	0.079	0.955	121.2	21.0	55 W	—	27*	477599 2010 KT₇																			
3 28	23 5.24	-49 51.2	0.083	0.954	120.3	21.1	56 W	—	29*	1 6	8 56.23	-38 39.9	1.739	2.317	22.9	22.1	114 W	6	77	1 11	8 51.57	-39 38.1	1.703	2.305	22.6	22.1	116 W	5	76
3 29	22 58.17	-49 19.5	0.087	0.953	119.4	21.1	56 W	—	31*	1 16	8 46.18	-40 25.7	1.670	2.294	22.4	22.0	117 W	5	76	1 21	8 40.18	-41 1.3	1.640	2.282	22.2	21.9	119 W	4	75
3 30	22 51.92	-48 47.9	0.090	0.952	118.5	21.1	57 W	—	33*	1 26	8 33.73	-41 23.8	1.613	2.269	22.1	21.9	120 W	4	75	1 31	8 27.02	-41 32.5	1.589	2.257	22.1	21.8	121 E	3	74
3 31	22 46.37	-48 16.6	0.094	0.952	117.5	21.1	58 W	—	34*	2 5	8 20.27	-41 27.0	1.569	2.244	22.1	21.8	121 E	4	75	2 10	8 13.69	-41 7.1	1.552	2.231	22.2	21.8	121 E	4	75
4 1	22 41.45	-47 45.7	0.098	0.951	116.5	21.1	58 W	—	36*	2 15	8 7.54	-40 33.3	1.538	2.218	22.4	21.7	121 E	4	75	2 20	8 2.00	-39 46.4	1.528	2.204	22.7	21.7	121 E	5	76
4 2	22 37.09	-47 15.5	0.102	0.951	115.5	21.2	59 W	—	37*	2 25	7 57.25	-38 47.6	1.521	2.191	23.0	21.7	120 E	6	77	391599 2007 UD₂₉									
4 3	22 33.20	-46 45.9	0.106	0.951	114.5	21.2	60 W	—	39*	1 6	8 56.69	+30 18.6	2.383	3.297	7.4	21.5	154 W	75	34	1 11	8 52.15	+30 45.5	2.357	3.296	6.0	21.4	159 W	76	33
4 4	22 29.75	-46 17.0	0.110	0.951	113.5	21.2	61 W	—	40*	1 16	8 47.21	+31 10.8	2.339	3.295	4.8	21.3	164 W	76	33	1 21	8 41.96	+31 34.0	2.328	3.293	4.0	21.3	167 W	77	32
4 5	22 26.67	-45 48.8	0.114	0.951	112.4	21.2	62 W	—	41*	1 26	8 36.54	+31 54.2	2.325	3.292	3.9	21.3	167 W	77	32	1 31	8 31.09	+32 11.1	2.330	3.290	4.6	21.3	164 E	77	32
4 6	22 23.93	-45 21.4	0.118	0.951	111.4	21.2	62 W	—	43*	2 5	8 25.72	+32 24.2	2.343	3.287	5.8	21.4	160 E	77	32	2 10	8 20.57	+32 33.5	2.362	3.285	7.2	21.5	155 E	78	31
4 8	22 19.32	-44 28.7	0.126	0.952	109.3	21.2	64 W	—	45*	2 15	8 15.76	+32 38.8	2.389	3.282	8.6	21.6	150 E	78	31	2 20	8 11.41	+32 40.3	2.423	3.279	10.1	21.6	145 E	78	31
4 10	22 15.67	-43 38.9	0.134	0.954	107.3	21.2	65 W	—	47*	2 25	8 7.60	+32 38.2	2.462	3.276	11.4	21.7	139 E	78	31	270147 2001 SL₆₂									
4 12	22 12.79	-42 51.7	0.142	0.956	105.2	21.3	67 W	—	50*	1 6	8 58.97	+28 45.3	2.028	2.944	8.4	21.5	154 W	74	35	1 11	8 54.03	+29 8.9	2.010	2.952	6.7	21.4	160 W	74	35
4 14	22 10.54	-42 6.8	0.149	0.958	103.1	21.3	69 W	—	52*	1 16	8 48.65	+29 30.8	2.000	2.959	5.1	21.3	164 W	75	34	1 21	8 42.98	+29 50.2	1.997	2.966	4.0	21.2	168 W	75	34
4 16	22 8.79	-41 24.3	0.157	0.961	101.1	21.3	70 W	—	54*	1 26	8 37.17	+30 6.6	2.002	2.973	3.7	21.2	169 W	75	34	1 31	8 31.36	+30 19.4	2.014	2.980	4.5	21.3	166 E	75	34
4 18	22 7.46	-40 43.7	0.165	0.965	99.1	21.3	72 W	—	56*	2 5	8 25.71	+30 28.4	2.034	2.986	5.9	21.4	162 E	75	34	2 10	8 20.36	+30 33.4	2.061	2.993	7.5	21.5	157 E	76	33
4 20	22 6.46	-40 5.1	0.172	0.969	97.1	21.3	73 W	—	58*	2 15	8 15.45	+30 34.5	2.096	2.999	9.1	21.6	151 E	76	33	2 20	8 11.08	+30 31.8	2.136	3.005	10.7	21.7	146 E	76	33
4 22	22 5.74	-39 28.3	0.179	0.973	95.1	21.3	75 W	—	60*	2 25	8 7.35	+30 25.8	2.183	3.010	12.2	21.8	140 E	75	34	387793 2003 WL₂₅									
4 24	22 5.23	-38 53.2	0.186	0.978	93.1	21.3	76 W	—	62*	1 6	8 59.54	-5 46.0	2.723	3.539	10.1	22.1	141 W	39	70	1 16	8 50.01	-6 5.4	2.613	3.495	8.3	21.9	149 W	39	70
4 26	22 4.91	-38 19.7	0.193	0.983	91.2	21.3	78 W	—	63*	1 26	8 49.65	+29 30.8	2.000	2.959	5.1	21.3	164 W	75	34	1 31	8 42.98	+29 50.2	1.997	2.966	4.0	21.2	168 W	75	34
5 1	22 4.62	-37 2.5	0.209	0.999	86.4	21.3	82 W	—	68*	1 31	8 37.17	+30 6.6	2.002	2.973	3.7	21.2	169 W	75	34	2 5	8 27.60	-5 50.8	2.482	3.403	7.0	21.6	155 E	39	70
5 6	22 4.63	-35 54.6	0.224	1.016	81.7	21.3	86 W	—	72*	1 31	8 31.36	+30 19.4	2.014	2.980	4.5	21.3	166 E	75	34	2 15	8 16.30	-5 17.9	2.464	3.354	8.5	21.7	150 E	40	69
5 11	22 4.46	-34 55.8	0.237	1.036	77.0	21.3	90 W	2*	77*	2 25	8 7.35	+30 25.8	2.183	3.010	12.2	21.8	140 E	75	34	2 25	8 6.10	-4 31.7	2.475	3.304	10.9	21.7	141 E	40	69
5 16	22 3.71	-34 5.9	0.249	1.058	72.4	21.3	94 W	4*	81*	306490 1999 TR₂₃₂																			
5 21	22 2.10	-33 24.4	0.259	1.082	67.6	21.3	99 W	6*	83	1 6	8 59.84	+23 27.3	2.557	3.468	7.1	21.9	154 W	68	41	1 11	8 55.73	+23 53.7	2.530	3.470	5.6	21.8	160 W	69	40
5 26	21 59.38	-32 50.7	0.268	1.107	62.8	21.3	104 W	8*	83	1 16	8 51.26	+24 20.1	2.510	3.472	4.0	21.7	166 W	69	40	1 21	8 46.53	+24 45.8	2.499	3.473	2.6	21.6	171 W	70	39
5 31	21 55.37	-32 24.4	0.276	1.133	57.9	21.3	109 W	9*	84	1 26	8 46.53	+24 45.8	2.499	3.473	2.6	21.6	171 W	70	39	1 31	8 41.63	+25 10.3	2.495	3.475	1.9	21.5	173 W	70	39
6 5	21 49.82	-32 4.7	0.283	1.160	52.8	21.2	114 W	11*	84	1 31	8 36.67	+25 33.0	2.499	3.476	2.6	21.6	171 E	71	38	2 5	8 31.77	+25 53.6	2.511	3.476	3.9	21.7	166 E	71	38
6 10	21 42.60	-31 50.4	0.290	1.189	47.5	21.2	120 W	12*	84	2 5	8 27.04	+26 11.6	2.531	3.477	5.5	21.8	160 E	71											

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°
444935 2008 CQ₁									434013 2001 PF₂₀								
1 6	9 0.18	+15 55.5	1.233	2.154	12.1	22.2	153 W	61 48	1 6	9 9.11	+21 13.9	1.912	2.817	9.5	22.4	152 W	66 43
1 16	8 50.46	+16 12.6	1.137	2.103	6.9	21.8	165 W	61 48	1 11	9 4.65	+21 37.7	1.893	2.828	7.5	22.3	158 W	67 42
1 26	8 37.72	+16 38.1	1.066	2.050	1.1	21.3	178 W	62 47	1 16	8 59.72	+22 1.8	1.880	2.839	5.5	22.2	164 W	67 42
2 5	8 23.37	+17 6.3	1.022	1.997	6.0	21.4	168 E	62 47	1 21	8 54.46	+22 25.5	1.875	2.849	3.5	22.1	170 W	67 42
2 15	8 9.39	+17 31.5	1.004	1.942	12.7	21.6	154 E	63 46	1 26	8 48.99	+22 48.1	1.877	2.859	1.9	22.0	175 W	68 41
2 25	7 57.90	+17 49.1	1.009	1.888	19.0	21.8	142 E	63 46	1 31	8 43.47	+23 8.9	1.888	2.869	2.1	22.0	174 E	68 41
									2 5	8 38.05	+23 27.4	1.905	2.879	3.9	22.2	169 E	68 41
									2 10	8 32.86	+23 43.2	1.931	2.888	5.8	22.3	163 E	69 40
									2 15	8 28.04	+23 56.1	1.963	2.897	7.7	22.4	157 E	69 40
326268 1993 TT₂									430820 2005 GJ₇₃								
1 6	9 0.50	+12 53.2	1.844	2.748	9.8	22.2	152 W	58 51	1 6	9 10.44	+29 23.3	1.739	2.646	10.2	21.8	152 W	74 35
1 16	8 51.27	+13 20.2	1.787	2.745	5.8	21.9	164 W	58 51	1 11	9 6.05	+30 4.7	1.701	2.634	8.4	21.6	157 W	75 34
1 26	8 40.60	+13 55.1	1.759	2.741	1.9	21.6	175 W	59 50	1 16	9 0.98	+30 45.5	1.671	2.623	6.8	21.5	162 W	76 33
2 5	8 29.61	+14 33.4	1.761	2.736	3.9	21.8	169 E	60 49	1 21	8 55.34	+31 24.6	1.648	2.611	5.6	21.4	165 W	76 33
2 15	8 19.46	+15 10.9	1.793	2.730	8.1	22.0	157 E	60 49	1 26	8 49.28	+32 0.8	1.632	2.598	5.2	21.4	166 W	77 32
2 25	8 11.22	+15 44.0	1.852	2.722	12.0	22.2	145 E	61 48	1 31	8 42.98	+32 32.8	1.623	2.586	5.8	21.4	165 E	78 31
									2 5	8 36.62	+33 0.0	1.621	2.573	7.2	21.4	161 E	78 31
									2 10	8 30.39	+33 21.6	1.627	2.561	9.0	21.5	156 E	78 31
									2 15	8 24.51	+33 37.3	1.639	2.547	10.9	21.6	151 E	79 30
									2 20	8 19.16	+33 47.0	1.657	2.534	12.8	21.7	145 E	79 30
									2 25	8 14.48	+33 51.1	1.681	2.520	14.6	21.8	140 E	79 30
439887 2000 MO₆									439848 1998 SF₁₁₀								
1 6	9 0.60	+18 9.0	2.249	3.158	8.1	22.0	153 W	63 46	1 6	9 10.58	+23 31.6	2.331	3.231	8.3	22.4	152 W	69 40
1 16	8 51.63	+18 36.5	2.197	3.159	4.5	21.8	166 W	64 45	1 11	9 6.28	+23 49.8	2.312	3.243	6.6	22.3	158 W	69 40
1 26	8 41.50	+19 5.6	2.175	3.160	0.6	21.5	178 W	64 45	1 16	9 1.58	+24 7.8	2.301	3.256	4.9	22.2	163 W	69 40
2 5	8 31.15	+19 32.4	2.185	3.159	3.4	21.7	169 E	65 44	1 21	8 56.60	+24 24.9	2.297	3.268	3.3	22.1	169 W	69 40
2 15	8 21.56	+19 54.1	2.225	3.157	7.1	22.0	157 E	65 44	1 26	8 51.46	+24 40.6	2.301	3.280	2.2	22.0	173 W	70 39
2 25	8 13.59	+20 8.9	2.294	3.155	10.4	22.2	145 E	65 44	1 31	8 46.27	+24 54.3	2.312	3.291	2.3	22.1	172 E	70 39
									2 5	8 41.16	+25 5.9	2.332	3.303	3.5	22.2	168 E	70 39
									2 10	8 36.24	+25 14.9	2.359	3.314	5.1	22.3	163 E	70 39
									2 15	8 31.62	+25 21.3	2.394	3.325	6.7	22.4	157 E	70 39
474366 2002 RO₈₅									440017 2002 NP₇								
1 6	9 0.64	+24 35.9	1.619	2.540	9.7	21.5	154 W	70 39	1 6	9 10.81	-10 28.7	2.427	3.201	12.5	21.6	135 W	35 74
1 11	8 55.40	+24 56.4	1.608	2.554	7.5	21.4	160 W	70 39	1 16	9 1.85	-11 8.4	2.389	3.232	10.4	21.5	143 W	34 75
1 16	8 49.69	+25 15.9	1.603	2.568	5.4	21.3	166 W	70 39	1 26	8 51.85	-11 25.3	2.376	3.263	8.8	21.4	149 W	34 75
1 21	8 43.67	+25 33.7	1.605	2.582	3.5	21.2	171 W	71 38	2 5	8 41.64	-11 19.5	2.392	3.293	8.2	21.5	152 E	34 75
1 26	8 37.52	+25 48.9	1.615	2.595	2.7	21.2	173 W	71 38	2 15	8 32.08	-10 53.6	2.437	3.321	8.9	21.5	149 E	34 75
1 31	8 31.44	+26 1.0	1.632	2.608	3.8	21.3	170 E	71 38	2 25	8 23.93	-10 12.2	2.508	3.349	10.3	21.7	143 E	35 74
2 5	8 25.60	+26 9.8	1.657	2.621	5.7	21.4	165 E	71 38									
2 10	8 20.16	+26 15.0	1.688	2.634	7.7	21.6	159 E	71 38									
2 15	8 15.25	+26 16.7	1.727	2.646	9.7	21.7	153 E	71 38									
2 20	8 11.01	+26 15.1	1.772	2.659	11.6	21.9	147 E	71 38									
2 25	8 7.49	+26 10.4	1.822	2.671	13.3	22.0	142 E	71 38									
534676 2014 VK₂									274994 2009 TM₂₁								
1 6	9 1.94	+37 52.5	2.028	2.927	9.3	23.2	151 W	83 26	1 6	9 11.27	+18 1.4	1.948	2.846	9.7	21.7	151 W	63 46
1 11	8 55.43	+38 40.8	2.001	2.923	8.2	23.1	155 W	84 25	1 16	9 2.61	+18 54.2	1.883	2.839	5.8	21.4	163 W	64 45
1 16	8 48.24	+39 25.5	1.982	2.917	7.3	23.0	158 W	84 25	1 26	8 52.29	+19 50.9	1.848	2.830	1.6	21.1	175 E	65 44
1 21	8 40.54	+40 5.3	1.971	2.911	7.0	23.0	159 W	85 24	2 5	8 41.32	+20 45.4	1.843	2.821	3.2	21.2	171 E	66 43
1 26	8 32.52	+40 39.0	1.968	2.905	7.3	23.0	158 E	86 23	2 15	8 30.86	+21 32.6	1.869	2.810	7.5	21.4	158 E	67 42
1 31	8 24.39	+41 5.8	1.973	2.898	8.1	23.1	156 E	86 23	2 25	8 22.03	+22 9.2	1.922	2.799	11.4	21.7	146 E	67 42
2 5	8 16.37	+41 25.3	1.985	2.891	9.3	23.1	152 E	86 23									
2 10	8 8.67	+41 37.4	2.004	2.883	10.7	23.2	147 E	87 22									
333539 2005 SU₂₂₀									360829 2005 LD₃₁								
1 6	9 2.36	+12 45.6	1.902	2.803	9.8	21.7	151 W	58 51	1 6	9 12.70	- 2 1.4	2.944	3.759	9.5	22.1	141 W	43 66
1 16	8 52.89	+13 4.9	1.867	2.823	5.8	21.5	163 W	58 51	1 16	9 6.10	- 1 44.8	2.864	3.753	7.4	22.0	151 W	43 66
1 26	8 42.27	+13 31.0	1.861	2.843	2.0	21.3	174 W	59 50	1 26	8 58.46	- 1 13.1	2.811	3.747	5.4	21.9	159 W	44 65
2 5	8 31.59	+14 0.1	1.886	2.861	3.6	21.4	170 E	59 50	2 5	8 50.37	+ 0 28.0	2.788	3.740	4.5	21.8	163 E	45 64
2 15	8 21.92	+14 28.4	1.941	2.879	7.5	21.7	158 E	59 50	2 15	8 42.47	+ 0 27.8	2.796	3.733	5.6	21.8	158 E	45 64
2 25	8 14.18	+14 53.1	2.023	2.895	11.1	21.9	146 E	60 49	2 25	8 35.42	+ 1 30.4	2.834	3.724	7.7	22.0	150 E	47 62
393483 2002 PW₄₂									474518 2003 UD₂₁₀								
1 6	9 2.81	+11 21.6	2.569	3.458	8.1	22.3	150 W	56 53	1 6	9 13.49	+22 11.3	1.682	2.586	10.6	21.9	151 W	67 42
1 16	8 54.95	+12 2.8	2.528	3.478	4.9	22.1	162 W	57 52	1 11	9 8.83	+22 35.7	1.661	2.595	8.5	21.8	157 W	68 41
1 26	8 46.16	+12 50.6	2.517	3.497	1.9	22.0	173 W	58 51	1 16	9 3.62	+23 0.3	1.648	2.605	6.3	21.6	163 W	68 41
2 5	8 37.21	+13 41.3	2.538	3.515	2.6	22.0	171 E	59 50	1 21	8 57.99	+23 24.2	1.642	2.614	4.2	21.5	169 W	68 41
2 15	8 28.86	+14 31.1	2.591	3.532	5.7	22.3	159 E	60 49	1 26	8 52.12	+23 46.7	1.643	2.623	2.5	21.4	173 W	69 40
2 25	8 21.82	+15 17.0	2.673	3.548	8.6	22.5	148 E	60 49	1 31	8 46.16	+24 6.8	1.651	2.632	2.6	21.5	173 E	69 40
216653 2003 UJ₂₀									265549 2005 OZ₁₄								
1 6	9 4.38	+10 38.6	1.816	2.711	10.5	21.3	150 W	56 53	1 6	9 7.74	+23 49.7	1.976	2.883	9.1	21.8	152 W	69 40
1 16	8 55.13	+10 55.7	1.763	2.714	6.6	21.1	162 W	56 53	1 11	9 3.27	+24 11.7	1.945	2.882	7.2	21.7	158 W	69 40
1 26	8 44.44	+11 22.7	1.738	2.717	2.8	20.9	172 W	56 53	1 16	8 58.29	+24 33.6	1.921	2.880	5.4	21.6	164 W	70 39
2 5	8 33.42	+11 55.8	1.744	2.719	3.9	20.9	169 E	57 52	1 21	8 52.92	+24 54.6	1.905	2.878	3.6	21.4	169 W	70 39
2 15	8 23.25	+12 30.9	1.779	2.719	7.9	21.2	158 E	58 51	1 26	8 47.29	+25 14.1	1.897	2.876	2.5	21.4	173 W	70 39
2 25	8 14.96	+13 4.1	1.841	2.719	11.7	21.4	146 E	58 51	1 31	8 41.55	+25 31.4	1.896	2.874	2.9	21.4	171 E	71 38

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°
162979 2001 RA₁₂										332027 2005 PE₃									
1 6	9 16.15	+18 47.1	1.878	2.772	10.3	22.4	150 W	64	45	1 6	9 28.80	+12 9.1	2.043	2.902	11.2	21.9	145 W	57	52
1 16	9 4.81	+18 59.7	1.780	2.735	6.2	22.1	163 W	64	45	1 16	9 21.27	+12 58.9	1.983	2.914	7.6	21.7	157 W	58	51
1 26	8 51.12	+19 13.2	1.713	2.696	1.5	21.7	176 W	64	45	1 26	9 12.06	+13 58.0	1.951	2.925	3.5	21.4	170 W	59	50
2 5	8 36.27	+19 22.9	1.678	2.655	3.6	21.8	170 E	64	45	2 5	9 2.05	+15 1.2	1.949	2.934	1.0	21.2	177 E	60	49
2 15	8 21.71	+19 25.1	1.675	2.612	8.5	22.0	157 E	64	45	2 15	8 52.25	+16 2.8	1.979	2.943	5.1	21.6	165 E	61	48
2 25	8 8.93	+19 18.2	1.701	2.568	13.1	22.2	144 E	64	45	2 25	8 43.68	+16 58.0	2.037	2.951	8.9	21.8	152 E	62	47
431625 2007 WX₃										301846 1993 OV₁									
1 6	9 16.51	+38 49.7	0.974	1.882	16.0	21.3	148 W	84	25	1 6	9 29.10	+15 16.8	2.101	2.966	10.7	21.6	146 W	60	49
1 11	9 10.21	+39 44.3	0.953	1.879	14.2	21.2	152 W	85	24	1 16	9 20.67	+15 29.4	1.999	2.935	7.2	21.4	158 W	60	49
1 16	9 2.65	+40 33.4	0.937	1.876	12.7	21.1	155 W	86	23	1 26	9 10.17	+15 47.6	1.926	2.902	3.1	21.1	171 W	61	48
1 21	8 54.09	+41 14.2	0.928	1.873	11.9	21.0	157 W	86	23	2 5	8 58.43	+16 7.6	1.884	2.869	1.3	20.8	176 E	61	48
1 26	8 44.90	+41 44.5	0.924	1.870	11.9	21.0	157 W	87	22	2 15	8 46.55	+16 25.7	1.874	2.834	5.7	21.1	163 E	61	48
1 31	8 35.47	+42 2.6	0.926	1.866	12.8	21.0	155 E	87	22	2 25	8 35.74	+16 38.6	1.892	2.798	10.0	21.3	151 E	62	47
2 5	8 26.24	+42 7.9	0.934	1.862	14.4	21.1	152 E	87	22	3 7	8 26.98	+16 44.6	1.937	2.760	13.8	21.4	139 E	62	47
2 10	8 17.63	+42 0.5	0.947	1.858	16.4	21.2	148 E	87	22	430559 2002 LE₆₃									
2 15	8 10.01	+41 41.3	0.965	1.853	18.6	21.3	143 E	87	22	1 6	9 29.80	+19 11.2	1.943	2.817	11.0	22.3	147 W	64	45
2 20	8 3.66	+41 12.0	0.988	1.849	20.7	21.4	139 E	86	23	1 16	9 21.31	+19 45.7	1.881	2.821	7.2	22.1	159 W	65	44
2 25	7 58.72	+40 34.4	1.015	1.844	22.8	21.5	134 E	86	23	1 26	9 10.94	+20 22.5	1.847	2.823	3.1	21.8	171 W	65	44
270044 2001 ML₃										523737 2014 RC₁₁									
1 6	9 16.78	+11 54.0	2.087	2.963	10.3	21.4	147 W	57	52	1 6	9 29.90	-29 45.0	0.535	1.319	41.4	21.5	118 W	15	86
1 16	9 8.62	+12 31.2	2.035	2.977	6.6	21.2	160 W	58	51	1 11	9 28.19	-28 57.1	0.523	1.335	38.8	21.4	122 W	16	87
1 26	8 59.05	+13 16.8	2.012	2.990	2.7	21.0	172 W	58	51	1 16	9 25.35	-27 44.8	0.512	1.351	36.0	21.3	126 W	17	88
2 5	8 48.98	+14 6.0	2.020	3.002	2.1	21.0	174 E	59	50	1 21	9 21.59	-26 6.0	0.503	1.367	32.9	21.2	131 W	19	90
2 15	8 39.42	+14 54.4	2.058	3.012	5.9	21.2	162 E	60	49	1 26	9 17.16	-24 0.2	0.496	1.384	29.7	21.1	136 W	21	88
2 25	8 31.29	+15 38.1	2.125	3.022	9.5	21.5	150 E	61	48	1 31	9 12.36	-21 28.2	0.492	1.401	26.4	21.0	141 W	24	85
186393 2002 NR₃₉										470007 2006 OQ₂₁									
1 6	9 21.51	+16 0.8	1.988	2.868	10.5	21.6	148 W	61	48	1 6	9 30.30	+23 40.1	1.616	2.500	12.3	21.6	147 W	69	40
1 16	9 12.82	+16 40.0	1.940	2.885	6.6	21.4	160 W	62	47	1 11	9 25.66	+24 0.7	1.597	2.514	10.2	21.5	153 W	69	40
1 26	9 2.57	+17 23.8	1.921	2.901	2.4	21.2	173 W	62	47	1 16	9 20.38	+24 21.2	1.584	2.528	8.0	21.4	159 W	69	40
2 5	8 51.77	+18 7.1	1.933	2.915	1.9	21.2	174 E	63	46	1 21	9 14.61	+24 40.8	1.578	2.541	5.8	21.3	165 W	70	39
2 15	8 41.50	+18 45.3	1.975	2.929	6.1	21.5	162 E	64	45	1 26	9 8.51	+24 58.4	1.580	2.555	3.9	21.2	170 W	70	39
2 25	8 32.79	+19 15.2	2.046	2.942	9.9	21.7	149 E	64	45	1 31	9 2.26	+25 13.4	1.589	2.568	3.1	21.2	172 W	70	39
517532 2014 SW										480819 1998 SJ₈₄									
1 6	9 21.61	+52 49.0	3.042	3.851	9.4	22.3	140 W	82	11	1 6	9 30.99	+12 48.6	1.718	2.583	12.7	22.2	145 W	58	51
1 11	9 16.60	+53 32.5	3.030	3.856	9.0	22.2	142 W	81	10	1 16	9 22.94	+13 34.2	1.676	2.610	8.5	22.0	157 W	59	50
1 16	9 10.98	+54 11.5	3.025	3.861	8.7	22.2	143 W	81	10	1 26	9 13.06	+14 28.9	1.661	2.636	3.9	21.8	170 W	59	50
1 21	9 4.88	+54 45.3	3.027	3.865	8.6	22.2	144 W	80	9	2 5	9 2.43	+15 26.6	1.676	2.661	1.1	21.6	177 E	60	49
1 26	8 58.43	+55 13.0	3.036	3.870	8.8	22.2	143 W	80	9	2 15	8 52.25	+16 21.1	1.720	2.685	5.6	22.0	165 E	61	48
1 31	8 51.80	+55 34.2	3.051	3.874	9.0	22.3	142 E	79	8	2 25	8 43.65	+17 7.7	1.792	2.708	9.7	22.3	152 E	62	47
2 5	8 45.16	+55 48.6	3.073	3.878	9.4	22.3	140 E	79	8	474538 2003 WT₂₁									
2 10	8 38.68	+55 56.3	3.100	3.882	10.0	22.3	137 E	79	8	1 6	9 31.38	-38 52.1	2.176	2.676	20.2	21.4	110 W	6	77
2 15	8 32.52	+55 57.4	3.134	3.886	10.5	22.4	134 E	79	8	1 11	9 27.35	-39 49.8	2.147	2.682	19.8	21.4	112 W	5	76
2 20	8 26.85	+55 52.2	3.173	3.889	11.1	22.4	131 E	79	8	1 16	9 22.63	-40 38.7	2.122	2.687	19.4	21.4	115 W	4	75
85490 1997 SE₅										177614 2004 HK₃₃									
1 6	9 24.96	+12 13.4	4.227	5.070	6.3	21.7	146 W	57	52	1 21	9 17.31	-41 18.0	2.100	2.692	19.0	21.3	117 W	4	75
1 16	9 19.15	+12 37.1	4.185	5.107	4.3	21.6	157 W	58	51	1 26	9 11.51	-41 46.9	2.081	2.697	18.7	21.3	119 W	3	74
1 26	9 12.64	+13 4.5	4.173	5.143	2.1	21.5	169 W	58	51	1 31	9 5.38	-42 4.6	2.065	2.701	18.3	21.3	120 W	3	74
2 5	9 5.86	+13 33.7	4.193	5.178	0.6	21.4	177 E	59	50	2 5	8 59.08	-42 11.0	2.054	2.705	18.1	21.3	122 E	3	74
2 15	8 59.21	+14 2.8	4.247	5.213	2.5	21.6	167 E	59	50	2 10	8 52.78	-42 5.7	2.046	2.709	17.9	21.2	123 E	3	74
2 25	8 53.14	+14 30.0	4.332	5.247	4.5	21.8	155 E	60	49	2 15	8 46.67	-41 49.1	2.043	2.713	17.7	21.2	123 E	3	74
481090 2005 SY₁₇₃										474538 2003 WT₂₁									
1 6	9 25.85	+10 25.1	1.687	2.554	12.8	22.0	145 W	55	54	2 20	8 40.93	-41 21.8	2.043	2.717	17.7	21.2	123 E	4	75
1 16	9 17.16	+10 58.6	1.653	2.587	8.5	21.8	157 W	56	53	2 25	8 35.71	-40 44.6	2.048	2.720	17.7	21.3	123 E	4	75
1 26	9 6.82	+11 43.1	1.646	2.620	4.0	21.6	169 W	57	52	3 2	8 31.13	-39 58.8	2.056	2.723	17.8	21.3	123 E	5	76
2 5	8 55.96	+12 33.1	1.668	2.651	2.1	21.6	174 E	58	51	3 7	8 27.28	-39 5.4	2.069	2.726	18.0	21.3	122 E	6	77
2 15	8 45.78	+13 22.9	1.720	2.681	6.0	21.9	163 E	58	51	3 12	8 24.23	-38 5.9	2.085	2.728	18.3	21.3	121 E	7	78
2 25	8 37.38	+14 7.9	1.800	2.711	10.0	22.2	151 E	59	50	3 17	8 22.01	-37 1.6	2.105	2.731	18.6	21.4	119 E	8	79
177614 2004 HK₃₃										474538 2003 WT₂₁									
1 6	9 27.46	+18 12.8	1.832	2.710	11.4	21.6	147 W	63	46	3 22	8 20.64	-35 54.0	2.129	2.733	18.9	21.4	117 E	9	80
1 11	9 22.40	+18 46.3	1.807	2.723	9.3	21.5	153 W	64	45	3 27	8 20.11	-34 44.4	2.156	2.734	19.3	21.4	115 E	10	81
1 16	9 16.76	+19 21.3	1.790	2.734	7.1	21.4	160 W	64	45	4 1	8 20.37	-33 33.9	2.186	2.736	19.6	21.5	113 E	11	82
1 21	9 10.64	+19 56.8	1.780	2.746	4.9	21.3	166 W	65	44										
1 26																			

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°
283369 2000 EX₁₃										335451 2005 UR₄₅₄ <i>(continuation)</i>									
1 6	9 31.75	+18 56.0	1.659	2.536	12.5	21.3	146 W	64	45	2 20	8 55.67	+29 25.8	1.950	2.873	8.6	21.3	154 E	74	35
1 16	9 24.06	+19 28.7	1.558	2.498	8.4	20.9	158 W	64	45	2 25	8 51.13	+29 34.4	1.989	2.881	10.3	21.4	149 E	75	34
1 26	9 13.66	+20 7.0	1.483	2.459	3.8	20.6	170 W	65	44	3 2	8 47.15	+29 38.4	2.033	2.889	11.8	21.6	143 E	75	34
2 5	9 1.49	+20 44.4	1.437	2.420	2.3	20.4	174 E	66	43	102109 1999 RD₁₆₆									
2 10	8 55.15	+21 0.8	1.424	2.400	4.7	20.5	169 E	66	43	1 6	9 42.34	+18 22.7	1.952	2.805	12.0	21.3	144 W	63	46
2 15	8 48.91	+21 14.6	1.419	2.379	7.2	20.6	162 E	66	43	1 16	9 34.58	+19 5.0	1.888	2.813	8.3	21.1	156 W	64	45
2 20	8 42.98	+21 25.3	1.421	2.359	9.8	20.7	156 E	66	43	1 26	9 24.75	+19 51.4	1.851	2.821	4.2	20.9	168 W	65	44
2 25	8 37.54	+21 32.6	1.429	2.338	12.3	20.8	150 E	67	42	2 5	9 13.77	+20 36.1	1.843	2.827	1.6	20.7	175 E	66	43
3 2	8 32.74	+21 36.5	1.443	2.317	14.7	20.8	144 E	67	42	2 15	9 2.79	+21 13.5	1.867	2.833	5.1	20.9	165 E	66	43
3 7	8 28.69	+21 36.8	1.462	2.296	16.9	20.9	138 E	67	42	2 25	8 52.97	+21 39.9	1.919	2.837	9.1	21.2	153 E	67	42
3 12	8 25.50	+21 33.8	1.485	2.274	18.9	21.0	132 E	67	42	3 7	8 45.24	+21 53.9	1.997	2.841	12.6	21.4	141 E	67	42
3 17	8 23.22	+21 27.6	1.513	2.253	20.8	21.1	127 E	66	43	326887 2003 WJ₇									
3 22	8 21.87	+21 18.4	1.544	2.231	22.4	21.2	121 E	66	43	1 6	9 42.41	+ 9 46.4	1.955	2.787	12.9	22.1	141 W	55	54
3 27	8 21.46	+21 6.4	1.577	2.209	23.9	21.2	116 E	66	43	1 16	9 34.67	+10 2.4	1.887	2.799	9.2	21.9	153 W	55	54
4 1	8 21.96	+20 51.7	1.612	2.187	25.1	21.3	112 E	66	43	1 26	9 24.97	+10 29.6	1.846	2.809	5.2	21.7	165 W	55	54
4 6	8 23.32	+20 34.6	1.648	2.165	26.2	21.4	107 E	66	43	2 5	9 14.17	+11 4.5	1.835	2.818	1.7	21.5	175 E	56	53
4 11	8 25.51	+20 15.0	1.686	2.143	27.1	21.4	103 E	65	44	2 15	9 3.36	+11 42.4	1.854	2.826	4.3	21.7	168 E	57	52
4 16	8 28.49	+19 53.1	1.724	2.121	27.9	21.5	99 E	64	44	2 25	8 53.66	+12 18.9	1.902	2.833	8.3	21.9	156 E	57	52
4 21	8 32.20	+19 28.8	1.762	2.098	28.5	21.5	95 E	63	44	506074 2015 UM₆₇									
295377 2008 HM₆₄										1 6	9 43.29	+ 9 44.5	1.309	2.161	16.8	22.0	141 W	55	54
1 6	9 33.21	+12 31.7	2.085	2.938	11.3	21.9	144 W	58	51	1 16	9 32.35	+10 41.9	1.175	2.102	12.0	21.5	154 W	56	53
1 16	9 26.16	+13 23.2	1.995	2.922	7.8	21.7	156 W	58	51	1 26	9 16.42	+12 7.3	1.067	2.040	5.9	21.0	168 W	57	52
1 26	9 17.13	+14 25.7	1.933	2.905	3.8	21.4	169 W	59	50	2 5	8 56.12	+13 55.0	0.989	1.973	2.4	20.5	175 E	59	50
2 5	9 6.92	+15 34.0	1.901	2.887	0.6	21.1	178 E	61	48	2 15	8 33.24	+15 53.1	0.943	1.902	10.1	20.7	160 E	61	48
2 15	8 56.51	+16 42.1	1.900	2.868	4.9	21.4	166 E	62	47	2 25	8 10.65	+17 46.2	0.927	1.826	18.3	20.9	145 E	63	46
2 25	8 47.02	+17 44.3	1.929	2.847	9.1	21.6	153 E	63	46	3 7	7 51.19	+19 22.9	0.935	1.745	25.9	21.0	130 E	64	45
430592 2002 SZ₁₈										3 17	7 36.79	+20 39.6	0.959	1.660	32.5	21.2	116 E	66	43
1 6	9 33.24	+22 26.2	2.008	2.880	10.9	22.1	146 W	67	42	3 27	7 28.17	+21 37.8	0.990	1.568	38.1	21.3	104 E	67	42
1 11	9 29.62	+23 0.9	1.974	2.881	9.1	22.0	152 W	68	41	4 6	7 25.07	+22 21.0	1.020	1.471	42.8	21.3	93 E	66	42
1 16	9 25.41	+23 36.7	1.947	2.883	7.3	21.9	158 W	69	40	4 16	7 26.84	+22 52.4	1.041	1.368	46.8	21.3	84 E	62	41
1 21	9 20.70	+24 12.7	1.926	2.884	5.5	21.8	164 W	69	40	4 26	7 32.72	+23 14.0	1.049	1.259	50.7	21.3	76 E	55	40
1 26	9 15.60	+24 47.9	1.913	2.884	3.9	21.7	168 W	70	39	5 6	7 41.87	+23 27.5	1.039	1.143	54.8	21.2	68 E	48	38
1 31	9 10.23	+25 21.6	1.907	2.885	3.0	21.6	171 W	70	39	5 16	7 53.45	+23 34.4	1.007	1.021	59.8	21.0	61 E	41	36
2 5	9 4.74	+25 52.7	1.910	2.885	3.4	21.6	170 E	71	38	5 26	8 6.26	+23 37.9	0.948	0.894	66.7	20.8	54 E	34	34
2 10	8 59.27	+26 20.7	1.919	2.885	4.9	21.7	166 E	71	38	6 5	8 18.01	+23 45.4	0.861	0.764	77.0	20.6	47 E	28	30
2 15	8 53.98	+26 44.9	1.937	2.885	6.7	21.8	160 E	72	37	6 15	8 23.38	+24 13.4	0.746	0.638	94.1	20.5	39 E	21	25
2 20	8 49.01	+27 5.0	1.961	2.885	8.5	21.9	155 E	72	37	223050 2002 TS₉₁									
2 25	8 44.49	+27 20.9	1.992	2.884	10.3	22.1	149 E	72	37	1 6	9 45.78	+12 54.2	1.886	2.723	13.1	21.4	141 W	58	51
3 2	8 40.51	+27 32.5	2.029	2.883	11.9	22.2	143 E	73	36	1 16	9 38.15	+13 22.1	1.829	2.744	9.3	21.2	153 W	58	51
222008 1998 QQ₆₃										1 26	9 28.52	+13 58.8	1.799	2.764	5.0	21.0	166 W	59	50
1 6	9 33.60	+15 33.9	1.286	2.165	15.1	22.0	145 W	61	48	2 5	9 17.80	+14 39.5	1.798	2.783	0.6	20.7	178 W	60	49
1 11	9 27.91	+16 6.2	1.283	2.198	12.3	21.9	151 W	61	48	2 15	9 7.11	+15 19.2	1.827	2.801	4.1	21.0	168 E	60	49
1 16	9 21.61	+16 40.4	1.288	2.231	9.4	21.8	158 W	62	47	2 25	8 57.59	+15 53.2	1.886	2.819	8.2	21.3	156 E	61	48
1 21	9 14.87	+17 15.2	1.298	2.263	6.5	21.7	165 W	62	47	3 7	8 50.11	+16 18.8	1.971	2.835	11.8	21.6	144 E	61	48
1 26	9 7.92	+17 49.4	1.316	2.295	3.5	21.6	172 W	63	46	487580 2015 BA₉₂									
1 31	9 0.98	+18 21.9	1.342	2.326	0.8	21.5	178 W	63	46	1 6	9 50.23	+17 38.8	0.878	1.758	20.3	22.0	142 W	63	46
2 5	8 54.25	+18 51.9	1.374	2.357	2.3	21.7	174 E	64	45	1 11	9 43.56	+19 20.6	0.836	1.752	17.0	21.7	149 W	64	45
2 10	8 47.93	+19 18.7	1.414	2.388	5.0	22.0	168 E	64	45	1 16	9 35.07	+21 13.7	0.799	1.744	13.4	21.5	156 W	66	43
2 15	8 42.18	+19 41.9	1.461	2.418	7.5	22.2	161 E	65	44	1 21	9 24.79	+23 15.2	0.770	1.735	9.6	21.3	163 W	68	41
2 20	8 37.13	+20 1.3	1.515	2.448	9.8	22.4	155 E	65	44	1 26	9 12.84	+25 20.9	0.748	1.724	6.4	21.0	169 W	70	39
443844 2001 HU₁₈										1 31	8 59.52	+27 25.5	0.734	1.713	5.8	21.0	170 W	72	37
1 6	9 36.61	+ 3 40.2	1.576	2.409	15.4	22.3	139 W	49	60	2 5	8 45.26	+29 23.3	0.728	1.700	8.6	21.1	165 E	74	35
1 16	9 30.83	+ 3 51.5	1.471	2.376	11.8	22.0	150 W	49	60	2 10	8 30.63	+31 9.5	0.730	1.685	12.8	21.2	158 E	76	33
1 26	9 22.41	+ 4 25.3	1.388	2.342	7.7	21.7	161 W	49	60	2 15	8 16.31	+32 40.6	0.738	1.669	17.2	21.4	150 E	78	31
2 5	9 12.13	+ 5 20.2	1.332	2.308	4.5	21.4	169 E	50	59	2 20	8 2.91	+33 54.9	0.754	1.652	21.4	21.5	142 E	79	30
2 15	9 1.15	+ 6 31.7	1.303	2.273	6.2	21.4	166 E	52	57	2 25	7 50.94	+34 53.1	0.775	1.633	25.3	21.7	135 E	80	29
2 25	8 50.98	+ 7 52.3	1.301	2.237	10.8	21.6	155 E	53	56	3 2	7 40.74	+35 36.7	0.799	1.613	28.9	21.8	128 E	81	28
542069 2012 LK₇										226087 2002 NM₂₆									
1 6	9 37.66	+16 42.6	1.916	2.775	11.9	22.5	144 W	62	47	1 6	9 50.42	+10 29.3	1.979	2.799	13.2	21.5	139 W	55	54
1 16	9 30.55	+17 48.3	1.843	2.772	8.2	22.2	156 W	63	46	1 16	9 43.87	+11 7.8	1.907	2.810	9.7	21.3	151 W	56	53
1 26	9 21.31	+19 1.8	1.796	2.768	4.0	21.9	169 W	64	45	1 26	9 35.26	+11 58.5	1.861	2.819	5.7	21.1	164 W	57	52
2 5	9 10.82	+20 15.9	1.779	2.763	1.5	21.8	176 E	65	44	2 5	9 25.35	+12 56.5	1.843	2.828	1.4	20.8	176 W	58	51
2 15	9 0.20	+21 23.7	1.793	2.758	5.5	22.0	165 E	66	43	2 15	9 15.15	+13 56.2	1.856	2.835	3.3	20.9	171 E	59	50
2 25	8 50.65	+22 19.6	1.836	2.751	9.6	22.2	152 E	67	42	2 25	9 5.77	+14 51.8	1.899	2.842	7.5	21.2	158 E	60	49
335451 2005 UR₄₅₄										3 7	8 58.13	+15 38.9	1.970	2.848	11.2	21.4	146 E	61	48
1 6	9 41.01	+																	

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°
413989 2007 EL₈₈ (continuation)										481482 2007 CA₁₉ (continuation)									
2 15	8 36.50	-37 7.0	0.898	1.687	27.9	21.1	127 E	8	79	4 6	7 32.75	+18 50.9	0.794	1.339	48.0	19.5	96 E	63*	45
2 20	8 25.45	-35 16.7	0.886	1.680	28.0	21.1	127 E	10	81	4 16	7 23.90	+20 55.3	0.779	1.200	56.2	19.5	84 E	60*	43*
2 25	8 15.56	-33 5.3	0.880	1.671	28.4	21.1	127 E	12	83	4 26	7 18.19	+22 57.6	0.751	1.056	65.1	19.4	72 E	53*	39*
3 2	8 7.08	-30 36.4	0.877	1.661	29.1	21.1	125 E	14	85	5 1	7 15.72	+24 1.6	0.730	0.983	70.3	19.3	67 E	49*	37*
3 7	8 0.18	-27 54.5	0.880	1.650	30.1	21.1	123 E	17	88	5 6	7 12.84	+25 9.9	0.704	0.909	76.3	19.3	61 E	44*	34*
3 12	7 54.90	-25 4.0	0.886	1.637	31.4	21.1	121 E	20	89	5 11	7 8.76	+26 24.9	0.673	0.835	83.3	19.3	55 E	40*	31*
3 17	7 51.26	-22 9.3	0.897	1.623	32.8	21.2	118 E	23	86	5 16	7 2.30	+27 48.6	0.637	0.763	92.1	19.3	49 E	35*	27*
3 22	7 49.17	-19 14.6	0.911	1.607	34.3	21.2	115 E	26	83	5 18	6 58.67	+28 24.8	0.622	0.734	96.1	19.3	46 E	33*	25*
3 27	7 48.54	-16 22.9	0.929	1.590	35.8	21.3	111 E	29	80	5 20	6 54.22	+29 2.4	0.606	0.706	100.6	19.4	43 E	31*	23*
4 1	7 49.24	-13 36.9	0.948	1.572	37.3	21.4	108 E	31	78	5 22	6 48.78	+29 41.1	0.590	0.679	105.6	19.5	40 E	28*	21*
4 6	7 51.15	-10 58.0	0.970	1.552	38.8	21.4	104 E	34*	75	5 24	6 42.17	+30 20.4	0.575	0.653	111.0	19.7	37 E	26*	18*
4 11	7 54.16	-8 27.4	0.994	1.530	40.1	21.5	100 E	36*	72	5 26	6 34.21	+30 59.1	0.560	0.628	117.0	20.0	34 E	23*	15*
5 28	6 24.71	+31 35.7	0.546	0.604	123.6	20.3	30 E	20*	12*	5 30	6 13.57	+32 8.0	0.534	0.582	130.7	20.8	26 E	17*	9*
498441 2008 AZ₁₁₀										497004 2002 VN₁₄									
1 6	10 1.40	+11 11.7	1.379	2.203	17.7	21.4	137 W	56	53	1 6	10 4.15	+56 54.9	1.411	2.203	19.0	22.1	133 W	78	7
1 16	9 58.25	+11 3.3	1.242	2.140	14.1	21.0	148 W	56	53	1 11	9 57.56	+58 4.7	1.403	2.211	18.3	22.1	135 W	77	6
1 26	9 51.58	+11 9.4	1.125	2.076	9.5	20.6	160 W	56	53	1 16	9 49.26	+59 6.0	1.401	2.220	17.8	22.1	136 W	76	5
2 5	9 41.59	+11 28.7	1.032	2.012	3.9	20.0	172 W	56	53	1 21	9 39.45	+59 56.1	1.403	2.228	17.5	22.1	137 W	75	4
2 10	9 35.58	+11 42.2	0.994	1.980	1.4	19.8	177 W	57	52	1 26	9 28.49	+60 32.7	1.411	2.235	17.4	22.1	137 W	74	3
2 15	9 29.12	+11 57.3	0.963	1.948	3.1	19.8	174 E	57	52	1 31	9 16.85	+60 54.5	1.424	2.243	17.6	22.1	136 W	74	3
2 20	9 22.45	+12 13.1	0.939	1.916	6.4	19.9	168 E	57	52	2 5	9 5.06	+61 0.7	1.442	2.250	18.1	22.2	135 E	74	3
2 25	9 15.81	+12 28.5	0.920	1.884	9.9	19.9	161 E	57	52	2 10	8 53.69	+60 51.6	1.465	2.256	18.7	22.3	133 E	74	3
3 2	9 9.48	+12 42.8	0.908	1.852	13.4	20.0	154 E	58	51	2 15	8 43.26	+60 28.0	1.492	2.263	19.4	22.3	131 E	75	4
3 7	9 3.70	+12 55.1	0.900	1.820	16.8	20.1	148 E	58	51	2 20	8 34.16	+59 51.7	1.524	2.269	20.1	22.4	128 E	75	4
3 12	8 58.69	+13 4.8	0.898	1.788	20.1	20.1	142 E	58	51	2 25	8 26.63	+59 4.8	1.560	2.274	21.0	22.5	125 E	76	5
3 17	8 54.66	+13 11.4	0.899	1.756	23.2	20.2	136 E	58	51	329923 2005 NK₂₀									
3 27	8 50.04	+13 13.6	0.912	1.693	28.9	20.3	125 E	58	51	1 6	10 6.98	-10 25.3	2.216	2.896	16.1	21.4	125 W	35	74
4 6	8 50.32	+13 0.0	0.932	1.632	33.7	20.4	115 E	58	51	1 16	10 0.43	-11 25.7	2.135	2.911	13.9	21.3	135 W	34	75
4 16	8 55.48	+12 29.7	0.956	1.573	37.6	20.5	107 E	57	52	1 26	9 51.74	-12 4.8	2.074	2.926	11.5	21.1	144 W	33	76
4 26	9 5.17	+11 41.7	0.981	1.517	40.9	20.6	100 E	56*	52	2 5	9 41.54	-12 19.8	2.038	2.939	9.4	21.0	151 W	33	76
5 6	9 18.88	+10 34.9	1.003	1.464	43.5	20.6	93 E	52*	53	2 15	9 30.71	-12 10.2	2.030	2.951	8.3	21.0	154 E	33	76
5 16	9 36.16	+9 8.4	1.022	1.416	45.6	20.6	88 E	46*	55	2 25	9 20.31	-11 38.5	2.049	2.963	8.9	21.0	153 E	33	76
5 26	9 56.60	+7 21.3	1.037	1.373	47.2	20.6	84 E	41*	57	3 7	9 11.26	-10 50.3	2.096	2.973	10.7	21.1	146 E	34	75
6 5	10 19.83	+5 13.6	1.050	1.336	48.5	20.7	81 E	35*	59*	3 17	9 4.28	-9 52.1	2.167	2.983	12.9	21.3	138 E	35	74
6 15	10 45.62	+2 45.7	1.060	1.307	49.5	20.7	78 E	30*	60*	3 27	8 59.77	-8 51.1	2.260	2.991	15.0	21.5	129 E	36	73
6 25	11 13.75	0 0.5	1.070	1.286	50.1	20.7	76 E	26*	62*	152558 1990 SA									
7 5	11 44.03	-3 1.5	1.082	1.274	50.3	20.7	75 E	22*	64*	1 6	10 12.52	-18 51.1	2.015	2.633	19.1	21.3	119 W	26	83
7 15	12 16.34	-6 12.3	1.098	1.271	50.2	20.7	74 E	20*	65*	1 11	10 10.39	-18 51.7	1.945	2.618	18.3	21.2	123 W	26	83
7 25	12 50.47	-9 26.1	1.121	1.278	49.6	20.7	73 E	18*	66*	1 16	10 7.53	-18 44.3	1.878	2.603	17.3	21.1	128 W	26	83
8 4	13 26.15	-12 34.7	1.152	1.294	48.6	20.8	73 E	17*	66*	1 21	10 3.98	-18 28.2	1.815	2.587	16.2	20.9	133 W	27	82
8 14	14 3.07	-15 29.9	1.194	1.319	47.2	20.9	73 E	16*	67*	1 26	9 59.77	-18 2.4	1.757	2.571	15.0	20.8	142 W	27	82
8 24	14 40.77	-18 3.8	1.249	1.352	45.5	21.0	73 E	16*	67*	1 31	9 54.96	-17 26.1	1.705	2.554	13.7	20.7	137 W	28	81
9 3	15 18.71	-20 10.2	1.316	1.392	43.6	21.1	72 E	16*	66*	2 5	9 49.64	-16 38.8	1.658	2.537	12.5	20.6	146 W	28	81
9 13	15 56.38	-21 46.0	1.397	1.437	41.6	21.2	71 E	16*	65*	2 10	9 43.93	-15 40.3	1.618	2.520	11.4	20.5	150 W	29	80
9 23	16 33.23	-22 50.1	1.490	1.488	39.4	21.4	70 E	17*	64*	2 15	9 37.96	-14 30.6	1.584	2.502	10.5	20.4	152 E	30	79
155785 2000 SS₃₅₁										2 20	9 31.91	-13 10.5	1.558	2.484	10.1	20.3	154	32	77
1 6	10 2.55	+20 30.0	2.340	3.152	11.7	21.4	139 W	66	43	2 25	9 25.95	-11 41.1	1.540	2.465	10.4	20.3	153 E	33	76
1 16	9 56.52	+21 41.6	2.272	3.167	8.7	21.2	151 W	67	42	3 2	9 20.25	-10 4.1	1.529	2.446	11.2	20.3	151 E	35	74
1 26	9 48.48	+22 57.2	2.230	3.181	5.5	21.0	162 W	68	41	3 7	9 14.97	-8 21.4	1.526	2.427	12.4	20.3	148 E	37	72
2 5	9 39.08	+24 10.4	2.218	3.194	3.1	20.9	170 W	69	40	3 12	9 10.23	-6 35.0	1.530	2.407	14.0	20.3	144 E	38	71
2 15	9 29.19	+25 14.8	2.238	3.206	4.2	21.0	166 E	70	39	3 17	9 6.15	-4 47.1	1.541	2.386	15.7	20.4	139 E	40	69
2 25	9 19.80	+26 5.4	2.288	3.217	7.2	21.2	156 E	71	38	3 22	9 2.84	-2 59.7	1.558	2.366	17.5	20.5	134 E	42	67
3 7	9 11.78	+26 40.0	2.365	3.227	10.2	21.4	145 E	72	37	3 27	9 0.34	-1 14.6	1.581	2.345	19.2	20.5	129 E	44	65
206378 2003 RB										4 1	8 58.66	+0 26.7	1.609	2.323	20.8	20.6	124 E	45	64
1 6	10 2.98	+13 56.0	1.119	1.961	19.7	21.4	138 W	59	50	4 6	8 57.83	+2 3.1	1.642	2.301	22.3	20.7	119 E	47	62
1 16	9 50.79	+14 25.3	1.094	2.010	13.8	21.2	151 W	59	50	4 11	8 57.83	+3 33.9	1.677	2.279	23.7	20.7	114 E	49	60
1 26	9 35.50	+15 4.7	1.091	2.058	7.3	21.0	165 W	60	49	4 16	8 58.65	+4 58.5	1.716	2.256	24.8	20.8	109 E	50	59
2 5	9 18.98	+15 45.1	1.117	2.103	0.5	20.7	179 W	61	48	4 21	9 0.25	+6 16.5	1.757	2.233	25.8	20.8	105 E	51*	58
2 15	9 3.35	+16 19.0	1.171	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°		
152558 1990 SA (continuation)									326769 2003 SE₁₉₂ (continuation)										
7 25	11 9.43	+13 56.2	2.345	1.722	23.0	20.8	42 E	18* 31*	2 20	9 57.22	+ 8 6.9	1.674	2.660	1.8	20.3	175 E	53	56	
7 30	11 19.79	+13 41.5	2.350	1.693	22.4	20.8	39 E	18* 30*	2 25	9 51.65	+ 8 31.2	1.670	2.650	3.7	20.4	170 E	54	55	
8 4	11 30.44	+13 24.1	2.351	1.663	21.7	20.7	37 E	17* 28*	3 2	9 46.25	+ 8 55.3	1.674	2.641	6.0	20.5	164 E	54	55	
8 9	11 41.41	+13 3.9	2.349	1.633	21.1	20.7	35 E	17* 26*	3 7	9 41.15	+ 9 18.6	1.685	2.631	8.2	20.6	158 E	54	55	
8 14	11 52.69	+12 41.2	2.344	1.603	20.5	20.6	34 E	16* 24*	3 12	9 36.49	+ 9 40.5	1.703	2.620	10.4	20.7	152 E	55	54	
8 19	12 4.29	+12 16.0	2.336	1.573	20.0	20.5	32 E	16* 22*	3 17	9 32.38	+10 0.3	1.727	2.610	12.4	20.8	146 E	55	54	
8 24	12 16.23	+11 48.3	2.326	1.544	19.5	20.5	31 E	16* 20*	3 22	9 28.91	+10 17.8	1.757	2.599	14.3	20.9	140 E	55	54	
9 3	12 41.17	+10 46.0	2.296	1.485	18.7	20.3	28 E	16* 17*	3 27	9 26.13	+10 32.5	1.792	2.588	16.1	21.0	134 E	56	53	
9 13	13 7.67	+ 9 34.6	2.256	1.427	18.3	20.2	26 E	16* 14*	4 1	9 24.09	+10 44.3	1.831	2.576	17.6	21.1	129 E	56	53	
9 23	13 35.87	+ 8 14.7	2.209	1.371	18.3	20.1	25 E	17* 12*	4 6	9 22.78	+10 53.0	1.874	2.564	19.0	21.2	123 E	56	53	
10 3	14 5.94	+ 6 46.7	2.157	1.319	18.6	19.9	25 E	17* 9*	4 11	9 22.21	+10 58.6	1.919	2.552	20.2	21.3	118 E	56	53	
10 13	14 38.06	+ 5 11.4	2.103	1.270	19.4	19.8	25 E	18* 7*	4 16	9 22.36	+11 1.0	1.968	2.540	21.2	21.3	113 E	56	53	
10 23	15 12.32	+ 3 30.0	2.049	1.226	20.3	19.7	25 E	19* 6*	4 21	9 23.22	+11 0.4	2.018	2.528	22.1	21.4	109 E	56	53	
11 2	15 48.75	+ 1 44.3	2.001	1.189	21.3	19.6	26 E	20* 4*	4 26	9 24.73	+10 56.6	2.069	2.515	22.8	21.5	104 E	56*	53	
11 12	16 27.25	+ 0 2.8	1.962	1.159	22.2	19.5	26 E	20* 3*	83120 2001 QP₂₄₆										
11 22	17 7.51	+ 1 47.4	1.934	1.138	22.7	19.5	26 E	20* 3*	1 6	10 37.15	+11 5.4	2.258	2.975	14.9	21.4	129 W	56	53	
12 2	17 49.07	+ 3 24.7	1.923	1.126	22.8	19.5	26 E	20* 2*	1 16	10 33.34	+11 26.7	2.143	2.965	12.3	21.2	140 W	56	53	
12 12	18 31.29	+ 4 49.9	1.927	1.125	22.3	19.5	26 E	20* 2*	1 26	10 27.09	+12 0.3	2.050	2.954	9.1	20.9	152 W	57	52	
12 22	19 13.42	+ 5 58.6	1.949	1.134	21.3	19.5	25 E	19* 1*	2 5	10 18.75	+12 42.9	1.982	2.943	5.3	20.7	164 W	58	51	
1 1	19 54.80	+ 6 48.1	1.987	1.153	19.8	19.5	23 E	17* 1*	2 15	10 8.93	+13 30.2	1.944	2.930	1.3	20.4	176 W	59	50	
1 11	20 34.85	+ 7 17.3	2.037	1.181	17.9	19.5	22 E	16* 1*	2 20	10 3.76	+13 53.8	1.936	2.923	1.2	20.3	176 E	59	50	
1 21	21 13.19	+ 7 27.4	2.098	1.217	15.7	19.6	20 E	13* 1*	2 25	9 58.59	+14 16.4	1.936	2.916	3.3	20.5	170 E	59	50	
136149 2003 SR₃₁₃									3 2	9 53.56	+14 37.4	1.943	2.909	5.4	20.6	164 E	60	49	
1 6	10 14.01	+21 45.6	1.986	2.787	13.9	21.3	137 W	67	42	3 7	9 48.77	+14 56.3	1.958	2.902	7.4	20.7	158 E	60	49
1 16	10 8.12	+22 54.6	1.910	2.794	10.7	21.1	148 W	68	41	3 12	9 44.36	+15 12.7	1.980	2.894	9.3	20.8	152 E	60	49
1 26	9 59.64	+24 8.7	1.858	2.800	7.2	20.9	159 W	69	40	3 17	9 40.42	+15 26.2	2.008	2.886	11.1	20.9	146 E	60	49
2 5	9 49.25	+25 20.0	1.834	2.805	4.3	20.7	168 W	70	39	3 22	9 37.03	+15 36.5	2.041	2.878	12.8	21.0	140 E	61	48
2 15	9 37.97	+26 20.5	1.841	2.809	4.9	20.8	166 E	71	38	3 27	9 34.25	+15 43.7	2.080	2.869	14.4	21.1	134 E	61	48
2 25	9 27.06	+27 3.9	1.877	2.812	8.1	21.0	156 E	72	37	4 1	9 32.11	+15 47.8	2.124	2.861	15.7	21.2	129 E	61	48
3 7	9 17.66	+27 27.8	1.940	2.814	11.6	21.2	145 E	72	37	4 6	9 30.62	+15 48.7	2.172	2.852	17.0	21.3	124 E	61	48
3 17	9 10.62	+27 32.5	2.026	2.815	14.6	21.4	134 E	73	36	4 11	9 29.79	+15 46.6	2.222	2.843	18.0	21.3	119 E	61	48
387487 4169 T-3									4 16	9 29.61	+15 41.6	2.276	2.833	18.9	21.4	114 E	61	48	
1 6	10 18.09	+14 48.0	1.612	2.405	17.0	21.4	134 W	60	49	4 21	9 30.07	+15 33.7	2.331	2.824	19.7	21.5	109 E	61	48
1 16	10 12.58	+15 40.8	1.558	2.437	13.0	21.3	146 W	61	48	112127 2002 JW₄₇									
1 26	10 4.29	+16 44.5	1.527	2.469	8.5	21.1	158 W	62	47	1 6	10 38.10	+14 58.7	1.891	2.632	16.7	21.3	130 W	60	49
2 5	9 54.07	+17 51.8	1.522	2.500	3.8	20.9	170 W	63	46	1 16	10 34.75	+15 28.7	1.776	2.614	13.7	21.0	141 W	60	49
2 15	9 43.09	+18 54.4	1.546	2.530	2.6	20.8	173 E	64	45	1 26	10 28.45	+16 11.3	1.682	2.595	10.1	20.8	152 W	61	48
2 25	9 32.73	+19 45.2	1.599	2.559	6.8	21.2	162 E	65	44	2 5	10 19.51	+17 1.9	1.612	2.575	5.9	20.5	164 W	62	47
3 7	9 24.15	+20 20.2	1.679	2.588	10.9	21.5	150 E	65	44	2 10	10 14.26	+17 28.2	1.587	2.565	3.9	20.3	170 W	62	47
220038 2002 RW₄₀									2 15	10 8.65	+17 53.9	1.570	2.554	2.4	20.2	174 W	63	46	
1 6	10 18.55	+13 1.3	1.607	2.395	17.2	21.3	134 W	58	51	2 20	10 2.85	+18 18.0	1.560	2.543	3.0	20.2	172 E	63	46
1 16	10 12.94	+13 36.0	1.550	2.425	13.3	21.1	145 W	59	50	2 25	9 57.03	+18 39.6	1.557	2.532	4.9	20.3	167 E	64	45
1 26	10 4.53	+14 22.9	1.515	2.454	8.7	20.9	158 W	59	50	3 2	9 51.37	+18 58.0	1.562	2.521	7.2	20.4	161 E	64	45
2 5	9 54.18	+15 15.9	1.505	2.483	3.8	20.7	170 W	60	49	3 7	9 46.01	+19 12.7	1.573	2.510	9.5	20.5	155 E	64	45
2 15	9 43.04	+16 7.7	1.525	2.511	1.7	20.6	176 E	61	48	3 12	9 41.12	+19 23.4	1.591	2.498	11.7	20.6	149 E	64	45
2 25	9 32.51	+16 51.7	1.573	2.538	6.3	21.0	164 E	62	47	3 17	9 36.82	+19 29.7	1.615	2.486	13.8	20.7	144 E	64	45
3 7	9 23.76	+17 23.5	1.649	2.564	10.7	21.3	151 E	62	47	3 22	9 33.22	+19 31.7	1.643	2.474	15.7	20.8	138 E	65	44
3102 Krok									3 27	9 30.37	+19 29.6	1.677	2.461	17.5	20.9	132 E	64	45	
1 6	10 28.90	+ 3 48.8	2.410	3.112	14.4	21.4	128 W	49	60	4 1	9 28.31	+19 23.4	1.714	2.449	19.0	21.0	127 E	64	45
1 16	10 24.18	+ 4 15.4	2.303	3.115	11.9	21.2	139 W	49	60	4 6	9 27.05	+19 13.6	1.755	2.436	20.4	21.1	122 E	64	45
1 26	10 17.28	+ 4 57.9	2.219	3.117	8.8	21.0	151 W	50	59	4 11	9 26.58	+19 0.2	1.799	2.423	21.6	21.1	117 E	64	45
2 5	10 8.60	+ 5 54.5	2.161	3.118	5.2	20.8	163 W	51	58	4 16	9 26.90	+18 43.6	1.845	2.410	22.7	21.2	112 E	64	45
2 15	9 58.82	+ 7 1.2	2.133	3.117	1.9	20.5	174 W	52	57	4 21	9 27.96	+18 23.9	1.893	2.397	23.6	21.3	108 E	63	46
2 25	9 48.81	+ 8 12.6	2.137	3.115	3.4	20.6	169 E	53	56	4 26	9 29.72	+18 1.4	1.941	2.383	24.3	21.4	103 E	63*	46
3 7	9 39.51	+ 9 22.7	2.173	3.112	7.1	20.9	157 E	54	55	5 1	9 32.14	+17 36.1	1.991	2.369	24.8	21.4	99 E	61*	46
3 17	9 31.72	+10 26.5	2.237	3.107	10.5	21.1	145 E	55	54	5 6	9 35.15	+17 8.4	2.040	2.355	25.3	21.5	95 E	59*	47
3 27	9 26.00	+11 20.1	2.325	3.101	13.4	21.3	134 E	56	53	285265 1998 QS₁₅									
4 6	9 22.64	+12 1.8	2.432	3.093	15.7	21.4	123 E	57	52	1 6	10 40.90	+ 9 42.7	1.533	2.182	23.3	21.4	119 W	35	74
132720 2002 PK₁									1 11	10 41.17	+ 9 29.8	1.466	2.170	22.2	21.3	124 W	36	73	
1 6	10 32.59	+ 5 58.4	2.696	3.390	13.2	21.4	128 W	51	58	1 16	10 40.66	+ 9 7.7	1.402	2.158	20.9	21.1	129 W	36	73
1 16	10 28.41	+ 6 16.5	2.603	3.409	10.9	21.2	139 W	51	58	1 21	10 39.35	+ 8 35.3	1.342	2.145	19.3	21.0	134 W	36	73
1 26	10 22.35	+ 6 46.7	2.532	3.426	8.0	21.1	151 W	52	57	1 26	10 37.23	+ 7 51.6	1.285	2.132	17.5	20.8	139 W	37	72
2 5	10 14.81	+ 7 26.9	2.488	3.442	4.8	20.9	163 W	52	57	1 31	10 34.31	+ 6 55.8	1.233	2.118	15.4	20.6	145 W	38	71
2 15	10 6.35	+ 8 13.9	2.474	3.458	1.6	20.7	175 W	53	56	2 5	10 30.63	+ 5 47.3	1.187	2.105	13.1	20.5	151 W	39	70
2 25	9 57.72	+																	

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°
285265 1998 QS₁₅ (continuation)									465892 2010 UT₇								
4 26	9 46.07	+20 15.7	1.302	1.853	31.4	21.0	106 E	65 44	1 6	10 43.75	+52 1.6	1.018	1.810	24.8	22.1	129 W	83 12
5 1	9 49.87	+20 58.4	1.341	1.836	32.5	21.0	102 E	66* 43	1 11	10 33.06	+54 8.4	1.033	1.848	23.0	22.1	133 W	81 10
5 6	9 54.47	+21 32.8	1.381	1.819	33.3	21.1	98 E	65* 42	1 16	10 19.98	+56 0.1	1.053	1.885	21.5	22.1	135 W	79 8
5 11	9 59.81	+21 59.5	1.421	1.801	34.0	21.2	94 E	63* 42	1 21	10 4.85	+57 32.3	1.079	1.921	20.4	22.2	137 W	77 6
5 16	10 5.84	+22 19.0	1.461	1.784	34.5	21.2	91 E	61* 42	1 26	9 48.26	+58 41.8	1.111	1.956	19.8	22.3	138 W	76 5
5 21	10 12.49	+22 31.8	1.499	1.766	34.9	21.3	87 E	59* 41	1 31	9 31.01	+59 27.1	1.148	1.989	19.6	22.4	137 W	76 5
5 26	10 19.72	+22 38.2	1.536	1.749	35.2	21.3	84 E	56* 41	2 5	9 13.99	+59 48.6	1.192	2.022	19.7	22.5	136 E	75 4
5 31	10 27.46	+22 38.7	1.572	1.731	35.3	21.3	81 E	54* 41	2 10	8 58.07	+59 48.1	1.240	2.053	20.2	22.6	134 E	75 4
6 5	10 35.68	+22 33.5	1.606	1.714	35.4	21.4	78 E	51* 41	2 15	8 43.89	+59 28.8	1.294	2.084	20.8	22.8	132 E	76 5
6 10	10 44.35	+22 23.1	1.639	1.696	35.4	21.4	75 E	49* 42*	2 20	8 31.90	+58 54.5	1.352	2.114	21.5	22.9	128 E	76 5
6 15	10 53.43	+22 7.5	1.670	1.679	35.3	21.4	73 E	46* 42*	474763 2005 QQ₇₅								
6 20	11 2.89	+21 47.0	1.699	1.661	35.2	21.4	70 E	44* 42*	1 6	10 43.87	+14 50.8	1.870	2.598	17.2	21.4	128 W	60 49
6 25	11 12.69	+21 22.0	1.726	1.644	35.0	21.4	68 E	42* 42*	1 16	10 38.35	+15 27.3	1.810	2.641	13.9	21.3	140 W	60 49
6 30	11 22.81	+20 52.5	1.752	1.627	34.8	21.4	66 E	40* 41*	1 26	10 30.06	+16 13.9	1.772	2.682	9.9	21.1	152 W	61 48
7 5	11 33.23	+20 18.8	1.775	1.611	34.5	21.4	64 E	38* 41*	2 5	10 19.65	+17 4.6	1.760	2.722	5.6	21.0	164 W	62 47
7 10	11 43.96	+19 41.0	1.796	1.594	34.2	21.4	62 E	36* 41*	2 15	10 8.10	+17 52.6	1.777	2.761	2.2	20.8	174 W	63 46
7 15	11 54.96	+18 59.3	1.815	1.578	34.0	21.4	60 E	35* 40*	2 25	9 56.65	+18 31.6	1.825	2.799	4.5	21.0	167 E	64 45
7 20	12 6.22	+18 13.7	1.833	1.562	33.7	21.4	58 E	34* 40*	3 7	9 46.44	+18 57.6	1.902	2.835	8.3	21.3	156 E	64 45
7 25	12 17.75	+17 24.6	1.848	1.546	33.3	21.4	57 E	33* 39*	3 17	9 38.34	+19 9.1	2.005	2.870	11.8	21.6	144 E	64 45
7 30	12 29.52	+16 32.1	1.862	1.531	33.0	21.4	55 E	32* 39*	470864 2008 YV₁₄₈								
8 4	12 41.54	+15 36.2	1.874	1.517	32.7	21.3	54 E	31* 38*	1 6	10 53.22	+20 15.9	0.506	1.353	35.1	21.1	128 W	65 44
8 9	12 53.81	+14 37.1	1.885	1.503	32.4	21.3	53 E	30* 37*	1 16	11 12.87	+24 15.4	0.443	1.329	32.4	20.7	134 W	69 40
8 14	13 6.34	+13 35.1	1.894	1.489	32.1	21.3	51 E	30* 37*	1 26	11 31.30	+29 26.2	0.393	1.305	30.1	20.4	138 W	74 35
8 19	13 19.11	+12 30.3	1.902	1.476	31.8	21.3	50 E	29* 36*	2 5	11 47.94	+35 34.0	0.357	1.282	29.2	20.1	141 W	81 28
8 24	13 32.13	+11 23.0	1.909	1.464	31.5	21.3	49 E	29* 35*	2 10	11 55.26	+38 49.3	0.343	1.271	29.5	20.0	141 W	84 25
8 29	13 45.40	+10 13.4	1.915	1.452	31.2	21.3	48 E	29* 35*	2 15	12 1.73	+42 4.2	0.333	1.260	30.5	19.9	140 W	87 22
9 3	13 58.93	+9 1.7	1.920	1.441	31.0	21.2	47 E	28* 34*	2 20	12 7.23	+45 11.8	0.326	1.250	31.9	19.9	138 W	90 19
9 8	14 12.73	+7 48.3	1.925	1.431	30.7	21.2	46 E	28* 33*	2 25	12 11.69	+48 5.7	0.322	1.241	33.8	19.9	136 W	87 16
9 13	14 26.79	+6 33.4	1.930	1.421	30.4	21.2	45 E	28* 32*	3 2	12 15.04	+50 40.4	0.319	1.232	35.9	19.9	133 W	84 13
9 18	14 41.11	+5 17.6	1.934	1.413	30.1	21.2	44 E	28* 32*	3 7	12 17.24	+52 51.9	0.319	1.224	38.0	20.0	131 W	82 11
9 23	14 55.69	+4 1.1	1.939	1.405	29.8	21.2	43 E	27* 31*	3 12	12 18.35	+54 36.8	0.319	1.216	40.2	20.0	128 W	80 9
9 28	15 10.53	+2 44.5	1.944	1.398	29.5	21.2	43 E	27* 30*	3 17	12 18.57	+55 53.1	0.321	1.209	42.3	20.1	125 W	79 8
10 3	15 25.64	+1 28.1	1.950	1.393	29.2	21.1	43 E	27* 29*	3 22	12 18.23	+56 39.7	0.324	1.203	44.2	20.1	123 W	78 7
10 8	15 41.01	+0 12.5	1.956	1.388	28.9	21.1	42 E	27* 29*	4 1	12 17.68	+56 57.1	0.327	1.197	45.9	20.2	121 E	78 7
10 13	15 56.62	-1 1.8	1.964	1.384	28.5	21.1	41 E	26* 28*	4 6	12 17.24	+56 46.5	0.330	1.193	47.4	20.3	119 E	78 7
10 18	16 12.47	-2 14.2	1.972	1.381	28.1	21.1	41 E	26* 27*	4 11	12 17.18	+56 8.8	0.333	1.189	48.6	20.3	117 E	79 8
10 23	16 28.53	-3 24.1	1.983	1.379	27.7	21.1	40 E	26* 26*	4 16	12 17.73	+55 5.1	0.336	1.186	49.7	20.4	115 E	80 9
10 28	16 44.79	-4 31.1	1.994	1.379	27.2	21.1	39 E	25* 25*	4 21	12 17.09	+53 36.5	0.339	1.184	50.6	20.4	114 E	81 10
11 2	17 1.24	-5 34.6	2.007	1.379	26.7	21.1	39 E	25* 24*	4 26	12 21.37	+51 44.7	0.342	1.183	51.3	20.4	113 E	83 12
11 7	17 17.84	-6 34.1	2.022	1.381	26.1	21.1	38 E	25* 23*	5 1	12 24.57	+49 31.1	0.345	1.183	51.7	20.5	113 E	85 14
11 12	17 34.56	-7 29.1	2.038	1.383	25.5	21.1	37 E	24* 22*	5 6	12 28.62	+46 57.4	0.348	1.183	52.1	20.5	112 E	88 17
11 17	17 51.37	-8 19.1	2.056	1.387	24.9	21.1	36 E	24* 20*	5 11	12 33.43	+44 4.8	0.352	1.185	52.3	20.5	112 E	89 20
11 22	18 8.23	-9 4.0	2.076	1.391	24.2	21.1	35 E	23* 19*	5 16	12 38.96	+40 54.6	0.356	1.187	52.3	20.6	111 E	86 23
11 27	18 25.12	-9 43.4	2.098	1.397	23.4	21.1	34 E	23* 18*	5 21	12 45.16	+37 28.6	0.361	1.191	52.3	20.6	111 E	82 27
12 2	18 42.00	-10 17.2	2.121	1.403	22.6	21.1	33 E	22* 17*	5 26	12 51.98	+33 49.1	0.367	1.195	52.1	20.6	111 E	79 30
12 7	18 58.83	-10 45.2	2.145	1.410	21.8	21.2	32 E	22* 15*	5 31	12 59.35	+29 58.6	0.374	1.200	51.9	20.7	111 E	75 34
12 12	19 15.57	-11 7.3	2.171	1.419	20.9	21.2	31 E	21* 14*	6 5	13 7.19	+26 0.2	0.382	1.206	51.6	20.7	111 E	71 38
12 17	19 32.20	-11 23.7	2.197	1.428	19.9	21.2	30 E	20* 13*	6 10	13 15.46	+21 56.5	0.393	1.213	51.3	20.8	111 E	67 42
12 22	19 48.67	-11 34.4	2.225	1.438	19.0	21.2	28 E	19* 12*	6 15	13 24.16	+17 50.7	0.405	1.220	51.0	20.9	111 E	63* 46
12 27	20 4.98	-11 39.7	2.254	1.449	18.0	21.2	27 E	18* 10*	6 20	13 33.27	+13 45.7	0.419	1.228	50.7	20.9	111 E	58* 50
1 1	20 21.09	-11 39.7	2.283	1.460	16.9	21.2	26 E	17* 9*	6 25	13 42.79	+9 44.6	0.436	1.237	50.4	21.0	110 E	54* 54
1 6	20 36.99	-11 34.8	2.313	1.472	15.9	21.2	24 E	16* 8*	6 30	13 52.68	+5 50.2	0.454	1.246	50.2	21.1	110 E	49* 58
1 11	20 52.66	-11 25.2	2.343	1.485	14.8	21.2	23 E	15* 7*	6 25	14 2.92	+2 4.5	0.475	1.256	49.9	21.2	109 E	45* 62
1 16	21 8.09	-11 11.3	2.373	1.499	13.7	21.2	21 E	14* 6*	7 5	14 13.52	-1 30.7	0.499	1.266	49.7	21.4	108 E	41* 66
1 21	21 23.26	-10 53.5	2.403	1.513	12.6	21.3	20 E	12* 5*	7 10	14 24.48	-4 54.4	0.524	1.277	49.4	21.5	108 E	38* 69
190866 2001 TX₄₅									112985 2002 RS₂₈								
1 6	10 41.71	+1 35.4	2.265	2.931	16.1	21.4	124 W	47 62	1 6	11 1.62	-41 8.4	2.928	3.191	17.8	21.5	96 W	4 75
1 16	10 38.94	+1 38.9	2.140	2.918	13.8	21.2	135 W	47 62	1 11	11 0.61	-41 49.4	2.863	3.182	17.7	21.4	100 W	3 74
1 26	10 33.80	+1 59.5	2.034	2.904	10.9	20.9	146 W	47 62	1 16	10 58.91	-42 26.3	2.799	3.172	17.6	21.4	103 W	3 74
2 5	10 26.53	+2 37.1	1.952	2.889	7.4	20.7	158 W	48 61	1 21	10 56.53	-42 58.2						

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°
279815 2000 JT₃										480856 2001 NZ₁									
<i>(continuation)</i>										<i>(continuation)</i>									
5 21	10 20.28	+ 9 37.9	2.542	2.793	21.2	21.4	94 E	49*	54	8 24	17 6.89	+14 37.5	0.743	1.358	47.1	19.7	100 E	59*	49
5 26	10 23.44	+ 9 37.1	2.599	2.780	21.4	21.4	89 E	46*	54	8 29	17 20.38	+14 28.7	0.785	1.380	46.2	19.8	100 E	59*	50
5 31	10 27.01	+ 9 32.9	2.656	2.768	21.4	21.5	85 E	43*	54	9 3	17 33.68	+14 14.1	0.827	1.402	45.3	20.0	99 E	59*	50
105106 2000 LS₁₄										220921 2005 GS₂₁									
1 6	11 11.49	+ 1 41.0	2.623	3.196	15.9	21.5	117 W	47	62	1 6	11 14.28	+ 3 27.4	1.767	2.386	21.5	21.5	117 W	48	61
1 16	11 9.57	+ 1 30.9	2.483	3.184	14.1	21.3	128 W	47	62	1 16	11 16.17	+ 3 30.2	1.633	2.362	19.4	21.2	127 W	49	60
1 26	11 5.39	+ 1 34.6	2.360	3.170	11.8	21.1	139 W	47	62	1 26	11 15.23	+ 3 54.1	1.513	2.337	16.4	20.9	138 W	49	60
2 5	10 59.05	+ 1 52.0	2.258	3.155	8.8	20.9	151 W	47	62	2 5	11 11.34	+ 4 40.5	1.410	2.312	12.6	20.6	149 W	50	59
2 15	10 50.86	+ 2 22.3	2.182	3.138	5.4	20.6	162 W	47	62	2 15	11 4.61	+ 5 48.1	1.329	2.287	8.0	20.3	161 W	51	58
2 25	10 41.45	+ 3 2.6	2.136	3.121	2.1	20.4	173 W	48	61	2 20	11 0.34	+ 6 28.5	1.298	2.273	5.4	20.1	168 W	51	58
3 7	10 31.63	+ 3 48.9	2.120	3.103	3.1	20.4	170 E	49	60	2 25	10 55.62	+ 7 12.0	1.274	2.260	2.7	19.9	174 W	52	57
3 17	10 22.29	+ 4 36.1	2.135	3.084	6.7	20.6	159 E	50	59	3 2	10 50.61	+ 7 57.4	1.256	2.247	0.3	19.6	179 E	53	56
3 27	10 14.29	+ 5 19.4	2.179	3.063	10.2	20.8	147 E	50	59	3 7	10 45.46	+ 8 43.4	1.245	2.233	3.1	19.8	173 E	54	55
4 6	10 8.22	+ 5 55.0	2.246	3.042	13.3	20.9	136 E	51	58	3 12	10 40.35	+ 9 28.7	1.241	2.220	5.9	20.0	167 E	54	55
4 16	10 4.43	+ 6 20.3	2.332	3.020	15.8	21.1	125 E	51	58	3 17	10 35.48	+ 10 11.8	1.244	2.206	8.7	20.1	160 E	55	54
4 26	10 3.05	+ 6 34.1	2.433	2.996	17.8	21.2	115 E	52	57	3 22	10 31.03	+ 10 51.7	1.253	2.192	11.5	20.2	154 E	56	53
5 6	10 3.97	+ 6 36.1	2.542	2.971	19.1	21.4	105 E	51	57	3 27	10 27.14	+ 11 27.2	1.267	2.178	14.0	20.3	148 E	56	53
5 16	10 7.02	+ 6 26.5	2.657	2.946	19.9	21.5	96 E	47*	58	4 1	10 23.93	+ 11 57.7	1.287	2.164	16.5	20.4	142 E	57	52
480856 2001 NZ₁										62047 2000 RE₆₆									
1 6	11 12.20	-30 20.2	1.411	1.868	31.1	21.3	101 W	15	86	1 6	11 20.76	+ 7 50.5	2.634	3.210	15.7	21.4	118 W	53	56
1 11	11 16.29	-32 28.2	1.348	1.842	31.3	21.2	103 W	13	84	1 16	11 19.67	+ 8 15.2	2.504	3.207	14.0	21.2	128 W	53	56
1 16	11 19.91	-34 38.1	1.286	1.816	31.5	21.1	105 W	10	81	1 26	11 16.35	+ 8 54.0	2.390	3.202	11.6	21.0	139 W	54	55
1 21	11 22.99	-36 49.1	1.226	1.789	31.6	21.0	108 W	8	79	2 5	11 10.87	+ 9 45.1	2.299	3.196	8.6	20.8	151 W	55	54
1 26	11 25.47	-39 0.8	1.169	1.763	31.8	20.8	110 W	6	77	2 15	11 3.52	+ 10 45.4	2.233	3.190	5.2	20.6	163 W	56	53
1 31	11 27.26	-41 12.2	1.114	1.736	31.9	20.7	111 W	4	75	2 25	10 54.86	+ 11 49.6	2.196	3.182	1.9	20.4	174 W	57	52
2 5	11 28.29	-43 22.5	1.062	1.709	32.0	20.6	113 W	2	73	3 2	10 50.28	+ 12 21.3	2.190	3.178	1.6	20.3	175 E	57	52
2 10	11 28.43	-45 30.4	1.011	1.683	32.2	20.4	115 W	—	70	3 7	10 45.68	+ 12 51.9	2.191	3.174	3.0	20.4	170 E	58	51
2 15	11 27.61	-47 34.3	0.963	1.656	32.4	20.3	116 W	—	68	3 12	10 41.15	+ 13 20.6	2.200	3.169	4.7	20.5	165 E	58	51
2 20	11 25.74	-49 32.5	0.918	1.629	32.6	20.1	117 W	—	66	3 17	10 36.81	+ 13 46.8	2.216	3.164	6.5	20.6	159 E	59	50
2 25	11 22.77	-51 23.3	0.874	1.603	32.9	20.0	118 W	—	65	3 22	10 32.77	+ 14 9.9	2.240	3.159	8.3	20.7	153 E	59	50
3 2	11 18.67	-53 4.8	0.833	1.576	33.2	19.9	119 W	—	63	3 27	10 29.10	+ 14 29.8	2.270	3.154	9.9	20.8	147 E	59	50
3 7	11 13.47	-54 34.9	0.794	1.550	33.7	19.8	120 W	—	61	4 1	10 25.89	+ 14 46.1	2.305	3.148	11.4	20.9	141 E	60	49
3 12	11 7.26	-55 51.2	0.756	1.524	34.2	19.6	121 E	—	60	4 6	10 23.17	+ 14 58.7	2.347	3.143	12.8	21.0	136 E	60	49
3 17	11 0.29	-56 51.7	0.720	1.498	34.7	19.5	121 E	—	59	4 11	10 20.98	+ 15 7.6	2.393	3.137	14.1	21.1	130 E	60	49
3 22	10 52.93	-57 34.5	0.686	1.473	35.4	19.4	121 E	—	58	4 16	10 19.36	+ 15 12.9	2.444	3.130	15.2	21.2	125 E	60	49
3 27	10 45.62	-57 58.6	0.653	1.448	36.1	19.2	121 E	—	58	4 21	10 18.32	+ 15 14.6	2.498	3.124	16.2	21.2	120 E	60	49
3 29	10 42.83	-58 2.8	0.640	1.439	36.4	19.2	121 E	—	58	4 26	10 17.84	+ 15 12.9	2.555	3.117	17.0	21.3	115 E	60	49
3 31	10 40.15	-58 3.8	0.627	1.429	36.7	19.2	121 E	—	58	5 1	10 17.92	+ 15 8.0	2.614	3.110	17.7	21.4	110 E	60	49
4 2	10 37.64	-58 1.6	0.615	1.420	37.0	19.1	121 E	—	58	5 6	10 18.53	+ 15 0.1	2.675	3.103	18.2	21.4	106 E	60*	49
4 4	10 35.31	-57 56.2	0.602	1.410	37.3	19.1	121 E	—	58	5 11	10 19.65	+ 14 49.3	2.738	3.095	18.7	21.5	101 E	58*	49
4 6	10 33.21	-57 47.5	0.590	1.401	37.6	19.0	121 E	—	58	176612 2002 FO₃₀									
4 8	10 31.37	-57 35.5	0.578	1.392	38.0	19.0	121 E	—	58	1 6	11 24.46	+ 9 44.5	1.784	2.402	21.3	21.4	117 W	55	54
4 10	10 29.82	-57 20.3	0.566	1.383	38.3	18.9	121 E	—	59	1 16	11 27.30	+ 10 21.9	1.641	2.368	19.3	21.1	127 W	55	54
4 12	10 28.60	-57 1.8	0.555	1.374	38.6	18.9	121 E	—	59	1 26	11 27.34	+ 11 22.4	1.512	2.334	16.6	20.8	137 W	56	53
4 14	10 27.72	-56 40.1	0.543	1.365	39.0	18.8	121 E	—	59	2 5	11 24.34	+ 12 45.6	1.401	2.299	13.0	20.5	148 W	58	51
4 16	10 27.21	-56 15.1	0.531	1.356	39.3	18.8	121 E	—	60	2 15	11 18.20	+ 14 27.8	1.311	2.263	8.8	20.2	159 W	59	50
4 21	10 27.68	-54 58.7	0.503	1.336	40.2	18.6	121 E	—	61										
4 26	10 30.79	-53 22.1	0.476	1.316	41.0	18.5	121 E	—	63										
5 1	10 36.60	-51 24.1	0.450	1.297	41.8	18.4	121 E	—	65										
5 6	10 45.13	-49 3.1	0.426	1.280	42.6	18.2	121 E	—	67										
5 11	10 56.33	-46 16.5	0.403	1.264	43.3	18.1	121 E	—	70										
5 16	11 10.05	-43 2.0	0.381	1.250	44.0	18.0	121 E	—	73										
5 21	11 26.06	-39 17.9	0.363	1.238	44.7	17.9	121 E	—	77										
5 26	11 44.01	-35 3.2	0.348	1.227	45.3	17.8	121 E	—	81										
5 31	12 3.49	-30 19.7	0.336	1.218	46.1	17.7	120 E	—	86										
6 5	12 24.07	-25 12.9	0.329	1.211	46.9	17.7	119 E	—	89										
6 7	12 32.52	-23 5.7	0.328	1.209	47.3	17.7	119 E	—	87										
6 9	12 41.04	-20 57.2	0.328	1.207	47.6	17.7	119 E	—	85										
6 11	12 49.63	-18 48.1	0.328	1.205	48.0	17.7	118 E	—	83										
6 13	12 58.24	-16 39.5	0.329	1.204	48.4	17.7	118 E	—	81										
6 15	13 6.85	-14 32.2	0.331	1.203	48.9	17.7	117 E	—	79										
6 17	13 15.45	-12 27.1	0.334	1.202	49.3	17.8	116 E	—	76										
6 19	13 24.00	-10 25.0	0.338	1.202	49.7	17.8	116 E	—	74										
6 21	13 32.49	-8 26.6	0.343	1.202	50.1	17.8	115 E	—	72										
6 23	13 40.91	-6 32.4	0.348	1.202	50.4	17.9	114 E	—	71										
6 25	13 49.23	-4 43.1	0.355	1.203	50.8	17.9	114 E	—	69										
6 30	14 9.54	-0 33.1	0.373	1.206	51.5	18.1	112 E	—	65										
7 5	14 29.06	+ 3 1.2	0.396	1.211	52.1	18.2	110 E	—	61										
7 10	14 47.77	+ 5 59.7	0.422	1.218	52.3	18.4	108 E	—	58										
7 15	15 5.67	+ 8 24.6	0.452	1.227	52.3	18.5	107 E	—	56										
7 20	15 22.80	+ 10 19.5	0.483	1.238	52.1	18.7	106 E	—	54										
7 25	15 39.21	+ 11 48.3	0.516	1.251	51.7	18.9	105 E	—	52										
7 30	15 54.96	+ 12 54.9	0.551	1.265	51.2	19.0	104 E	—	51										
8 4	16 10.14	+ 13 42.4	0.587	1.281	50.5	19.2	103 E	—	50										
8 9	16 24.86	+ 14 13.8	0.625	1.298	49.7	19.3													

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°
176612 2002 FO₃₀										3271 UI									
<i>(continuation)</i>																			
2 20	11 14.06	+15 23.6	1.276	2.245	6.7	20.0	165 W	60	49	1 6	11 41.19	+ 0 35.6	2.347	2.839	19.0	21.5	110 W	46	63
2 25	11 9.34	+16 20.6	1.248	2.226	5.1	19.8	168 W	61	48	1 16	11 42.53	+ 1 19.8	2.195	2.823	17.5	21.3	120 W	46	63
3 2	11 4.16	+17 17.1	1.226	2.208	4.7	19.8	170 W	62	47	1 26	11 41.47	+ 2 27.2	2.057	2.804	15.3	21.0	131 W	47	62
3 7	10 58.69	+18 11.5	1.211	2.189	5.9	19.8	167 E	63	46	2 5	11 37.89	+ 3 58.7	1.936	2.785	12.4	20.8	143 W	49	60
3 12	10 53.12	+19 2.1	1.202	2.170	8.0	19.8	162 E	64	45	2 15	11 31.81	+ 5 53.1	1.838	2.764	8.7	20.5	155 W	51	58
3 17	10 47.65	+19 47.4	1.200	2.150	10.5	19.9	157 E	65	44	2 25	11 23.56	+ 8 5.3	1.767	2.742	4.6	20.2	167 W	53	56
3 22	10 42.50	+20 26.2	1.204	2.131	13.1	20.0	151 E	65	44	3 2	11 18.84	+ 9 15.4	1.744	2.730	2.6	20.1	173 W	54	55
3 27	10 37.85	+20 57.6	1.214	2.112	15.6	20.1	145 E	66	43	3 7	11 13.85	+10 26.3	1.728	2.718	1.9	20.0	175 W	55	54
4 1	10 33.85	+21 21.3	1.229	2.092	18.1	20.2	140 E	66	43	3 12	11 8.74	+11 36.7	1.721	2.706	3.5	20.1	171 E	57	52
4 6	10 30.61	+21 37.2	1.248	2.072	20.3	20.3	134 E	67	42	3 17	11 3.65	+12 45.1	1.721	2.693	5.7	20.2	165 E	58	51
4 16	10 26.78	+21 46.2	1.296	2.032	24.3	20.4	124 E	67	42	3 22	10 58.72	+13 50.0	1.729	2.680	7.9	20.3	158 E	59	50
4 26	10 26.66	+21 27.6	1.354	1.992	27.4	20.6	114 E	66	43	3 27	10 54.08	+14 50.4	1.744	2.666	10.1	20.4	152 E	60	49
5 6	10 30.11	+20 45.2	1.418	1.952	29.8	20.7	106 E	66*	43	4 1	10 49.87	+15 45.4	1.766	2.653	12.2	20.5	146 E	61	48
5 16	10 36.80	+19 42.3	1.485	1.911	31.6	20.8	98 E	62*	44	4 6	10 46.16	+16 34.4	1.793	2.638	14.1	20.6	140 E	62	47
5 26	10 46.31	+18 21.8	1.550	1.871	32.8	20.9	91 E	57*	46	4 11	10 43.05	+17 17.1	1.826	2.624	15.9	20.7	134 E	62	47
6 5	10 58.21	+16 45.6	1.614	1.831	33.5	21.0	85 E	50*	47	4 16	10 40.59	+17 53.4	1.864	2.609	17.5	20.8	128 E	63	46
6 15	11 12.16	+14 55.2	1.674	1.792	33.9	21.0	79 E	44*	49*	4 21	10 38.82	+18 23.2	1.906	2.594	18.9	20.8	123 E	63	46
6 25	11 27.86	+12 51.9	1.729	1.753	33.9	21.0	74 E	38*	51*	4 26	10 37.75	+18 46.9	1.950	2.579	20.2	20.9	118 E	64	45
7 5	11 45.07	+10 37.0	1.780	1.716	33.8	21.0	70 E	33*	51*	5 1	10 37.38	+19 4.7	1.997	2.563	21.2	21.0	113 E	64	45
7 15	12 3.66	+ 8 11.5	1.826	1.679	33.4	21.0	65 E	29*	51*	5 6	10 37.70	+19 17.0	2.046	2.546	22.1	21.1	108 E	64*	45
7 25	12 23.50	+ 5 36.6	1.868	1.645	32.8	21.0	61 E	25*	50*	5 11	10 38.68	+19 24.1	2.096	2.530	22.8	21.1	103 E	64*	45
8 4	12 44.52	+ 2 54.1	1.905	1.612	32.2	21.0	58 E	22*	48*	5 16	10 40.29	+19 26.4	2.147	2.513	23.4	21.2	99 E	62*	45
8 14	13 6.74	+ 0 5.7	1.939	1.582	31.4	21.0	54 E	20*	46*	5 21	10 42.51	+19 24.3	2.198	2.496	23.8	21.2	95 E	60*	45
8 24	13 30.14	- 2 46.5	1.969	1.554	30.6	20.9	51 E	18*	44*	5 26	10 45.29	+19 18.1	2.249	2.478	24.1	21.3	91 E	57*	45
9 3	13 54.77	- 5 39.8	1.998	1.529	29.6	20.9	49 E	17*	41*	5 31	10 48.60	+19 8.2	2.299	2.460	24.3	21.3	87 E	54*	45
9 13	14 20.67	- 8 31.4	2.026	1.508	28.6	20.9	46 E	15*	39*	6 5	10 52.39	+18 54.7	2.348	2.442	24.4	21.3	83 E	51*	45
9 23	14 47.87	-11 17.5	2.053	1.491	27.5	20.9	43 E	14*	37*	6 10	10 56.65	+18 38.0	2.396	2.423	24.3	21.4	79 E	48*	45
10 3	15 16.41	-13 54.5	2.081	1.477	26.3	20.8	41 E	13*	34*	6 15	11 1.33	+18 18.3	2.442	2.404	24.2	21.4	76 E	45*	46*
10 13	15 46.28	-16 18.4	2.110	1.468	25.1	20.8	39 E	12*	32*	6 20	11 6.40	+17 55.7	2.487	2.385	24.0	21.4	72 E	42*	46*
10 23	16 17.40	-18 25.0	2.141	1.463	23.7	20.8	36 E	12*	29*	6 25	11 11.85	+17 30.5	2.529	2.365	23.7	21.4	69 E	39*	45*
11 2	16 49.62	-20 10.4	2.175	1.463	22.3	20.8	34 E	11*	27*	6 30	11 17.63	+17 2.9	2.569	2.346	23.3	21.4	66 E	36*	45*
11 12	17 22.74	-21 31.3	2.212	1.467	20.9	20.8	32 E	11*	24*	7 5	11 23.73	+16 33.0	2.607	2.325	22.9	21.4	63 E	34*	44*
11 22	17 56.43	-22 25.2	2.252	1.476	19.3	20.8	30 E	10*	22*	7 10	11 30.14	+16 0.9	2.642	2.305	22.2	21.4	60 E	31*	43*
12 2	18 30.34	-22 50.9	2.295	1.489	17.7	20.8	27 E	10*	19*	7 15	11 36.83	+15 26.8	2.675	2.284	21.9	21.4	57 E	29*	41*
12 12	19 4.12	-22 48.4	2.341	1.506	16.0	20.8	25 E	10*	16*	7 20	11 43.80	+14 50.8	2.705	2.262	21.3	21.4	54 E	28*	40*
12 22	19 37.37	-22 18.9	2.390	1.527	14.2	20.8	22 E	9*	13*	7 25	11 51.01	+14 13.0	2.732	2.241	20.7	21.4	51 E	26*	38*
1 1	20 9.82	-21 24.7	2.440	1.551	12.4	20.8	20 E	8*	11*	7 30	11 58.48	+13 33.6	2.756	2.219	20.1	21.3	49 E	24*	36*
1 11	20 41.23	-20 8.9	2.492	1.578	10.6	20.8	17 E	6*	8*	8 4	12 6.18	+12 52.6	2.777	2.197	19.4	21.3	46 E	23*	34*
1 21	21 11.45	-18 35.0	2.543	1.608	8.7	20.9	14 E	5*	6*	8 9	12 14.11	+12 10.1	2.795	2.174	18.7	21.3	43 E	22*	32*
186418 2002 RA										161291 2003 HV₂₉									
1 6	11 31.86	+ 1 25.7	2.232	2.763	19.2	21.4	113 W	46	63	1 6	11 47.45	- 3 31.8	2.536	2.976	18.4	21.4	107 W	41	68
1 16	11 31.29	+ 1 11.7	2.121	2.780	17.3	21.3	123 W	46	63	1 16	11 49.03	- 3 53.5	2.383	2.958	17.3	21.3	117 W	41	68
1 26	11 28.13	+ 1 13.4	2.022	2.795	14.7	21.1	134 W	46	63	1 26	11 48.38	- 4 0.5	2.241	2.939	15.5	21.0	127 W	41	68
2 5	11 22.44	+ 1 31.1	1.942	2.809	11.5	20.9	145 W	47	62	2 5	11 45.39	- 3 51.0	2.114	2.919	13.1	20.8	138 W	41	68
2 15	11 14.52	+ 2 3.4	1.885	2.823	7.7	20.7	157 W	47	62	2 15	11 40.08	- 3 24.0	2.006	2.898	10.1	20.6	149 W	42	67
2 25	11 5.02	+ 2 47.2	1.856	2.835	3.6	20.4	170 W	48	61	2 25	11 32.74	- 2 39.9	1.923	2.877	6.5	20.3	161 W	42	67
3 2	10 59.97	+ 3 11.8	1.852	2.841	1.6	20.3	175 W	48	61	3 7	11 23.96	- 1 41.6	1.868	2.854	2.7	20.0	172 W	43	66
3 7	10 54.87	+ 3 37.3	1.856	2.846	1.4	20.3	176 W	49	60	3 12	11 19.28	- 1 8.5	1.851	2.842	1.8	19.9	175 E	44	65
3 12	10 49.86	+ 4 2.9	1.867	2.852	3.3	20.5	170 E	49	60	3 17	11 14.57	- 0 33.9	1.842	2.830	2.9	20.0	172 E	44	65
3 17	10 45.07	+ 4 27.9	1.886	2.857	5.4	20.6	164 E	49	60	3 22	11 9.96	+ 0 1.4	1.840	2.818	4.8	20.1	166 E	45	64
3 22	10 40.62	+ 4 51.5	1.912	2.862	7.4	20.7	158 E	50	59	3 27	11 5.57	+ 0 36.5	1.846	2.806	6.8	20.2	160 E	46	63
3 27	10 36.60	+ 5 13.2	1.945	2.866	9.3	20.8	152 E	50	59	4 1	11 1.51	+ 1 10.6	1.858	2.793	8.9	20.3	154 E	46	63
4 1	10 33.10	+ 5 32.5	1.984	2.871	11.1	21.0	147 E	51	58	4 6	10 57.88	+ 1 42.8	1.877	2.781	10.8	20.4	149 E	47	62
4 6	10 30.15	+ 5 49.0	2.029	2.875	12.7	21.1	141 E	51	58										
4 11	10 27.81	+ 6 2.6	2.078	2.878	14.2	21.2	135 E	51	58										
4 16	10 26.10	+ 6 12.9	2.133	2.882	15.5	21.3	130 E	51	58										
4 21	10 25.01	+ 6 20.0	2.191	2.885	16.6	21.4	125 E	51	58										
4 26	10 24.54	+ 6 23.8	2.253	2.888	17.6	21.5	120 E	51	58										
220003 2002 PG₄₅																			
1 6	11 38.80	+ 6 53.8	2.262	2.798	18.9	21.5	113 W	52	57										
1 16	11 38.79	+ 7 5.1	2.150	2.813	17.0	21.3	123 W	52	57										
1 26	11 36.21	+ 7 31.9	2.051	2.827	14.5	21.1	134 W	53	56										
2 5	11 31.07	+ 8 12.8	1.970	2.840	11.3	20.9	146 W	53	56										
2 15	11 23.61	+ 9 4.6	1.913	2.851	7.6	20.7	158 W	54	55										
2 25	11 14.44	+10 2.1	1.883	2.862	3.6	20.5	170 W	55	54										
3 2	11 9.48	+10 31.0	1.879	2.867	1.9	20.4	174 W	56	53										
3 7	11 4.43	+10 58.8	1.883	2.872	2.0	20.4	174 E	56	53										
3 12	10 59.42	+11 24.9	1.894	2.876	3.7	20.5	169 E	56	53										
3 17	10 54.59	+11 48.5	1.913	2.881	5.6	20.7	1												

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°
161291 2003 HV₂₉										237442 1999 TA₁₀									
<i>(continuation)</i>										<i>(continuation)</i>									
4 16	10 52.20	+ 2 39.3	1.932	2.755	14.3	20.5	137 E	48	61	7 25	14 0.37	+14 45.0	0.772	1.179	58.4	20.0	81 E	48*	49*
4 26	10 48.94	+ 3 22.1	2.006	2.728	17.2	20.7	127 E	48	61	7 30	14 13.90	+14 30.7	0.780	1.170	58.8	20.0	80 E	47*	49*
5 6	10 48.23	+ 3 49.4	2.094	2.700	19.5	20.8	117 E	49	60	8 4	14 27.84	+14 10.5	0.787	1.162	59.1	20.0	79 E	47*	49*
5 16	10 50.00	+ 4 0.9	2.191	2.671	21.2	21.0	107 E	48*	60	8 14	14 57.04	+13 13.8	0.796	1.150	59.5	20.0	78 E	47*	50*
5 26	10 54.05	+ 3 57.1	2.293	2.642	22.3	21.1	99 E	45*	60	8 24	15 28.03	+11 57.0	0.801	1.143	59.6	20.0	77 E	48*	50*
6 5	11 0.12	+ 3 39.1	2.397	2.612	22.9	21.2	91 E	40*	60	9 3	16 0.87	+10 21.8	0.804	1.142	59.5	20.0	77 E	48*	51*
6 15	11 7.99	+ 3 8.1	2.500	2.581	23.0	21.2	83 E	34*	61*	9 13	16 35.71	+ 8 30.1	0.807	1.146	59.0	20.0	78 E	48*	52*
6 25	11 17.40	+ 2 25.4	2.599	2.549	22.8	21.3	76 E	28*	60*	9 18	16 53.88	+ 7 29.3	0.809	1.150	58.7	20.1	78 E	48*	52*
7 5	11 28.15	+ 1 32.3	2.692	2.517	22.2	21.3	69 E	23*	58*	9 23	17 12.53	+ 6 26.1	0.812	1.156	58.3	20.1	78 E	48*	53*
7 15	11 40.09	+ 0 29.8	2.778	2.484	21.3	21.3	63 E	19*	54*	9 28	17 31.63	+ 5 21.0	0.816	1.162	57.7	20.1	79 E	47*	54*
7 25	11 53.08	+ 0 40.8	2.856	2.450	20.3	21.3	57 E	16*	49*	10 3	17 51.15	+ 4 14.9	0.822	1.170	57.2	20.1	79 E	47*	54*
8 4	12 7.00	+ 1 58.4	2.925	2.416	19.0	21.3	51 E	13*	44*	10 8	18 11.04	+ 3 9.0	0.830	1.179	56.5	20.1	80 E	47*	55*
8 14	12 21.81	+ 3 22.0	2.984	2.381	17.6	21.3	45 E	10*	39*	10 13	18 31.25	+ 2 4.4	0.840	1.189	55.8	20.1	80 E	46*	55*
8 24	12 37.43	+ 4 50.6	3.032	2.346	16.0	21.2	40 E	8*	34*	10 18	18 51.67	+ 1 2.5	0.853	1.200	55.0	20.2	81 E	45*	56*
9 3	12 53.84	+ 6 23.0	3.070	2.310	14.3	21.2	34 E	6*	28*	10 23	19 12.21	+ 0 4.2	0.869	1.212	54.1	20.2	81 E	45*	56*
9 13	13 11.04	+ 7 58.1	3.098	2.274	12.5	21.1	29 E	4*	23*	10 28	19 32.77	+ 0 49.3	0.888	1.225	53.3	20.2	81 E	44*	57*
9 23	13 29.03	+ 9 34.7	3.114	2.237	10.6	21.0	24 E	3*	18*	11 2	19 53.25	+ 1 37.2	0.910	1.238	52.3	20.3	81 E	44*	57*
10 3	13 47.82	+ 11 11.5	3.120	2.201	8.7	20.9	19 E	1*	13*	11 12	20 33.63	+ 2 52.7	0.964	1.268	50.4	20.4	81 E	42	57*
10 13	14 7.43	+ 12 47.2	3.116	2.164	6.6	20.7	14 E	—	8*	11 22	21 12.64	+ 3 38.9	1.031	1.299	48.5	20.6	80 E	41	56*
10 23	14 27.89	+ 14 20.3	3.101	2.127	4.6	20.6	10 E	—	4*	12 2	21 49.81	+ 3 56.1	1.110	1.332	46.5	20.7	79 E	41	54*
11 2	14 49.23	+ 15 49.1	3.077	2.091	2.5	20.4	5 E	—	—	12 12	22 24.98	+ 3 46.7	1.198	1.366	44.6	20.9	77 E	41	52*
11 12	15 11.48	+ 17 11.9	3.044	2.054	0.4	20.2	1 E	—	—	12 22	22 58.11	+ 3 15.0	1.295	1.401	42.6	21.0	74 E	42	49*
11 22	15 34.62	+ 18 26.9	3.002	2.018	1.9	20.2	4 W	—	—	1 1	23 29.34	+ 2 25.6	1.398	1.436	40.6	21.2	72 E	42*	46*
12 2	15 58.67	+ 19 32.3	2.953	1.982	4.1	20.3	8 W	1*	—	1 11	23 58.93	+ 1 22.8	1.506	1.471	38.6	21.4	69 E	43*	43*
12 12	16 23.60	+ 20 26.0	2.897	1.947	6.2	20.3	12 W	4*	3*	188236 2002 VY									
12 22	16 49.34	+ 21 6.2	2.836	1.913	8.4	20.4	17 W	6*	7*	1 6	12 7.90	+10 44.2	2.336	2.798	19.6	21.5	108 W	56	53*
1 1	17 15.83	+ 21 31.0	2.769	1.880	10.6	20.4	21 W	8*	12*	1 16	12 10.78	+11 9.2	2.199	2.790	18.3	21.3	117 W	56	53
1 11	17 42.94	+ 21 39.0	2.698	1.848	12.7	20.3	24 W	9*	16*	1 26	12 11.24	+11 50.6	2.073	2.781	16.4	21.1	127 W	57	52
1 21	18 10.53	+ 21 28.9	2.624	1.818	14.8	20.3	28 W	11*	20*	2 5	12 9.09	+12 47.3	1.962	2.771	13.9	20.9	138 W	58	51
438530 2007 TV₆₅										2 15	12 4.25	+13 56.1	1.871	2.761	10.8	20.6	148 W	59	50
1 6	12 0.59	+ 8 53.4	2.136	2.527	22.4	21.4	102 W	36	73*	2 25	11 56.94	+15 11.2	1.804	2.749	7.6	20.4	158 W	60	49
1 16	12 1.87	+ 9 38.2	2.052	2.577	20.8	21.3	111 W	35	74	3 2	11 52.52	+15 48.7	1.781	2.743	6.2	20.3	163 W	61	48
1 26	12 0.42	+ 10 5.3	1.975	2.626	18.7	21.2	121 W	35	74	3 7	11 47.71	+16 24.7	1.764	2.737	5.2	20.2	166 W	61	48
2 5	11 56.27	+ 10 12.6	1.911	2.674	15.9	21.1	132 W	35	74	3 12	11 42.64	+16 58.3	1.755	2.730	5.1	20.2	166 W	62	47
2 15	11 49.61	+ 9 58.6	1.864	2.721	12.5	21.0	143 W	35	74	3 17	11 37.44	+17 28.3	1.753	2.723	5.8	20.3	164 E	62	47
2 25	11 40.99	+ 9 23.6	1.839	2.767	8.8	20.8	155 W	36	73	3 22	11 32.27	+17 54.0	1.759	2.716	7.2	20.3	160 E	63	46
3 7	11 31.26	+ 8 30.7	1.841	2.812	5.2	20.7	165 W	36	73	3 27	11 27.27	+18 14.5	1.771	2.709	8.9	20.4	155 E	63	46
3 17	11 21.40	+ 7 25.2	1.873	2.856	3.8	20.7	169 E	38	71	4 1	11 22.57	+18 29.6	1.789	2.701	10.7	20.5	150 E	63	46
3 27	11 12.44	+ 6 14.2	1.933	2.899	6.1	20.9	162 E	39	70	4 6	11 18.28	+18 39.0	1.814	2.693	12.4	20.6	145 E	64	45
4 6	11 5.16	+ 5 5.2	2.022	2.941	9.3	21.2	152 E	40	69	4 11	11 14.49	+18 42.7	1.844	2.685	14.1	20.7	139 E	64	45
4 16	11 0.04	+ 4 3.9	2.136	2.982	12.3	21.5	141 E	41	68	4 16	11 11.30	+18 40.9	1.879	2.677	15.6	20.8	134 E	64	45
237442 1999 TA₁₀										4 21	11 8.75	+18 33.6	1.919	2.669	17.0	20.8	129 E	64	45
1 6	12 4.18	+ 25 28.8	1.409	1.769	33.7	21.5	94 W	20	87*	4 26	11 6.86	+18 21.4	1.962	2.660	18.3	20.9	124 E	63	46
1 11	12 10.30	+ 26 37.4	1.350	1.758	33.8	21.4	97 W	18	89	5 1	11 5.65	+18 4.7	2.009	2.651	19.4	21.0	119 E	63	46
1 16	12 16.00	+ 27 43.5	1.290	1.748	33.7	21.3	100 W	17	88	5 6	11 5.11	+17 43.7	2.058	2.642	20.3	21.1	115 E	63	46
1 21	12 21.23	+ 28 46.4	1.231	1.737	33.6	21.2	103 W	16	87	5 11	11 5.21	+17 19.0	2.109	2.633	21.1	21.2	110 E	62	47
1 26	12 25.94	+ 29 45.5	1.172	1.725	33.3	21.0	106 W	15	86	5 16	11 5.95	+16 50.7	2.162	2.623	21.8	21.2	106 E	61*	47
1 31	12 30.05	+ 30 40.2	1.114	1.713	32.9	20.9	109 W	14	85	5 21	11 7.29	+16 19.4	2.217	2.613	22.3	21.3	101 E	59*	48
2 5	12 33.48	+ 31 29.5	1.057	1.701	32.3	20.7	113 W	14	85	5 26	11 9.19	+15 45.2	2.272	2.603	22.7	21.3	97 E	57*	48
2 10	12 36.14	+ 32 12.4	1.001	1.688	31.6	20.6	116 W	13	84	5 31	11 11.61	+15 8.4	2.327	2.593	23.0	21.4	93 E	54*	49
2 15	12 37.94	+ 32 47.4	0.946	1.674	30.7	20.4	120 W	12	83	6 5	11 14.52	+14 29.4	2.382	2.582	23.1	21.4	90 E	51*	50
2 20	12 38.80	+ 33 13.0	0.893	1.661	29.7	20.2	124 W	12	83	6 10	11 17.88	+13 48.2	2.437	2.572	23.2	21.5	86 E	47*	50
2 25	12 38.65	+ 33 27.3	0.842	1.647	28.3	20.1	128 W	12	83	124329 2001 QU₉₈									
3 2	12 37.42	+ 33 28.2	0.793	1.632	26.8	19.9	132 W	12	83	1 6	12 8.31	+ 1 10.7	2.584	2.968	18.8	21.4	103 W	44	65*
3 7	12 35.10	+ 33 13.2	0.747	1.617	25.0	19.7	136 W	12	83	1 16	12 10.58	+ 1 11.8	2.452	2.976	17.7	21.2	113 W	44	65
3 12	12 31.67	+ 32 39.4	0.703	1.602	23.0	19.5	141 W	12	83	1 26	12 10.65	+ 0 57.0	2.329	2.983	16.0	21.1	123 W	44	65
3 17	12 27.24	+ 31 43.9	0.664	1.587	20.8	19.2	145 W	13	84	2 5	12 8.41	+ 0 25.7	2.219	2.990	13.7	20.9	134 W	45	64
3 22	12 21.98	+ 30 24.4	0.628	1.571	18.6	19.0	150 W	15	86	2 15	12 3.86	+ 0 21.8	2.128	2.995	10.8	20.7	145 W	45	64
3 27	12 16.13	+ 28 39.0	0.596	1.555	16.5	18.8	154 E	16	87	2 25	11 57.26	+ 1 23.6	2.061	2.999	7.3	20.5	157 W	46	63
4 1	12 9.99	+ 26 27.3	0.569	1.538	14.9	18.6	157 E	19	90	3 7	11 49.13	+ 2 35.2	2.021	3.003	3.0	20.2	170 W	48	61
4 6	12 3.90	+ 23 50.3	0.547	1.522	14.3	18.5	158 E	21	88	3 12	11 44.71	+ 3 13.0	2.012	3.004	1.4	20.1	176 W	48	61
4 11	11 58.20	+ 20 51.0	0.531	1.505	15.1	18.4	157 E	24	85	3 17	11 40.21	+ 3 51.0	2.011	3.005	0.9	20.1	177 E	49	

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°	
231937 2001 FO₃₂									463666 2014 LH₂₆									
1 6	12 12.26	-23 18.8	1.593	1.915	30.9	21.4	93 W	22 84*	1 6	12 19.13	-10 10.7	1.254	1.686	35.4	21.5	97 W	35 73*	
1 16	12 22.29	-24 56.3	1.370	1.816	32.3	21.0	100 W	20 89	1 11	12 27.36	-9 59.4	1.200	1.683	35.1	21.4	100 W	35 74*	
1 26	12 31.64	-26 32.4	1.147	1.711	33.5	20.6	107 W	18 89	1 16	12 35.24	-9 38.6	1.146	1.680	34.7	21.3	104 W	35 74	
2 5	12 40.23	-28 6.0	0.926	1.599	34.4	20.0	113 W	17 88	1 21	12 42.70	-9 7.5	1.094	1.677	34.1	21.1	107 W	36 73	
2 15	12 48.00	-29 36.0	0.710	1.480	35.2	19.3	120 W	15 86	1 26	12 49.70	-8 24.7	1.043	1.674	33.2	21.0	111 W	37 72	
2 25	12 55.17	-31 1.3	0.499	1.351	35.7	18.3	127 W	14 85	1 31	12 56.17	-7 29.3	0.994	1.671	32.2	20.9	115 W	38 71	
3 2	12 58.91	-31 43.4	0.396	1.284	36.0	17.7	130 W	13 84	2 5	13 2.05	-6 20.1	0.947	1.669	31.0	20.7	119 W	39 70	
3 7	13 3.39	-32 28.5	0.294	1.213	36.4	16.9	133 W	13 84	2 10	13 7.25	-4 56.0	0.902	1.667	29.5	20.6	124 W	40 69	
3 12	13 10.40	-33 26.3	0.193	1.140	37.3	15.9	136 W	12 83	2 15	13 11.70	-3 16.0	0.860	1.664	27.7	20.4	128 W	42 67	
3 17	13 29.82	-35 28.4	0.094	1.064	40.6	14.3	136 W	10 81	2 25	13 18.06	+0 52.6	0.788	1.661	23.5	20.1	138 W	46 63	
3 18	13 39.94	-36 22.1	0.074	1.049	42.4	13.8	135 W	9 80	3 7	13 20.69	+6 0.7	0.733	1.658	18.8	19.8	147 W	51 58	
3 19	13 57.73	-37 45.0	0.055	1.033	45.6	13.2	132 W	7 78	3 17	13 19.46	+11 48.2	0.701	1.656	14.9	19.6	155 W	57 52	
3 20	14 36.51	-40 1.7	0.036	1.017	52.5	12.4	126 W	5 76	3 22	13 17.53	+14 45.3	0.693	1.655	13.9	19.5	156 W	60 49	
3 21	16 39.96	-41 28.2	0.019	1.001	73.8	11.7	105 W	4 75	3 27	13 14.90	+17 37.1	0.692	1.655	14.1	19.5	156 W	63 46	
3 22	21 24.08	-7 49.2	0.015	0.985	138.5	15.2	41 W	15* 34*	4 1	13 11.76	+20 18.3	0.697	1.654	15.3	19.6	154 W	65 44	
3 23	23 16.54	+16 32.0	0.030	0.969	159.2	20.7	20 W	14* —	4 6	13 8.30	+22 44.4	0.707	1.654	17.1	19.6	151 W	68 41	
3 24	23 52.86	+23 6.0	0.048	0.952	156.6	20.9	22 W	13* —	4 11	13 4.76	+24 51.8	0.722	1.654	19.4	19.8	147 E	70 39	
3 25	0 9.80	+25 47.4	0.068	0.936	154.2	21.0	24 W	12* —	4 16	13 1.39	+26 38.3	0.742	1.655	21.7	19.9	142 E	72 37	
3 26	0 19.49	+27 12.4	0.087	0.919	152.6	21.2	25 E	12* —	4 21	12 58.42	+28 3.2	0.766	1.655	24.0	20.0	138 E	73 36	
3 27	0 25.73	+28 3.6	0.107	0.902	151.5	21.3	26 E	13* —	4 26	12 56.04	+29 7.0	0.794	1.656	26.1	20.2	134 E	74 35	
31346 1998 PB₁									18499 Showalter									
1 6	12 16.62	-6 57.1	1.895	2.267	25.4	21.4	99 W	38 70*	1 6	12 24.67	+0 10.1	2.806	3.130	18.0	21.5	100 W	45 63*	
1 16	12 23.79	-8 23.1	1.726	2.222	25.1	21.2	107 W	37 72	1 16	12 27.88	+0 5.8	2.648	3.116	17.3	21.3	109 W	45 64	
1 26	12 28.95	-9 42.0	1.563	2.175	24.2	20.9	115 W	35 74	1 26	12 29.11	+0 15.5	2.497	3.100	16.1	21.1	119 W	45 64	
2 5	12 31.63	-10 51.7	1.409	2.126	22.5	20.6	124 W	34 75	2 5	12 28.17	+0 40.0	2.358	3.084	14.2	20.9	130 W	46 63	
2 15	12 31.26	-11 48.7	1.266	2.076	20.1	20.2	134 W	33 76	2 15	12 24.95	+1 19.6	2.236	3.066	11.7	20.7	141 W	46 63	
2 25	12 27.36	-12 28.9	1.138	2.025	16.6	19.8	144 W	33 76	2 25	12 19.52	+2 12.9	2.136	3.048	8.6	20.5	152 W	47 62	
3 7	12 19.66	-12 47.5	1.028	1.972	12.3	19.4	155 W	32 77	3 7	12 12.19	+3 16.5	2.061	3.029	5.1	20.2	164 W	48 61	
3 17	12 8.35	-12 39.6	0.940	1.918	7.8	18.9	165 W	32 77	3 12	12 7.97	+3 50.8	2.035	3.018	3.3	20.1	170 W	49 60	
3 27	11 54.46	-12 3.5	0.876	1.863	6.3	18.6	168 E	33 76	3 17	12 3.50	+4 25.8	2.016	3.008	1.7	19.9	175 W	49 60	
4 1	11 47.09	-11 35.8	0.852	1.835	8.2	18.6	165 E	33 76	3 22	11 58.90	+5 0.5	2.005	2.998	1.9	19.9	174 E	50 59	
4 6	11 39.78	-11 3.0	0.835	1.807	11.0	18.7	160 E	34 75	3 27	11 54.28	+5 34.1	2.001	2.987	3.6	20.0	169 E	51 58	
4 11	11 32.83	-10 26.4	0.823	1.779	14.3	18.7	154 E	35 74	4 1	11 49.76	+6 5.9	2.004	2.976	5.5	20.1	163 E	51 58	
4 16	11 26.50	-9 48.0	0.816	1.751	17.6	18.8	148 E	35 74	4 6	11 45.44	+6 35.1	2.015	2.964	7.4	20.2	157 E	52 57	
4 21	11 21.03	-9 9.6	0.814	1.722	21.0	18.9	142 E	36 73	4 16	11 37.80	+7 23.8	2.057	2.941	11.1	20.4	146 E	52 57	
4 26	11 16.61	-8 33.0	0.816	1.693	24.2	18.9	136 E	36 73	4 26	11 32.03	+7 56.6	2.121	2.917	14.2	20.6	135 E	53 56	
5 1	11 13.32	-7 59.5	0.821	1.665	27.3	19.0	131 E	37 72	5 6	11 28.47	+8 12.7	2.204	2.891	16.8	20.7	124 E	53 56	
5 6	11 11.26	-7 30.4	0.829	1.636	30.1	19.1	125 E	37 72	5 16	11 27.27	+8 12.2	2.299	2.865	18.8	20.9	114 E	53* 56	
5 11	11 10.44	-7 6.6	0.839	1.607	32.8	19.1	121 E	38 71	5 26	11 28.37	+7 56.3	2.403	2.838	20.2	21.0	105 E	51* 56	
5 16	11 10.88	-6 48.8	0.849	1.578	35.2	19.2	116 E	38* 71	6 5	11 31.59	+7 26.8	2.512	2.810	21.0	21.1	96 E	47* 57	
5 26	11 15.35	-6 32.5	0.873	1.522	39.5	19.3	107 E	36* 71	6 15	11 36.72	+6 45.3	2.621	2.780	21.4	21.2	88 E	41* 57	
6 5	11 24.25	-6 42.0	0.896	1.466	43.0	19.4	100 E	33* 71	6 25	11 43.55	+5 53.2	2.728	2.750	21.4	21.2	81 E	35* 58*	
6 15	11 37.16	-7 16.3	0.916	1.412	45.9	19.4	94 E	29* 71	7 5	11 51.86	+4 52.0	2.831	2.719	21.0	21.3	73 E	30* 57*	
6 25	11 53.73	-8 13.5	0.932	1.361	48.3	19.4	88 E	25* 72*	7 15	12 1.46	+3 43.0	2.927	2.687	20.3	21.3	66 E	25* 55*	
7 5	12 13.66	-9 30.4	0.943	1.313	50.4	19.4	84 E	21* 73*	7 25	12 12.20	+2 27.1	3.014	2.654	19.3	21.3	60 E	21* 51*	
7 15	12 36.86	-11 3.8	0.948	1.270	52.1	19.4	80 E	19* 72*	8 4	12 23.96	+1 5.5	3.093	2.621	18.2	21.3	54 E	18* 46*	
7 25	13 3.27	-12 49.5	0.949	1.232	53.6	19.4	78 E	17* 70*	8 14	12 36.64	+0 20.9	3.160	2.586	16.8	21.3	47 E	15* 40*	
8 4	13 32.92	-14 42.1	0.947	1.201	54.9	19.4	75 E	16* 69*	8 24	12 50.17	+1 51.3	3.217	2.551	15.3	21.2	42 E	12* 35*	
8 14	14 5.88	-16 35.2	0.943	1.177	55.8	19.4	74 E	15* 68*	9 3	13 4.50	+3 24.6	3.262	2.514	13.6	21.2	36 E	10* 29*	
8 19	14 23.62	-17 29.4	0.941	1.169	56.1	19.3	73 E	16* 67*	9 13	13 19.60	+5 0.2	3.294	2.477	11.8	21.1	30 E	8* 24*	
8 24	14 42.16	-18 20.7	0.940	1.162	56.3	19.3	73 E	16* 67*	9 23	13 35.44	+6 36.9	3.314	2.440	9.9	21.0	25 E	6* 18*	
8 29	15 1.48	-19 7.6	0.940	1.158	56.4	19.3	73 E	16* 67*	10 3	13 52.03	+8 13.8	3.322	2.401	8.0	20.9	19 E	4* 13*	
9 3	15 21.56	-19 49.2	0.941	1.157	56.4	19.3	73 E	17* 67*	10 13	14 9.38	+9 49.9	3.316	2.362	6.0	20.7	14 E	2* 8*	
9 8	15 42.32	-20 24.2	0.943	1.158	56.2	19.3	73 E	17* 67*	10 23	14 27.48	-11 24.2	3.299	2.323	3.9	20.6	9 E	— 2*	
9 13	16 3.69	-20 51.5	0.947	1.161	55.9	19.3	73 E	18* 67*	11 2	14 46.36	-12 55.4	3.270	2.282	2.0	20.4	5 E	— —	
9 18	16 25.55	-21 10.1	0.953	1.166	55.5	19.3	73 E	19* 67*	11 12	15 6.04	-14 22.3	3.229	2.242	1.4	20.3	3 W	— —	
9 23	16 47.76	-21 19.2	0.962	1.174	55.0	19.4	73 E	19* 67*	11 22	15 26.51	-15 43.6	3.178	2.201	3.1	20.3	7 W	1* —	
9 28	17 10.19	-21 18.2	0.974	1.184	54.3	19.4	74 E	20* 67*	12 2	15 47.81	-16 57.9	3.116	2.159	5.3	20.4	12 W	5* 1*	
10 3	17 32.69	-21 7.0	0.988	1.196	53.5	19.4	74 E	21* 67*	12 12	16 9.92	-18 3.9	3.045	2.118	7.5	20.4	16 W	8* 5*	
10 8	17 55.11	-20 45.6	1.006	1.210	52.6	19.5	74 E	22* 67*	12 22	16 32.84	-19 0.1	2.966	2.076	9.7	20.4	21 W	10* 10*	
10 13	18 17.31	-20 14.4	1.027	1.226	51.7	19.5	75 E	23* 67*	1 1	16 56.53	-19 45.0	2.880	2.035	11.9	20.4	25 W	12* 15*	
10 18	18 39.15	-19 33.9	1.051	1.244	50.6	19.6	75 E	25* 67*	1 11	17 20.96	-20 17.3	2.787	1.994	14.1	20.3	30 W	13* 20*	
10 23	19 0.52	-18 45.1	1.079	1.263	49.5	19.6	75 E	26* 66*	1 21	17 46.06	-20 35.8	2.690	1.953	16.4	20.3	34 W	14* 25*	
10 28	19 21.31	-17 48.9	1.111	1.283	48.4	19.7	75 E	27* 65*										
11 2	19 41.49	-16 46.3	1.146	1.305	47.2	19.8	75 E	28* 64*				</						

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°
150340 1999 XH₃₁									179587 2002 LS₂ (continuation)								
1 6	12 25.29	-7 10.3	2.580	2.870	19.9	21.4	97 W	38 69*	3 17	12 41.47	-15 46.2	1.115	2.071	10.3	19.4	158 W	29 80
1 16	12 28.39	-7 43.8	2.451	2.884	19.1	21.3	106 W	37 72	3 27	12 32.25	-14 39.4	1.048	2.034	6.0	19.0	168 W	30 79
1 26	12 29.28	-8 3.6	2.327	2.897	17.8	21.2	116 W	37 72	4 1	12 27.13	-13 55.1	1.023	2.015	5.0	18.9	170 E	31 78
2 5	12 27.80	-8 8.0	2.213	2.909	15.8	21.0	126 W	37 72	4 6	12 21.91	-13 4.9	1.005	1.996	5.7	18.9	169 E	32 77
2 15	12 23.87	-7 55.4	2.115	2.919	13.2	20.8	137 W	37 72	4 11	12 16.81	-12 10.1	0.993	1.976	7.8	18.9	164 E	33 76
2 25	12 17.65	-7 25.5	2.036	2.929	10.0	20.6	149 W	38 71	4 16	12 12.04	-11 12.6	0.986	1.957	10.4	19.0	159 E	34 75
3 7	12 9.55	-6 39.6	1.982	2.938	6.4	20.4	161 W	38 71	4 21	12 7.81	-10 14.2	0.986	1.938	13.3	19.1	154 E	35 74
3 17	12 0.28	-5 40.7	1.956	2.945	2.7	20.2	172 W	39 70	4 26	12 4.27	-9 16.9	0.990	1.919	16.1	19.2	148 E	36 73
3 22	11 55.48	-5 8.0	1.955	2.948	1.7	20.1	175 E	40 69	5 1	12 1.55	-8 22.4	0.999	1.900	18.8	19.3	142 E	37 72
3 27	11 50.74	-4 34.3	1.961	2.952	2.8	20.2	172 E	40 69	5 6	11 59.74	-7 32.1	1.013	1.881	21.4	19.3	137 E	37 72
4 1	11 46.16	-4 0.5	1.974	2.954	4.6	20.3	166 E	41 68	5 11	11 58.88	-6 47.0	1.030	1.862	23.8	19.4	132 E	38 71
4 6	11 41.87	-3 27.2	1.995	2.957	6.5	20.4	160 E	42 67	5 16	11 59.01	-6 8.1	1.050	1.844	26.0	19.5	127 E	39 70
4 11	11 37.94	-2 55.2	2.023	2.959	8.3	20.6	155 E	42 67	5 26	12 2.17	-5 10.6	1.097	1.807	29.7	19.7	118 E	40* 69
4 16	11 34.47	-2 25.3	2.057	2.961	10.1	20.7	149 E	43 66	6 5	12 8.94	-4 40.4	1.150	1.771	32.7	19.8	110 E	40* 69
4 21	11 31.51	-1 58.1	2.097	2.963	11.7	20.8	143 E	43 66	6 15	12 18.96	-4 36.2	1.207	1.736	34.9	19.9	102 E	36* 69
4 26	11 29.10	-1 33.9	2.143	2.965	13.2	20.9	138 E	43 66	6 25	12 31.83	-4 55.5	1.265	1.702	36.5	20.0	96 E	32* 69
5 1	11 27.27	-1 13.1	2.193	2.966	14.6	21.0	132 E	44 65	7 5	12 47.17	-5 34.6	1.322	1.670	37.5	20.1	90 E	29* 70
5 6	11 26.01	-0 55.9	2.248	2.967	15.7	21.1	127 E	44 65	7 15	13 4.69	-6 30.3	1.379	1.639	38.1	20.2	85 E	26* 70*
5 11	11 25.34	-0 42.4	2.306	2.967	16.8	21.2	122 E	44 65	7 25	13 24.18	-7 39.2	1.433	1.611	38.4	20.3	80 E	23* 69*
5 16	11 25.24	-0 32.5	2.368	2.968	17.7	21.3	117 E	44* 65	8 4	13 45.42	-8 57.5	1.486	1.586	38.4	20.3	76 E	22* 67*
5 21	11 25.70	-0 26.4	2.431	2.968	18.4	21.3	112 E	44* 64	8 14	14 8.32	-10 21.9	1.537	1.563	38.1	20.3	72 E	21* 65*
5 26	11 26.67	-0 23.8	2.497	2.968	19.0	21.4	108 E	43* 64	8 24	14 32.77	-11 48.8	1.586	1.543	37.7	20.4	69 E	20* 62*
5 31	11 28.14	-0 24.7	2.565	2.967	19.4	21.5	103 E	41* 64	9 3	14 58.66	-13 14.2	1.635	1.527	37.0	20.4	66 E	20* 59*
387848 2004 OR₁₀									9 13	15 25.92	-14 34.6	1.683	1.515	36.2	20.4	63 E	19* 56*
1 6	12 29.59	+2 49.2	2.325	2.676	21.2	21.4	100 W	48 60*	9 23	15 54.42	-15 46.3	1.731	1.506	35.3	20.4	60 E	19* 53*
1 16	12 32.87	+1 47.1	2.158	2.645	20.6	21.2	109 W	47 62	10 3	16 24.01	-16 45.5	1.781	1.501	34.2	20.5	57 E	19* 50*
1 26	12 33.77	+0 52.2	1.997	2.614	19.3	21.0	118 W	46 63	10 13	16 54.52	-17 29.2	1.833	1.501	33.0	20.5	55 E	20* 48*
2 5	12 31.89	+0 4.9	1.847	2.581	17.3	20.7	129 W	45 64	10 23	17 25.69	-17 54.7	1.886	1.504	31.6	20.5	52 E	20* 45*
2 15	12 26.89	+0 34.5	1.713	2.548	14.5	20.4	140 W	44 65	11 2	17 57.26	-18 0.1	1.943	1.512	30.2	20.5	50 E	21* 41*
2 25	12 18.64	-1 5.8	1.599	2.514	10.8	20.1	152 W	44 65	11 12	18 28.96	-17 44.4	2.003	1.523	28.7	20.6	48 E	21* 38*
3 7	12 7.39	-1 30.0	1.510	2.479	6.3	19.8	164 W	43 66	11 22	19 0.49	-17 7.4	2.066	1.538	27.1	20.6	45 E	22* 34*
3 17	11 53.86	-1 48.4	1.449	2.443	1.5	19.3	176 W	43 66	12 2	19 31.59	-16 10.2	2.132	1.557	25.4	20.7	43 E	23* 30*
3 27	11 39.33	-2 3.7	1.419	2.406	4.5	19.5	169 E	43 66	12 12	20 2.06	-14 54.2	2.201	1.579	23.6	20.7	40 E	23* 26*
4 6	11 25.32	-2 19.4	1.419	2.369	9.8	19.7	156 E	43 66	12 22	20 31.73	-13 21.7	2.273	1.604	21.8	20.8	37 E	23* 22*
4 16	11 13.25	-2 39.0	1.445	2.331	14.7	19.9	144 E	42 67	1 1	21 0.51	-11 35.2	2.346	1.631	19.9	20.8	34 E	23* 18*
4 26	11 4.18	-3 5.9	1.492	2.292	19.0	20.0	132 E	42 67	1 11	21 28.35	-9 37.3	2.421	1.661	17.9	20.9	31 E	21* 14*
5 6	10 58.55	-3 42.3	1.556	2.252	22.5	20.2	121 E	41 68	1 21	21 55.24	-7 31.0	2.496	1.692	15.9	20.9	28 E	20* 11*
5 16	10 56.43	-4 29.4	1.630	2.212	25.1	20.3	112 E	40* 68	13553 Masaakikoyama								
5 26	10 57.60	-5 27.9	1.709	2.172	27.1	20.5	103 E	36* 69	1 6	12 35.03	-6 50.3	2.286	2.563	22.5	21.3	95 W	38 68*
6 5	11 1.70	-6 38.0	1.791	2.131	28.3	20.6	95 E	31* 71	1 16	12 41.97	-7 32.1	2.107	2.520	22.3	21.1	103 W	37 72*
6 15	11 8.39	-7 59.4	1.871	2.090	29.1	20.6	88 E	25* 72*	1 26	12 47.12	-8 1.1	1.932	2.475	21.6	20.8	112 W	37 72
6 25	11 17.36	-9 32.0	1.947	2.048	29.3	20.7	81 E	19* 71*	2 5	12 50.13	-8 14.6	1.765	2.428	20.3	20.6	121 W	37 72
7 5	11 28.32	-11 15.0	2.017	2.007	29.3	20.7	75 E	14* 68*	2 15	12 50.56	-8 9.3	1.609	2.380	18.1	20.3	131 W	37 72
7 15	11 41.12	-13 8.0	2.082	1.966	28.9	20.7	69 E	9* 63*	2 25	12 48.08	-7 41.9	1.468	2.331	15.1	19.9	142 W	37 72
7 25	11 55.62	-15 10.3	2.138	1.925	28.3	20.7	64 E	5* 58*	3 7	12 42.50	-6 50.2	1.347	2.280	11.1	19.5	154 W	38 71
8 4	12 11.75	-17 20.7	2.187	1.884	27.6	20.7	59 E	2* 53*	3 17	12 33.96	-5 33.5	1.249	2.228	6.1	19.1	166 W	39 70
8 14	12 29.53	-19 38.2	2.228	1.844	26.7	20.7	55 E	- 47*	3 22	12 28.77	-4 46.7	1.209	2.201	3.3	18.9	173 W	40 69
8 24	12 48.98	-22 1.3	2.262	1.805	25.8	20.6	51 E	- 43*	3 27	12 23.14	-3 55.5	1.176	2.174	0.7	18.6	179 W	41 68
9 3	13 10.22	-24 27.8	2.289	1.768	24.8	20.6	47 E	- 39*	4 1	12 17.24	-3 1.0	1.150	2.147	2.8	18.7	174 E	42 67
9 13	13 33.38	-26 55.4	2.309	1.731	23.8	20.5	44 E	- 35*	4 6	12 11.25	-2 4.7	1.131	2.119	6.0	18.8	167 E	43 66
9 23	13 58.63	-29 20.7	2.324	1.697	22.8	20.5	41 E	- 31*	4 11	12 5.38	-1 8.3	1.119	2.091	9.1	18.9	161 E	44 65
10 3	14 26.12	-31 39.7	2.334	1.664	21.7	20.4	38 E	- 29*	4 16	11 59.82	-0 13.3	1.113	2.063	12.3	18.9	154 E	45 64
10 13	14 56.02	-33 47.4	2.341	1.634	20.7	20.3	35 E	- 26*	4 21	11 54.78	+0 38.5	1.113	2.034	15.3	19.0	148 E	46 63
10 23	15 28.37	-35 38.1	2.347	1.607	19.7	20.3	33 E	- 24*	4 26	11 50.41	+1 25.8	1.117	2.005	18.2	19.1	142 E	46 63
11 2	16 3.08	-37 5.5	2.352	1.583	18.7	20.2	31 E	- 22*	5 1	11 46.83	+2 7.7	1.127	1.976	20.9	19.2	136 E	47 62
11 7	16 21.24	-37 38.5	2.354	1.572	18.2	20.2	30 E	- 22*	5 6	11 44.11	+2 43.2	1.140	1.947	23.4	19.2	130 E	48 61
11 12	16 39.86	-38 3.3	2.357	1.562	17.7	20.2	29 E	- 21*	5 16	11 41.53	+3 33.9	1.174	1.888	27.9	19.4	119 E	49 60
11 17	16 58.86	-38 19.3	2.360	1.553	17.1	20.1	28 E	- 20*	5 26	11 42.79	+3 56.7	1.216	1.827	31.4	19.5	110 E	48* 60
11 22	17 18.16	-38 25.9	2.364	1.545	16.6	20.1	27 E	- 19*	6 5	11 47.68	+3 52.9	1.260	1.767	34.3	19.6	101 E	45* 60
11 27	17 37.64	-38 22.8	2.369	1.537	16.0	20.1	25 E	- 18*	6 15	11 55.91	+3 24.9	1.304	1.706	36.5	19.6	94 E	41* 61
12 2	17 57.22	-38 9.6	2.374	1.531	15.4	20.1	24 E	- 18*	6 25	12 7.16	+2 35.0	1.343	1.645	38.1	19.7	87 E	36* 61
12 7	18 16.77	-37 46.2	2.380	1.526	14.8	20.0	23 E	- 17*	7 5	12 21.11	+1 26.0	1.378	1.585	39.4	19.7	81 E	32* 62*
12 12	18 36.19	-37 12.8	2.387	1.522	14.2	20.0	22 E	- 16*	7 15	12 37.56	-0 0.2	1.405	1.525	40.3	19.6	76 E	28* 62*
12 17	18 55.38	-36 29.6	2.394	1.519	13.6	20.0	21 E	- 15*	7 25	12 56.38	-1 41.3	1.426	1.468	41.1	19.6	72 E	25* 61*
12 22	19 14.23	-35 37.0	2.403	1.518	12.9	20.0	20 E	- 14*	8 4	1							

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°
13553 Masaakikoyama (continuation)										5189 1990 UQ (continuation)									
11 2	18 16.40	-19 21.7	1.441	1.183	43.1	19.2	54 E	21*	46*	6 11	2 7.03	+19 42.1	0.300	0.827	121.3	19.7	44 W	22*	31*
11 12	18 59.09	-19 10.8	1.466	1.202	42.1	19.3	55 E	22*	45*	6 13	2 12.07	+19 16.7	0.317	0.822	119.3	19.7	45 W	22*	32*
11 22	19 41.45	-18 20.9	1.504	1.229	40.8	19.3	54 E	24*	44*	6 15	2 17.04	+18 55.2	0.335	0.818	117.2	19.6	46 W	22*	33*
11 27	20 2.24	-17 42.3	1.528	1.246	40.1	19.4	54 E	25*	43*	6 20	2 29.39	+18 16.2	0.381	0.811	111.8	19.5	48 W	23*	35*
12 2	20 22.65	-16 55.4	1.555	1.265	39.3	19.4	54 E	26*	42*	6 25	2 41.79	+17 53.8	0.427	0.810	106.4	19.5	50 W	24*	36*
12 7	20 42.61	-16 1.1	1.586	1.285	38.4	19.5	54 E	27*	41*	6 30	2 54.38	+17 43.7	0.473	0.814	101.0	19.4	52 W	26*	37*
12 12	21 2.06	-15 0.3	1.620	1.307	37.4	19.5	54 E	28*	40*	7 5	3 7.13	+17 42.4	0.518	0.823	95.9	19.4	54 W	28*	38*
12 17	21 20.97	-13 54.0	1.658	1.330	36.4	19.6	53 E	29*	38*	7 10	3 19.99	+17 46.7	0.561	0.837	91.1	19.4	55 W	30*	39*
12 22	21 39.31	-12 43.2	1.698	1.354	35.4	19.7	53 E	30*	37*	7 15	3 32.84	+17 54.5	0.602	0.856	86.5	19.4	57 W	32*	40*
12 27	21 57.08	-11 28.8	1.741	1.380	34.3	19.7	52 E	31*	35*	7 20	3 45.58	+18 3.7	0.640	0.879	82.4	19.4	59 W	34*	40*
1	22 14.28	-10 11.6	1.787	1.406	33.2	19.8	52 E	31*	34*	7 25	3 58.12	+18 13.1	0.675	0.905	78.5	19.5	61 W	36*	41*
1	22 30.93	-8 52.6	1.836	1.433	32.1	19.9	51 E	32*	32*	8 4	4 22.25	+18 28.4	0.734	0.966	71.8	19.6	65 W	41*	42*
1	22 47.05	-7 32.3	1.886	1.461	31.0	19.9	50 E	32*	31*	8 14	4 44.48	+18 35.4	0.778	1.034	66.2	19.7	69 W	46*	42*
1	23 2.67	-6 11.5	1.939	1.490	29.8	20.0	49 E	33*	30*	8 24	5 4.24	+18 32.4	0.807	1.107	61.4	19.7	74 W	52*	43*
1	23 17.80	-4 50.8	1.993	1.519	28.7	20.1	48 E	33*	28*	9 3	5 21.08	+18 20.0	0.821	1.182	57.1	19.8	80 W	56*	44*
5189 1990 UQ										242147 2003 BH₈₄									
1 6	12 45.29	-2 54.8	1.469	1.824	32.5	21.3	94 W	42	63*	1 6	12 50.26	-30 55.7	2.087	2.182	26.5	21.5	82 W	14	76*
1 16	13 0.54	-4 3.5	1.307	1.771	33.1	21.0	100 W	41	67*	1 16	13 1.78	-34 4.4	1.893	2.102	27.9	21.2	88 W	11	80*
1 26	13 15.45	-5 2.0	1.149	1.714	33.4	20.7	107 W	40	69	1 26	13 12.79	-37 29.0	1.701	2.018	29.1	21.0	94 W	8	79
2 5	13 30.01	-5 47.9	0.996	1.654	33.3	20.3	113 W	39	70	2 5	13 23.17	-41 13.0	1.513	1.930	30.3	20.6	99 W	4	75
2 15	13 44.11	-6 17.4	0.850	1.591	32.6	19.8	120 W	39	70	2 15	13 32.63	-45 21.3	1.332	1.838	31.5	20.3	104 W	-	71
2 20	13 50.96	-6 24.8	0.780	1.558	32.1	19.6	123 W	39	70	2 20	13 36.92	-47 36.4	1.245	1.791	32.1	20.1	106 W	-	68
2 25	13 57.69	-6 26.3	0.712	1.525	31.5	19.3	126 W	39	70	2 25	13 40.82	-50 0.0	1.160	1.742	32.7	19.9	108 W	-	66
3 2	14 4.32	-6 21.2	0.647	1.491	30.6	19.0	130 W	39	70	3 2	13 44.28	-52 33.3	1.077	1.692	33.4	19.7	110 W	-	63
3 7	14 10.84	-6 8.4	0.584	1.456	29.7	18.7	133 W	39	70	3 7	13 47.17	-55 17.9	0.998	1.641	34.3	19.5	111 W	-	61
3 12	14 17.27	-5 46.6	0.524	1.421	28.6	18.4	137 W	39	70	3 12	13 49.32	-58 15.2	0.921	1.589	35.4	19.3	112 W	-	58
3 17	14 23.68	-5 13.9	0.466	1.386	27.4	18.1	140 W	40	69	3 17	13 50.47	-61 27.2	0.847	1.536	36.7	19.1	113 W	-	55
3 22	14 30.15	-4 28.3	0.411	1.349	26.1	17.7	143 W	41	68	3 19	13 50.57	-62 48.6	0.818	1.515	37.3	19.0	113 W	-	53
3 27	14 36.86	-3 26.6	0.359	1.312	24.8	17.3	147 W	42	67	3 23	13 50.41	-64 13.0	0.790	1.493	37.9	18.9	113 W	-	52
4 1	14 44.08	-2 4.4	0.310	1.275	23.6	16.9	149 W	43	66	3 25	13 49.10	-67 11.2	0.736	1.449	39.5	18.7	113 W	-	49
4 6	14 52.18	-0 14.1	0.263	1.238	22.9	16.5	151 W	45	64	3 27	13 47.79	-68 45.6	0.710	1.426	40.4	18.6	112 W	-	47
4 8	14 55.81	+0 40.2	0.245	1.223	22.8	16.3	152 W	46	63	3 28	13 46.92	-69 34.2	0.697	1.415	40.9	18.6	112 W	-	46
4 10	14 59.76	+1 41.9	0.228	1.208	22.9	16.1	152 W	47	62	3 29	13 45.88	-70 23.8	0.684	1.404	41.4	18.5	112 W	-	46
4 12	15 4.11	+2 52.4	0.211	1.193	23.3	15.9	152 W	48	61	3 30	13 44.65	-71 14.4	0.671	1.392	41.9	18.5	111 W	-	45
4 14	15 8.97	+4 13.1	0.195	1.178	23.9	15.7	152 W	49	60	3 31	13 43.19	-72 6.1	0.658	1.381	42.4	18.4	111 W	-	44
4 16	15 14.50	+5 46.5	0.179	1.163	24.8	15.5	151 W	51	58	4 1	13 41.45	-72 58.8	0.646	1.369	43.0	18.4	111 W	-	43
4 18	15 20.89	+7 35.3	0.163	1.148	26.2	15.4	150 W	53	56	4 2	13 39.40	-73 52.7	0.634	1.358	43.6	18.4	110 W	-	42
4 20	15 28.43	+9 43.1	0.148	1.133	28.1	15.2	148 W	55	54	4 3	13 36.96	-74 47.7	0.622	1.346	44.2	18.3	110 W	-	41
4 22	15 37.51	+12 15.0	0.134	1.118	30.7	15.0	145 W	57	52	4 4	13 34.04	-75 43.8	0.610	1.335	44.9	18.3	110 W	-	40
4 24	15 48.70	+15 17.0	0.120	1.103	34.0	14.8	142 W	60	49	4 5	13 30.53	-76 41.1	0.598	1.323	45.6	18.2	109 W	-	39
4 26	16 2.85	+18 56.8	0.107	1.088	38.3	14.7	138 W	64	45	4 6	13 26.27	-77 39.5	0.586	1.311	46.3	18.2	109 W	-	38
4 27	16 11.42	+21 3.5	0.101	1.081	40.9	14.6	135 W	66	43	4 7	13 21.04	-78 39.1	0.575	1.299	47.1	18.1	108 W	-	37
4 28	16 21.26	+23 22.7	0.096	1.074	43.8	14.5	132 W	68	41	4 8	13 14.53	-79 39.7	0.564	1.288	47.9	18.1	107 W	-	36
4 29	16 32.64	+25 55.0	0.090	1.066	47.1	14.5	129 W	71	38	4 9	13 6.28	-80 41.2	0.552	1.276	48.7	18.1	107 E	-	35
4 30	16 45.92	+28 40.4	0.085	1.059	50.8	14.5	125 W	74	35	4 10	12 55.57	-81 43.3	0.541	1.264	49.6	18.0	106 E	-	34
5 1	17 1.49	+31 38.0	0.081	1.052	55.0	14.5	121 W	77	32	4 11	12 41.29	-82 45.6	0.531	1.252	50.5	18.0	105 E	-	33
5 2	17 19.86	+34 45.2	0.077	1.045	59.5	14.5	117 W	80	29	4 12	12 21.59	-83 47.2	0.520	1.240	51.5	17.9	105 E	-	32
5 3	17 41.55	+37 57.0	0.074	1.037	64.6	14.5	112 W	83	26	4 13	11 53.34	-84 46.5	0.509	1.228	52.5	17.9	104 E	-	31
5 4	18 7.09	+41 5.6	0.071	1.030	70.0	14.6	106 W	86	23	4 14	11 11.37	-85 40.1	0.499	1.216	53.5	17.9	103 E	-	30
5 5	18 36.81	+44 0.2	0.069	1.023	75.8	14.7	100 W	89	20	4 15	10 8.71	-86 21.8	0.489	1.204	54.6	17.8	102 E	-	30
5 6	19 10.63	+46 28.1	0.068	1.016	81.7	14.9	94 W	88*	18	4 16	8 43.43	-86 41.0	0.479	1.191	55.8	17.8	101 E	-	29
5 7	19 47.76	+48 16.6	0.068	1.009	87.8	15.1	88 W	82*	16	4 17	7 12.26	-86 28.8	0.469	1.179	57.0	17.8	100 E	-	29
5 8	20 26.61	+49 17.2	0.069	1.002	93.7	15.3	82 W	76*	15	4 18	5 58.92	-85 47.2	0.460	1.167	58.2	17.7	99 E	-	30*
5 9	21 5.10	+49 28.1	0.071	0.996	99.4	15.6	77 W	70*	15	4 19	5 8.53	-84 45.7	0.451	1.155	59.5	17.7	98 E	-	30*
5 10	21 41.26	+48 54.5	0.073	0.989	104.6	16.0	71 W	65*	15*	4 20	4 34.84	-83 31.6	0.442	1.142	60.9	17.7	96 E	-	30*
5 11	22 13.77	+47 46.5	0.076	0.982	109.4	16.3	66 W	60*	15*	4 21	4 11.66	-82 9.1	0.433	1.130	62.3	17.7	95 E	-	30*
5 12	22 42.11	+46 15.6	0.080	0.975	113.7	16.7	62 W	55*	16*	4 22	3 55.04	-80 40.4	0.424	1.117	63.8	17.6	94 E	-</	

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°
242147 2003 BH₈₄										486173 2013 AY₃									
<i>(continuation)</i>										<i>(continuation)</i>									
4 23	3 42.65	-79 6.5	0.416	1.105	65.4	17.6	93 E	—	30*	3 22	13 20.45	-16 6.2	0.945	1.898	12.5	20.3	156 W	29	80
4 24	3 33.11	-77 27.9	0.408	1.092	67.0	17.6	91 E	—	30*	3 27	13 15.36	-16 1.0	0.946	1.918	9.6	20.2	161 W	29	80
4 25	3 25.55	-75 44.9	0.400	1.080	68.7	17.6	90 E	—	30*	4 1	13 9.96	-15 50.3	0.953	1.939	6.9	20.1	167 W	29	80
4 26	3 19.42	-73 57.6	0.393	1.067	70.4	17.6	88 E	—	29*	4 6	13 4.47	-15 34.8	0.965	1.959	4.7	20.1	171 W	29	80
4 27	3 14.34	-72 6.1	0.386	1.055	72.2	17.6	86 E	—	29*	4 11	12 59.13	-15 15.7	0.983	1.980	4.2	20.1	172 E	30	79
4 28	3 10.07	-70 10.5	0.379	1.042	74.1	17.6	85 E	—	29*	4 16	12 54.15	-14 54.2	1.007	2.001	5.7	20.3	169 E	30	79
4 29	3 6.43	-68 10.6	0.373	1.030	76.1	17.6	83 E	—	28*	4 21	12 49.71	-14 31.7	1.037	2.022	7.9	20.5	164 W	30	79
4 30	3 3.28	-66 6.6	0.366	1.017	78.1	17.6	81 E	—	27*	4 26	12 45.95	-14 9.7	1.072	2.043	10.3	20.7	159 E	31	78
5 1	3 0.53	-63 58.4	0.361	1.004	80.2	17.6	79 E	—	26*	5 1	12 42.95	-13 49.1	1.113	2.064	12.6	20.9	153 E	31	78
5 2	2 58.10	-61 46.0	0.356	0.991	82.4	17.6	77 E	—	26*	5 6	12 40.75	-13 30.7	1.159	2.085	14.7	21.0	148 E	31	78
5 3	2 55.94	-59 29.6	0.351	0.979	84.6	17.6	75 E	—	25*	5 11	12 39.39	-13 15.4	1.209	2.107	16.7	21.2	143 E	32	77
5 4	2 54.01	-57 9.2	0.347	0.966	86.9	17.7	73 E	—	23*	5 16	12 38.84	-13 3.4	1.264	2.128	18.4	21.4	138 E	32	77
5 5	2 52.27	-54 45.0	0.343	0.953	89.2	17.7	71 E	—	22*	186471 2002 TN₄₉									
5 6	2 50.70	-52 17.2	0.339	0.940	91.6	17.8	69 W	—	21*	1 6	12 58.03	-10 15.2	2.410	2.576	22.4	21.4	88 W	35	68*
5 8	2 47.97	-47 11.8	0.335	0.915	96.5	17.9	64 W	—	22*	1 16	13 6.31	-11 6.9	2.253	2.555	22.5	21.3	96 W	34	74*
5 10	2 45.69	-41 55.8	0.332	0.890	101.5	18.1	60 W	—	22*	1 26	13 12.93	-11 47.3	2.098	2.533	22.1	21.1	105 W	33	76
5 12	2 43.80	-36 32.6	0.332	0.864	106.5	18.3	55 W	—	23*	2 5	13 17.56	-12 14.3	1.948	2.510	21.1	20.9	114 W	33	76
5 14	2 42.24	-31 6.5	0.335	0.839	111.4	18.5	51 W	—	23*	2 15	13 19.83	-12 25.4	1.806	2.487	19.4	20.6	123 W	33	76
5 16	2 40.99	-25 42.2	0.341	0.814	116.0	18.8	46 W	—	24*	2 25	13 19.44	-12 18.1	1.677	2.463	17.0	20.4	133 W	33	76
5 18	2 40.05	-20 24.0	0.350	0.789	120.2	19.1	42 W	—	24*	3 7	13 16.23	-11 50.3	1.563	2.438	13.8	20.1	144 W	33	76
5 20	2 39.42	-15 16.4	0.361	0.765	123.9	19.4	39 W	—	24*	3 17	13 10.25	-11 0.8	1.470	2.412	9.8	19.8	156 W	34	75
5 22	2 39.12	-10 22.6	0.376	0.741	126.8	19.6	36 W	—	24*	3 27	13 1.98	-9 51.1	1.401	2.385	5.1	19.4	168 W	35	74
5 24	2 39.16	-5 45.3	0.394	0.718	128.9	19.9	34 W	—	24*	4 1	12 57.25	-9 10.1	1.376	2.372	2.6	19.2	174 W	36	73
5 26	2 39.59	-1 26.1	0.415	0.695	130.0	20.0	32 W	—	24*	4 6	12 52.31	-8 26.0	1.358	2.358	1.2	19.1	177 E	37	72
5 31	2 42.55	+7 59.4	0.478	0.643	128.8	20.0	30 W	1*	24*	4 11	12 47.31	-7 40.2	1.347	2.344	3.2	19.2	172 E	37	72
6 5	2 48.68	+15 32.2	0.557	0.599	122.6	19.7	30 W	8*	22*	4 16	12 42.43	-6 53.7	1.343	2.330	5.8	19.3	166 E	38	71
6 10	2 58.45	+21 26.8	0.649	0.568	113.0	19.2	31 W	13*	21*	4 21	12 37.83	-6 8.1	1.346	2.316	8.5	19.5	160 E	39	70
6 15	3 12.04	+25 59.7	0.750	0.551	101.5	18.8	32 W	17*	19*	4 26	12 33.65	-5 24.5	1.354	2.302	11.0	19.6	154 E	40	69
6 17	3 18.48	+27 29.2	0.793	0.549	96.8	18.7	32 W	19*	18*	5 1	12 30.01	-4 44.0	1.369	2.287	13.4	19.7	148 E	40	69
6 19	3 25.45	+28 48.6	0.835	0.550	92.0	18.6	33 W	20*	18*	5 6	12 27.00	-4 7.6	1.389	2.273	15.7	19.8	142 E	41	68
6 21	3 32.87	+29 58.7	0.878	0.553	87.3	18.5	33 W	21*	17*	5 16	12 23.15	-3 9.4	1.442	2.243	19.7	19.9	131 E	42	67
6 23	3 40.69	+31 0.1	0.921	0.560	82.8	18.5	33 W	21*	16*	5 26	12 22.39	-2 33.3	1.509	2.213	23.0	20.1	121 E	42*	67
6 25	3 48.84	+31 53.5	0.964	0.569	78.4	18.4	33 W	22*	16*	6 5	12 24.63	-2 19.4	1.585	2.183	25.5	20.3	112 E	42*	66
6 27	3 57.23	+32 39.5	1.006	0.580	74.3	18.4	33 W	23*	15*	6 15	12 29.67	-2 26.3	1.668	2.152	27.3	20.4	104 E	39*	66
6 29	4 5.79	+33 18.7	1.047	0.594	70.5	18.4	33 W	23*	15*	6 25	12 37.22	-2 51.9	1.753	2.121	28.5	20.5	96 E	35*	67
7 1	4 14.46	+33 51.7	1.087	0.609	66.9	18.5	33 W	23*	14*	7 5	12 46.97	-3 33.4	1.838	2.089	29.1	20.6	89 E	31*	68
7 3	4 23.18	+34 19.1	1.127	0.627	63.6	18.5	34 W	24*	14*	7 15	12 58.68	-4 28.4	1.922	2.058	29.3	20.7	83 E	27*	68*
7 5	4 31.88	+34 41.4	1.165	0.645	60.5	18.5	34 W	24*	13*	7 25	13 12.11	-5 34.5	2.002	2.027	29.2	20.7	77 E	24*	66*
7 7	4 40.53	+34 59.1	1.202	0.666	57.8	18.6	34 W	24*	13*	8 4	13 27.09	-6 49.3	2.078	1.996	28.8	20.8	71 E	22*	63*
7 9	4 49.09	+35 12.6	1.237	0.687	55.2	18.7	34 W	25*	13*	8 14	13 43.51	-8 10.7	2.148	1.965	28.1	20.8	66 E	19*	59*
7 11	4 57.51	+35 22.3	1.272	0.709	52.9	18.7	34 W	25*	13*	8 24	14 1.27	-9 36.5	2.214	1.934	27.2	20.8	61 E	18*	54*
7 13	5 5.79	+35 28.7	1.305	0.732	50.9	18.8	34 W	25*	12*	9 3	14 20.30	-11 4.4	2.273	1.904	26.1	20.8	56 E	16*	50*
7 15	5 13.90	+35 32.1	1.337	0.756	49.0	18.9	34 W	26*	12*	9 13	14 40.58	-12 32.4	2.326	1.875	24.9	20.7	52 E	15*	45*
7 20	5 33.35	+35 29.5	1.412	0.817	45.1	19.0	35 W	26*	12*	9 23	15 2.07	-13 58.2	2.374	1.846	23.5	20.7	47 E	14*	41*
7 25	5 51.56	+35 14.3	1.479	0.880	42.1	19.2	36 W	27*	12*	10 3	15 24.75	-15 19.3	2.416	1.819	22.1	20.7	43 E	13*	37*
7 30	6 8.53	+34 49.8	1.539	0.943	39.9	19.4	37 W	29*	13*	10 13	15 48.59	-16 33.5	2.452	1.793	20.6	20.6	39 E	13*	32*
8 4	6 24.29	+34 18.5	1.593	1.007	38.2	19.6	38 W	30*	13*	10 23	16 13.55	-17 38.2	2.483	1.768	19.0	20.6	35 E	12*	28*
8 9	6 38.91	+33 42.2	1.640	1.070	36.9	19.7	39 W	32*	14*	11 2	16 39.56	-18 31.1	2.510	1.744	17.4	20.5	32 E	11*	24*
8 14	6 52.46	+33 2.3	1.681	1.133	36.0	19.9	41 W	33*	15*	11 12	17 6.54	-19 9.9	2.532	1.723	15.7	20.5	28 E	11*	20*
8 19	7 5.00	+32 20.1	1.715	1.194	35.3	20.0	43 W	35*	16*	11 22	17 34.34	-19 32.5	2.551	1.703	14.0	20.4	25 E	10*	16*
8 24	7 16.60	+31 36.2	1.744	1.255	34.8	20.1	45 W	37*	17*	12 2	18 2.81	-19 37.3	2.566	1.686	12.3	20.3	21 E	9*	12*
9 3	7 37.27	+30 6.2	1.785	1.372	34.2	20.4	50 W	42*	19*	12 12	18 31.77	-19 23.0	2.579	1.671	10.5	20.2	18 E	8*	8*
9 13	7 54.79	+28 36.3	1.805	1.484	33.9	20.6	55 W	47*	22*	12 22	19 1.00	-18 48.9	2.590	1.658	8.8	20.2	15 E	7*	4*
9 23	8 9.38	+27 9.1	1.805	1.592	33.6	20.7	61 W	53*	25*	1 1	19 30.30	-17 55.2	2.598	1.649	7.1	20.1	12 E	5*	1*
10 3	8 21.12	+25 46.6	1.787	1.695	33.3	20.8	68 W	59*	28*	1 11	19 59.50	-16 42.4	2.606	1.641	5.4	20.0	9 E	3*	—
10 13	8 29.92	+24 30.5	1.753	1.793	32.7	20.9	76 W	64*	32*	1 21	20 28.40	-15 11.9	2.611	1.637	3.8	19.9	6 E	—	—
10 23	8 35.61	+23 22.2	1.707	1.887	31.6	20.9	84 W	67*	35*	497112 2004 EH									
11 2	8 37.89	+22 22.7	1.652	1.976	30.1	20.9	93 W	67*	39*	1 6	13 17.07	+0 7.7	1.816	2.032	28.9	21.3	88 W	45	57*
11 12	8 36.39	+21 33.0	1.592	2.062	27.8	20.8	104 W	67	42*	1 16	13 35.90	+0 50.3	1.653	1.979	29.7	21.1	94 W	46	60*
11 22	8 30.74	+20 53.1	1.534	2.144	24.7	20.7	115 W	66	43	1 26	13 54.92	+2 3.4	1.498	1.927	30.2	20.8	100 W	47	61*
12 2	8 20.77	+20 21.8	1.485	2.222	20.8	20.6	127 W	65	44	2 5	14 14.04	+3 53.0	1.352	1.875	30.4	20.5	106 W	49	60*
12 12	8 6.66	+19 57.0	1.452	2.297	15.9	20.5	140 W	65	44	2 15	14 33.10	+6 24.8	1.219	1.824	30.4	20.2	111 W	51	58
12 17																			

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°
497112 2004 EH (continuation)									164466 2006 DS₁₅₆ (continuation)								
5 21	16 25.43	+45 36.5	0.732	1.469	39.1	18.9	114 W	89 18	4 21	13 54.60	-20 2.3	1.308	2.307	3.6	18.8	172 E	25 84
5 26	16 25.81	+45 56.4	0.730	1.461	39.7	18.9	113 W	89 18	4 26	13 48.70	-19 50.6	1.290	2.290	3.8	18.8	171 E	25 84
5 31	16 26.07	+45 55.7	0.729	1.455	40.2	18.9	112 E	89 18	5 1	13 42.83	-19 35.9	1.279	2.273	5.6	18.9	167 E	25 84
6 5	16 26.35	+45 34.3	0.728	1.450	40.5	18.9	112 E	89 18	5 6	13 37.15	-19 19.0	1.274	2.255	7.9	19.0	162 E	26 83
6 10	16 26.83	+44 52.1	0.726	1.447	40.8	18.9	111 E	90 19	5 11	13 31.87	-19 0.8	1.275	2.238	10.4	19.0	156 E	26 83
6 15	16 27.68	+43 49.3	0.725	1.446	40.9	18.9	111 E	89 20	5 16	13 27.13	-18 42.4	1.282	2.220	12.9	19.1	151 E	26 83
6 20	16 29.03	+42 26.2	0.724	1.446	40.9	18.9	111 E	87 22	5 21	13 23.08	-18 24.7	1.295	2.203	15.2	19.2	145 E	27 82
6 25	16 30.98	+40 43.6	0.723	1.448	40.8	18.9	111 E	86 23	5 26	13 19.81	-18 8.8	1.312	2.185	17.4	19.3	140 E	27 82
6 30	16 33.57	+38 42.3	0.724	1.451	40.6	18.9	112 E	84 25	5 31	13 17.39	-17 55.3	1.333	2.167	19.5	19.4	134 E	27 82
7 5	16 36.86	+36 23.1	0.725	1.456	40.3	18.9	112 E	81 28	6 5	13 15.84	-17 44.8	1.358	2.150	21.4	19.5	129 E	27 82
7 10	16 40.86	+33 47.3	0.728	1.462	39.9	18.9	113 E	79 30	6 15	13 15.43	-17 34.7	1.417	2.115	24.6	19.6	120 E	27* 82
7 15	16 45.59	+30 56.5	0.733	1.470	39.4	18.9	113 E	76 33	6 25	13 18.48	-17 40.7	1.484	2.080	27.1	19.8	111 E	25* 82
7 20	16 51.04	+27 52.9	0.740	1.479	38.9	18.9	114 E	73 36	7 5	13 24.69	-18 2.4	1.556	2.045	29.0	19.9	103 E	22* 82
7 25	16 57.17	+24 39.1	0.750	1.490	38.5	19.0	114 E	70 39	7 15	13 33.79	-18 38.7	1.631	2.010	30.2	20.0	96 E	19* 83
7 30	17 3.93	+21 18.1	0.764	1.502	38.0	19.0	114 E	66 43	7 25	13 45.47	-19 27.4	1.705	1.976	30.9	20.1	89 E	16* 82*
8 4	17 11.29	+17 52.8	0.781	1.515	37.6	19.1	114 E	63 46	8 4	13 59.47	-20 26.0	1.777	1.943	31.3	20.1	83 E	14* 77*
8 9	17 19.20	+14 26.5	0.802	1.530	37.2	19.1	114 E	59 50	8 14	14 15.61	-21 31.8	1.848	1.910	31.2	20.2	78 E	12* 72*
8 14	17 27.64	+11 2.4	0.827	1.545	36.8	19.2	114 E	56 53	8 24	14 33.73	-22 42.1	1.914	1.879	30.9	20.2	73 E	11* 66*
8 19	17 36.56	+ 7 43.8	0.857	1.562	36.6	19.3	113 E	53 56	9 3	14 53.72	-23 53.7	1.977	1.849	30.3	20.2	68 E	10* 61*
8 24	17 45.89	+ 4 33.1	0.891	1.580	36.3	19.4	112 E	50 59	9 13	15 15.50	-25 3.6	2.037	1.820	29.6	20.2	63 E	9* 57*
8 29	17 55.59	+ 1 32.6	0.930	1.599	36.2	19.5	111 E	47 62	9 23	15 38.97	-26 8.5	2.092	1.793	28.6	20.2	59 E	8* 53*
9 3	18 5.61	+ 1 16.2	0.973	1.618	36.0	19.7	109 E	44 65	10 3	16 4.04	-27 5.2	2.144	1.768	27.6	20.2	55 E	8* 49*
9 8	18 15.93	+ 3 52.3	1.021	1.639	35.8	19.8	108 E	41 68	10 13	16 30.58	-27 50.2	2.192	1.744	26.4	20.2	51 E	8* 45*
9 13	18 26.49	+ 6 15.0	1.072	1.660	35.6	19.9	106 E	39 70	10 23	16 58.43	-28 20.6	2.237	1.723	25.1	20.2	47 E	8* 41*
9 23	18 48.20	+10 19.6	1.186	1.705	35.2	20.2	102 E	35 74	11 2	17 27.37	-28 33.3	2.280	1.705	23.7	20.2	44 E	8* 38*
10 3	19 10.40	+13 31.9	1.313	1.752	34.5	20.4	98 E	31 78	11 12	17 57.15	-28 26.1	2.321	1.689	22.2	20.1	40 E	8* 34*
10 13	19 32.88	+15 56.7	1.451	1.801	33.6	20.7	93 E	29 79*	11 22	18 27.45	-27 57.2	2.360	1.676	20.6	20.1	37 E	9* 30*
10 23	19 55.38	+17 39.6	1.598	1.851	32.5	20.9	88 E	27 77*	12 2	18 57.98	-27 5.9	2.398	1.666	19.0	20.1	33 E	9* 26*
11 2	20 17.74	+18 46.6	1.751	1.903	31.2	21.1	83 E	26 73*	12 12	19 28.43	-25 52.1	2.434	1.659	17.4	20.0	30 E	10* 22*
11 12	20 39.82	+19 23.2	1.909	1.955	29.7	21.3	78 E	26 68*	12 22	19 58.51	-24 16.8	2.470	1.655	15.7	20.0	27 E	10* 19*
364136 2006 CJ									186475 2002 TO₆₅								
1 6	13 24.53	-13 28.3	0.520	1.038	69.3	21.3	81 W	32 65*	1 6	13 50.28	-19 21.4	2.224	2.157	25.9	21.5	73 W	26 62*
1 11	13 20.11	-14 30.0	0.486	1.072	66.3	21.1	87 W	30 71*	1 16	14 6.52	-21 20.3	2.075	2.122	27.1	21.3	79 W	24 69*
1 16	13 14.10	-15 35.8	0.450	1.101	63.1	20.9	93 W	29 77*	1 26	14 22.45	-23 16.1	1.926	2.087	28.0	21.2	85 W	22 77*
1 21	13 5.76	-16 45.3	0.413	1.126	59.6	20.7	99 W	28 81*	2 5	14 37.91	-25 8.3	1.779	2.051	28.7	21.0	91 W	20 84*
1 26	12 54.12	-17 57.6	0.374	1.146	55.6	20.4	106 W	27 82	2 15	14 52.67	-26 56.6	1.633	2.015	29.1	20.8	97 W	18 89
1 31	12 37.91	-19 10.1	0.336	1.163	50.8	20.0	114 W	26 83	2 25	15 6.41	-28 40.3	1.492	1.979	29.0	20.5	104 W	16 87
2 5	12 15.45	-20 16.7	0.299	1.175	45.0	19.7	123 W	25 84	3 7	15 18.77	-30 19.0	1.357	1.943	28.5	20.3	111 W	15 86
2 7	12 4.28	-20 39.1	0.286	1.178	42.4	19.5	126 W	24 85	3 12	15 24.27	-31 6.3	1.292	1.925	28.1	20.1	114 W	14 85
2 9	11 51.69	-20 57.2	0.273	1.181	39.6	19.3	130 W	24 85	3 17	15 29.22	-31 51.8	1.229	1.908	27.5	20.0	118 W	13 84
2 11	11 37.59	-21 9.5	0.261	1.184	36.7	19.1	134 W	24 85	3 22	15 33.56	-32 35.4	1.169	1.890	26.7	19.8	121 W	12 83
2 13	11 21.93	-21 14.0	0.250	1.186	33.8	19.0	138 W	24 85	3 27	15 37.20	-33 16.9	1.110	1.872	25.8	19.7	125 W	12 83
2 15	11 4.76	-21 8.6	0.241	1.187	30.9	18.8	142 W	24 85	4 1	15 40.06	-33 55.8	1.055	1.855	24.7	19.5	129 W	11 82
2 17	10 46.20	-20 51.5	0.233	1.187	28.3	18.7	145 W	24 85	4 6	15 42.07	-34 31.7	1.002	1.838	23.4	19.3	133 W	10 81
2 19	10 26.49	-20 20.9	0.227	1.187	26.2	18.5	148 W	25 84	4 11	15 43.13	-35 3.8	0.953	1.821	21.9	19.2	137 W	10 81
2 21	10 5.97	-19 35.9	0.223	1.186	24.9	18.5	150 E	25 84	4 16	15 43.20	-35 31.2	0.907	1.804	20.3	19.0	142 W	9 80
2 23	9 45.08	-18 36.5	0.220	1.185	24.8	18.4	150 E	26 83	4 21	15 42.24	-35 53.1	0.864	1.787	18.4	18.8	146 W	9 80
2 25	9 24.29	-17 24.1	0.220	1.183	25.9	18.5	149 E	28 81	4 26	15 40.28	-36 8.4	0.826	1.771	16.5	18.6	150 W	9 80
2 27	9 4.06	-16 0.8	0.221	1.180	28.0	18.5	146 E	29 80	5 1	15 37.37	-36 16.0	0.792	1.755	14.4	18.4	154 W	9 80
3 1	8 44.78	-14 29.9	0.225	1.177	30.9	18.6	142 E	30 79	5 6	15 33.60	-36 14.9	0.762	1.739	12.5	18.3	158 W	9 80
3 3	8 26.74	-12 54.6	0.230	1.173	34.3	18.8	138 E	32 77	5 11	15 29.15	-36 4.0	0.736	1.724	10.8	18.1	161 W	9 80
3 5	8 10.12	-11 17.9	0.237	1.168	37.8	18.9	134 E	34 75	5 16	15 24.28	-35 43.0	0.715	1.709	9.8	18.0	163 E	9 80
3 7	7 55.01	+ 9 42.5	0.245	1.163	41.4	19.1	129 E	35 74	5 21	15 19.28	-35 12.1	0.699	1.694	9.8	17.9	163 E	10 81
3 9	7 41.39	+ 8 10.4	0.255	1.157	44.9	19.3	125 E	37 72	5 26	15 14.45	-34 32.0	0.688	1.680	10.9	17.9	162 E	10 81
3 11	7 29.21	+ 6 42.8	0.266	1.151	48.2	19.4	120 E	38 71	5 31	15 10.10	-33 44.0	0.681	1.666	12.9	17.9	159 E	11 82
3 13	7 18.38	+ 5 20.5	0.277	1.143	51.3	19.6	116 E	40 69	6 5	15 6.49	-32 50.0	0.678	1.653	15.3	18.0	155 E	12 83
3 15	7 8.76	+ 4 3.8	0.289	1.135	54.2	19.8	112 E	41 68	6 10	15 3.83	-31 51.9	0.680	1.641	17.9	18.1	150 E	13 84
3 17	7 0.24	+ 2 52.7	0.302	1.127	57.0	19.9	108 E	42 67	6 15	15 2.31	-30 52.2	0.686	1.629	20.5	18.2	146 E	14 85
3 22	6 42.92	+ 0 17.8	0.334	1.102	63.1	20.3	100 E	45 64	6 20	15 2.02	-29 52.8	0.695	1.618	23.1	18.3	141 E	15 86
3 27	6 29.91	+ 1 49.0	0.367	1.073	68.3	20.6	92 E	46* 62*	6 25	15 3.00	-28 55.5	0.707	1.607	25.6	18.3	137 E	16 87
4 1	6 19.82	+ 3 34.2	0.400	1.039	73.1	20.8	84 E	46* 59*	6 30	15 5.22	-28 1.6	0.722	1.597	27.9	18.4	133 E	17 88
4 6	6 11.60	+ 5 3.3	0.430	1.001	77.6	21.1	78 E	44* 55*	7 5	15 8.66	-27 11.8	0.740	1.588	30.0	18.5	129 E	18* 89
4 11	6 4.41	+ 6 20.8	0.459	0.957	82.0	21.3	71 E	41* 52*	7 10	15 13.24	-26 26.8	0.759	1.579	31.9	18.6	125 E	18* 90
4 16	5 57.50	+ 7 30.3	0.484	0.907	86.7	21.5	65 E	37* 48*	7 15	15 18.92	-25 46.7	0.781	1.572	33.5	18.7	121 E	

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°
186475 2002 TO₆₅										140265 2001 SL₂₇₀									
<i>(continuation)</i>										<i>(continuation)</i>									
11 22	20 31.49	-13 12.1	1.783	1.674	33.0	20.7	67 E	31*	53*	9 13	15 10.39	-9 24.4	2.551	2.191	22.9	20.3	58 E	22*	50*
12 2	20 57.09	-11 18.3	1.887	1.702	31.4	20.8	64 E	33*	47*	9 23	15 26.43	-11 20.3	2.607	2.150	21.8	20.3	53 E	20*	45*
12 12	21 22.09	-9 16.6	1.994	1.732	29.6	20.9	60 E	34*	42*	10 3	15 43.87	-13 12.5	2.655	2.110	20.4	20.3	47 E	18*	40*
12 22	21 46.47	-7 8.5	2.103	1.763	27.7	21.0	57 E	36*	36*	10 13	16 2.70	-14 59.3	2.695	2.070	18.9	20.2	42 E	16*	35*
1 1	22 10.25	-4 55.6	2.212	1.796	25.8	21.1	53 E	36*	31*	10 23	16 22.87	-16 39.0	2.728	2.031	17.3	20.1	37 E	14*	30*
1 11	22 33.48	-2 39.3	2.320	1.830	23.9	21.2	49 E	36*	26*	11 2	16 44.35	-18 10.0	2.753	1.992	15.6	20.1	33 E	12*	25*
1 21	22 56.19	-0 21.1	2.428	1.864	21.9	21.2	45 E	34*	21*	11 12	17 7.11	-19 30.6	2.770	1.954	13.8	20.0	28 E	11*	20*
332446 2008 AF₄										489203 2006 JT									
1 6	13 56.00	-27 33.2	0.025	0.975	109.0	15.8	70 W	17	62*	1 6	14 39.17	+21 19.5	1.095	1.321	46.9	21.5	79 W	65*	28*
1 7	13 14.04	-16 41.0	0.025	0.981	95.3	15.0	83 W	28	70*	1 11	14 50.79	+18 53.7	1.058	1.304	47.8	21.4	79 W	63*	31*
1 8	12 37.15	-5 28.5	0.026	0.987	81.6	14.6	97 W	40	68*	1 16	15 1.99	+16 21.3	1.020	1.290	48.7	21.3	80 W	61*	35*
1 9	12 5.92	+4 29.9	0.028	0.993	69.5	14.4	109 W	49	60*	1 21	15 12.81	+13 41.4	0.983	1.277	49.6	21.2	81 W	59*	39*
1 10	11 40.00	+12 32.2	0.031	0.999	59.6	14.3	119 W	58	51	1 26	15 23.29	+10 53.0	0.946	1.266	50.4	21.2	82 W	56*	43*
1 11	11 18.59	+18 42.4	0.036	1.005	51.9	14.4	126 W	64	45	1 31	15 33.47	+7 54.9	0.909	1.257	51.1	21.1	83 W	53*	48*
1 12	11 0.85	+23 22.7	0.041	1.011	45.9	14.5	132 W	68	41	2 5	15 43.37	+4 45.7	0.872	1.250	51.7	21.0	84 W	50	52*
1 13	10 46.05	+26 55.9	0.046	1.018	41.2	14.7	137 W	72	37	2 10	15 53.01	+1 24.3	0.836	1.246	52.2	20.9	86 W	46	57*
1 14	10 33.58	+29 40.2	0.051	1.024	37.5	14.8	141 W	75	34	2 15	16 2.41	-2 10.9	0.802	1.244	52.5	20.8	87 W	43	62*
1 15	10 22.96	+31 48.8	0.057	1.030	34.4	15.0	144 W	77	32	2 20	16 11.58	-6 1.3	0.768	1.244	52.6	20.7	89 W	39	67*
1 16	10 13.83	+33 30.9	0.063	1.036	32.0	15.1	146 W	79	30	2 25	16 20.55	-10 8.1	0.737	1.247	52.5	20.6	91 W	35	72*
1 17	10 5.89	+34 53.2	0.069	1.043	29.9	15.3	148 W	80	29	3 2	16 29.31	-14 32.1	0.708	1.251	52.2	20.6	93 W	30	78*
1 18	9 58.95	+36 0.3	0.075	1.049	28.2	15.4	150 W	81	28	3 7	16 37.86	-19 13.4	0.682	1.258	51.7	20.5	96 W	26	83*
1 19	9 52.81	+36 55.5	0.081	1.056	26.8	15.6	151 W	82	27	3 12	16 46.16	-24 11.5	0.659	1.268	50.9	20.4	98 W	21	88
1 20	9 47.35	+37 41.3	0.087	1.062	25.5	15.7	152 W	83	26	3 17	16 54.16	-29 24.3	0.640	1.279	49.9	20.3	101 W	16	87
1 21	9 42.47	+38 19.6	0.094	1.068	24.5	15.8	153 W	83	26	3 22	17 1.79	-34 48.7	0.626	1.292	48.7	20.3	103 W	10	81
1 22	9 38.07	+38 51.7	0.100	1.075	23.6	16.0	154 W	84	25	3 27	17 8.94	-40 20.3	0.617	1.307	47.3	20.2	106 W	5	76
1 23	9 34.08	+39 18.8	0.107	1.081	22.9	16.1	155 W	84	25	4 1	17 15.49	-45 53.3	0.613	1.324	45.9	20.2	108 W	—	70
1 24	9 30.46	+39 41.6	0.113	1.088	22.3	16.2	155 W	85	24	4 6	17 21.17	-51 21.5	0.615	1.343	44.4	20.2	110 W	—	65
1 25	9 27.16	+40 0.7	0.120	1.095	21.8	16.3	156 W	85	24	4 11	17 25.64	-56 38.7	0.621	1.363	43.0	20.2	112 W	—	59
1 26	9 24.13	+40 16.8	0.126	1.101	21.4	16.5	156 W	85	24	4 16	17 28.37	-61 38.9	0.633	1.384	41.6	20.2	114 W	—	54
1 28	9 18.79	+40 41.3	0.140	1.114	20.9	16.7	156 W	86	23	4 18	17 28.81	-63 33.0	0.639	1.393	41.1	20.3	114 W	—	52
1 30	9 14.24	+40 57.6	0.154	1.127	20.7	16.9	156 W	86	23	4 20	17 28.80	-65 23.4	0.645	1.402	40.6	20.3	115 W	—	51
2 1	9 10.35	+41 7.5	0.168	1.140	20.7	17.1	156 W	86	23	4 22	17 28.25	-67 9.6	0.653	1.412	40.1	20.3	115 W	—	49
2 3	9 7.01	+41 12.2	0.182	1.154	20.8	17.3	155 W	86	23	4 24	17 27.08	-68 51.6	0.660	1.421	39.7	20.3	116 W	—	47
2 5	9 4.14	+41 12.6	0.197	1.167	21.2	17.5	155 E	86	23	4 26	17 25.18	-70 29.0	0.669	1.431	39.2	20.4	116 W	—	46
2 7	9 1.70	+41 9.5	0.212	1.180	21.6	17.7	154 E	86	23	4 27	17 23.92	-71 16.0	0.673	1.436	39.0	20.4	116 W	—	45
2 9	8 59.64	+41 3.2	0.227	1.193	22.1	17.9	153 E	86	23	4 28	17 22.42	-72 1.8	0.678	1.441	38.8	20.4	116 W	—	44
2 11	8 57.93	+40 54.4	0.242	1.206	22.7	18.1	152 E	86	23	4 29	17 20.67	-72 46.3	0.683	1.446	38.6	20.4	116 W	—	43
2 13	8 56.54	+40 43.3	0.258	1.219	23.4	18.3	151 E	86	23	4 30	17 18.65	-73 29.6	0.688	1.451	38.4	20.4	116 W	—	43
2 15	8 55.46	+40 30.3	0.275	1.232	24.0	18.5	149 E	86	23	5 1	17 16.33	-74 11.6	0.693	1.456	38.2	20.5	117 W	—	42
2 20	8 53.95	+39 51.0	0.317	1.264	25.8	18.9	146 E	85	24	5 2	17 13.68	-74 52.3	0.698	1.461	38.0	20.5	117 W	—	41
2 25	8 53.93	+39 4.3	0.361	1.296	27.4	19.3	143 E	84	25	5 3	17 10.68	-75 31.6	0.703	1.466	37.9	20.5	117 W	—	40
3 2	8 55.14	+38 12.4	0.408	1.328	29.0	19.6	140 E	83	26	5 4	17 7.29	-76 9.5	0.709	1.471	37.7	20.5	117 W	—	40
3 7	8 57.39	+37 17.0	0.456	1.358	30.4	20.0	136 E	82	27	5 5	17 3.50	-76 46.0	0.714	1.477	37.5	20.5	117 W	—	39
3 12	9 0.54	+36 18.8	0.507	1.389	31.7	20.3	133 E	81	28	5 6	16 59.26	-77 21.1	0.720	1.482	37.3	20.5	117 W	—	39
3 17	9 4.47	+35 18.5	0.560	1.418	32.8	20.6	129 E	80	29	5 7	16 54.55	-77 54.6	0.726	1.487	37.2	20.6	117 W	—	38
3 22	9 9.09	+34 16.8	0.615	1.447	33.8	20.9	126 E	79	30	5 8	16 49.33	-78 26.5	0.731	1.492	37.0	20.6	117 W	—	38
3 27	9 14.27	+33 14.1	0.671	1.475	34.6	21.1	123 E	78	31	5 9	16 43.57	-78 56.9	0.737	1.498	36.8	20.6	117 W	—	37
4 1	9 19.91	+32 10.6	0.730	1.502	35.2	21.3	120 E	77	32	5 10	16 37.24	-79 25.5	0.743	1.503	36.7	20.6	117 W	—	37
140265 2001 SL₂₇₀										489203 2006 JT									
1 6	14 27.88	+0 6.7	3.246	3.080	17.6	21.4	72 W	45*	44*	4 18	17 28.81	-63 33.0	0.639	1.393	41.1	20.3	114 W	—	52
1 16	14 37.91	-0 4.0	3.083	3.053	18.4	21.3	79 W	45*	51*	4 20	17 28.80	-65 23.4	0.645	1.402	40.6	20.3	115 W	—	51
1 26	14 46.94	-0 3.4	2.917	3.025	19.0	21.2	87 W	45	58*	4 22	17 28.25	-67 9.6	0.653	1.412	40.1	20.3	115 W	—	49
2 5	14 54.76	+0 9.0	2.749	2.996	19.1	21.1	95 W	45	62*	4 24	17 27.08	-68 51.6	0.660	1.421	39.7	20.3	116 W	—	47
2 15	15 1.10	+0 33.8	2.584	2.967	18.9	20.9	103 W	46	63*	4 26	17 25.18	-70 29.0	0.669	1.431	39.2	20.4	116 W	—	46
2 25	15 5.67	+1 10.9	2.425	2.936	18.3	20.7	112 W	46	63	4 27	17 23.92	-71 16.0	0.673	1.436	39.0	20.4	116 W	—	45
3 7	15 8.19	+1 59.7	2.274	2.905	17.1	20.5	120 W	47	62	4 28	17 22.42	-72 1.8	0.678	1.441	38.8	20.4	116 W	—	44
3 17	15 8.40	+2 58.7	2.135	2.873	15.5	20.3	130 W	48	61	4 29	17 20.67	-72 46.3	0.683	1.446	38.6	20.4	116 W	—	43
3 27	15 6.11	+4 4.9	2.013	2.840	13.4	20.1	139 W	49	60	4 30	17 18.65	-73 29.6	0.688	1.451	38.4	20.4	116 W	—	43
4 6	15 1.33	+5 13.9	1.911	2.807	11.1	19.8	147 W	50	59	5 1	17 16.33	-74 11.6	0.693	1.456	38.2	20.5	117 W	—	42
4 11	14 58.06	+5 47.6	1.869	2.790	9.9	19.7	151 W	51	58	5 2	17 13.68	-74 52.3	0.698	1.461	38.0	20.5	117 W	—	41
4 16	14 54.26	+6 19.6	1.832	2.773	8.9	19.6	155 W	51	58	5 3	17 10.68	-75 31.6	0.703	1.466	37.9	20.5	117 W	—	40
4 21	14 50.03	+6 48.9	1.803	2.755	8.2	19.6	157 W	52	57	5 4	17 7.29	-76 9.5	0.709	1.471	37.7	20.5	117 W	—	40
4 26	14 45.45	+7 14.7	1.779																

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°				
489203 2006 JT (continuation)									208565 2002 CT₁₁ (continuation)												
6	5	12 45.44	-81 26.2	0.928	1.651	33.4	21.2	116 E	—	35	4	22	1 17.94	-70 25.9	1.213	1.476	42.5	20.0	83 W	—	28*
6	6	12 41.69	-81 15.6	0.936	1.657	33.3	21.2	116 E	—	35	4	24	1 31.99	-69 22.8	1.204	1.462	43.0	20.0	82 W	—	27*
6	7	12 38.43	-81 4.7	0.944	1.663	33.2	21.3	116 E	—	35	4	26	1 44.85	-68 17.0	1.194	1.449	43.4	20.0	82 W	—	27*
6	8	12 35.65	-80 53.6	0.952	1.669	33.1	21.3	116 E	—	35	4	28	1 56.64	-67 8.9	1.185	1.435	43.9	19.9	81 W	—	26*
6	9	12 33.29	-80 42.4	0.960	1.675	33.0	21.3	116 E	—	35	4	30	2 7.48	-65 59.0	1.177	1.421	44.4	19.9	81 W	—	26*
6	10	12 31.35	-80 31.1	0.968	1.681	32.9	21.3	116 E	—	35	5	2	2 17.49	-64 47.5	1.168	1.406	44.9	19.9	80 W	—	26*
6	11	12 29.78	-80 19.8	0.976	1.687	32.8	21.4	116 E	—	36	5	4	2 26.74	-63 34.8	1.160	1.392	45.4	19.9	80 W	—	25*
6	12	12 28.57	-80 8.5	0.985	1.693	32.7	21.4	116 E	—	36	5	6	2 35.34	-62 21.2	1.152	1.377	46.0	19.8	79 W	—	25*
6	13	12 27.68	-79 57.2	0.993	1.699	32.6	21.4	116 E	—	36	5	8	2 43.34	-61 6.7	1.144	1.362	46.5	19.8	78 W	—	25*
6	14	12 27.10	-79 46.0	1.001	1.705	32.5	21.4	115 E	—	36	5	10	2 50.82	-59 51.6	1.137	1.347	47.0	19.8	77 W	—	25*
6	15	12 26.81	-79 34.8	1.010	1.711	32.5	21.5	115 E	—	36	5	12	2 57.83	-58 36.0	1.130	1.332	47.6	19.8	77 W	—	25*
6	16	12 26.77	-79 23.7	1.018	1.717	32.4	21.5	115 E	—	37	5	14	3 4.42	-57 20.1	1.122	1.316	48.2	19.8	76 W	—	25*
391399 2007 BH₂₀																					
1	6	15 2.02	-19 34.4	1.929	1.619	30.6	21.5	57 W	24*	46*	5	20	3 10.63	-56 3.8	1.115	1.300	48.8	19.7	75 W	—	26*
1	16	15 29.12	-21 42.3	1.861	1.621	31.9	21.5	61 W	22*	51*	5	18	3 16.50	-54 47.3	1.108	1.284	49.4	19.7	74 W	—	26*
1	26	15 56.26	-23 34.0	1.793	1.627	33.0	21.4	64 W	21*	56*	5	20	3 22.06	-53 30.6	1.101	1.268	50.0	19.7	74 W	—	26*
2	5	16 23.22	-25 8.7	1.725	1.635	34.0	21.4	68 W	19*	61*	5	22	3 27.34	-52 13.6	1.093	1.251	50.6	19.7	73 W	—	26*
2	15	16 49.73	-26 26.1	1.657	1.646	34.8	21.3	72 W	18*	66*	5	24	3 32.36	-50 56.3	1.086	1.234	51.3	19.6	72 W	—	27*
2	25	17 15.41	-27 26.8	1.589	1.661	35.4	21.3	76 W	17*	70*	5	26	3 37.16	-49 38.8	1.079	1.218	51.9	19.6	71 W	—	27*
3	7	17 39.92	-28 12.2	1.520	1.678	35.7	21.2	81 W	16*	75*	5	31	3 48.30	-46 23.3	1.060	1.174	53.7	19.5	69 W	—	28*
3	17	18 2.86	-28 44.6	1.451	1.697	35.8	21.1	86 W	15*	79*	6	5	3 58.42	-43 4.4	1.039	1.130	55.6	19.5	67 W	—	30*
3	27	18 23.78	-29 7.0	1.382	1.719	35.5	21.0	91 W	15*	84*	6	10	4 7.75	-39 40.2	1.018	1.084	57.7	19.4	64 W	—	32*
4	6	18 42.29	-29 22.6	1.313	1.743	34.8	20.9	97 W	15*	87	6	15	4 16.48	-36 7.8	0.994	1.037	60.0	19.3	62 W	—	34*
4	16	18 57.90	-29 35.2	1.245	1.768	33.5	20.8	103 W	15*	86	6	20	4 24.80	-32 23.6	0.968	0.989	62.5	19.2	60 W	—	36*
4	26	19 10.13	-29 48.3	1.179	1.795	31.7	20.7	110 W	15*	86	6	25	4 32.92	-28 23.0	0.941	0.941	65.4	19.1	57 W	—	37*
5	6	19 18.50	-30 4.5	1.118	1.824	29.2	20.5	118 W	15*	86	6	30	4 41.10	-24 0.3	0.912	0.892	68.6	19.1	55 W	—	39*
5	16	19 22.53	-30 25.6	1.063	1.854	25.9	20.4	127 W	15	86	7	5	4 49.66	-19 9.4	0.883	0.843	72.1	19.0	52 W	—	40*
5	26	19 21.90	-30 50.5	1.018	1.885	21.8	20.2	136 W	14	85	7	10	4 58.98	-13 43.4	0.854	0.795	76.0	18.9	49 W	—	41*
6	5	19 16.67	-31 16.0	0.986	1.917	16.9	20.0	147 W	14	85	7	15	5 9.61	-7 36.6	0.828	0.748	80.1	18.9	46 W	—	40*
6	10	19 12.49	-31 27.0	0.977	1.933	14.2	19.9	152 W	14	85	7	20	5 22.23	-6 46.2	0.808	0.704	84.2	18.8	44 W	4*	38*
6	15	19 7.43	-31 35.8	0.972	1.949	11.5	19.8	158 W	13	84	7	25	5 37.79	+ 6 43.5	0.797	0.663	87.7	18.8	41 W	11*	34*
6	20	19 1.72	-31 41.5	0.972	1.966	8.7	19.7	163 W	13	84	7	27	5 45.08	+ 9 51.2	0.795	0.649	89.8	18.8	40 W	14*	32*
6	25	18 55.59	-31 43.5	0.977	1.982	6.3	19.6	168 W	13	84	7	29	5 53.09	+13 1.0	0.797	0.635	89.6	18.8	39 W	16*	29*
6	30	18 49.29	-31 41.4	0.989	1.999	4.6	19.6	171 W	13	84	7	31	6 1.91	+16 11.0	0.800	0.623	90.1	18.8	38 W	19*	27*
7	5	18 43.08	-31 35.1	1.006	2.016	4.6	19.6	171 E	13	84	8	2	6 11.59	+19 18.6	0.807	0.612	90.3	18.8	37 W	21*	24*
7	10	18 37.20	-31 24.9	1.028	2.033	6.3	19.8	167 E	14	85	8	4	6 22.20	+22 21.4	0.816	0.603	90.0	18.7	36 W	23*	22*
7	15	18 31.89	-31 11.1	1.057	2.049	8.5	20.0	163 E	14	85	8	6	6 33.78	+25 16.4	0.828	0.595	89.4	18.7	36 W	25*	19*
7	20	18 27.31	-30 54.5	1.091	2.066	10.9	20.1	157 E	14	85	8	8	6 46.33	+28 0.9	0.843	0.588	88.3	18.7	35 W	26*	16*
7	25	18 23.60	-30 35.8	1.130	2.083	13.1	20.3	152 E	14	85	8	10	6 59.83	+30 32.4	0.861	0.584	86.8	18.7	35 W	27*	13*
7	30	18 20.80	-30 15.7	1.174	2.100	15.2	20.5	147 E	15	86	8	12	7 14.22	+32 48.5	0.882	0.581	85.0	18.6	35 W	28*	10*
8	4	18 18.96	-29 54.8	1.222	2.117	17.1	20.7	142 E	15	86	8	14	7 29.38	+34 47.5	0.905	0.580	82.9	18.6	35 W	28*	8*
8	9	18 18.07	-29 33.6	1.275	2.133	18.8	20.8	137 E	15	86	8	16	7 45.15	+36 28.2	0.931	0.582	80.4	18.6	34 W	28*	5*
8	14	18 18.11	-29 12.4	1.331	2.150	20.3	21.0	133 E	16	87	8	18	8 1.34	+37 50.0	0.959	0.584	77.8	18.6	34 W	28*	3*
8	19	18 19.04	-28 51.6	1.391	2.167	21.6	21.1	128 E	16	87	8	20	8 17.74	+38 52.9	0.988	0.589	75.1	18.5	34 W	28*	1*
8	24	18 20.80	-28 31.1	1.454	2.183	22.7	21.3	124 E	16	87	8	22	8 34.11	+39 37.7	1.019	0.596	72.2	18.5	34 W	28*	—
8	29	18 23.32	-28 11.1	1.520	2.200	23.6	21.4	119 E	17	88	8	24	8 50.25	+40 5.3	1.051	0.604	69.3	18.5	34 W	27*	—
208565 2002 CT₁₁																					
1	6	15 2.08	-40 17.5	2.305	1.905	24.7	21.5	54 W	4*	48*	8	26	9 5.97	+40 17.3	1.084	0.614	66.5	18.6	34 W	26*	—
1	16	15 21.20	-44 10.1	2.183	1.887	26.7	21.4	60 W	—	53*	8	28	9 21.12	+40 15.4	1.118	0.625	63.6	18.6	34 W	26*	—
1	26	15 41.97	-48 16.7	2.057	1.864	28.5	21.3	65 W	—	53*	8	30	9 35.58	+40 1.4	1.152	0.637	60.9	18.6	33 W	25*	—
2	5	16 5.17	-52 38.8	1.930	1.837	30.2	21.2	70 W	—	56*	9	1	9 49.30	+39 37.0	1.187	0.651	58.2	18.6	33 W	24*	—
2	15	16 32.08	-57 17.0	1.805	1.805	31.8	21.0	74 W	—	55*	9	3	10 2.23	+39 4.0	1.221	0.666	55.7	18.7	33 W	23*	—
2	25	17 5.03	-62 8.6	1.685	1.769	33.2	20.9	78 W	—	52*	9	5	10 14.38	+38 23.8	1.255	0.681	53.2	18.7	33 W	23*	—
3	7	17 48.53	-67 5.1	1.573	1.728	34.6	20.7	81 W	—	47*	9	7	10 25.77	+37 38.0	1.289	0.698	50.9	18.8	33 W	22*	—
3	17	18 51.27	-71 43.8	1.472	1.682	36.0	20.5	84 W	—	42*	9	9	10 36.42	+36 47.6	1.323	0.715	48.8	18.8	32 W	21*	—
3	27	20 26.53	-75 10.8	1.383	1.631	37.5	20.4	85 W	—	38*	9	11	10 46.38	+35 53.7	1.356	0.733	46.7	18.9	32 W	21*	—
3	28	20 38.17	-75 24.1	1.375	1.626	37.7	20.4	85 W	—	37*	9	13	10 55.70	+34 57.2	1.389	0.751	44.8	18.9	32 W	20*	—
3	29	20 50.15	-75 35.6	1.367	1.621	37.9	20.3	85 W	—	37*	9	15	11 4.43	+33 58.8	1.420	0.769	43.0	19.0	31 W	20*	—
3	30	21 2.43	-75 45.3	1.359	1.615	38.0	20.3	85 W	—	36*	9	17	11 12.62	+32 59.0	1.452	0.788	41.3	19.0	31 W	20*	—
3	31	21 14.99	-75 53.0	1.351	1.610	38.2	20.3	85 W	—	36*	9	19	11 20.32	+31 58.4	1.482	0.807	39.8	19.1	31 W	19*	—
4	1	21 27.76	-75 58.6	1.343	1.604	38.4	20.3	85 W	—	35*	9	21	11 27.58	+30 57.4	1.512</						