

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

20/21	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°	20/22	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°
250577 2005 AC										250577 2005 AC (continuation)									
12 27	14 51.13	+78 2.3	0.784	1.415	42.0	20.2	106W	56*	—	5 20	1 26.97	+ 5 42.3	1.019	0.641	71.0	19.9	37W	7*	30*
12 28	14 57.30	+78 32.2	0.775	1.410	42.1	20.1	106W	55*	—	5 22	1 28.01	+ 7 47.9	1.034	0.660	69.4	19.9	38W	9*	31*
12 29	15 3.97	+79 2.9	0.766	1.405	42.2	20.1	106W	55*	—	5 24	1 29.40	+ 9 52.3	1.049	0.680	67.8	20.0	38W	11*	31*
12 30	15 11.21	+79 34.3	0.757	1.401	42.3	20.1	106W	54*	—	5 26	1 31.12	+11 55.1	1.064	0.700	66.4	20.0	39W	13*	31*
12 31	15 19.16	+80 6.3	0.748	1.395	42.5	20.0	107W	54*	—	5 31	1 36.60	+16 54.1	1.098	0.750	63.3	20.1	41W	19*	31*
1 1	15 27.96	+80 38.9	0.739	1.390	42.6	20.0	107W	53*	—	6 5	1 43.53	+21 40.2	1.130	0.801	60.6	20.2	43W	23*	29*
1 2	15 37.79	+81 11.9	0.731	1.385	42.8	20.0	107W	53*	—	6 10	1 51.65	+26 12.8	1.160	0.851	58.3	20.4	45W	28*	28*
1 3	15 48.91	+81 45.3	0.722	1.380	42.9	20.0	107W	52*	—	6 15	2 0.78	+30 31.8	1.187	0.900	56.2	20.5	47W	32*	26*
1 4	16 1.63	+82 18.8	0.714	1.375	43.1	19.9	107W	51*	—	6 20	2 10.83	+34 37.4	1.212	0.948	54.5	20.6	49W	36*	23*
1 5	16 16.35	+82 52.1	0.705	1.369	43.3	19.9	107W	51*	—	6 25	2 21.75	+38 30.2	1.236	0.995	52.9	20.7	51W	40*	21*
1 6	16 33.60	+83 24.8	0.697	1.364	43.5	19.9	107W	50*	—	6 30	2 33.54	+42 10.7	1.257	1.040	51.5	20.8	53W	44*	18*
1 7	16 54.05	+83 56.5	0.689	1.358	43.7	19.8	107W	49*	—	7 5	2 46.23	+45 39.2	1.278	1.083	50.2	20.9	55W	47*	15*
1 8	17 18.48	+84 26.1	0.680	1.353	43.9	19.8	107W	49*	—	7 10	2 59.86	+48 56.1	1.296	1.124	49.1	21.0	57W	50*	13*
1 9	17 47.77	+84 52.7	0.672	1.347	44.1	19.8	107W	48*	—	7 15	3 14.48	+52 1.6	1.313	1.163	48.0	21.0	58W	52*	10*
1 10	18 22.63	+85 14.8	0.665	1.342	44.4	19.8	107W	47*	—	7 20	3 30.18	+54 55.9	1.328	1.201	47.1	21.1	60W	54*	7*
1 11	19 3.15	+85 30.5	0.657	1.336	44.6	19.7	107W	46*	—	7 25	3 47.09	+57 39.2	1.341	1.236	46.2	21.2	61W	55*	5*
1 12	19 48.26	+85 37.9	0.649	1.330	44.9	19.7	107E	46*	—	7 30	4 5.35	+60 11.3	1.353	1.270	45.4	21.2	63W	56*	2*
1 13	20 35.40	+85 35.5	0.642	1.324	45.2	19.7	107E	47*	—	8 4	4 25.08	+62 32.4	1.363	1.302	44.7	21.3	64W	57*	—
1 14	21 21.23	+85 22.9	0.634	1.318	45.5	19.6	107E	48*	—	8 9	4 46.42	+64 42.2	1.371	1.332	44.0	21.3	66W	57*	—
1 15	22 2.92	+85 0.6	0.627	1.312	45.8	19.6	107E	49*	—	8 14	5 9.51	+66 40.4	1.377	1.360	43.4	21.3	67W	57*	—
1 16	22 39.05	+84 29.8	0.620	1.306	46.1	19.6	107E	49*	—	8 19	5 34.46	+68 26.7	1.382	1.387	42.9	21.4	69W	56*	—
1 17	23 9.49	+83 52.1	0.613	1.300	46.5	19.6	107E	50*	—	8 24	6 1.34	+70 0.8	1.384	1.412	42.4	21.4	70W	56*	—
1 18	23 34.86	+83 8.7	0.606	1.293	46.8	19.5	106E	51*	—	8 29	6 30.15	+71 22.5	1.385	1.435	41.9	21.4	72W	55*	—
1 19	23 56.02	+82 20.6	0.599	1.287	47.2	19.5	106E	52*	—	9 3	7 0.74	+72 31.6	1.384	1.457	41.5	21.4	73W	54*	—
1 20	0 13.79	+81 28.8	0.593	1.281	47.6	19.5	106E	53*	—	9 8	7 32.84	+73 28.3	1.381	1.477	41.1	21.5	75W	53*	—
1 21	0 28.87	+80 33.7	0.586	1.274	48.1	19.5	106E	54*	—	9 13	8 6.04	+74 13.0	1.376	1.495	40.8	21.5	76W	53*	—
1 22	0 41.80	+79 35.9	0.580	1.268	48.5	19.5	105E	55*	—	9 18	8 39.83	+74 46.3	1.369	1.512	40.4	21.5	77W	52*	—
1 23	0 53.03	+78 35.5	0.574	1.261	49.0	19.4	105E	56*	—	9 23	9 13.70	+75 9.5	1.360	1.527	40.2	21.5	79W	51*	—
1 24	1 2.89	+77 32.8	0.569	1.254	49.4	19.4	105E	57*	—	9 28	9 47.16	+75 24.1	1.350	1.541	39.9	21.5	80W	51*	—
1 25	1 11.63	+76 28.1	0.563	1.247	49.9	19.4	104E	58*	—	10 3	10 19.84	+75 32.0	1.337	1.553	39.6	21.5	82W	50*	—
1 26	1 19.46	+75 21.5	0.558	1.241	50.5	19.4	104E	59*	—	10 8	10 51.48	+75 35.0	1.323	1.563	39.4	21.4	83W	50*	—
1 27	1 26.52	+74 13.0	0.552	1.234	51.0	19.4	103E	61*	—	10 13	11 21.97	+75 35.0	1.307	1.572	39.2	21.4	85W	50*	—
1 28	1 32.96	+73 2.9	0.547	1.227	51.6	19.3	103E	62*	—	10 18	11 51.37	+75 33.7	1.290	1.579	39.0	21.4	86W	50*	—
1 29	1 38.85	+71 51.1	0.543	1.220	52.2	19.3	102E	63*	—	10 23	12 19.83	+75 32.5	1.271	1.585	38.9	21.4	88W	49*	—
1 30	1 44.29	+70 37.7	0.538	1.212	52.8	19.3	101E	64*	—	10 28	12 47.63	+75 32.8	1.250	1.589	38.7	21.3	89W	49*	—
1 31	1 49.34	+69 22.9	0.534	1.205	53.4	19.3	101E	65*	—	11 2	13 15.07	+75 35.8	1.229	1.592	38.6	21.3	91W	49*	—
2 1	1 54.05	+68 6.7	0.530	1.198	54.1	19.3	100E	67*	—	11 7	13 42.50	+75 42.4	1.206	1.593	38.4	21.3	92W	49*	—
2 2	1 58.46	+66 49.2	0.526	1.191	54.7	19.3	99E	68*	—	11 12	14 10.32	+75 53.2	1.183	1.593	38.3	21.2	94W	49*	—
2 3	2 2.62	+65 30.4	0.522	1.183	55.4	19.3	99E	69*	—	11 17	14 39.02	+76 8.3	1.158	1.592	38.2	21.2	95W	49*	—
2 4	2 6.54	+64 10.4	0.519	1.176	56.2	19.3	98E	70*	—	11 22	15 9.18	+76 27.5	1.134	1.588	38.1	21.1	97W	49*	—
2 5	2 10.26	+62 49.3	0.516	1.168	56.9	19.3	97E	72*	—	11 27	15 41.50	+76 50.2	1.109	1.584	38.1	21.1	98W	48*	—
2 7	2 17.17	+60 4.1	0.510	1.153	58.4	19.2	95E	74*	—	12 2	16 16.77	+77 15.0	1.084	1.577	38.1	21.0	99W	48*	—
2 9	2 23.48	+57 15.4	0.505	1.137	60.0	19.2	94E	76*	3*	12 7	16 55.80	+77 39.7	1.059	1.569	38.2	20.9	100E	47*	—
2 11	2 29.28	+54 23.9	0.502	1.121	61.7	19.2	92E	78*	5*	12 12	17 39.29	+78 0.6	1.035	1.560	38.3	20.9	101E	48*	—
2 13	2 34.66	+51 30.2	0.499	1.105	63.4	19.3	90E	79*	8*	12 17	18 27.51	+78 12.7	1.012	1.549	38.4	20.8	102E	49*	—
2 15	2 39.67	+48 34.9	0.497	1.088	65.1	19.3	88E	80*	10*	12 22	19 19.92	+78 10.2	0.990	1.537	38.7	20.8	102E	51*	—
2 17	2 44.34	+45 38.8	0.496	1.071	66.9	19.3	86E	79*	13*	12 27	20 14.75	+77 46.9	0.970	1.523	39.1	20.7	102E	53*	—
2 19	2 48.70	+42 42.3	0.496	1.054	68.7	19.3	83E	77*	15*	1 1	21 9.31	+76 58.5	0.951	1.507	39.6	20.7	102E	54*	—
2 21	2 52.78	+39 46.2	0.497	1.036	70.5	19.3	81E	75*	17*	1 6	22 0.88	+75 43.3	0.935	1.490	40.0	20.6	102E	56*	—
2 23	2 56.59	+36 50.9	0.499	1.019	72.4	19.4	79E	72*	20*	1 11	22 47.65	+74 2.2	0.920	1.471	41.0	20.6	101E	59*	—
2 25	3 0.13	+33 56.9	0.501	1.001	74.2	19.4	77E	70*	22*	1 16	23 29.01	+71 58.0	0.909	1.451	41.9	20.5	100E	61*	—
3 2	3 7.89	+26 50.1	0.511	0.954	78.8	19.5	71E	62*	27*	340666 2006 RO₃₆									
3 7	3 14.04	+19 58.9	0.524	0.907	83.2	19.6	65E	54*	31*	12 27	14 51.55	-35 55.1	0.659	0.721	90.8	19.4	47W	7*	41*
3 12	3 18.49	+13 26.2	0.541	0.857	87.5	19.7	60E	45*	34*	1 1	15 19.77	-38 19.8	0.713	0.710	87.4	19.4	46W	4*	40*
3 17	3 20.99	+ 7 14.1	0.560	0.807	91.6	19.8	54E	37*	36*	1 6	15 48.88	-39 56.8	0.768	0.702	83.8	19.4	45W	2*	39*
3 22	3 21.18	+ 1 24.4	0.581	0.756	95.4	19.9	49E	28*	37*	1 11	16 18.42	-40 49.8	0.825	0.698	80.0	19.4	44W	1*	38*
3 27	3 18.59	- 3 59.7	0.604	0.706	98.9	20.0	44E	19*	36*	1 16	16 47.85	-41 2.9	0.881	0.697					

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°
340666 2006 RO₃₆										376779 2000 LU₂₅									
<i>(continuation)</i>										<i>(continuation)</i>									
5 16	0 7.65	+16 13.8	1.443	1.079	44.4	20.5	48 W	26*	35*	6 30	15 56.01	+ 3 38.6	0.989	1.838	24.0	18.2	133 E	49	60
5 26	0 37.29	+21 9.1	1.436	1.096	44.7	20.5	50 W	29*	33*	7 5	15 53.02	+ 5 10.0	1.007	1.813	26.5	18.3	127 E	50	59
5 31	0 52.65	+23 29.9	1.431	1.103	44.9	20.5	50 W	31*	32*	7 15	15 49.99	+ 7 36.2	1.052	1.765	30.8	18.5	117 E	53*	56
6 5	1 8.48	+25 45.5	1.425	1.108	45.1	20.5	51 W	32*	31*	7 25	15 51.01	+ 9 18.6	1.103	1.719	34.1	18.6	108 E	54*	55
6 10	1 24.82	+27 55.3	1.419	1.112	45.3	20.5	51 W	34*	30*	8 4	15 55.87	+10 25.2	1.156	1.675	36.5	18.7	101 E	54*	54
6 15	1 41.74	+29 58.4	1.411	1.115	45.6	20.5	52 W	35*	28*	8 9	15 59.66	+10 47.6	1.182	1.654	37.4	18.8	98 E	53*	53
6 20	1 59.29	+31 54.1	1.402	1.116	45.9	20.5	52 W	37*	27*	8 14	16 4.32	+11 4.0	1.207	1.634	38.2	18.8	94 E	53*	53
6 25	2 17.54	+33 41.5	1.392	1.116	46.2	20.5	52 W	38*	25*	8 19	16 9.81	+11 15.3	1.231	1.615	38.8	18.8	92 E	53*	53
6 30	2 36.53	+35 19.6	1.381	1.114	46.6	20.5	53 W	40*	24*	8 24	16 16.07	+11 22.3	1.253	1.596	39.3	18.9	89 E	53*	53*
7 5	2 56.31	+36 47.3	1.370	1.111	47.0	20.5	53 W	41*	23*	8 29	16 23.09	+11 25.8	1.275	1.578	39.7	18.9	87 E	52*	52*
7 10	3 16.88	+38 3.7	1.358	1.107	47.4	20.5	53 W	42*	22*	9 3	16 30.84	+11 26.1	1.295	1.562	40.0	18.9	84 E	52*	52*
7 15	3 38.22	+39 7.3	1.345	1.101	47.9	20.5	53 W	43*	20*	9 8	16 39.29	+11 24.0	1.314	1.546	40.2	18.9	82 E	52*	51*
7 20	4 0.31	+39 56.9	1.331	1.094	48.3	20.4	54 W	44*	19*	9 13	16 48.44	+11 20.0	1.331	1.531	40.4	18.9	81 E	52*	50*
7 25	4 23.08	+40 31.3	1.316	1.085	48.9	20.4	54 W	45*	18*	9 23	17 8.72	+11 7.8	1.361	1.506	40.6	19.0	78 E	52*	48*
7 30	4 46.43	+40 49.4	1.301	1.076	49.5	20.4	54 W	46*	18*	10 3	17 31.54	+10 52.6	1.386	1.486	40.6	19.0	75 E	52*	46*
8 4	5 10.24	+40 49.9	1.286	1.065	50.1	20.3	54 W	46*	17*	10 13	17 56.82	+10 36.8	1.409	1.471	40.5	19.0	73 E	52*	44*
8 9	5 34.35	+40 31.9	1.270	1.052	50.7	20.3	53 W	46*	16*	10 23	18 24.40	+10 22.7	1.430	1.462	40.2	19.0	72 E	52*	41*
8 14	5 58.59	+39 54.6	1.254	1.039	51.4	20.3	53 W	46*	16*	11 2	18 54.09	+10 12.0	1.454	1.459	39.8	19.0	70 E	52*	38*
8 19	6 22.80	+38 57.4	1.237	1.024	52.1	20.2	53 W	46*	16*	11 12	19 25.62	+10 6.3	1.482	1.462	39.3	19.0	69 E	53*	36*
8 24	6 46.83	+37 39.9	1.221	1.008	52.9	20.2	53 W	46*	16*	11 22	19 58.59	+10 6.9	1.517	1.472	38.6	19.1	68 E	53*	33*
8 29	7 10.57	+36 2.1	1.206	0.991	53.7	20.2	52 W	45*	16*	12 2	20 32.52	+10 14.3	1.561	1.487	37.7	19.1	67 E	53*	30*
9 3	7 33.92	+34 3.8	1.190	0.974	54.5	20.1	52 W	45*	17*	12 12	21 6.90	+10 28.8	1.617	1.508	36.5	19.2	66 E	53*	28*
9 8	7 56.82	+31 45.6	1.176	0.955	55.3	20.1	51 W	44*	17*	12 22	21 41.19	+10 50.4	1.685	1.533	35.2	19.3	64 E	52*	25*
9 13	8 19.25	+29 8.0	1.163	0.935	56.0	20.0	50 W	43*	18*	1 1	22 14.93	+11 18.0	1.765	1.564	33.7	19.4	62 E	51*	23*
9 18	8 41.22	+26 11.7	1.152	0.915	56.8	20.0	50 W	42*	19*	1 11	22 47.78	+11 50.9	1.857	1.599	32.0	19.5	59 E	50*	21*
9 23	9 2.81	+22 57.8	1.143	0.894	57.5	19.9	49 W	41*	19*	1 21	23 19.49	+12 27.5	1.959	1.637	30.1	19.6	57 E	48*	20*
9 28	9 24.10	+19 27.9	1.137	0.872	58.1	19.9	48 W	39*	20*	3267 Glo									
10 3	9 45.19	+15 43.7	1.133	0.851	58.5	19.8	46 W	38*	21*	12 27	14 52.62	+ 5 29.5	3.145	2.769	17.7	18.4	59 W	46*	26*
10 8	10 6.21	+11 47.5	1.133	0.830	58.8	19.8	45 W	36*	22*	1 6	15 5.39	+ 5 21.5	3.052	2.790	18.7	18.4	65 W	48*	33*
10 13	10 27.29	+ 7 42.3	1.137	0.808	58.8	19.7	44 W	33*	23*	1 16	15 17.16	+ 5 26.3	2.952	2.810	19.5	18.4	72 W	50*	40*
10 18	10 48.60	+ 3 31.3	1.145	0.788	58.6	19.7	42 W	31*	24*	1 26	15 27.74	+ 5 44.5	2.846	2.830	20.0	18.3	79 W	51*	47*
10 23	11 10.30	+ 0 41.7	1.158	0.769	58.0	19.6	41 W	28*	25*	2 5	15 36.91	+ 6 15.9	2.736	2.848	20.2	18.3	86 W	51	52*
10 28	11 32.56	+ 4 52.5	1.176	0.751	57.1	19.6	39 W	25*	25*	2 15	15 44.43	+ 7 0.4	2.624	2.865	20.1	18.2	94 W	52	55*
11 2	11 55.53	+ 8 56.9	1.198	0.735	55.8	19.5	38 W	22*	25*	2 25	15 50.03	+ 7 56.9	2.515	2.882	19.7	18.1	102 W	53	56*
11 7	12 19.33	+12 50.3	1.224	0.721	54.1	19.5	36 W	19*	25*	3 7	15 53.47	+ 9 3.6	2.409	2.898	18.8	18.0	110 W	54	55
11 12	12 44.07	+16 28.2	1.254	0.710	52.0	19.5	34 W	16*	25*	3 17	15 54.50	+10 18.1	2.312	2.912	17.6	17.9	118 W	55	54
11 17	13 9.80	+19 46.8	1.287	0.703	49.6	19.4	33 W	14*	24*	3 27	15 52.97	+11 35.9	2.226	2.926	16.0	17.7	126 W	57	52
11 22	13 36.50	+22 42.4	1.324	0.698	46.8	19.4	31 W	11*	23*	4 1	15 51.23	+12 14.5	2.189	2.932	15.1	17.7	130 W	57	52
11 27	14 4.10	+25 12.1	1.362	0.697	43.9	19.4	29 W	9*	22*	4 6	15 48.86	+12 51.8	2.156	2.939	14.2	17.6	134 W	58	51
12 2	14 32.42	+27 14.0	1.401	0.699	40.9	19.4	28 W	6*	21*	4 11	15 45.88	+13 27.0	2.128	2.945	13.3	17.6	137 W	58	51
12 7	15 1.21	+28 46.9	1.441	0.705	37.9	19.4	26 W	5*	20*	4 16	15 42.34	+13 59.2	2.106	2.950	12.5	17.5	141 W	59	50
12 12	15 30.17	+29 50.8	1.480	0.714	35.0	19.4	25 W	3*	18*	4 21	15 38.30	+14 27.4	2.088	2.956	11.7	17.5	143 W	59	50
12 17	15 58.97	+30 26.3	1.519	0.726	32.2	19.4	23 W	2*	17*	4 26	15 33.85	+14 50.8	2.077	2.961	11.1	17.4	145 W	60	49
12 22	16 27.32	+30 35.3	1.556	0.740	29.6	19.4	22 W	1*	16*	5 1	15 29.09	+15 8.7	2.072	2.966	10.7	17.4	147 W	60	49
12 27	16 54.96	+30 19.9	1.592	0.757	27.3	19.4	21 W	1*	15*	5 6	15 24.11	+15 20.6	2.072	2.971	10.6	17.4	147 W	60	49
1 1	17 21.68	+29 43.0	1.627	0.775	25.3	19.5	20 W	1*	14*	5 16	15 13.98	+15 24.6	2.093	2.980	11.1	17.5	145 E	60	49
1 6	17 47.35	+28 47.1	1.659	0.795	23.6	19.5	19 W	1*	13*	5 26	15 4.39	+15 1.5	2.137	2.988	12.5	17.6	140 E	60	49
1 11	18 11.90	+27 35.0	1.689	0.815	22.2	19.6	18 W	1*	12*	6 5	14 56.12	+14 13.5	2.204	2.995	14.2	17.7	134 E	59	50
1 16	18 35.32	+26 9.2	1.717	0.836	21.1	19.6	18 W	1*	12*	6 15	14 49.73	+13 4.2	2.290	3.001	15.9	17.9	126 E	58	51
1 21	18 57.64	+24 32.2	1.743	0.858	20.3	19.7	18 W	2*	11*	6 25	14 45.54	+11 38.5	2.392	3.006	17.4	18.0	118 E	57	52
376779 2000 LU₂₅										80356 1999 XM₁₂₄									
12 27	14 52.40	+29 25.4	3.329	2.759	15.2	21.5	47 W	13*	40*	7 5	14 43.59	+10 1.3	2.507	3.011	18.5	18.1	110 E	54*	54
1 6	15 8.38	+30 1.2	3.180	2.714	16.9	21.4	54 W	14*	47*	7 15	14 43.82	+ 8 16.4	2.630	3.014	19.2	18.3	102 E	50*	56
1 16	15 24.15	+30 29.8	3.021	2.669	18.6	21.3	60 W	14*	53*	7 25	14 46.08	+ 6 27.4	2.759	3.016	19.6	18.4	95 E	46*	58
1 26	15 39.55	+30 50.2	2.852	2.623	20.2	21.2	67 W	14*	60*	8 4	14 50.16	+ 4 36.8	2.891	3.017	19.6	18.5	87 E	42*	59
2 5	15 54.40	+31 0.9	2.677	2.575	21.5	21.0	73 W	14*	67*	8 14	14 55.87	+ 2 46.4	3.023	3.018	19.3	18.6	80 E	38*	60*
2 15	16 8.49	+31 0.8	2.497	2.528	22.7	20.9	80 W	14	74*	8 24	15 3.01	+ 0 57.7	3.152	3.017	18.7	18.6			

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

20/22	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°-26°	20/22	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°-26°
80356 1999 XM₁₂₄ (continuation)									69311 Russ (continuation)								
2 5	15 55.10	-24 55.4	2.513	2.438	22.9	20.8	74 W	20* 67*	8 9	15 12.46	-49 2.6	1.280	1.784	33.8	18.5	102 E	- 67
2 15	16 9.28	-25 50.3	2.363	2.415	23.8	20.7	81 W	19 75*	8 14	15 20.51	-48 59.8	1.304	1.768	34.5	18.5	99 E	- 67*
2 25	16 22.44	-26 40.0	2.211	2.391	24.4	20.6	88 W	18 82*	8 19	15 29.73	-48 57.9	1.329	1.752	35.1	18.6	96 E	- 67*
3 7	16 34.30	-27 25.0	2.059	2.367	24.7	20.4	95 W	18 89*	8 24	15 40.06	-48 56.3	1.353	1.737	35.5	18.6	93 E	- 66*
3 17	16 44.49	-28 5.9	1.909	2.342	24.5	20.2	103 W	17 88	8 29	15 51.43	-48 54.3	1.378	1.722	35.9	18.6	91 E	- 65*
3 27	16 52.59	-28 43.1	1.764	2.316	23.7	20.0	111 W	16 87	9 3	16 3.79	-48 51.0	1.402	1.707	36.2	18.7	89	- 65*
4 6	16 58.16	-29 16.8	1.626	2.290	22.4	19.7	119 W	16 87	9 8	16 17.08	-48 45.8	1.425	1.693	36.4	18.7	86	- 64*
4 16	17 0.68	-29 46.8	1.497	2.263	20.3	19.5	129 W	15 86	9 13	16 31.24	-48 37.8	1.449	1.680	36.6	18.7	84	- 63*
4 26	16 59.74	-30 11.4	1.382	2.235	17.4	19.2	138 W	15 86	9 18	16 46.16	-48 26.2	1.472	1.668	36.7	18.7	82	- 63*
5 6	16 55.11	-30 28.2	1.283	2.207	13.8	18.9	149 W	15 86	9 23	17 1.77	-48 10.2	1.495	1.656	36.7	18.8	80	- 62*
5 16	16 46.90	-30 33.1	1.203	2.179	9.4	18.5	159 W	14 85	9 28	17 17.97	-47 48.9	1.517	1.645	36.7	18.8	79	- 62*
5 21	16 41.66	-30 29.8	1.172	2.164	7.2	18.3	165 W	15 86	10 3	17 34.65	-47 21.7	1.540	1.635	36.6	18.8	77	- 62*
5 26	16 35.87	-30 22.3	1.147	2.150	5.1	18.2	169 W	15 86	10 8	17 51.73	-46 48.0	1.563	1.625	36.5	18.8	75	- 61*
5 31	16 29.72	-30 10.2	1.127	2.135	3.9	18.1	172 E	15 86	10 13	18 9.08	-46 7.2	1.586	1.617	36.3	18.8	74	- 61*
6 5	16 23.42	-29 53.9	1.114	2.121	4.6	18.1	170 E	15 86	10 18	18 26.58	-45 19.1	1.609	1.609	36.1	18.8	72	- 61*
6 10	16 17.21	-29 33.5	1.107	2.106	6.7	18.1	166 E	15 86	10 23	18 44.12	-44 23.4	1.633	1.602	35.8	18.9	70	- 60*
6 15	16 11.33	-29 10.0	1.105	2.091	9.2	18.2	161 E	16 87	10 28	19 1.60	-43 20.0	1.657	1.596	35.5	18.9	69	1* 60*
6 20	16 6.00	-28 44.3	1.110	2.077	11.8	18.3	155 E	16 87	11 2	19 18.93	-42 9.0	1.682	1.591	35.2	18.9	67	2* 59*
6 25	16 1.40	-28 17.3	1.120	2.062	14.4	18.4	150 E	17 88	11 7	19 36.05	-40 50.7	1.707	1.587	34.8	18.9	66	4* 59*
6 30	15 57.66	-27 50.2	1.134	2.047	16.9	18.5	144 E	17 88	11 12	19 52.87	-39 25.3	1.733	1.584	34.3	18.9	65	5* 58*
7 5	15 54.87	-27 23.9	1.153	2.032	19.2	18.6	139 E	18 89	11 17	20 9.36	-37 53.4	1.761	1.582	33.9	18.9	63	7* 57*
7 10	15 53.09	-26 59.2	1.176	2.018	21.3	18.7	134 E	18 89	11 22	20 25.46	-36 15.4	1.789	1.581	33.4	19.0	62	8* 56*
7 15	15 52.36	-26 36.7	1.202	2.003	23.3	18.8	129 E	18 89	11 27	20 41.16	-34 32.0	1.819	1.581	32.8	19.0	60	10* 54*
7 25	15 53.99	-26 0.2	1.262	1.974	26.6	19.0	120 E	19* 90	12 2	20 56.45	-32 43.6	1.849	1.581	32.2	19.0	59	12* 52*
8 4	15 59.48	-25 35.2	1.330	1.945	29.1	19.1	111 E	19* 90	12 7	21 11.34	-30 51.0	1.881	1.583	31.6	19.0	57	14* 51*
8 14	16 8.49	-25 20.7	1.403	1.916	30.9	19.3	104 E	18* 89	12 12	21 25.83	-28 54.8	1.914	1.586	30.9	19.0	56	15* 48*
8 24	16 20.59	-25 14.3	1.479	1.888	32.1	19.4	97 E	18* 89	12 17	21 39.92	-26 55.6	1.948	1.590	30.2	19.1	54	17* 46*
9 3	16 35.40	-25 12.6	1.555	1.861	32.8	19.5	90 E	18* 84*	12 22	21 53.63	-24 54.1	1.983	1.594	29.5	19.1	53	19* 44*
9 13	16 52.59	-25 12.2	1.630	1.834	33.1	19.6	85 E	17* 79*	12 27	22 7.00	-22 50.8	2.019	1.600	28.7	19.1	51	20* 41*
9 23	17 11.86	-25 9.6	1.704	1.809	33.0	19.6	79 E	17* 73*	1 1	22 20.03	-20 46.2	2.056	1.607	27.9	19.1	50	22* 39*
10 3	17 32.90	-25 1.5	1.776	1.785	32.6	19.7	74 E	18* 68*	1 6	22 32.77	-18 40.8	2.094	1.614	27.0	19.2	48	23* 37*
10 13	17 55.48	-24 45.0	1.845	1.762	32.0	19.7	69 E	18* 63*	1 11	22 45.23	-16 35.2	2.133	1.623	26.1	19.2	47	24* 34*
10 23	18 19.33	-24 17.3	1.911	1.740	31.2	19.7	65 E	18* 58*	1 16	22 57.43	-14 29.7	2.172	1.632	25.2	19.2	45	25* 32*
11 2	18 44.20	-23 36.3	1.974	1.721	30.2	19.8	61 E	19* 53*	1 21	23 9.40	-12 24.8	2.213	1.642	24.3	19.2	43	25* 30*
11 12	19 9.85	-22 40.4	2.035	1.703	29.0	19.8	57 E	20* 48*	38063 1999 FH								
11 22	19 36.04	-22 28.6	2.093	1.688	27.7	19.8	53 E	21* 43*	12 27	14 53.11	-14 26.0	2.706	2.211	20.0	19.3	50 W	27* 36*
12 2	20 2.56	-20 0.5	2.149	1.674	26.3	19.8	49 E	22* 38*	1 6	15 12.99	-15 13.3	2.574	2.177	21.9	19.2	56 W	28* 42*
12 12	20 29.22	-18 16.3	2.202	1.663	24.9	19.8	45 E	22* 33*	1 16	15 33.07	-15 49.3	2.438	2.142	23.7	19.1	61 W	28* 48*
12 22	20 55.85	-16 16.8	2.254	1.655	23.3	19.8	42 E	23* 28*	1 26	15 53.24	-16 12.5	2.299	2.108	25.3	19.0	66 W	28* 54*
1 1	21 22.35	-14 3.3	2.303	1.649	21.7	19.8	38 E	23* 24*	2 5	16 13.40	-16 21.6	2.159	2.074	26.8	18.9	72 W	28* 61*
1 11	21 48.66	-11 37.6	2.351	1.646	20.1	19.7	35 E	22* 20*	2 15	16 33.40	-16 15.3	2.017	2.039	28.2	18.7	77 W	29* 66*
1 21	22 14.70	-9 1.7	2.398	1.645	18.4	19.7	32 E	21* 16*	2 25	16 53.06	-15 52.5	1.877	2.006	29.3	18.6	83 W	29* 72*
12 27	14 52.91	-16 23.1	3.144	2.619	16.7	20.8	50 W	26* 36*	3 7	17 12.19	-15 12.3	1.739	1.972	30.2	18.4	88 W	30* 76*
1 6	15 7.04	-18 5.9	3.001	2.586	18.4	20.7	56 W	25* 44*	3 17	17 30.55	-14 14.0	1.605	1.939	30.8	18.2	94 W	31* 78*
1 16	15 20.97	-19 47.8	2.848	2.553	20.0	20.6	63 W	25* 52*	3 27	17 47.87	-12 57.4	1.476	1.908	31.1	18.0	99 W	32* 77
1 26	15 34.56	-21 29.3	2.689	2.519	21.5	20.5	69 W	23* 60*	4 6	18 3.86	-11 22.6	1.352	1.877	31.0	17.8	105 W	34* 75
2 5	15 47.67	-23 11.4	2.525	2.484	22.7	20.4	76 W	22* 68*	4 16	18 18.18	-9 30.4	1.236	1.847	30.6	17.5	111 W	35 74
2 15	16 0.11	-24 55.5	2.359	2.448	23.6	20.2	83 W	20 77*	4 26	18 30.44	-7 22.7	1.129	1.819	29.6	17.3	117 W	38 71
2 25	16 11.63	-26 43.0	2.192	2.412	24.2	20.0	90 W	18 84*	5 6	18 40.28	-5 2.7	1.031	1.792	28.2	17.0	123 W	40 69
3 7	16 21.92	-28 36.1	2.027	2.375	24.5	19.8	98 W	16 87	5 11	18 44.15	-3 49.4	0.986	1.779	27.3	16.8	126 W	41 68
3 17	16 30.61	-30 36.9	1.866	2.338	24.2	19.6	105 W	14 85	5 16	18 47.27	-2 35.2	0.944	1.767	26.3	16.7	129 W	42 67
3 27	16 37.19	-32 47.5	1.713	2.299	23.5	19.4	113 W	12 83	5 21	18 49.59	-1 20.9	0.905	1.755	25.2	16.6	132 W	44 65
4 1	16 39.53	-33 57.1	1.639	2.280	22.9	19.3	117 W	11 82	5 26	18 51.11	0 7.9	0.869	1.744	24.0	16.4	136 W	45 64
4 6	16 41.10	-35 9.8	1.569	2.261	22.1	19.1	122 W	10 81	5 31	18 51.80	+ 1 2.6	0.837	1.733	22.7	16.3	139 W	46 63
4 11	16 41.83	-36 25.4	1.502	2.241	21.2	19.0	126 W	9 80	6 5	18 51.67	+ 2 9.1	0.808	1.723	21.4	16.2	142 W	47 62
4 16	16 41.60	-37 43.7	1.439	2.222	20.2	18.8	130 W	7 78	6 10	18 50.74	+ 3 9.8	0.783	1.714	20.1	16.0	145 W	48 61
4 21	16 40.32	-39 4.3	1.380	2.202	19.1	18.7	134 W	6 77	6 15	18 49.10	+ 4 3.0	0.761	1.705	18.9	15.9	147 W	49 60
4 26	16 37.92	-40 26.6	1.325	2.183	17.8	18.5	138 W	5 76	6 20	18 46.84	+ 4 47.0	0.743	1.697	18.0	15.8	149 W	50 59
5 1	16 34.30	-41 49.3	1.275	2.163	16.5	18.4	142 W	3 74	6 25	18 44.13	+ 5 20.5	0.729	1.689	17.3	15.8	150 W	50 59
5 6	16 29.41	-43 11.2	1.230	2.143	15.2	18.2	146 W	2 73	6 30	18 41.11	+ 5 42.3	0.719	1.682	17.0	15.7	151 W	51 58
5 11	16 23.24	-44 30.4	1.191	2.123	14.0	18.1	149 W	- 71	7 5	18 37.97	+ 5 51.6	0.713	1.676	17.1	15.7	151 E	51 58
5 16	16 15.84	-45 45.0	1.158	2.104	13.2	18.0	152 W	- 70	7 15	18 32.15	+ 5 31.7	0.712	1.666	18.5	15.7	149 E	51 58
5 21	16 7.37	-46 52.9	1.131	2.084	12.7	17.9	153 W	- 69	7 25	18 28.30	+ 4 24.7	0.726	1.659	21.1	15.8	144 E	49 60
5 26	15 58.04	-47 52.3	1.109	2.064	12.8	17.9	153 E	- 68	8 4	18 27.54	+ 2 41.2	0.754	1.655	24.1	16.0	138 E	48 61

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

20/22	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°-26°	20/22	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°-26°
38063 1999 FH (continuation)									5585 Parks (continuation)								
11 22	21 24.69	-10 29.8	1.681	1.806	32.7	18.2	81 E	35 63*	4 6	16 51.51	-41 58.1	1.976	2.597	19.9	18.5	118 W	3 74
12 2	21 47.33	-9 46.0	1.802	1.833	31.5	18.3	76 E	35 57*	4 11	16 52.14	-41 58.5	1.899	2.576	19.2	18.4	122 W	3 74
12 12	22 9.82	-8 47.0	1.925	1.862	30.1	18.5	71 E	36* 52*	4 16	16 51.88	-41 55.1	1.824	2.554	18.4	18.3	127 W	3 74
12 22	22 32.05	-7 35.4	2.050	1.893	28.5	18.6	67 E	37* 46*	4 21	16 50.71	-41 47.3	1.753	2.532	17.3	18.1	131 W	3 74
1 1	22 53.97	-6 13.7	2.175	1.924	26.9	18.7	62 E	38* 41*	4 26	16 48.61	-41 34.3	1.685	2.510	16.1	18.0	136 W	3 74
1 11	23 15.56	-4 44.2	2.300	1.957	25.1	18.8	58 E	37* 36*	5 1	16 45.57	-41 15.3	1.622	2.487	14.7	17.9	141 W	4 75
1 21	23 36.82	-3 9.0	2.423	1.990	23.2	18.9	53 E	36* 32*	5 6	16 41.64	-40 49.3	1.563	2.465	13.2	17.7	146 W	4 75
212359 2006 EV₅₂									30765 1981 EJ₄₈								
12 27	14 53.58	-9 14.7	2.429	1.982	23.0	21.1	52 W	32* 33*	12 27	14 55.28	-27 58.6	3.424	2.843	14.6	21.5	47 W	14* 39*
1 6	15 15.39	-10 1.1	2.243	1.893	25.8	20.9	57 W	33* 39*	1 6	15 8.10	-29 39.8	3.341	2.870	16.0	21.5	54 W	14* 47*
1 16	15 38.97	-10 36.9	2.054	1.800	28.6	20.7	61 W	33* 45*	1 16	15 20.14	-31 18.8	3.246	2.896	17.2	21.5	61 W	13* 54*
1 26	16 4.73	-10 59.1	1.866	1.703	31.6	20.5	65 W	33* 50*	1 26	15 31.20	-32 56.2	3.141	2.920	18.2	21.5	68 W	12* 62*
1 31	16 18.62	-11 4.0	1.773	1.653	33.2	20.3	67 W	33* 52*	2 5	15 41.02	-34 32.4	3.029	2.943	18.9	21.4	76 W	10 69*
2 5	16 33.31	-11 4.1	1.681	1.601	34.9	20.2	68 W	33* 54*	2 15	15 49.31	-36 8.0	2.912	2.966	19.3	21.4	83 W	9 76*
2 10	16 48.90	-10 58.5	1.591	1.549	36.6	20.0	69 W	33* 56*	2 25	15 55.72	-37 43.0	2.792	2.987	19.3	21.3	92 W	7 78*
2 15	17 5.51	-10 46.5	1.503	1.496	38.5	19.9	70 W	33* 57*	3 7	15 59.89	-39 17.2	2.674	3.007	19.0	21.2	100 W	6 77*
2 20	17 23.27	-10 27.1	1.419	1.442	40.4	19.7	71 W	33* 58*	3 17	16 1.39	-40 49.4	2.559	3.027	18.2	21.1	109 W	4 75
2 25	17 42.35	-9 59.5	1.338	1.386	42.6	19.6	71 W	33* 58*	3 27	15 59.83	-42 17.5	2.453	3.045	16.9	21.0	117 W	3 74
3 2	18 2.90	-9 22.3	1.262	1.330	44.9	19.4	71 W	33* 58*	4 6	15 54.97	-43 37.5	2.359	3.062	15.2	20.8	126 W	1 72
3 7	18 25.10	-8 34.6	1.191	1.272	47.4	19.3	71 W	33* 58*	4 16	15 46.74	-44 44.3	2.282	3.078	13.2	20.7	135 W	- 71
3 12	18 49.08	-7 35.1	1.127	1.214	50.1	19.1	70 W	33* 57*	4 26	15 35.52	-45 31.7	2.225	3.093	11.2	20.6	144 W	- 70
3 17	19 14.95	-6 23.2	1.070	1.155	53.0	19.0	68 W	32* 56*	5 6	15 22.16	-45 54.5	2.192	3.106	9.4	20.5	150 W	- 70
3 27	20 12.47	-3 22.1	0.985	1.034	59.2	18.8	63 W	31* 51*	5 11	15 15.06	-45 55.7	2.186	3.113	8.8	20.5	152 W	- 70
4 6	21 16.71	+0 17.2	0.945	0.913	65.1	18.6	56 W	28* 45*	5 16	15 7.93	-45 50.0	2.186	3.119	8.5	20.5	153 E	- 70
4 16	22 24.79	+4 5.3	0.958	0.796	69.1	18.4	48 W	23* 38*	5 21	15 0.97	-45 37.8	2.192	3.125	8.6	20.5	153 E	- 70
4 21	22 59.10	+5 51.5	0.984	0.742	69.6	18.4	44 W	20* 34*	5 26	14 54.34	-45 19.7	2.206	3.131	9.0	20.5	151 E	- 71
4 26	23 33.08	+7 28.2	1.023	0.692	68.7	18.3	40 W	17* 31*	5 31	14 48.19	-44 56.5	2.225	3.136	9.7	20.6	149 E	- 71
5 1	0 6.50	+8 54.2	1.073	0.649	66.4	18.2	36 W	14* 28*	6 5	14 42.66	-44 29.3	2.251	3.141	10.5	20.6	146 E	1 72
5 6	0 39.24	+10 9.7	1.133	0.617	62.4	18.0	33 W	12* 25*	6 10	14 37.83	-43 58.9	2.283	3.146	11.4	20.7	142 E	1 72
5 11	1 11.23	+11 15.6	1.200	0.596	57.2	17.9	30 W	9* 22*	6 15	14 33.77	-43 26.6	2.321	3.151	12.4	20.8	138 E	2 73
5 16	1 42.38	+12 13.0	1.272	0.589	51.0	17.9	27 W	7* 20*	6 20	14 30.51	-42 53.4	2.363	3.155	13.4	20.8	134 E	2 73
5 21	2 12.51	+13 2.6	1.345	0.598	44.7	17.8	25 W	4* 18*	6 25	14 28.07	-42 20.1	2.411	3.160	14.3	20.9	130 E	3* 74
5 26	2 41.47	+13 44.6	1.420	0.620	38.7	17.9	23 W	2* 16*	6 30	14 26.43	-41 47.6	2.462	3.163	15.2	21.0	126 E	3* 74
5 31	3 9.06	+14 19.0	1.493	0.655	33.5	18.0	21 W	1* 15*	7 5	14 25.55	-41 16.5	2.517	3.167	15.9	21.1	121 E	3* 75
6 5	3 35.18	+14 45.7	1.564	0.699	29.3	18.1	20 W	- 13*	7 10	14 25.43	-40 47.2	2.576	3.170	16.6	21.1	117 E	3* 75
6 10	3 59.80	+15 4.8	1.634	0.749	26.0	18.2	19 W	- 14*	7 15	14 26.01	-40 20.3	2.637	3.173	17.2	21.2	113 E	3* 76
6 15	4 22.92	+15 16.6	1.701	0.804	23.5	18.4	18 W	- 12*	7 20	14 27.26	-39 55.9	2.701	3.176	17.6	21.3	109 E	2* 76
6 20	4 44.60	+15 21.6	1.767	0.862	21.6	18.6	18 W	- 12*	7 25	14 29.12	-39 34.3	2.766	3.179	18.0	21.4	105 E	2* 76
6 25	5 4.93	+15 20.5	1.830	0.922	20.3	18.7	18 W	- 12*	7 30	14 31.56	-39 15.4	2.832	3.181	18.3	21.4	101 E	1* 77
6 30	5 24.01	+15 13.9	1.890	0.982	19.3	18.9	19 W	- 13*	8 4	14 34.53	-38 59.3	2.900	3.183	18.5	21.5	97 E	1* 77*
7 5	5 41.93	+15 2.4	1.948	1.043	18.7	19.1	19 W	- 13*	30767 Chriskraft								
7 15	6 14.66	+14 27.1	2.056	1.163	18.1	19.4	21 W	1* 15*	12 27	14 55.41	-4 23.9	3.420	2.944	15.6	20.5	54 W	37* 31*
7 25	6 43.77	+13 38.6	2.151	1.280	18.1	19.7	23 W	4* 16*	1 6	15 6.15	-5 20.8	3.310	2.955	16.9	20.4	61 W	38* 39*
8 4	7 9.81	+12 40.4	2.232	1.394	18.6	20.0	26 W	8* 19*	1 16	15 16.00	-6 10.5	3.190	2.965	17.9	20.4	68 W	38* 48*
8 14	7 33.22	+11 34.9	2.299	1.503	19.4	20.3	30 W	12* 21*	1 26	15 24.75	-6 52.9	3.061	2.974	18.7	20.4	76 W	38* 56*
8 24	7 54.30	+10 24.3	2.350	1.609	20.4	20.5	34 W	17* 24*	2 5	15 32.18	-7 28.6	2.925	2.982	19.2	20.3	84 W	38 64*
9 3	8 13.31	+9 10.2	2.384	1.709	21.4	20.7	38 W	22* 27*									
9 13	8 30.39	+7 54.1	2.402	1.806	22.4	20.9	43 W	27* 30*									
9 23	8 45.65	+6 37.5	2.403	1.899	23.4	21.0	49 W	32* 33*									
10 3	8 59.13	+5 21.5	2.387	1.988	24.3	21.1	55 W	37* 37*									
10 13	9 10.78	+4 7.6	2.356	2.073	25.0	21.2	61 W	41* 41*									
10 23	9 20.51	+2 57.3	2.311	2.154	25.4	21.3	68 W	44* 45*									
11 2	9 28.21	+1 52.4	2.254	2.233	25.6	21.3	76 W	46* 50*									
11 12	9 33.65	+0 54.8	2.186	2.307	25.3	21.3	84 W	46* 55*									
11 22	9 36.60	+0 7.1	2.112	2.379	24.5	21.2	93 W	45 60*									
12 2	9 36.82	-0 27.9	2.035	2.448	23.1	21.2	103 W	45 64*									
12 12	9 34.05	-0 46.9	1.960	2.514	21.1	21.1	113 W	44 65									
12 22	9 28.20	-0 46.7	1.894	2.577	18.4	21.0	124 W	44 65									
1 1	9 19.40	-0 24.7	1.843	2.637	15.1	20.9	136 W	45 64									
1 11	9 8.08	+0 20.2	1.813	2.695	11.3	20.7	148 W	45 64									
1 21	8 55.14	+1 26.0	1.811	2.750	7.5	20.6	159 W	46 63									
5585 Parks																	
12 27	14 55.07	-35 33.1	3.590	2.998	13.8	19.9	46 W	7* 40*									
1 6	15 10.80	-36 33.1	3.454	2.961	15.3	19.9	53 W	7* 47*									
1 16	15 26.27	-37 29.5	3.308	2.924	16.7	19.8	59 W	7* 53*									
1 26	15 41.29	-38 21.7	3.153	2.885	18.1	19.7	65 W	6* 59*									
2 5	15 55.68	-39 9.5	2.991	2.846	19.2	19.6	72 W	6* 65*									
2 15	16 9.19	-39 52.6	2.823	2.806	20.2	19.5	79 W	5 70*									
2 25	16 21.53	-40 30.5	2.651	2.766	20.9	19.4	86 W	4 74*									
3 2	16 27.15	-40 47.5	2.565	2.745	21.2	19.3	90 W	4 75*									
3 7	16 32.36	-41 3.0	2.478	2.725	21.3	19.2	93 W	4 75*									
3 12	16 37.08	-41 17.1	2.392	2.704	21.4	19.1	97 W	4 75									
3 17	16 41.27	-41 29.4	2.306	2.683	21.3	19.0	101 W	4 75									
3 22	16 44.86	-41 40.0	2.222	2.662	21.2	18.9	105 W	3 74									
3 27	16 47.80	-41 48.5	2.138	2.640	20.9	18.8	109 W	3 74									
4 1	16 50.04	-41 54.6	2.056	2.619	20.5	18.7	113 W	3 74									

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°	
30767 Chriskraft (continuation)									110083 2001 SV ₁₁₅ (continuation)									
2 15	15 38.03	-7 57.9	2.786	2.989	19.3	20.2	92 W	37 70*	8 19	23 16.50	-43 31.7	0.918	1.838	18.7	17.8	144 W	1	72
2 25	15 42.02	-8 21.3	2.646	2.995	18.9	20.1	101 W	37 72	8 24	23 5.54	-42 30.7	0.925	1.855	17.5	17.8	147 W	2	73
3 7	15 43.89	-8 39.7	2.509	3.000	18.1	19.9	110 W	36 73	8 29	22 54.73	-41 16.0	0.938	1.871	16.8	17.8	148 W	4	75
3 17	15 43.35	-8 53.9	2.379	3.004	16.6	19.8	120 W	36 73	9 3	22 44.48	-39 48.8	0.956	1.888	16.5	17.9	148 E	5	76
3 27	15 40.22	-9 5.1	2.262	3.008	14.6	19.6	131 W	36 73	9 8	22 35.12	-38 10.8	0.980	1.905	16.8	18.0	147 E	7	78
4 6	15 34.45	-9 14.5	2.162	3.010	11.9	19.4	142 W	36 73	9 13	22 26.90	-36 24.4	1.010	1.923	17.5	18.1	145 E	9	80
4 16	15 26.21	-9 23.4	2.083	3.011	8.7	19.2	153 W	36 73	9 18	22 19.97	-34 32.3	1.046	1.941	18.5	18.2	142 E	10	81
4 26	15 15.95	-9 33.4	2.031	3.012	5.2	19.0	164 W	35 74	9 23	22 14.37	-32 37.0	1.088	1.959	19.6	18.3	139 E	12	83
5 6	15 4.46	-9 45.9	2.008	3.011	2.5	18.8	173 W	35 74	9 28	22 10.08	-30 40.7	1.134	1.978	20.8	18.5	135 E	14	85
5 16	14 52.68	-10 2.6	2.016	3.010	4.3	18.9	167 E	35 74	10 3	22 7.04	-28 45.1	1.186	1.997	22.0	18.6	132 E	16	87
5 26	14 41.64	-10 24.9	2.053	3.008	7.9	19.1	156 E	35 74	10 8	22 5.17	-26 51.6	1.242	2.016	23.1	18.8	128 E	18	89
6 5	14 32.18	-10 53.7	2.118	3.004	11.2	19.3	145 W	34 75	10 13	22 4.37	-25 0.9	1.303	2.035	24.0	18.9	124 W	20	89
6 15	14 24.88	-11 29.7	2.206	3.000	14.2	19.5	134 W	34 75	10 18	22 4.54	-23 13.6	1.368	2.054	24.9	19.1	120 E	22	87
6 25	14 20.05	-12 13.0	2.312	2.995	16.5	19.7	123 E	33* 76	10 23	22 5.56	-21 30.0	1.435	2.074	25.6	19.2	116 E	24	85
7 5	14 17.72	-13 3.2	2.432	2.988	18.2	19.8	114 E	30* 77	11 2	22 9.77	-18 13.8	1.580	2.113	26.5	19.5	108 E	27	82
7 15	14 17.79	-13 59.8	2.561	2.981	19.3	20.0	104 E	27* 78	11 12	22 16.36	-15 11.0	1.733	2.153	26.8	19.8	101 E	30	79
7 25	14 20.07	-15 1.9	2.695	2.973	19.9	20.1	96 W	24* 79	11 22	22 24.78	-12 19.6	1.893	2.193	26.7	20.0	94 E	33	74*
8 4	14 24.32	-16 8.6	2.830	2.964	20.0	20.2	87 W	21* 79*	12 2	22 34.60	-9 37.3	2.057	2.234	26.2	20.2	87 E	35	66*
8 14	14 30.35	-17 19.2	2.963	2.954	19.7	20.3	80 E	18* 73*	12 12	22 45.52	-7 2.1	2.223	2.274	25.3	20.4	80 E	38	58*
8 24	14 37.96	-18 32.7	3.092	2.943	19.1	20.4	72 E	15* 66*	12 22	22 57.28	-4 32.3	2.387	2.314	24.1	20.5	74 E	40	50*
9 3	14 46.96	-19 48.2	3.213	2.932	18.2	20.4	65 E	13* 59*	1 1	23 9.69	-2 6.8	2.550	2.354	22.7	20.7	67 E	42	42*
9 13	14 57.23	-21 5.1	3.326	2.919	17.0	20.4	58 E	10* 52*	1 11	23 22.63	+0 15.5	2.708	2.394	21.1	20.8	61 E	43*	35*
9 23	15 8.64	-22 22.4	3.428	2.905	15.6	20.4	51 E	8* 45*	1 21	23 35.97	+2 35.1	2.859	2.433	19.4	20.9	55 E	41*	29*
10 3	15 21.10	-23 39.3	3.517	2.890	14.1	20.4	45 E	6* 38*	376771 2000 DH ₁₇									
10 13	15 34.53	-24 53.3	3.594	2.875	12.4	20.4	38 E	4* 32*	12 27	14 56.73	-11 3.5	2.059	1.624	27.9	21.2	51 W	30*	33*
10 23	15 48.86	-26 9.5	3.656	2.858	10.6	20.4	32 E	2* 26*	1 6	15 25.38	-12 11.5	1.981	1.609	29.5	21.1	54 W	30*	38*
11 2	16 4.03	-27 21.2	3.703	2.841	8.7	20.3	26 E	—	1 16	15 54.35	-13 2.2	1.906	1.597	31.1	21.0	57 W	30*	42*
11 12	16 19.99	-28 29.8	3.735	2.823	6.8	20.2	20 E	—	1 26	16 23.41	-13 33.7	1.833	1.588	32.5	21.0	60 W	29*	47*
11 22	16 36.67	-29 34.7	3.750	2.804	5.0	20.1	14 E	—	2 5	16 52.31	-13 45.3	1.763	1.583	33.7	20.9	63 W	29*	51*
12 2	16 54.03	-30 35.3	3.749	2.784	3.5	20.0	10 E	—	2 15	17 20.78	-13 36.8	1.695	1.581	34.9	20.9	66 W	29*	55*
12 12	17 12.02	-31 31.3	3.733	2.763	3.0	20.0	9 W	—	2 25	17 48.47	-13 9.0	1.629	1.583	35.9	20.8	70 W	30*	59*
12 22	17 30.55	-32 22.1	3.700	2.741	4.0	20.0	11 W	—	3 7	18 15.13	-12 23.8	1.566	1.589	36.7	20.8	73 W	30*	62*
1 1	17 49.59	-33 7.7	3.651	2.718	5.6	20.0	16 W	—	3 17	18 40.44	-11 23.3	1.504	1.598	37.3	20.7	76 W	31*	65*
1 11	18 9.05	-33 47.9	3.588	2.694	7.6	20.1	21 W	—	3 27	19 4.13	-10 10.9	1.442	1.610	37.7	20.6	80 W	32*	68*
1 21	18 28.86	-34 22.8	3.511	2.670	9.6	20.1	27 W	—	4 6	19 25.99	-8 50.1	1.382	1.626	37.8	20.6	84 W	33*	70*
110083 2001 SV ₁₁₅									4 16	19 45.77	-7 24.7	1.321	1.644	37.6	20.5	89 W	34*	71*
12 27	14 55.86	-26 3.2	2.465	1.932	21.8	20.1	47 W	16* 39*	4 26	20 3.20	-5 59.2	1.261	1.666	37.1	20.4	94 W	36*	70
1 6	15 19.35	-29 12.7	2.349	1.897	23.9	20.1	51 W	14* 44*	5 6	20 18.05	-4 37.9	1.201	1.690	36.1	20.3	99 W	38*	69
1 16	15 44.45	-32 21.0	2.234	1.863	25.8	20.0	56 W	11* 49*	5 16	20 30.02	-3 25.8	1.143	1.716	34.6	20.2	105 W	40*	67
1 26	16 11.38	-35 25.8	2.121	1.831	27.6	19.9	60 W	9* 54*	5 26	20 38.79	-2 28.2	1.087	1.745	32.5	20.1	112 W	42*	66
1 31	16 25.63	-36 56.0	2.066	1.815	28.5	19.8	61 W	7* 55*	5 31	20 41.89	-2 6.6	1.060	1.760	31.2	20.0	116 W	43*	66
2 5	16 40.42	-38 24.0	2.012	1.801	29.3	19.8	63 W	6* 57*	6 5	20 44.08	-1 50.8	1.034	1.775	29.7	19.9	120 W	43*	66
2 10	16 55.81	-39 49.5	1.959	1.786	30.1	19.7	65 W	4* 58*	6 10	20 45.34	-1 41.5	1.010	1.790	28.0	19.8	124 W	43	66
2 15	17 11.79	-41 11.9	1.907	1.773	30.9	19.7	67 W	3* 59*	6 15	20 45.64	-1 39.4	0.989	1.806	26.1	19.7	129 W	43	66
2 20	17 28.38	-42 30.5	1.857	1.760	31.6	19.6	69 W	1* 60*	6 25	20 43.46	-1 59.1	0.953	1.839	21.6	19.6	138 W	43	66
2 25	17 45.58	-43 44.6	1.809	1.747	32.3	19.6	70 W	—	7 5	20 37.91	-2 52.5	0.931	1.874	16.6	19.4	148 W	42	67
3 2	18 3.40	-44 53.6	1.762	1.735	32.9	19.5	72 W	—	7 15	20 29.81	-4 18.1	0.926	1.908	11.3	19.2	158 W	41	68
3 7	18 21.79	-45 56.9	1.717	1.724	33.5	19.5	74 W	—	7 20	20 25.22	-5 11.0	0.931	1.926	8.9	19.2	163 W	40	69
3 12	18 40.71	-46 53.8	1.674	1.714	34.1	19.4	75 W	—	7 25	20 20.52	-6 8.8	0.942	1.944	7.1	19.1	166 W	39	70
3 17	19 0.08	-47 43.8	1.633	1.705	34.6	19.4	77 W	—	7 30	20 15.93	-7 9.9	0.958	1.962	6.4	19.2	168 E	38	71
3 22	19 19.79	-48 26.2	1.593	1.696	35.1	19.3	78 W	—	8 4	20 11.61	-8 12.8	0.981	1.980	7.2	19.3	166 E	37	72
3 27	19 39.75	-49 0.9	1.556	1.688	35.5	19.3	79 W	—	8 9	20 7.74	-9 15.8	1.009	1.998	8.9	19.4	162 E	36	73
4 1	19 59.82	-49 27.6	1.520	1.681	35.9	19.2	81 W	—	8 14	20 4.47	-10 17.6	1.042	2.017	11.0	19.6	158 E	35	74
4 6	20 19.85	-49 46.4	1.486	1.675	36.3	19.2	82 W	—	8 19	20 1.92	-11 16.8	1.081	2.035	13.1	19.8	153 E	34	75
4 11	20 39.69	-49 57.5	1.453	1.669	36.6	19.1	83 W	—	8 24	20 0.13	-12 12.5	1.125	2.053	15.2	20.0	148 E	33	76
4 16	20 59.17	-50 1.4	1.422	1.665	36.9	19.1	85 W	—	9 3	19 58.98	-13 51.1	1.227	2.090	18.8	20.3	138 E	31	78
4 21	21 18.14	-49 58.6	1.393	1.661	37.1	19.0	86 W	—	9 13	20 1.03	-15 10.5	1.345	2.126	21.6	20.6	129 E	30	79
4 26	21 36.49	-49 49.9	1.364	1.659	37.3	19.0	87 W	—	9 23	20 6.02	-16 10.1	1.476	2.163	23.6	20.9	120 E	29	80
5 1	21 54.09	-49 36.1	1.337	1.657	37.4	18.9	89 W	—	10 3	20 13.52	-16 51.0	1.617	2.199	24.9	21.2	112 E	28	81
5 6	22 10.85	-49 18.3	1.310	1.656	37.5	18.9	90 W	—	10 13	20 23.12	-17 14.3	1.767	2.234	25.6	21.5	104 E	28	81
5 11	22 26.69	-48 57.6	1.285	1.656	37.6	18.9	92 W	—	465402 2008 HW ₁									
5 16	22 41.53	-48 34.8	1.259	1.658	37.5	18.8	93 W	—	12 27	14 57.32	-11 52.8	0.976	0.831	65.4	19.2	50 W	30*	34*
5 21	22 55.33	-48 11.1	1.235	1.660	37.4	18.8	95 W	—	1 1	14 52.69	-10 33.6	0.994	0.940	61.0	19.3	57 W	32*	39*
5 26	23 8.04	-47 47.2	1.210	1.663	37.3	18.7	96 W	—	1 6	14 48.45	-9 17.7	1.005	1.043	57.3</				

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°
465402 2008 HW₁										275446 2011 CW₆₂									
<i>(continuation)</i>										<i>(continuation)</i>									
3 22	12 10.36	+15 10.4	1.201	2.177	7.1	19.9	164 W	60	49	6 25	21 14.03	-18 3.2	0.833	1.727	23.2	19.2	138 W	27	82
3 27	11 58.57	+16 4.1	1.271	2.236	8.6	20.2	160 E	61	48	7 5	21 12.13	-19 14.8	0.803	1.750	17.9	19.0	148 W	26	83
4 1	11 48.12	+16 44.5	1.349	2.294	10.6	20.4	155 E	62	47	7 10	21 9.68	-19 56.9	0.793	1.763	14.9	18.9	154 W	25	84
4 6	11 39.07	+17 12.9	1.435	2.351	12.6	20.7	149 E	62	47	7 15	21 6.37	-20 41.7	0.788	1.775	11.8	18.7	159 W	24	85
4 11	11 31.41	+17 30.9	1.528	2.407	14.4	20.9	143 E	63	46	7 20	21 2.37	-21 27.5	0.787	1.788	8.6	18.6	165 W	24	85
4 16	11 25.08	+17 40.1	1.627	2.461	16.0	21.2	137 E	63	46	7 25	20 57.88	-22 12.6	0.792	1.801	5.5	18.5	170 W	23	86
4 21	11 20.01	+17 42.0	1.731	2.514	17.3	21.4	132 E	63	46	7 30	20 53.12	-22 55.4	0.802	1.815	3.2	18.4	174 W	22	87
27657 Berkhey										351278 2004 SB₂₀									
12 27	14 57.70	+2 11.0	3.157	2.735	17.4	20.8	56 W	43*	27*	12 27	14 58.28	+11 39.4	0.987	1.002	59.3	20.9	61 W	51*	22*
1 6	15 12.03	+2 6.3	3.027	2.716	18.7	20.7	62 W	45*	34*	1 6	15 39.52	+4 24.3	0.951	0.931	63.0	20.8	58 W	45*	27*
1 16	15 25.88	+2 14.5	2.889	2.695	19.9	20.7	69 W	46*	41*	1 16	16 23.40	+3 33.9	0.932	0.861	66.4	20.7	53 W	37*	32*
1 26	15 39.06	+2 36.7	2.747	2.674	20.9	20.6	75 W	47*	47*	1 26	17 11.63	-11 48.2	0.935	0.797	68.7	20.6	49 W	27*	35*
2 5	15 51.39	+3 13.5	2.602	2.651	21.6	20.4	82 W	48*	52*	2 5	18 6.02	-19 29.3	0.965	0.744	69.1	20.5	45 W	18*	36*
2 15	16 2.65	+4 5.5	2.457	2.628	22.1	20.3	89 W	49	56*	2 15	19 7.13	-25 29.8	1.022	0.708	66.8	20.5	41 W	9*	35*
2 25	16 12.56	+5 13.1	2.312	2.604	22.2	20.2	96 W	50	58*	2 20	19 39.58	-27 32.3	1.061	0.698	64.6	20.4	40 W	5*	34*
3 7	16 20.85	+6 35.7	2.172	2.579	22.0	20.0	103 W	52	57	2 25	20 12.51	-28 50.0	1.105	0.694	61.8	20.4	38 W	1*	32*
3 17	16 27.19	+8 12.4	2.038	2.553	21.5	19.8	110 W	53	56	3 2	20 45.15	-29 22.2	1.154	0.697	58.7	20.4	37 W	—	30*
3 27	16 31.23	+10 0.8	1.912	2.526	20.6	19.6	117 W	55	54	3 7	21 16.74	-29 11.9	1.207	0.705	55.3	20.5	36 W	—	28*
4 6	16 32.68	+11 56.9	1.798	2.498	19.4	19.4	124 W	57	52	3 12	21 46.69	-28 24.6	1.261	0.720	51.8	20.5	35 W	—	26*
4 11	16 32.34	+12 56.1	1.746	2.484	18.7	19.3	127 W	58	51	3 17	22 14.61	-27 7.3	1.317	0.740	48.5	20.6	34 W	—	24*
4 16	16 31.26	+13 54.8	1.698	2.470	18.0	19.2	130 W	59	50	3 22	22 40.37	-25 27.5	1.373	0.764	45.3	20.6	33 W	—	23*
4 21	16 29.45	+14 51.9	1.654	2.455	17.3	19.2	133 W	60	49	3 27	23 4.01	-23 31.5	1.427	0.791	42.4	20.7	32 W	—	22*
4 26	16 26.92	+15 46.0	1.615	2.441	16.7	19.1	136 W	61	48	4 1	23 25.66	-21 25.0	1.481	0.822	39.8	20.8	32 W	—	22*
5 1	16 23.69	+16 36.1	1.580	2.426	16.1	19.0	138 W	62	47	4 6	23 45.56	-19 12.4	1.532	0.855	37.5	20.9	31 W	—	21*
5 6	16 19.84	+17 20.6	1.550	2.410	15.7	18.9	140 W	62	47	4 11	0 3.91	-16 56.8	1.581	0.889	35.6	21.0	31 W	—	21*
5 11	16 15.42	+17 58.4	1.525	2.395	15.4	18.9	141 W	63	46	4 16	0 20.93	-14 40.9	1.627	0.924	34.0	21.1	31 W	—	21*
5 16	16 10.56	+18 28.0	1.505	2.380	15.4	18.8	141 W	63	46	4 21	0 36.80	-12 26.3	1.670	0.960	32.6	21.2	31 W	—	22*
5 21	16 5.39	+18 48.4	1.491	2.364	15.7	18.8	141 W	64	45	4 26	0 51.69	-10 14.1	1.709	0.996	31.5	21.3	31 W	—	23*
5 26	16 0.06	+18 59.0	1.481	2.348	16.1	18.8	140 E	64	45	5 1	1 5.76	-8 5.1	1.745	1.031	30.7	21.4	32 W	—	24*
5 31	15 54.72	+18 59.1	1.476	2.332	16.9	18.8	138 E	64	45	5 6	1 19.13	-5 59.6	1.777	1.067	30.1	21.5	32 W	—	25*
6 5	15 49.53	+18 48.8	1.476	2.316	17.7	18.8	136 E	64	45	480924 2002 XA₅₃									
6 10	15 44.62	+18 28.1	1.481	2.299	18.7	18.8	133 E	63	46	12 27	14 58.33	+3 6.1	1.988	1.662	29.6	20.4	57 W	43*	27*
6 15	15 40.16	+17 57.4	1.490	2.283	19.8	18.9	130 E	63	46	1 6	15 21.96	+1 48.1	1.948	1.689	30.3	20.4	60 W	44*	32*
6 20	15 36.24	+17 17.3	1.503	2.266	20.9	18.9	127 E	62	47	1 16	15 44.32	+0 43.2	1.904	1.718	31.0	20.4	64 W	44*	38*
6 25	15 32.97	+16 29.0	1.519	2.250	22.0	18.9	124 E	61	48	1 26	16 5.26	+0 8.6	1.856	1.749	31.5	20.4	68 W	44*	44*
6 30	15 30.39	+15 33.1	1.539	2.233	23.1	19.0	120 E	61	48	2 5	16 24.61	+0 48.0	1.803	1.782	31.9	20.4	73 W	43*	50*
7 5	15 28.56	+14 31.1	1.561	2.216	24.1	19.0	117 E	60	49	2 15	16 42.16	+1 16.1	1.744	1.816	32.1	20.4	78 W	43*	55*
7 10	15 27.49	+13 23.5	1.586	2.199	25.1	19.1	114 E	58*	51	2 25	16 57.66	+1 34.5	1.681	1.852	32.1	20.3	83 W	43*	60*
7 15	15 27.20	+12 11.3	1.613	2.181	26.0	19.1	110 E	57*	52	3 7	17 10.86	+1 45.6	1.615	1.889	31.7	20.3	90 W	43*	64*
7 20	15 27.68	+10 55.6	1.642	2.164	26.7	19.2	107 E	55*	53	3 17	17 21.44	+1 51.9	1.545	1.926	30.9	20.2	96 W	43*	66*
7 25	15 28.91	+9 37.0	1.672	2.147	27.4	19.2	103 E	53*	54	3 27	17 29.04	+1 56.9	1.474	1.964	29.6	20.1	104 W	43	66
7 30	15 30.86	+8 16.4	1.704	2.129	28.0	19.2	100 E	51*	56	4 6	17 33.34	+2 4.7	1.405	2.002	27.7	20.0	112 W	43	66
8 4	15 33.51	+6 54.3	1.736	2.112	28.5	19.3	97 E	49*	57	4 16	17 33.98	+2 19.5	1.340	2.041	25.1	19.8	120 W	43	66
8 14	15 40.79	+4 7.8	1.803	2.077	29.2	19.3	91 E	45*	60	4 26	17 30.75	+2 46.4	1.283	2.080	21.7	19.7	130 W	42	67
8 24	15 50.53	+1 21.2	1.871	2.042	29.5	19.4	85 E	41*	62*	5 6	17 23.75	+3 29.7	1.240	2.118	17.6	19.5	140 W	42	67
9 3	16 2.48	+1 22.5	1.938	2.007	29.6	19.4	79 E	37*	62*	5 16	17 13.44	+4 32.4	1.216	2.157	13.1	19.4	151 W	40	69
9 13	16 16.49	+4 1.1	2.005	1.972	29.3	19.5	74 E	34*	60*	5 26	17 0.86	+5 54.8	1.214	2.195	8.8	19.2	161 W	39	70
9 23	16 32.40	+6 32.4	2.068	1.938	28.8	19.5	68 E	32*	57*	6 5	16 47.46	+7 33.6	1.238	2.233	6.7	19.2	165 E	37	72
10 3	16 50.07	+8 54.4	2.129	1.904	28.0	19.5	63 E	29*	53*	6 10	16 40.94	+8 27.4	1.260	2.252	7.3	19.3	164 E	37	72
10 13	17 9.41	+11 5.6	2.187	1.870	27.1	19.5	59 E	27*	48*	6 15	16 34.79	+9 23.1	1.288	2.271	8.7	19.4	160 E	36	73
10 23	17 30.31	+13 4.1	2.240	1.838	25.9	19.5	54 E	25*	44*	6 20	16 29.19	+10 19.9	1.324	2.289	10.4	19.6	156 E	35	74
11 2	17 52.65	+14 48.2	2.290	1.806	24.6	19.4	49 E	23*	39*	6 25	16 24.24	+11 17.2	1.365	2.307	12.3	19.7	151 E	34	75
11 12	18 16.36	+16 16.5	2.335	1.776	23.2	19.4	45 E	22*	35*	7 5	16 16.61	+13 10.6	1.465	2.344	15.8	20.0	141 E	32	77
11 22	18 41.27	+17 27.4	2.375	1.748	21.6	19.3	41 E	20*	30*	7 15	16 12.25	+15 0.2	1.584	2.380	18.8	20.3	131 E	30	79
12 2	19 7.26	+18 19.9	2.411	1.721	19.9	19.3	36 E	18*	25*	7 25	16 11.15	+16 44.2	1.719	2.415	20.9	20.6	122 E	28*	81
12 12	19 34.18	+18 53.0	2.442	1.696	18.2	19.2	32 E	16*	21*	8 4	16 13.02	+18 21.8	1.866	2.449	22.4	20.9	113 E	26*	82
12 22	20 1.83	+19 6.4	2.469	1.673	16.4	19.2	29 E	15*	17*	8 14	16 17.54	+19 53.0	2.022	2.482	23.2	21.1	105 E	24*	84
1 1	20 30.05	+18 59.9	2.492	1.653	14.5	19.1	25 E	12*	14*	8 24	16 24.36	+21 17.5	2.182	2.515	23.5	21.3	97 E	22*	85
1 11	20 58.67	+18 34.0	2.511	1.636	12.7	19.0	21 E	10*	11*	9 3	16 33.13	+22 35.4	2.346	2.547	23.3	21.5	90 E	20*	83*
1 21	21 27.51	+17 49.7	2.527	1.621	10.9	18.9	18 E	7*	9*	163693 Atira									
12 27	14 58.13	+12 38.7	2.195	1.730	25.7	21.4	50 W	29*	34*	12 27	14 58.94	+3 28.2	1.045	0.963	58.5	18.4	57 W	44*	26*
1 6	15 24.20	+14 20.5	2.103	1.709	27.5	21.3	53 W	28*	39*	1 6	15 36.14	+2 59.9	1.042	0.976	58.2	18.4	58 W	44*	28*
1 16	15 50.82	+15 50.1	2.012	1.689	29.2	2													

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°
163693 Atira										36779 2000 SW₁									
<i>(continuation)</i>																			
2 5	17 32.13	+ 1 0.3	1.007	0.957	60.2	18.4	57 W	40*	35*	12 27	14 59.39	-11 56.1	2.786	2.277	19.2	20.1	50 W	29*	33*
2 15	18 13.62	+ 0 9.0	0.991	0.931	61.7	18.3	56 W	38*	37*	1 6	15 18.24	-12 51.6	2.653	2.242	21.1	20.0	55 W	30*	40*
2 25	18 57.48	+ 0 48.8	0.977	0.895	63.7	18.3	54 W	34*	38*	1 16	15 37.24	-13 37.8	2.514	2.206	22.9	19.9	61 W	30*	46*
3 7	19 44.52	+ 1 51.7	0.968	0.849	65.8	18.2	51 W	30*	38*	1 26	15 56.28	-14 13.7	2.372	2.170	24.5	19.8	66 W	30*	53*
3 12	20 9.47	+ 2 23.6	0.966	0.823	66.9	18.2	50 W	28*	38*	2 5	16 15.28	-14 38.4	2.227	2.133	26.0	19.7	72 W	30*	59*
3 17	20 35.49	+ 2 54.3	0.968	0.795	67.9	18.1	48 W	25*	37*	2 15	16 34.11	-14 51.2	2.081	2.097	27.3	19.5	77 W	30*	66*
3 22	21 2.63	+ 3 22.2	0.972	0.764	68.8	18.1	46 W	22*	36*	2 25	16 52.59	-14 51.7	1.935	2.060	28.5	19.4	83 W	30*	71*
3 27	21 30.92	+ 3 45.3	0.982	0.733	69.5	18.0	43 W	19*	35*	3 7	17 10.58	-14 39.7	1.791	2.024	29.4	19.2	88 W	30*	76*
4 1	22 0.35	+ 4 0.7	0.996	0.700	69.7	18.0	41 W	16*	34*	3 17	17 27.83	-14 15.2	1.650	1.987	30.0	19.0	94 W	31*	78*
4 6	22 30.85	+ 4 5.1	1.017	0.666	69.4	17.9	39 W	12*	32*	3 27	17 44.11	-13 38.7	1.513	1.952	30.2	18.8	100 W	31*	78
4 11	23 2.29	+ 3 55.2	1.044	0.632	68.4	17.8	36 W	9*	30*	4 6	17 59.15	-12 51.3	1.381	1.916	30.1	18.5	106 W	32	77
4 16	23 34.47	+ 3 27.5	1.079	0.599	66.5	17.7	33 W	6*	27*	4 16	18 12.59	-11 54.3	1.256	1.882	29.6	18.3	112 W	33	76
4 21	0 7.17	+ 2 38.9	1.121	0.568	63.4	17.6	30 W	2*	24*	4 26	18 24.09	-10 50.2	1.138	1.848	28.5	18.0	119 W	34	75
4 26	0 40.15	+ 1 27.2	1.170	0.542	59.2	17.4	28 W	-	21*	5 6	18 33.24	- 9 42.4	1.030	1.815	26.8	17.7	126 W	35	74
5 6	1 45.93	+ 2 6.3	1.282	0.507	47.2	17.1	22 W	-	15*	5 16	18 39.61	- 8 35.3	0.933	1.784	24.4	17.3	133 W	36	73
5 16	2 49.85	+ 6 53.2	1.400	0.507	32.7	16.9	16 W	-	8*	5 21	18 41.62	- 8 4.0	0.888	1.769	23.0	17.2	137 W	37	72
5 26	3 50.56	+12 3.8	1.507	0.542	19.4	16.8	10 W	-	2*	5 26	18 42.83	- 7 35.4	0.847	1.754	21.3	17.0	141 W	37	72
5 31	4 19.59	+14 31.2	1.555	0.568	14.1	16.8	8 W	-	-	5 31	18 43.21	- 7 10.2	0.810	1.740	19.5	16.8	145 W	38	71
6 5	4 47.80	+16 47.0	1.599	0.599	9.9	16.8	6 W	-	-	6 5	18 42.74	- 6 49.7	0.776	1.726	17.6	16.7	149 W	38	71
6 10	5 15.24	+18 48.1	1.640	0.632	6.8	16.9	4 E	-	-	6 10	18 41.47	- 6 34.9	0.745	1.713	15.6	16.5	153 W	38	71
6 15	5 41.98	+20 32.7	1.677	0.666	5.2	17.0	3 E	-	-	6 15	18 39.45	- 6 26.9	0.719	1.701	13.6	16.3	157 W	39	70
6 25	6 33.49	+23 10.3	1.742	0.733	6.0	17.3	4 E	-	-	6 20	18 36.82	- 6 26.4	0.697	1.689	11.8	16.2	160 W	39	70
7 5	7 22.55	+24 40.5	1.797	0.795	8.1	17.6	6 E	-	-	6 25	18 33.72	- 6 34.2	0.679	1.677	10.5	16.0	163 W	38	71
7 15	8 9.23	+25 8.8	1.843	0.849	9.9	17.9	8 E	1*	-	7 5	18 26.83	- 7 15.4	0.657	1.656	10.4	15.9	163 E	38	71
7 20	8 31.67	+25 2.2	1.862	0.873	10.6	18.0	9 E	2*	-	7 15	18 20.52	- 8 29.1	0.652	1.638	13.8	16.0	157 E	37	72
7 25	8 53.53	+24 42.9	1.878	0.894	11.2	18.1	10 E	3*	-	7 25	18 16.58	-10 8.3	0.664	1.623	18.6	16.2	149 E	35	74
7 30	9 14.81	+24 12.0	1.893	0.914	11.7	18.2	11 E	4*	-	7 30	18 15.91	-11 4.0	0.675	1.617	21.0	16.3	145 E	34	75
8 4	9 35.54	+23 30.3	1.905	0.931	12.1	18.3	11 E	5*	-	8 4	18 16.25	-12 2.0	0.690	1.611	23.3	16.4	141 E	33	76
8 9	9 55.76	+22 38.8	1.915	0.945	12.5	18.3	12 E	5*	-	8 9	18 17.68	-13 1.0	0.708	1.606	25.5	16.5	137 E	32	77
8 14	10 15.47	+21 38.1	1.923	0.957	12.9	18.4	12 E	6*	-	8 14	18 20.22	-13 59.6	0.729	1.603	27.5	16.7	133 E	31	78
8 19	10 34.73	+20 29.1	1.928	0.966	13.2	18.4	13 E	6*	-	8 19	18 23.86	-14 56.7	0.753	1.600	29.3	16.8	129 E	30	79
8 24	10 53.58	+19 12.5	1.932	0.973	13.5	18.5	13 E	7*	-	8 24	18 28.58	-15 51.3	0.779	1.597	30.9	16.9	126 E	29	80
9 3	11 30.23	+16 18.3	1.932	0.980	13.9	18.5	14 E	7*	-	9 3	18 40.96	-17 29.8	0.839	1.596	33.5	17.1	119 E	28	81
9 13	12 5.83	+12 59.6	1.923	0.976	14.2	18.5	14 E	8*	-	9 13	18 56.85	-18 49.7	0.906	1.598	35.3	17.4	113 E	26	83
9 23	12 40.84	+ 9 19.6	1.907	0.963	14.4	18.4	14 E	8*	-	9 23	19 15.64	-19 47.6	0.980	1.604	36.6	17.6	108 E	25	84
10 3	13 15.76	+ 5 20.7	1.882	0.939	14.5	18.4	14 E	8*	-	10 3	19 36.64	-20 21.4	1.061	1.613	37.2	17.8	103 E	25	84
10 13	13 51.14	+ 1 5.1	1.850	0.906	14.4	18.2	13 E	7*	-	10 8	19 47.78	-20 29.1	1.104	1.618	37.4	17.9	100 E	25	84
10 23	14 27.62	+ 3 25.1	1.810	0.864	14.2	18.1	12 E	6*	-	10 13	19 59.26	-20 30.5	1.149	1.625	37.4	18.0	98 E	24	85
11 2	15 5.97	+ 8 7.5	1.761	0.812	13.8	17.9	11 E	5*	-	10 18	20 11.02	-20 25.8	1.194	1.632	37.4	18.1	96 E	25	84*
11 7	15 26.14	+10 32.2	1.734	0.783	13.8	17.8	11 E	4*	-	10 23	20 22.96	-20 15.1	1.241	1.641	37.2	18.1	94 E	25	83*
11 12	15 47.15	+12 58.2	1.704	0.752	13.8	17.6	10 E	4*	-	10 28	20 35.06	-19 58.7	1.290	1.650	37.0	18.2	92 E	25	81*
11 17	16 9.17	+15 24.6	1.671	0.720	14.2	17.5	10 E	3*	1*	11 2	20 47.25	-19 36.8	1.339	1.659	36.7	18.3	89 E	25	79*
11 22	16 32.35	+17 50.1	1.634	0.686	15.0	17.4	10 E	2*	2*	11 7	20 59.49	-19 9.6	1.390	1.669	36.4	18.4	87 E	26	77*
11 27	16 56.91	+20 12.9	1.594	0.652	16.5	17.3	11 E	2*	3*	11 12	21 11.76	-18 37.4	1.443	1.680	35.9	18.5	85 E	26	74*
12 2	17 23.03	+22 30.2	1.550	0.618	19.0	17.2	12 E	1*	5*	11 17	21 24.01	-18 0.6	1.496	1.692	35.5	18.6	83 E	27	71*
12 7	17 50.89	+24 38.5	1.501	0.586	22.6	17.1	13 E	1*	6*	11 22	21 36.21	-17 19.5	1.550	1.704	34.9	18.6	81 E	28	69*
12 12	18 20.59	+26 33.2	1.445	0.557	27.4	17.1	15 E	1*	9*	11 27	21 48.34	-16 34.6	1.605	1.717	34.3	18.7	79 E	28	66*
12 17	18 52.12	+28 8.1	1.384	0.532	33.5	17.0	17 E	1*	11*	12 2	22 0.38	-15 46.0	1.661	1.730	33.7	18.8	77 E	29	63*
12 22	19 25.28	+29 15.9	1.315	0.514	40.7	17.0	20 E	2*	14*	12 7	22 12.33	-14 54.2	1.718	1.744	33.1	18.9	75 E	30	60*
12 24	19 38.91	+29 33.8	1.286	0.509	43.8	17.1	21 E	2*	15*	12 12	22 24.18	-13 59.6	1.776	1.759	32.3	18.9	73 E	31	57*
12 26	19 52.69	+29 45.5	1.256	0.505	47.0	17.1	22 E	2*	16*	12 22	22 47.52	-12 3.2	1.893	1.789	30.8	19.1	69 E	33*	52*
12 28	20 6.59	+29 50.7	1.225	0.503	50.4	17.1	23 E	3*	17*	1 1	23 10.38	- 9 59.4	2.011	1.820	29.2	19.2	65 E	35*	46*
12 30	20 20.54	+29 49.0	1.193	0.502	53.8	17.2	24 E	3*	18*	1 11	23 32.79	- 7 50.7	2.131	1.853	27.5	19.3	60 E	35*	41*
1 1	20 34.51	+29 39.8	1.161	0.503	57.1	17.2	25 E	4*	19*	1 21	23 54.77	- 5 39.3	2.250	1.887	25.6	19.4	56 E	36*	37*
1 3	20 48.42	+29 23.0	1.128	0.505	60.5	17.2	27 E	5*	20*	68548 2001 XR₃₁									
1 5	21 2.25	+28 58.2	1.096	0.509	63.8	17.3	28 E	5*	21*	12 27	14 59.70	-34 51.9	2.286	1.744	23.7	20.7	45 W	7*	39*
1 7	21 15.93	+28 25.2	1.063	0.514	67.0	17.3	29 E	6*	22*	1 1	15 14.63	-35 59.3	2.226	1.715	24.8	20.7	47 W	7*	41*
1 9	21 29.42	+27 44.0	1.030	0.520	70.1	17.4	30 E	7*	23*	1 6	15 30.23	-37 3.0	2.165	1.686	26.0	20.6	49 W	6*	43*
1 11	21 42.70	+26 54.4	0.998	0.528	73.0	17.5	31 E	8*	24*	1 11	15 46.54	-38 2.4	2.105	1.657	27.1	20.5	50 W	5*	44*
1 13	21 55.72	+25 56.3	0.966	0.537	75.8	17.5	32 E	10*	25*	1 16	16 3.59	-38 56.5	2.045	1.627	28.3	20.5	52 W	4*	45*
1 15	22 8.47	+24 49.9	0.935	0.546	78.4	17.6	33 E	11*	25*	1 21	16 21.40	-39 44.3	1.986	1.597	29.4	20.4	53 W	3*	47*
1 17	22 20.94	+23 35.2	0.905	0.557	80.7	17.6	34 E	12*	26*	1 26	16 39.99	-40 24.6	1.927	1.566	30.6	20.			

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°
68548 2001 XR₃₁ (continuation)									153011 2000 JN₇₈ (continuation)								
5 1	23 15.69	- 8 11.8	1.197	1.015	53.4	19.0	54 W	11* 48*	9 18	22 32.07	-39 36.3	0.921	1.805	21.3	19.1	139 E	5 76
5 6	23 33.76	- 4 14.1	1.194	0.999	53.9	19.0	53 W	13* 47*	9 23	22 28.42	-39 34.0	0.963	1.819	22.8	19.3	135 E	5 76
5 11	23 51.72	- 0 14.1	1.195	0.985	54.2	18.9	52 W	15* 45*	9 28	22 25.79	-39 19.5	1.008	1.832	24.2	19.5	131 E	6 77
5 16	0 9.65	+ 3 45.3	1.200	0.974	54.2	18.9	51 W	17* 43*	10 3	22 24.21	-38 54.4	1.056	1.845	25.4	19.6	128 E	6 77
5 21	0 27.64	+ 7 41.1	1.209	0.966	54.1	18.9	51 W	19* 41*	10 8	22 23.68	-38 20.3	1.107	1.858	26.5	19.8	124 E	7 78
5 26	0 45.78	+11 30.7	1.222	0.962	53.7	18.9	50 W	21* 39*	10 13	22 24.15	-37 38.7	1.160	1.871	27.5	19.9	120 E	7 78
5 31	1 4.15	+15 11.4	1.238	0.961	53.1	18.9	49 W	23* 37*	10 18	22 25.57	-36 50.9	1.215	1.884	28.3	20.0	116 E	8 79
6 5	1 22.79	+18 41.1	1.257	0.964	52.4	18.9	49 W	25* 35*	10 23	22 27.84	-35 57.9	1.272	1.896	28.9	20.2	113 E	9 80
6 10	1 41.75	+21 57.9	1.278	0.971	51.5	19.0	48 W	27* 33*	10 28	22 30.88	-35 0.7	1.331	1.908	29.4	20.3	110 E	10 81
6 15	2 1.02	+25 0.1	1.302	0.980	50.5	19.0	48 W	29* 30*	11 2	22 34.60	-33 59.9	1.391	1.920	29.8	20.4	106 E	11 82
6 20	2 20.60	+27 46.7	1.326	0.993	49.4	19.0	48 W	31* 28*	11 7	22 38.93	-32 56.2	1.452	1.932	30.0	20.5	103 E	12 83
6 25	2 40.47	+30 16.9	1.352	1.008	48.4	19.1	48 W	32* 26*	11 12	22 43.81	-31 49.9	1.514	1.943	30.1	20.6	100 E	13 84
7 5	3 20.81	+34 27.1	1.403	1.048	46.2	19.2	48 W	36* 23*	11 17	22 49.16	-30 41.5	1.576	1.954	30.2	20.7	97 E	14 85
7 15	4 1.33	+37 31.6	1.453	1.095	44.3	19.3	49 W	39* 20*	11 22	22 54.92	-29 31.5	1.639	1.965	30.1	20.8	93 E	15 86*
7 25	4 41.13	+39 35.6	1.497	1.149	42.7	19.4	50 W	42* 18*	11 27	23 1.04	-28 20.0	1.703	1.975	30.0	20.9	90 E	17 84*
7 30	5 0.47	+40 17.3	1.516	1.178	42.0	19.5	51 W	43* 17*	12 2	23 7.47	-27 7.2	1.767	1.985	29.7	21.0	88 E	18 81*
8 4	5 19.30	+40 47.2	1.533	1.208	41.4	19.6	52 W	44* 16*	12 7	23 14.18	-25 53.4	1.830	1.995	29.5	21.1	85 E	19 77*
8 9	5 37.52	+41 6.3	1.548	1.239	40.8	19.6	53 W	46* 16*	12 12	23 21.14	-24 38.7	1.894	2.004	29.1	21.2	82 E	20 74*
8 14	5 55.06	+41 15.9	1.560	1.270	40.3	19.7	54 W	47* 15*	12 17	23 28.30	-23 23.4	1.957	2.014	28.7	21.2	79 E	22 70*
8 19	6 11.86	+41 17.3	1.569	1.301	39.9	19.7	56 W	49* 15*	12 22	23 35.65	-22 7.6	2.019	2.022	28.2	21.3	76 E	23 66*
8 24	6 27.89	+41 11.7	1.575	1.333	39.6	19.8	57 W	51* 15*	12 27	23 43.15	-20 51.4	2.082	2.031	27.6	21.4	73 E	24 63*
9 3	6 57.51	+40 43.5	1.579	1.397	39.0	19.9	61 W	54* 16*	1 1	23 50.81	-19 34.9	2.143	2.039	27.1	21.4	71 E	25 59*
9 13	7 23.80	+39 59.6	1.571	1.460	38.6	19.9	65 W	59* 16*	1 6	23 58.59	-18 18.3	2.203	2.047	26.4	21.5	68 E	27* 56*
9 23	7 46.70	+39 6.7	1.550	1.523	38.1	20.0	70 W	63* 18*	176611 2002 FC₂₉								
10 3	8 6.22	+38 10.6	1.517	1.585	37.6	20.0	75 W	69* 19*	12 27	15 0.42	-11 40.0	2.477	1.985	22.1	21.2	50 W	29* 33*
10 13	8 22.26	+37 16.0	1.474	1.645	36.8	20.0	81 W	74* 21*	1 6	15 22.44	-12 59.3	2.360	1.954	24.1	21.1	54 W	30* 39*
10 23	8 34.62	+36 27.0	1.421	1.704	35.7	20.0	88 W	79* 24*	1 16	15 44.89	-14 9.0	2.240	1.923	25.9	21.1	59 W	29* 45*
11 2	8 43.00	+35 46.5	1.361	1.761	34.1	19.9	96 W	81* 26*	1 26	16 7.68	-15 8.1	2.118	1.892	27.7	20.9	63 W	29* 51*
11 7	8 45.55	+35 30.1	1.329	1.788	33.1	19.9	100 W	80* 27*	2 5	16 30.78	-15 55.6	1.996	1.862	29.4	20.8	68 W	28* 57*
11 12	8 46.89	+35 16.4	1.296	1.815	31.9	19.8	104 W	80* 28*	2 15	16 54.07	-16 31.0	1.874	1.832	30.9	20.7	72 W	28* 62*
11 17	8 46.98	+35 5.3	1.264	1.842	30.5	19.7	109 W	80* 29*	2 25	17 17.42	-16 53.8	1.753	1.803	32.3	20.6	77 W	27* 67*
11 22	8 45.72	+34 56.6	1.232	1.868	28.9	19.7	114 W	80* 29*	3 7	17 40.72	-17 4.3	1.634	1.774	33.5	20.4	81 W	27* 72*
11 27	8 43.06	+34 49.8	1.202	1.893	27.0	19.6	119 W	80* 29	3 17	18 3.79	-17 3.0	1.517	1.747	34.6	20.2	85 W	27* 76*
12 2	8 38.92	+34 44.1	1.173	1.918	24.9	19.5	125 W	80* 29	3 27	18 26.44	-16 50.9	1.405	1.721	35.4	20.1	90 W	27* 79*
12 7	8 33.29	+34 38.5	1.148	1.942	22.5	19.4	131 W	80* 29	4 6	18 48.49	-16 29.8	1.296	1.697	36.0	19.9	94 W	27* 80*
12 12	8 26.20	+34 31.6	1.126	1.966	19.9	19.3	137 W	80* 29	4 16	19 9.68	-16 2.0	1.192	1.675	36.3	19.7	99 W	28* 80
12 17	8 17.76	+34 22.0	1.109	1.989	17.1	19.2	144 W	79* 30	4 26	19 29.77	-15 30.8	1.093	1.654	36.2	19.5	104 W	29* 80
12 22	8 8.15	+34 8.1	1.098	2.011	14.1	19.1	150 W	79* 30	5 6	19 48.49	-15 0.2	1.000	1.636	35.7	19.2	109 W	29* 79
12 27	7 57.63	+33 48.6	1.093	2.033	11.0	19.0	157 W	79* 30	5 16	20 5.45	-14 34.9	0.914	1.620	34.6	19.0	115 W	30* 79
1 1	7 46.53	+33 22.6	1.094	2.055	8.1	18.9	163 W	78* 31	5 26	20 20.27	-14 20.8	0.834	1.607	32.9	18.7	121 W	30* 78
1 6	7 35.25	+32 49.7	1.104	2.076	5.7	18.9	168 W	78* 31	6 5	20 32.52	-14 23.9	0.762	1.596	30.4	18.4	127 W	31* 78
1 11	7 24.20	+32 10.3	1.121	2.096	4.8	18.9	170 E	77* 32	6 15	20 47.25	-14 50.7	0.699	1.588	27.0	18.1	135 W	30* 79
1 16	7 13.75	+31 25.2	1.146	2.116	6.1	19.0	167 E	76* 33	6 25	20 41.65	-15 46.3	0.647	1.583	22.5	17.8	143 W	29* 80
1 21	7 4.21	+30 36.0	1.178	2.135	8.4	19.2	162 E	76* 33	7 5	20 49.08	-17 12.0	0.607	1.581	17.0	17.5	153 W	28* 81
12 27	14 59.90	- 2 26.7	1.766	1.421	33.8	20.4	53 W	38* 29*	7 10	20 48.61	-18 5.1	0.592	1.581	13.9	17.4	158 W	27* 82
1 6	15 31.61	- 4 2.3	1.704	1.402	35.2	20.3	55 W	37* 33*	7 15	20 47.31	-19 3.5	0.581	1.582	10.6	17.2	163 W	26* 83
1 16	16 3.67	- 5 25.8	1.646	1.386	36.6	20.3	57 W	36* 37*	7 20	20 45.34	-20 5.3	0.575	1.584	7.2	17.0	169 W	25* 84
1 26	16 35.89	- 6 35.4	1.592	1.373	37.9	20.2	59 W	35* 41*	7 25	20 42.89	-21 8.5	0.573	1.586	4.0	16.9	174 W	24* 85
2 5	17 8.07	- 7 30.4	1.542	1.364	39.1	20.2	61 W	34* 45*	7 30	20 40.16	-22 10.8	0.575	1.590	2.4	16.8	176 W	23* 86
2 15	17 40.02	- 8 10.8	1.494	1.357	40.2	20.1	62 W	33* 48*	8 4	20 37.39	-23 10.1	0.582	1.594	4.6	16.9	173 E	22* 87
2 25	18 11.50	- 8 37.2	1.448	1.355	41.2	20.1	64 W	32* 52*	8 9	20 34.83	-24 4.3	0.593	1.598	7.9	17.1	168 E	21* 88
3 7	18 42.35	- 8 51.4	1.404	1.356	42.1	20.0	66 W	31* 55*	8 14	20 32.73	-24 51.8	0.609	1.604	11.1	17.3	162 E	20* 89
3 17	19 12.40	- 8 55.4	1.359	1.360	42.9	20.0	69 W	30* 58*	8 19	20 31.30	-25 31.7	0.629	1.610	14.2	17.5	157 E	19* 90
3 27	19 41.49	- 8 52.2	1.314	1.368	43.6	20.0	71 W	29* 61*	8 24	20 30.68	-26 3.3	0.652	1.616	17.1	17.7	152 E	19* 90
4 6	20 9.53	- 8 44.9	1.268	1.379	44.2	19.9	74 W	29* 64*	9 3	20 32.15	-26 41.9	0.711	1.632	22.0	18.1	143 E	18* 89
4 16	20 36.42	- 8 37.3	1.221	1.393	44.5	19.9	77 W	28* 66*	9 13	20 37.40	-26 49.2	0.782	1.649	26.0	18.4	134 E	18* 89
4 26	21 2.05	- 8 33.4	1.171	1.411	44.7	19.8	80 W	28* 69*	9 23	20 46.16	-26 29.2	0.864	1.669	28.9	18.8	127 E	19* 90
5 6	21 26.33	- 8 37.7	1.120	1.430	44.6	19.7	84 W	28* 71*	9 28	20 51.66	-26 10.2	0.909	1.680	30.0	18.9	123 E	19* 90
5 16	21 49.12	- 8 55.0	1.067	1.452	44.1	19.6	89 W	28* 73*	10 3	20 57.80	-25 45.9	0.957	1.691	31.0	19.1	120 E	19* 90
5 26	22 10.22	- 9 30.9	1.013	1.476	43.2	19.5	94 W	28* 74	10 8	21 4.50	-25 16.6	1.006	1.703	31.7	19.2	116 E	20* 89
6 5	22 29.42	- 10 30.7	0.959	1.502	41.8	19.4	99 W	28* 75	10 13	21 11.71	-24 42.8	1.057	1.715	32.4	19.4	113 E	20* 89
6 15	22 46.33	- 12 0.8	0.905	1.529	39.8	19.3	105 W	29* 76	10 18	21 19.34	-24 4.8	1.110	1.728	32.8	19.5	110 E	21* 88
6 25	23 0.52	- 14 6.6	0.855	1.557	37.1	19.1	112 W	29* 78	10 23	21 27.32	-23 23.0	1.165	1.740	33.1	19.6	107 E	22* 87
7 5	23 11.44	- 16 52.0	0.810	1.586	33.7	18.9											

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°
50354 2000 CX₇₀										322756 2001 CK₃₂ (continuation)									
12 27	15 1.03	-17 14.8	3.234	2.672	15.8	21.2	48 W	24*	35*	8 4	10 19.74	+14 29.9	1.882	0.995	20.7	21.4	20 E	5*	13*
1 6	15 15.25	-18 2.4	3.141	2.689	17.3	21.2	54 W	25*	42*	8 14	10 52.84	+11 27.7	1.872	0.976	20.2	21.3	19 E	5*	12*
1 16	15 28.71	-18 42.3	3.038	2.706	18.6	21.2	61 W	25*	50*	8 24	11 25.65	+ 8 8.6	1.848	0.946	19.9	21.2	19 E	4*	12*
1 26	15 41.21	-19 14.3	2.925	2.722	19.7	21.2	68 W	25*	58*	9 3	11 58.73	+ 4 33.4	1.810	0.905	20.1	21.1	18 E	4*	11*
2 5	15 52.54	-19 38.4	2.804	2.737	20.4	21.1	76 W	25*	66*	9 13	12 32.76	+ 0 42.3	1.756	0.852	20.8	20.9	18 E	4*	11*
2 15	16 2.48	-19 54.5	2.678	2.751	20.9	21.1	84 W	25*	75*	9 23	13 8.47	+ 3 24.6	1.685	0.789	22.6	20.7	18 E	4*	11*
2 25	16 10.74	-20 2.8	2.549	2.764	21.0	21.0	92 W	25*	82*	10 3	13 46.77	- 7 46.7	1.594	0.715	25.8	20.5	18 E	4*	12*
3 7	16 17.05	-20 3.3	2.420	2.776	20.6	20.9	100 W	25	84	10 8	14 7.23	-10 2.9	1.541	0.674	28.3	20.3	19 E	4*	12*
3 17	16 21.11	-19 56.1	2.293	2.788	19.7	20.7	109 W	25	84	10 13	14 28.74	-12 21.9	1.481	0.633	31.6	20.2	19 E	4*	13*
3 27	16 22.64	-19 41.3	2.173	2.798	18.2	20.6	119 W	25	84	10 18	14 51.41	-14 42.5	1.413	0.591	35.9	20.1	20 E	4*	14*
4 6	16 21.47	-19 18.7	2.065	2.807	16.0	20.4	129 W	26	83	10 23	15 15.32	-17 3.5	1.338	0.551	41.5	20.0	22 E	4*	15*
4 16	16 17.52	-18 48.5	1.971	2.815	13.2	20.2	140 W	26	83	10 28	15 40.39	-19 22.4	1.254	0.513	48.8	19.9	23 E	4*	17*
4 26	16 10.99	-18 11.1	1.898	2.823	9.8	20.0	151 W	27	82	11 2	16 6.33	-21 36.4	1.160	0.481	58.0	19.8	24 E	4*	18*
5 6	16 2.37	-17 27.8	1.849	2.829	6.0	19.8	163 W	28	81	11 4	16 16.83	-22 27.8	1.120	0.471	62.2	19.8	25 E	4*	19*
5 11	15 57.49	-17 4.6	1.834	2.832	3.9	19.6	169 W	28	81	11 6	16 27.30	-23 17.5	1.079	0.462	66.7	19.8	25 E	4*	19*
5 16	15 52.41	-16 40.9	1.827	2.835	2.0	19.5	174 W	28	81	11 8	16 37.68	-24 5.4	1.036	0.455	71.6	19.9	26 E	4*	20*
5 21	15 47.24	-16 17.2	1.826	2.837	1.4	19.5	176 E	29	80	11 10	16 47.88	-24 51.1	0.992	0.451	76.6	19.9	26 E	4*	20*
5 26	15 42.14	-15 54.0	1.833	2.839	3.0	19.6	171 E	29	80	11 12	16 57.81	-25 34.6	0.948	0.448	81.9	20.0	27 E	4*	20*
5 31	15 37.21	-15 31.8	1.847	2.841	5.0	19.7	166 E	29	80	11 14	17 7.39	-26 15.7	0.904	0.448	87.3	20.1	27 E	4*	21*
6 5	15 32.58	-15 11.1	1.868	2.843	7.0	19.8	160 E	30	79	11 16	17 16.52	-26 54.2	0.859	0.450	92.8	20.2	27 E	4*	21*
6 15	15 24.59	-14 35.9	1.929	2.845	10.8	20.1	148 E	30	79	11 18	17 25.11	-27 30.1	0.815	0.454	98.4	20.4	27 E	4*	21*
6 25	15 18.79	-14 11.4	2.013	2.847	14.0	20.3	138 E	31	78	11 20	17 33.08	-28 3.4	0.771	0.460	103.9	20.6	27 E	4*	21*
7 5	15 15.46	-13 58.5	2.115	2.847	16.5	20.5	127 E	31*	78	11 22	17 40.38	-28 34.2	0.729	0.468	109.4	20.8	27 E	3*	20*
7 15	15 14.63	-13 57.2	2.231	2.847	18.5	20.7	117 E	30*	78	11 24	17 46.96	-29 2.3	0.687	0.478	114.7	21.0	26 E	3*	20*
7 25	15 16.21	-14 6.6	2.357	2.846	19.8	20.8	108 E	29*	78	11 26	17 52.77	-29 27.9	0.647	0.489	119.9	21.3	25 E	2*	19*
8 4	15 19.98	-14 25.0	2.489	2.844	20.6	21.0	100 E	27*	78	333948 1999 XG₁₃₅									
8 14	15 25.74	-14 50.6	2.624	2.840	20.9	21.1	92 E	26*	79*	12 27	15 1.52	- 8 32.5	2.497	2.019	22.1	21.1	50 W	32*	31*
8 24	15 33.25	-15 21.6	2.758	2.836	20.8	21.2	84 E	24*	75*	1 6	15 19.42	- 9 41.3	2.460	2.077	23.1	21.1	56 W	33*	38*
9 3	15 42.30	-15 56.1	2.889	2.831	20.3	21.3	77 E	22*	69*	1 16	15 36.00	-10 37.8	2.415	2.135	24.0	21.2	62 W	33*	45*
9 13	15 52.72	-16 32.6	3.016	2.825	19.5	21.3	69 E	21*	63*	1 26	15 51.08	-11 22.6	2.360	2.193	24.6	21.2	68 W	33*	53*
9 23	16 4.34	-17 9.5	3.135	2.818	18.4	21.4	63 E	19*	56*	2 5	16 4.48	-11 56.5	2.298	2.252	25.0	21.2	75 W	33*	60*
10 3	16 17.03	-17 45.4	3.246	2.810	17.2	21.4	56 E	18*	49*	2 15	16 15.97	-12 20.6	2.230	2.310	25.1	21.2	82 W	33*	68*
10 13	16 30.66	-18 18.9	3.347	2.801	15.7	21.4	49 E	16*	42*	2 25	16 25.29	-12 35.9	2.156	2.368	24.7	21.2	90 W	32*	74*
10 23	16 45.12	-18 49.0	3.436	2.791	14.0	21.4	43 E	15*	36*	3 7	16 32.19	-12 43.9	2.081	2.425	23.9	21.1	98 W	32	77
11 2	17 0.31	-19 14.5	3.513	2.780	12.3	21.4	37 E	13*	29*	3 17	16 36.40	-12 45.9	2.006	2.483	22.6	21.1	107 W	32	77
11 12	17 16.14	-19 34.6	3.577	2.768	10.4	21.3	30 E	12*	22*	3 27	16 37.68	-12 43.4	1.936	2.539	20.6	21.0	116 W	32	77
11 22	17 32.49	-19 48.4	3.626	2.755	8.4	21.3	24 E	10*	16*	4 6	16 35.95	-12 37.9	1.874	2.595	18.1	20.9	126 W	32	77
12 2	17 49.29	-19 55.2	3.661	2.741	6.4	21.2	18 E	7*	9*	4 16	16 31.22	-12 30.8	1.826	2.651	14.9	20.8	137 W	32	77
12 12	18 6.43	-19 54.6	3.681	2.727	4.4	21.1	12 E	4*	3*	4 26	16 23.83	-12 23.7	1.797	2.705	11.3	20.6	148 W	33	76
12 22	18 23.83	-19 46.0	3.686	2.711	2.4	21.0	7 E	—	—	5 6	16 14.42	-12 18.1	1.792	2.759	7.3	20.5	160 W	33	76
1 1	18 41.40	-19 29.2	3.675	2.694	1.3	20.9	4 W	—	—	5 16	16 3.86	-12 15.7	1.812	2.813	3.7	20.4	170 W	33	76
1 11	18 59.04	-19 4.2	3.649	2.677	2.7	20.9	7 W	1*	—	5 26	15 53.24	-12 18.1	1.861	2.865	3.4	20.5	170 E	33	76
1 21	19 16.67	-18 30.9	3.608	2.659	4.8	21.0	13 W	4*	5*	6 5	15 43.54	-12 26.4	1.939	2.916	6.5	20.8	161 E	33	76
322756 2001 CK₃₂										6 15	15 35.54	-12 41.3	2.043	2.967	9.8	21.1	150 E	32	77
12 27	15 1.25	-11 7.3	1.280	0.986	49.4	21.3	50 W	30*	32*	6 25	15 29.73	-13 3.2	2.170	3.017	12.6	21.3	140 E	32	77
1 1	15 20.91	-12 16.3	1.260	0.975	50.2	21.3	50 W	29*	34*	121210 1999 QG₂									
1 6	15 41.44	-13 22.1	1.239	0.962	51.2	21.3	50 W	28*	35*	12 27	15 1.72	-10 13.9	2.325	1.850	24.0	20.1	50 W	31*	32*
1 11	16 2.94	-14 23.9	1.219	0.945	52.2	21.2	49 W	27*	36*	1 6	15 26.39	-11 44.7	2.215	1.815	25.9	20.0	54 W	30*	37*
1 16	16 25.48	-15 20.7	1.199	0.925	53.3	21.2	49 W	25*	36*	1 16	15 51.74	-13 5.1	2.106	1.781	27.7	19.9	57 W	30*	43*
1 21	16 49.17	-16 11.0	1.181	0.903	54.4	21.1	48 W	24*	37*	1 26	16 17.69	-14 13.6	1.998	1.750	29.5	19.8	61 W	29*	48*
1 26	17 14.09	-16 53.4	1.165	0.878	55.5	21.1	47 W	23*	37*	2 5	16 44.17	-15 9.1	1.892	1.721	31.2	19.7	65 W	28*	53*
1 31	17 40.28	-17 26.0	1.152	0.850	56.6	21.0	46 W	21*	36*	2 15	17 11.06	-15 50.6	1.789	1.693	32.8	19.6	68 W	28*	58*
2 5	18 7.79	-17 47.0	1.142	0.819	57.6	20.9	45 W	19*	36*	2 25	17 38.17	-16 17.6	1.689	1.669	34.3	19.5	72 W	27*	62*
2 10	18 36.58	-17 54.0	1.137	0.786	58.4	20.9	43 W	18*	34*	3 7	18 5.35	-16 30.4	1.593	1.647	35.6	19.4	75 W	27*	66*
2 15	19 6.59	-17 45.1	1.136	0.750	59.0	20.8	41 W	16*	33*	3 17	18 32.35	-16 29.6	1.501	1.629	36.8	19.2	79 W	26*	70*
2 20	19 37.70	-17 18.2	1.142	0.711	59.2	20.7	38 W	14*	31*	3 27	18 58.93	-16 16.9	1.413	1.613	37.8	19.1	82 W	26*	73*
2 25	20 9.77	-16 31.5	1.154	0.671	58.8	20.6	35 W	12*	29*	4 6	19 24.87	-15 54.7	1.329	1.602	38.5	19.0	86 W	26*	76*

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°
121210 1999 QG₂										15778 1993 NH									
<i>(continuation)</i>																			
9 8	21 28.82	-27 8.8	0.928	1.864	16.4	17.9	149 E	18	89	12 27	15 2.56	-27 24.1	2.984	2.396	17.0	20.0	45 W	14*	37*
9 13	21 28.00	-27 11.7	0.973	1.882	18.4	18.1	144 E	18	89	1 6	15 21.84	-28 12.3	2.856	2.362	18.8	19.9	51 W	15*	43*
9 18	21 28.01	-27 7.3	1.022	1.900	20.2	18.2	139 E	18	89	1 16	15 41.18	-28 51.1	2.720	2.328	20.7	19.8	57 W	15*	50*
9 23	21 28.84	-26 56.2	1.074	1.919	21.7	18.4	135 E	18	89	1 26	16 0.45	-29 19.2	2.577	2.292	22.4	19.7	62 W	15*	56*
9 28	21 30.46	-26 39.4	1.130	1.938	23.1	18.6	131 E	18	89	2 5	16 19.53	-29 35.5	2.428	2.256	23.9	19.6	68 W	15*	62*
10 3	21 32.82	-26 17.4	1.188	1.957	24.3	18.8	127 E	19	90	2 15	16 38.23	-29 38.8	2.275	2.220	25.3	19.5	74 W	15*	68*
10 8	21 35.87	-25 50.9	1.250	1.976	25.2	18.9	123 E	19	90	2 25	16 56.32	-29 27.9	2.120	2.184	26.5	19.3	80 W	15*	74*
10 13	21 39.55	-25 20.3	1.314	1.995	26.0	19.1	119 E	20	89	3 7	17 13.57	-29 1.5	1.964	2.147	27.5	19.2	87 W	16*	80*
10 18	21 43.80	-24 46.2	1.381	2.015	26.6	19.2	115 E	20	89	3 12	17 21.80	-28 42.1	1.886	2.128	27.8	19.1	90 W	16*	83*
10 23	21 48.55	-24 8.9	1.449	2.034	27.1	19.4	111 E	21	88	3 17	17 29.71	-28 18.3	1.809	2.109	28.1	19.0	93 W	17*	86*
10 28	21 53.74	-23 28.8	1.520	2.054	27.4	19.5	108 E	22	87	3 22	17 37.24	-27 49.9	1.732	2.091	28.3	18.8	96 W	17*	88
11 2	21 59.32	-22 46.3	1.592	2.073	27.6	19.6	104 E	22	87	3 27	17 44.37	-27 16.7	1.656	2.072	28.3	18.7	100 W	18*	89
11 12	22 11.47	-21 14.6	1.740	2.113	27.7	19.9	98 E	24	85*	4 1	17 51.05	-26 38.5	1.581	2.054	28.3	18.6	103 W	18*	89
11 22	22 24.67	-19 35.8	1.893	2.152	27.3	20.1	91 E	25	80*	4 6	17 57.23	-25 55.0	1.507	2.035	28.1	18.5	107 W	19	90
12 2	22 38.63	-17 51.3	2.048	2.192	26.6	20.3	85 E	27	72*	4 11	18 2.84	-25 5.8	1.435	2.016	27.8	18.3	110 W	20	89
12 12	22 53.16	-16 2.3	2.204	2.231	25.6	20.4	79 E	29	65*	4 16	18 7.83	-24 10.6	1.365	1.998	27.3	18.2	114 W	21	88
12 22	23 8.09	-14 9.8	2.359	2.270	24.4	20.6	73 E	31	57*	4 21	18 12.13	-23 9.2	1.297	1.979	26.6	18.0	118 W	22	87
1 1	23 23.31	-12 15.1	2.512	2.308	23.0	20.7	67 E	33*	50*	4 26	18 15.71	-22 1.1	1.232	1.961	25.8	17.9	122 W	23	86
1 11	23 38.74	-10 18.9	2.662	2.346	21.5	20.8	61 E	33*	44*	5 6	18 20.42	-19 23.5	1.111	1.925	23.5	17.6	130 W	26	83
1 21	23 54.30	-8 22.3	2.807	2.383	19.8	20.9	55 E	33*	38*	5 16	18 21.52	-16 15.8	1.004	1.889	20.4	17.2	139 W	29	80
155110 2005 TB										20958 A900 MA									
12 27	15 2.38	-31 6.2	1.514	1.074	40.4	20.1	45 W	11*	38*	5 31	18 16.02	-10 40.6	0.877	1.837	14.7	16.7	153 W	34	75
1 1	15 26.79	-31 4.5	1.485	1.046	41.3	20.1	45 W	11*	38*	6 5	18 12.39	-8 38.0	0.846	1.821	13.0	16.5	156 W	36	73
1 6	15 51.89	-30 44.7	1.458	1.018	42.3	20.0	44 W	11*	37*	6 10	18 8.01	-6 32.8	0.820	1.804	11.7	16.4	159 W	38	71
1 11	16 17.51	-30 5.3	1.434	0.991	43.2	19.9	44 W	11*	37*	6 15	18 3.03	-4 27.5	0.800	1.788	11.3	16.3	160 W	41	68
1 16	16 43.49	-29 5.4	1.413	0.965	44.0	19.9	43 W	11*	36*	6 20	17 57.68	-2 25.1	0.786	1.772	11.9	16.2	159 W	43	66
1 21	17 9.65	-27 44.7	1.395	0.940	44.8	19.8	42 W	11*	35*	6 25	17 52.17	-0 28.2	0.778	1.757	13.4	16.3	156 E	45	64
1 26	17 35.82	-26 3.5	1.381	0.916	45.4	19.7	41 W	12*	35*	6 30	17 46.74	+ 1 20.3	0.775	1.742	15.6	16.3	153 E	46	63
1 31	18 1.86	-24 2.6	1.371	0.894	45.8	19.7	41 W	13*	33*	7 5	17 41.63	+ 2 58.4	0.778	1.728	17.9	16.4	148 E	48	61
2 5	18 27.64	-24 4.9	1.365	0.875	46.1	19.6	40 W	14*	32*	7 10	17 37.04	+ 4 24.4	0.785	1.714	20.5	16.5	144 E	49	60
2 10	18 53.07	-19 9.6	1.364	0.858	46.1	19.6	39 W	15*	31*	7 15	17 33.18	+ 5 37.5	0.796	1.701	23.0	16.5	139 E	51	58
2 15	19 18.07	-16 22.6	1.368	0.844	45.9	19.6	38 W	15*	30*	7 25	17 28.23	+ 7 25.0	0.828	1.676	27.5	16.7	130 E	52	57
2 20	19 42.61	-13 26.3	1.376	0.833	45.4	19.5	37 W	16*	28*	8 4	17 27.40	+ 8 26.1	0.871	1.653	31.2	16.9	122 E	53	56
2 25	20 6.67	-10 24.3	1.390	0.826	44.6	19.5	36 W	17*	27*	8 14	17 30.84	+ 8 49.5	0.919	1.634	34.1	17.1	115 E	54	55
3 2	20 30.26	-7 20.0	1.408	0.822	43.6	19.5	35 W	18*	26*	8 19	17 34.11	+ 8 50.3	0.945	1.625	35.2	17.2	112 E	54	55
3 7	20 53.39	-4 16.7	1.430	0.822	42.4	19.5	34 W	18*	24*	8 24	17 38.36	+ 8 45.5	0.972	1.617	36.2	17.3	109 E	54	55
3 12	21 16.07	+ 1 17.5	1.457	0.827	41.0	19.5	33 W	18*	23*	8 29	17 43.52	+ 8 36.1	0.999	1.610	37.0	17.3	107 E	54	55
3 17	21 38.31	+ 1 35.1	1.486	0.834	39.4	19.5	32 W	19*	21*	9 3	17 49.55	+ 8 23.0	1.026	1.604	37.6	17.4	104 E	53*	56
3 22	22 0.10	+ 4 19.3	1.518	0.845	37.8	19.6	31 W	19*	20*	9 8	17 56.41	+ 8 7.2	1.054	1.598	38.1	17.5	102 E	53*	56
3 27	22 21.46	+ 6 53.6	1.553	0.860	36.2	19.6	31 W	19*	19*	9 13	18 4.04	+ 7 49.4	1.082	1.594	38.5	17.5	99 E	53*	56
4 6	23 2.90	+11 29.3	1.626	0.897	33.0	19.7	29 W	18*	17*	9 18	18 12.40	+ 7 30.5	1.111	1.590	38.8	17.6	97 E	52*	56
4 16	23 42.67	+15 19.7	1.700	0.943	30.2	19.8	28 W	17*	16*	9 23	18 21.42	+ 7 11.1	1.139	1.587	39.0	17.6	95 E	52*	57*
4 26	0 20.75	+18 26.2	1.771	0.995	27.9	20.0	28 W	17*	15*	9 28	18 31.06	+ 6 51.7	1.168	1.586	39.1	17.7	94 E	52*	57*
5 6	0 57.21	+20 52.6	1.836	1.050	26.3	20.1	27 W	16*	15*	10 3	18 41.28	+ 6 32.9	1.197	1.585	39.1	17.7	92 E	51*	57*
5 16	1 32.11	+22 42.9	1.893	1.106	25.3	20.3	28 W	16*	16*	10 13	19 3.28	+ 5 59.0	1.257	1.586	39.0	17.9	89 E	51*	56*
5 26	2 5.48	+24 1.1	1.940	1.163	25.0	20.4	29 W	16*	17*	10 23	19 27.06	+ 5 32.8	1.320	1.590	38.6	18.0	86 E	50*	54*
6 5	2 37.39	+24 50.5	1.975	1.219	25.2	20.6	31 W	16*	19*	11 2	19 52.24	+ 5 16.9	1.386	1.598	38.0	18.1	83 E	50*	51*
6 15	3 7.91	+25 14.1	1.997	1.273	25.8	20.7	33 W	18*	20*	11 12	20 18.51	+ 5 12.9	1.457	1.610	37.2	18.2	80 E	50*	48*
6 25	3 37.04	+25 14.0	2.007	1.325	26.7	20.8	36 W	20*	22*	11 22	20 45.51	+ 5 22.0	1.533	1.625	36.3	18.3	77 E	50*	45*
7 5	4 4.84	+24 51.9	2.004	1.373	27.8	20.9	39 W	22*	25*	12 2	21 12.92	+ 5 44.0	1.614	1.643	35.2	18.4	74 E	50*	41*
7 15	4 31.31	+24 9.1	1.988	1.419	29.0	21.0	43 W	26*	27*	12 12	21 40.49	+ 6 18.7	1.702	1.664	34.0	18.5	71 E	51*	37*
7 25	4 56.45	+23 6.5	1.960	1.462	30.3	21.1	47 W	29*	29*	12 22	22 7.97	+ 7 4.6	1.794	1.688	32.6	18.6	68 E	51*	33*
8 4	5 20.26	+21 44.8	1.920	1.501	31.6	21.1	51 W	33*	32*	1 1	22 35.18	+ 8 0.0	1.893	1.714	31.1	18.7	64 E	50*	29*
8 14	5 42.71	+20 4.2	1.869	1.537	32.8	21.2	55 W	38*	35*	1 11	23 2.03	+ 9 3.1	1.995	1.742	29.5	18.8	61 E	49*	26*
8 24	6 3.75	+18 4.8	1.808	1.569	33.9	21.2	60 W	42*	37*	1 21	23 28.42	+10 11.7	2.102	1.772	27.8	18.9	57 E	47*	23*
9 3	6 23.35	+15 46.4	1.737	1.598	34.9	21.2	65 W	45*	41*	20958 A900 MA									
9 13	6 41.39	+13 8.2	1.659	1.624	35.7	21.1	70 W	48*	44*	12 27	15 2.59	-10 42.2	2.528	2.030	21.6	19.0	49 W	30*	32*
9 23	6 57.74	+10 9.8	1.575	1.645	36.2	21.0	76 W	50*	48*	1 6	15 24.25	-12 5.9	2.408	1.996	23.5	18.9	54 W	30*	38*
10 3	7 12.24	+ 6 49.9	1.487	1.663	36.5	21.0	81 W	50*	53*	1 16	15 46.34	-13 21.0	2.286	1.962	25.3	18.8	59 W	30*	44*
10 13	7 24.63	+ 3 7.6	1.396	1.678	36.4	20.8	87 W	48*	58*	1 26	16 8.79	-14 26.5	2.162	1.929	27.1	18.7	63 W	29*	50*
10 23	7 34.58	+ 0 57.6	1.305	1.689	36.0	20.7	94 W	44	64*	2 5	16 31.53	-15 21.9	2.037	1.897	28.7	18.6	68 W	29*	56*
11 2	7 41.64	+ 5 25.8	1.217	1.696	35.2	20.5	100 W	40	69*	2 15	16 54.47	-16 6.7	1.914	1.866	30.3	18.5	72 W	28*	62*

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°
20958 A900 MA										416567 2004 EB									
<i>(continuation)</i>										<i>(continuation)</i>									
6 30	20 41.84	-22 35.3	0.677	1.641	17.5	15.5	151 W	22	87	8 24	2 12.29	+ 6 52.9	1.615	2.265	23.3	20.8	117 W	52	57
7 5	20 41.74	-23 38.6	0.662	1.643	14.7	15.4	156 W	21	88	9 3	2 5.76	+ 7 18.6	1.581	2.345	19.7	20.7	128 W	52	57
7 10	20 40.75	-24 44.9	0.652	1.646	11.9	15.3	161 W	20	89	9 13	1 56.01	+ 7 32.0	1.562	2.423	15.4	20.6	140 W	53	56
7 15	20 39.00	-25 52.4	0.646	1.649	9.1	15.1	165 W	19	90	9 23	1 43.70	+ 7 34.3	1.565	2.500	10.5	20.5	153 W	53	56
7 20	20 36.67	-26 58.8	0.644	1.653	6.7	15.0	169 W	18	89	10 3	1 29.89	+ 7 28.2	1.593	2.576	5.4	20.4	166 W	52	57
7 25	20 33.95	-28 1.8	0.647	1.658	5.6	15.0	171 W	17	88	10 8	1 22.82	+ 7 23.1	1.619	2.613	2.8	20.3	173 W	52	57
7 30	20 31.07	-28 59.4	0.655	1.664	6.4	15.1	170 E	16	87	10 13	1 15.90	+ 7 17.3	1.652	2.650	0.4	20.2	179 W	52	57
8 4	20 28.27	-29 49.9	0.668	1.670	8.5	15.2	166 E	15	86	10 18	1 9.27	+ 7 11.5	1.694	2.687	2.2	20.4	174 E	52	57
8 9	20 25.79	-30 32.2	0.684	1.677	11.0	15.4	162 E	14	85	10 23	1 3.07	+ 7 6.4	1.742	2.723	4.4	20.7	168 E	52	57
8 14	20 23.85	-31 5.3	0.706	1.685	13.7	15.6	157 E	14	85	10 28	0 57.42	+ 7 2.2	1.799	2.759	6.6	20.9	161 E	52	57
8 19	20 22.64	-31 29.3	0.731	1.694	16.2	15.7	152 E	14	85	11 2	0 52.39	+ 6 59.5	1.862	2.794	8.5	21.1	155 E	52	57
8 24	20 22.27	-31 44.4	0.761	1.703	18.6	15.9	148	13	84	11 7	0 48.05	+ 6 58.7	1.932	2.829	10.3	21.2	149 E	52	57
8 29	20 22.79	-31 51.0	0.794	1.712	20.7	16.1	143	13	84	11 12	0 44.42	+ 7 0.0	2.008	2.864	11.9	21.4	143 E	52	57
9 3	20 24.22	-31 49.8	0.830	1.723	22.7	16.3	139	13	84	474295 2001 XX₁₀									
9 8	20 26.57	-31 41.5	0.870	1.734	24.4	16.4	135	13	84	12 27	15 3.69	+18 51.6	1.651	1.514	35.9	21.5	64 W	57*	17*
9 13	20 29.81	-31 26.7	0.913	1.745	25.9	16.6	131	14	85	1	6 15 31.71	+17 54.5	1.610	1.515	36.5	21.4	66 W	58*	21*
9 18	20 33.86	-31 6.1	0.959	1.757	27.2	16.8	127	14	85	1	16 15 58.37	+17 5.6	1.568	1.517	37.1	21.4	69 W	58*	25*
9 23	20 38.66	-30 40.4	1.007	1.770	28.2	16.9	123	14	85	1	26 16 23.54	+16 25.7	1.524	1.518	37.8	21.3	71 W	58*	30*
9 28	20 44.12	-30 10.0	1.057	1.783	29.1	17.1	120	15	86	2	5 16 47.14	+15 54.4	1.475	1.519	38.4	21.3	73 W	58*	34*
10 3	20 50.16	-29 35.3	1.110	1.797	29.9	17.2	117	15	86	2	15 17 9.07	+15 31.5	1.421	1.520	39.1	21.2	76 W	58*	38*
10 8	20 56.73	-28 56.8	1.165	1.810	30.5	17.3	113	16	87	2	25 17 29.21	+15 15.2	1.360	1.521	39.7	21.2	79 W	58*	42*
10 13	21 3.74	-28 14.8	1.222	1.825	30.9	17.5	110	17	88	3	7 17 47.45	+15 3.4	1.293	1.522	40.3	21.1	82 W	58*	45*
10 18	21 11.14	-27 29.6	1.280	1.839	31.2	17.6	107	18	89	3	17 18 3.63	+14 53.4	1.220	1.523	40.7	20.9	86 W	58*	48*
10 23	21 18.86	-26 41.6	1.341	1.854	31.4	17.7	104	18	89	3	27 18 17.48	+14 40.8	1.139	1.523	40.9	20.8	91 W	59*	49*
10 28	21 26.84	-25 50.8	1.402	1.870	31.4	17.8	101	19	90	4	6 18 28.73	+14 20.0	1.053	1.524	40.8	20.6	96 W	59*	50
11 2	21 35.03	-24 57.7	1.466	1.885	31.4	17.9	98	20	89	4	16 18 36.88	+13 43.3	0.962	1.525	40.1	20.4	102 W	59*	50
11 7	21 43.42	-24 2.3	1.530	1.901	31.3	18.1	96	21	89	4	21 18 39.59	+13 15.5	0.915	1.525	39.5	20.3	105 W	58*	51
11 12	21 51.95	-23 4.9	1.596	1.917	31.0	18.2	93	22	84*	4	26 18 41.28	+12 38.8	0.868	1.525	38.7	20.2	109 W	58	51
11 22	22 9.34	-21 4.9	1.730	1.950	30.4	18.4	87	24	77*	5	1 18 41.84	+11 51.3	0.820	1.525	37.5	20.0	113 W	57	52
12 2	22 26.99	-18 59.2	1.867	1.984	29.5	18.5	82	26	70*	5	6 18 41.13	+10 50.0	0.774	1.525	36.1	19.8	117 W	56	53
12 12	22 44.80	-16 48.9	2.005	2.018	28.3	18.7	77	28	63*	5	11 18 38.98	+ 9 31.9	0.728	1.526	34.2	19.6	122 W	55	54
12 22	23 2.65	-14 35.6	2.144	2.052	27.0	18.8	71	30	56*	5	16 18 35.27	+ 7 53.2	0.684	1.526	31.9	19.4	127 W	53	56
1	23 20.48	-12 20.4	2.283	2.087	25.5	19.0	66	32*	50*	5	21 18 29.86	+ 5 49.8	0.643	1.526	29.0	19.2	133 W	51	58
1	23 38.29	-10 4.3	2.420	2.122	23.9	19.1	61	34*	44*	5	26 18 22.64	+ 3 18.0	0.606	1.526	25.5	19.0	140 W	48	61
1	23 56.03	-7 48.5	2.554	2.157	22.1	19.2	56	34*	38*	5	31 18 13.55	+ 0 15.2	0.573	1.526	21.4	18.8	147 W	45	64
481394 2006 SF₆										6	5 18 2.62	- 3 19.4	0.547	1.526	16.8	18.5	154 W	42	67
12 27	15 2.87	-23 11.9	0.719	0.706	87.3	21.5	46 W	18*	36*	6	10 17 50.00	+ 7 23.1	0.528	1.526	11.9	18.2	162 W	38	71
1	15 29.74	-24 14.4	0.770	0.695	84.1	21.5	45 W	17*	36*	6	15 17 36.03	-11 48.7	0.517	1.526	7.6	18.0	169 W	33	76
1	15 56.51	-24 58.9	0.824	0.687	80.6	21.5	44 W	16*	35*	6	17 17 30.17	-13 38.6	0.515	1.526	6.7	18.0	170 E	31	78
1	16 23.13	-25 26.0	0.878	0.684	76.9	21.5	43 W	15*	35*	6	19 17 24.22	-15 29.4	0.515	1.526	6.6	18.0	170 E	30	79
1	16 49.51	-25 36.7	0.933	0.685	73.1	21.5	42 W	14*	34*	6	21 17 18.21	-17 20.1	0.516	1.526	7.4	18.0	169 E	28	81
1	17 15.53	-25 31.7	0.988	0.690	69.2	21.5	41 W	13*	34*	6	23 17 12.19	-19 10.0	0.518	1.525	8.8	18.1	167 E	26	83
416567 2004 EB										6	25 17 6.19	-20 58.2	0.522	1.525	10.6	18.2	164 E	24	85
12 27	15 3.61	-15 44.4	1.826	1.369	32.0	20.2	47 W	25*	34*	6	27 17 0.26	-22 43.9	0.528	1.525	12.6	18.3	161 E	22	87
1	15 21.17	-17 54.0	1.772	1.331	33.3	20.2	48 W	24*	36*	6	29 16 54.44	-24 26.5	0.535	1.525	14.6	18.4	158 E	21	88
1	15 39.79	-20 3.3	1.722	1.295	34.5	20.1	48 W	22*	37*	7	1 16 48.76	-26 5.6	0.543	1.525	16.6	18.5	155 E	19	90
1	15 59.56	-22 10.5	1.676	1.260	35.7	20.0	48 W	19*	39*	7	3 16 43.27	-27 40.7	0.552	1.525	18.5	18.6	152 E	17	88
1	16 20.55	-24 13.7	1.635	1.227	36.8	19.9	48 W	17*	40*	7	5 16 38.01	-29 11.6	0.563	1.525	20.4	18.7	148 E	16	87
1	16 42.81	-26 10.2	1.600	1.197	37.9	19.8	48 W	15*	41*	7	10 16 25.98	-32 39.4	0.594	1.525	24.8	18.9	141 E	12	83
1	16 7.34	-27 57.4	1.569	1.169	38.8	19.8	48 W	13*	41*	7	15 16 15.87	-35 40.1	0.631	1.525	28.6	19.2	134 E	9	80
1	17 31.10	-29 32.4	1.544	1.143	39.6	19.7	48 W	11*	41*	7	20 16 7.87	-38 16.3	0.672	1.524	31.7	19.4	128 E	7	78
2	5 17 56.96	-30 52.0	1.525	1.121	40.2	19.7	47 W	8*	41*	7	25 16 2.00	-40 31.7	0.716	1.524	34.2	19.6	122 E	4*	75
2	10 18 23.72	-31 53.6	1.512	1.102	40.7	19.6	47 W	6*	41*	7	30 15 58.22	-42 29.8	0.762	1.524	36.3	19.8	117 E	2*	73
2	15 18 51.07	-32 55.1	1.505	1.086	41.0	19.6	46 W	4*	40*	8	4 15 56.44	-44 14.1	0.810	1.523	37.9	20.0	113 E	-	72
2	20 19 18.66	-32 55.1	1.503	1.075	41.0	19.6	46 W	3*	39*	8	9 15 56.56	-45 47.3	0.860	1.523	39.1	20.1	108 E	-	70
2	25 19 46.11	-32 53.4	1.506	1.068	41.0	19.5	45 W	1*	38*	8	14 15 58.46	-47 11.6	0.909	1.523	40.1	20.3	105 E	-	69
3	2 20 13.04	-32 30.6	1.514	1.065	40.7	19.5	44 W	-	37*	8	19 16 2.03	-48 28.7	0.959	1.522	40.7	20.4	101 E	-	68
3	7 20 39.13	-31 48.3	1.527	1.066	40.3	19.5	44 W	-	36*	8	24 16 7.15	-49 39.8	1.008	1.522	41.2	20.5	98 E	-	66*
3	12 21 4.13	-30 49.0	1.543	1.071	39.8	19.6	44 W	-	36*	8	29 16 13.73	-50 45.6	1.056	1.521	41.4	20.7	95 E	-	65*
3	17 21 27.84	-30 35.3	1.562	1.081	39.2	19.6	43 W	-	35*	9	3 16 21.70	-51 46.4	1.103	1.521	41.5	20.7	92 E	-	63*
3	22 21 50.19	-28 10.2	1.584	1.095	38.5	19.6	43 W	-	35*	9	8 16 31.03	-52 42.6	1.149	1.520	41.5	20.8	89 E	-	62*
3	27 22 11.15	-26 36.6	1.607	1.112	37.8	19.7	43 W	-	35*	9	13 16 41.66	-53 34.2	1.194	1.520	41.4	20.9	87 E	-	60*
4	1 22 30.75	-24 56.8	1.632</																

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°
60733 2000 GL₈₀										474190 1999 XX₁₄ (continuation)									
12 27	15 4.18	-16 34.5	3.039	2.477	16.9	20.6	47 W	25*	34*	4 16	17 28.24	-3 16.2	1.382	2.095	23.9	20.3	122 W	42	67
1 6	15 20.44	-18 3.3	2.906	2.447	18.8	20.5	53 W	25*	41*	4 26	17 23.72	-3 49.9	1.326	2.135	20.5	20.2	132 W	41	68
1 16	15 36.67	-19 28.1	2.765	2.416	20.5	20.4	59 W	24*	49*	5 6	17 15.50	-4 39.1	1.284	2.175	16.3	20.0	143 W	40	69
1 26	15 52.76	-20 49.2	2.618	2.384	22.1	20.3	65 W	24*	56*	5 16	17 4.13	-5 45.7	1.262	2.214	11.7	19.8	154 W	39	70
2 5	16 8.61	-22 6.9	2.466	2.351	23.5	20.2	72 W	23*	64*	5 26	16 50.76	-7 9.4	1.264	2.252	7.5	19.7	163 W	38	71
2 15	16 24.05	-23 21.8	2.310	2.318	24.6	20.1	78 W	22*	71*	5 31	16 43.78	-7 56.5	1.275	2.271	6.3	19.7	166 W	37	72
2 25	16 38.90	-24 35.0	2.152	2.285	25.6	19.9	85 W	20*	78*	6 5	16 36.87	-8 46.3	1.293	2.290	6.2	19.7	166 E	36	73
3 7	16 52.95	-25 47.8	1.995	2.250	26.2	19.7	91 W	19	85*	6 10	16 30.21	-9 38.1	1.318	2.309	7.3	19.8	163 E	35	74
3 17	17 5.92	-27 1.8	1.840	2.215	26.4	19.5	98 W	18	89	6 15	16 24.00	-10 31.2	1.350	2.328	8.9	20.0	159 E	34	75
3 27	17 17.47	-28 19.1	1.689	2.180	26.2	19.3	106 W	17	88	6 20	16 18.38	-11 24.9	1.389	2.346	10.8	20.1	154 E	34	75
4 6	17 27.20	-29 42.2	1.544	2.145	25.4	19.1	113 W	15	86	6 25	16 13.45	-12 18.7	1.433	2.364	12.7	20.3	149 E	33	76
4 16	17 34.59	-31 13.1	1.408	2.109	24.0	18.8	121 W	14	85	7 5	16 5.93	-14 4.8	1.539	2.400	16.2	20.6	139 E	31	78
4 21	17 37.23	-32 2.2	1.343	2.091	23.1	18.6	125 W	13	84	7 15	16 1.71	-15 47.1	1.664	2.435	19.0	20.9	129 E	29	80
4 26	17 39.07	-32 53.7	1.282	2.073	22.0	18.5	129 W	12	83	7 25	16 0.71	-17 24.7	1.804	2.469	21.0	21.2	120 E	27*	81
5 1	17 40.03	-33 47.8	1.224	2.055	20.7	18.3	134 W	11	82	8 4	16 2.63	-18 56.9	1.955	2.502	22.3	21.4	111 E	25*	83
5 6	17 40.02	-34 44.2	1.170	2.037	19.2	18.2	138 W	10	81	162463 2000 JH₅									
5 11	17 38.97	-35 42.4	1.120	2.019	17.6	18.0	143 W	9	80	12 27	15 5.61	+ 1 13.2	1.392	1.138	44.3	20.4	54 W	41*	26*
5 16	17 36.83	-36 41.7	1.074	2.001	15.9	17.8	147 W	8	79	1 6	15 34.63	-0 37.3	1.393	1.176	44.0	20.5	56 W	40*	31*
5 21	17 33.57	-37 41.1	1.034	1.983	14.0	17.7	152 W	7	78	1 16	16 2.28	-2 16.0	1.384	1.212	43.9	20.5	59 W	40*	36*
5 26	17 29.24	-38 39.3	0.998	1.966	12.3	17.5	156 W	6	77	1 26	16 28.66	-3 42.7	1.365	1.246	44.0	20.5	62 W	39*	41*
5 31	17 23.89	-39 34.8	0.967	1.948	10.7	17.4	159 W	5	76	2 5	16 53.88	-4 58.3	1.336	1.277	44.3	20.6	65 W	38*	46*
6 5	17 17.64	-40 26.1	0.942	1.930	9.7	17.2	161 W	5	76	2 15	17 17.99	-6 4.0	1.297	1.306	44.6	20.6	68 W	37*	52*
6 10	17 10.71	-41 11.4	0.922	1.913	9.5	17.2	162 E	4	75	2 25	17 41.00	-7 1.7	1.248	1.332	45.0	20.5	72 W	36*	57*
6 15	17 3.38	-41 49.4	0.908	1.896	10.3	17.1	160 E	3	74	3 7	18 2.94	-7 54.2	1.190	1.354	45.3	20.5	76 W	35*	62*
6 20	16 55.99	-42 19.5	0.899	1.879	11.9	17.2	158 E	3	74	3 17	18 23.76	-8 44.7	1.124	1.373	45.6	20.4	81 W	34*	67*
6 25	16 48.88	-42 41.2	0.895	1.862	14.0	17.2	154 E	2	73	3 27	18 43.40	-9 37.6	1.050	1.389	45.7	20.3	85 W	33*	71*
6 30	16 42.37	-42 54.9	0.896	1.845	16.3	17.3	149 E	2	73	4 6	19 1.80	-10 38.4	0.972	1.402	45.5	20.1	91 W	33*	74*
7 5	16 36.77	-43 1.3	0.901	1.829	18.7	17.3	145 E	2	73	4 11	19 10.49	-11 13.8	0.930	1.407	45.3	20.0	93 W	32*	75*
7 10	16 32.32	-43 1.5	0.911	1.813	21.0	17.4	140 E	2	73	4 16	19 18.80	-11 54.1	0.888	1.411	45.0	19.9	96 W	32*	76
7 15	16 29.20	-42 56.9	0.924	1.797	23.3	17.5	136 E	2	73	4 21	19 26.70	-12 40.5	0.846	1.414	44.5	19.8	99 W	31*	77
7 20	16 27.52	-42 48.7	0.940	1.781	25.4	17.6	131 E	2	73	4 26	19 34.17	-13 34.4	0.803	1.416	43.9	19.7	102 W	30*	78
7 25	16 27.32	-42 38.2	0.958	1.766	27.4	17.7	127 E	2	73	5 1	19 41.16	-14 37.5	0.760	1.418	43.1	19.5	106 W	29*	79
7 30	16 28.57	-42 26.1	0.979	1.752	29.1	17.7	123 E	3*	74	5 6	19 47.62	-15 51.8	0.717	1.419	42.1	19.4	109 W	28*	80
8 4	16 31.25	-42 13.0	1.002	1.737	30.7	17.8	119 E	3*	74	5 11	19 53.46	-17 19.5	0.675	1.418	40.9	19.2	113 W	27*	81
8 9	16 35.31	-41 59.4	1.026	1.724	32.1	17.9	115 E	3*	74	5 16	19 58.58	-19 3.2	0.633	1.417	39.4	19.0	117 W	26*	83
8 14	16 40.66	-41 45.5	1.051	1.710	33.3	18.0	112 E	3*	74	5 21	20 2.87	-21 5.6	0.593	1.415	37.6	18.8	121 W	24*	85
8 19	16 47.23	-41 31.1	1.078	1.698	34.4	18.0	109 E	3*	74	5 26	20 6.21	-23 29.6	0.555	1.412	35.5	18.6	126 W	21*	87
8 24	16 54.92	-41 16.1	1.105	1.686	35.3	18.1	106 E	3*	75	5 31	20 8.41	-26 17.9	0.520	1.408	33.1	18.4	131 W	19	90
8 29	17 3.63	-41 0.0	1.133	1.674	36.1	18.2	103 E	4*	75	6 5	20 9.21	-29 32.7	0.487	1.404	30.5	18.2	135 W	15	86
9 3	17 13.29	-40 42.5	1.161	1.663	36.7	18.2	100 E	4*	75	6 10	20 8.29	-33 15.1	0.458	1.398	27.7	18.0	140 W	12	83
9 8	17 23.81	-40 23.0	1.190	1.653	37.2	18.3	97 E	4*	76	6 15	20 5.26	-37 23.5	0.433	1.392	25.0	17.8	145 W	8	79
9 13	17 35.10	-40 1.2	1.219	1.643	37.6	18.3	95 E	5*	76	6 20	19 59.65	-41 53.3	0.414	1.385	22.9	17.6	148 W	3	74
9 18	17 47.08	-39 36.4	1.249	1.634	37.9	18.4	92 E	5*	76	6 25	19 50.92	-46 35.7	0.400	1.377	21.8	17.5	150 W	-	69
9 23	17 59.66	-39 8.3	1.278	1.626	38.1	18.4	90 E	6*	76	6 27	19 46.42	-48 29.5	0.395	1.373	21.8	17.4	150 W	-	68
9 28	18 12.74	-38 36.2	1.309	1.618	38.2	18.5	88 E	6*	75	6 29	19 41.27	-50 22.4	0.392	1.370	22.0	17.4	150 W	-	66
10 3	18 26.25	-37 59.9	1.339	1.612	38.3	18.5	86 E	7*	75	7 1	19 35.43	-52 13.5	0.390	1.366	22.5	17.4	149 W	-	64
10 8	18 40.11	-37 19.0	1.370	1.606	38.2	18.5	84 E	7*	74	7 3	19 28.88	-54 1.6	0.389	1.362	23.3	17.4	148 W	-	62
10 13	18 54.26	-36 33.3	1.401	1.601	38.1	18.6	82 E	8*	73	7 5	19 21.59	-55 45.8	0.388	1.358	24.3	17.4	147 W	-	60
10 18	19 8.60	-35 42.5	1.433	1.596	37.9	18.6	80 E	9*	72	7 7	19 13.56	-57 25.0	0.388	1.354	25.4	17.5	145 W	-	59
10 23	19 23.06	-34 46.6	1.465	1.593	37.7	18.7	78 E	10*	71	7 9	19 4.79	-58 58.5	0.390	1.350	26.7	17.5	143 E	-	57
10 28	19 37.58	-33 45.6	1.498	1.590	37.4	18.7	76 E	11*	70	7 11	18 55.32	-60 25.3	0.392	1.345	28.1	17.6	141 E	-	56
11 2	19 52.11	-32 39.5	1.531	1.589	37.0	18.7	75 E	12*	69	7 13	18 45.21	-61 45.0	0.394	1.341	29.6	17.6	139 E	-	54
11 7	20 6.60	-31 28.5	1.565	1.588	36.6	18.8	73 E	13*	67	7 15	18 34.55	-62 57.0	0.397	1.336	31.1	17.7	137 E	-	52
11 12	20 21.01	-30 12.8	1.600	1.588	36.2	18.8	71 E	15*	65	7 17	18 23.47	-64 1.1	0.401	1.331	32.6	17.7	135 E	-	53
11 17	20 35.30	-28 52.6	1.635	1.589	35.7	18.8	70 E	16*	63	7 19	18 12.09	-64 57.3	0.406	1.326	34.1	17.8	133 E	-	51
11 22	20 49.43	-27 28.3	1.671	1.591	35.1	18.9	68 E	17*	61	7 21	18 0.58	-65 45.7	0.411	1.321	35.7	17.8	131 E	-	50
11 27	21 3.39	-26 0.2	1.708	1.594	34.6	18.9													

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°
162463 2000 JH₅										31669 1999 JT₆									
<i>(continuation)</i>										<i>(continuation)</i>									
8 24	16 10.36	-68 28.0	0.522	1.218	54.7	18.7	100 E	—	48*	2 15	16 59.03	-16 38.7	1.619	1.599	35.7	19.4	71 W	27*	61*
8 26	16 10.28	-68 26.6	0.528	1.211	55.5	18.7	99 E	—	47*	2 25	17 14.18	-17 10.4	1.591	1.680	35.1	19.5	77 W	27*	68*
8 28	16 10.77	-68 25.5	0.534	1.204	56.2	18.8	98 E	—	47*	3 7	17 26.46	-17 34.6	1.553	1.760	34.1	19.5	84 W	27*	75*
8 30	16 11.78	-68 24.7	0.539	1.197	56.9	18.8	96 E	—	47*	3 17	17 35.58	-17 54.0	1.508	1.837	32.8	19.5	92 W	27*	81*
9 1	16 13.29	-68 24.3	0.544	1.190	57.6	18.8	95 E	—	47*	3 27	17 41.17	-18 11.2	1.458	1.913	30.8	19.5	101 W	27*	82
9 3	16 15.28	-68 24.3	0.548	1.183	58.3	18.9	94 E	—	47*	4 6	17 42.90	-18 28.4	1.407	1.987	28.2	19.4	110 W	27	82
9 5	16 17.73	-68 24.7	0.553	1.175	59.0	18.9	93 E	—	47*	4 16	17 40.47	-18 46.8	1.359	2.059	24.8	19.3	120 W	26	83
9 7	16 20.63	-68 25.4	0.557	1.168	59.6	18.9	92 E	—	47*	4 26	17 33.75	-19 6.7	1.321	2.128	20.6	19.2	132 W	26	83
9 9	16 23.96	-68 26.4	0.560	1.160	60.2	18.9	91 E	—	47*	5 6	17 23.07	-19 27.0	1.298	2.195	15.7	19.0	144 W	26	83
9 11	16 27.69	-68 27.7	0.563	1.153	60.9	18.9	90 E	—	46*	5 11	17 16.46	-19 36.5	1.294	2.228	13.0	19.0	150 W	25	84
9 13	16 31.82	-68 29.2	0.566	1.145	61.5	18.9	89 E	—	46*	5 16	17 9.22	-19 45.4	1.295	2.260	10.1	18.9	157 W	25	84
9 18	16 43.74	-68 33.3	0.570	1.126	63.0	19.0	87 E	—	46*	5 21	17 1.53	-19 53.3	1.304	2.292	7.3	18.8	163 W	25	84
9 23	16 57.81	-68 36.8	0.572	1.106	64.5	19.0	84 E	—	45*	5 26	16 53.63	-20 0.2	1.319	2.323	4.4	18.7	170 W	25	84
9 28	17 13.86	-68 37.8	0.571	1.087	66.1	19.0	82 E	—	45*	5 31	16 45.73	-20 6.0	1.341	2.354	1.6	18.6	176 W	25	84
10 3	17 31.71	-68 34.6	0.567	1.067	67.7	19.0	81 E	—	45*	6 5	16 38.05	-20 10.9	1.371	2.384	1.7	18.7	176 E	25	84
10 8	17 51.18	-68 25.3	0.560	1.047	69.4	19.0	79 E	—	45*	6 10	16 30.78	-20 15.0	1.407	2.414	4.2	18.9	170 E	25	84
10 13	18 11.97	-68 7.7	0.549	1.028	71.3	19.0	77 E	—	45*	6 15	16 24.10	-20 18.7	1.451	2.443	6.7	19.2	164 E	25	84
10 15	18 20.56	-67 58.0	0.544	1.020	72.0	18.9	77 E	—	45*	6 25	16 12.95	-20 26.3	1.558	2.499	11.1	19.5	152 E	25	84
10 17	18 29.28	-67 46.4	0.539	1.013	72.8	18.9	76 E	—	45*	7 5	16 5.14	-20 36.3	1.687	2.554	14.7	19.9	140 E	24	85
10 19	18 38.08	-67 32.8	0.533	1.005	73.6	18.9	76 E	—	46*	7 15	16 0.73	-20 50.2	1.836	2.606	17.4	20.2	130 E	24	85
10 21	18 46.93	-67 17.2	0.526	0.998	74.5	18.9	75 E	—	46*	7 25	15 59.49	-21 8.8	1.998	2.657	19.3	20.5	120 E	24*	85
10 23	18 55.82	-66 59.2	0.519	0.990	75.4	18.9	74 E	—	46*	8 4	16 1.03	-21 31.5	2.172	2.706	20.5	20.8	111 E	23*	86
10 25	19 4.70	-66 38.9	0.511	0.983	76.3	18.9	74 E	—	46*	8 14	16 4.97	-21 57.7	2.352	2.752	21.1	21.0	102 E	21*	86
10 27	19 13.55	-66 15.9	0.503	0.976	77.2	18.9	73 E	—	47*	8 24	16 10.93	-22 26.5	2.536	2.797	21.1	21.2	94 E	20*	86*
10 29	19 22.33	-65 50.2	0.495	0.969	78.2	18.8	73 E	—	47*	9 3	16 18.58	-22 56.5	2.720	2.840	20.8	21.4	86 E	19*	80*
10 31	19 31.02	-65 21.5	0.485	0.962	79.2	18.8	72 E	—	47*	259464 2003 SN₁₁₇									
11 2	19 39.58	-64 49.8	0.476	0.956	80.2	18.8	72 E	—	48*	12 27	15 7.26	-19 0.2	2.453	1.902	21.7	21.5	46 W	22*	34*
11 4	19 47.99	-64 14.7	0.466	0.949	81.3	18.8	71 E	—	48*	1 6	15 31.81	-20 47.2	2.347	1.871	23.7	21.4	50 W	21*	39*
11 6	19 56.22	-63 36.2	0.456	0.943	82.4	18.7	70 E	—	48*	1 16	15 57.14	-22 23.7	2.239	1.842	25.6	21.3	54 W	21*	45*
11 8	20 4.25	-62 54.1	0.445	0.937	83.6	18.7	70 E	—	49*	1 26	16 23.21	-23 47.9	2.132	1.814	27.4	21.3	58 W	19*	50*
11 10	20 12.03	-62 8.1	0.434	0.931	84.8	18.7	69 E	—	49*	2 5	16 49.94	-24 58.1	2.025	1.788	29.1	21.2	62 W	18*	55*
11 12	20 19.54	-61 17.9	0.422	0.925	86.0	18.7	69 E	—	50*	2 15	17 17.17	-25 53.0	1.920	1.764	30.7	21.1	66 W	18*	59*
11 14	20 26.77	-60 23.3	0.411	0.920	87.3	18.7	68 E	—	50*	2 25	17 44.71	-26 31.6	1.816	1.742	32.2	21.0	70 W	17*	64*
11 16	20 33.68	-59 24.0	0.398	0.914	88.7	18.6	68 E	—	51*	3 7	18 12.35	-26 53.4	1.716	1.723	33.5	20.9	74 W	16*	68*
11 18	20 40.25	-58 19.5	0.386	0.909	90.1	18.6	67 E	—	51*	3 17	18 39.80	-26 58.6	1.618	1.706	34.7	20.7	77 W	16*	71*
11 20	20 46.47	-57 9.4	0.373	0.905	91.6	18.6	66 E	—	52*	3 27	19 6.75	-26 48.0	1.523	1.691	35.7	20.6	81 W	15*	75*
11 22	20 52.31	-55 53.2	0.361	0.900	93.1	18.6	66 E	—	52*	4 6	19 32.90	-26 23.2	1.432	1.680	36.4	20.5	85 W	15*	79*
11 24	20 57.77	-54 30.3	0.348	0.896	94.7	18.5	65 E	—	53*	4 16	19 57.92	-25 46.6	1.345	1.672	36.9	20.4	90 W	16*	83*
11 26	21 2.83	-53 0.0	0.334	0.892	96.4	18.5	64 E	—	53*	4 26	20 21.46	-25 1.2	1.262	1.666	37.0	20.2	94 W	16*	88*
11 28	21 7.49	-51 21.5	0.321	0.889	98.1	18.5	63 E	—	53*	5 6	20 43.20	-24 10.5	1.182	1.664	36.8	20.1	99 W	17*	88
11 30	21 11.72	-49 34.0	0.308	0.886	99.9	18.5	62 E	—	53*	5 16	21 2.77	-23 18.6	1.107	1.665	36.2	19.9	104 W	19*	87
12 2	21 15.52	-47 36.5	0.295	0.883	101.7	18.5	61 E	—	53*	5 26	21 19.77	-22 29.6	1.036	1.670	35.0	19.7	109 W	20*	86
12 4	21 18.89	-45 27.7	0.282	0.880	103.6	18.5	60 E	—	53*	6 5	21 33.80	-21 47.6	0.970	1.677	33.1	19.5	115 W	22*	86
12 6	21 21.80	-43 6.5	0.269	0.878	105.6	18.5	59 E	2*	53*	6 15	21 44.36	-21 16.4	0.910	1.688	30.6	19.3	122 W	23*	85
12 8	21 24.26	-40 31.4	0.257	0.876	107.7	18.5	58 E	4*	52*	6 25	21 50.99	-20 58.7	0.858	1.701	27.2	19.1	130 W	24*	85
12 10	21 26.23	-37 41.0	0.245	0.875	109.7	18.5	57 E	7*	51*	7 5	21 53.37	-20 55.0	0.815	1.717	22.9	18.9	139 W	24*	85
12 12	21 27.72	-34 33.8	0.233	0.874	111.8	18.5	55 E	10*	49*	7 15	21 51.39	-21 3.6	0.785	1.736	17.7	18.7	149 W	24	85
12 14	21 28.72	-31 8.3	0.222	0.873	113.9	18.6	54 E	13*	47*	7 20	21 48.89	-21 10.8	0.776	1.746	14.8	18.6	154 W	24	85
12 16	21 29.21	-27 23.4	0.212	0.873	115.9	18.6	53 E	16*	45*	7 25	21 45.55	-21 18.7	0.770	1.757	11.8	18.5	159 W	24	85
12 18	21 29.19	-23 18.2	0.203	0.873	117.8	18.6	52 E	20*	42*	7 30	21 41.52	-21 26.3	0.770	1.769	8.8	18.4	165 W	24	85
12 20	21 28.66	-18 52.8	0.195	0.873	119.5	18.7	51 E	24*	39*	8 4	21 37.00	-21 32.6	0.774	1.781	6.0	18.3	169 W	23	86
12 22	21 27.62	-14 8.1	0.188	0.874	120.9	18.7	50 E	27*	35*	8 9	21 32.24	-21 36.6	0.783	1.793	3.9	18.2	173 W	23	86
12 24	21 26.08	-9 6.6	0.182	0.875	121.8	18.7	49 E	31*	30*	8 14	21 27.47	-21 37.4	0.797	1.806	4.1	18.3	173 E	23	86
12 26	21 24.04	-3 52.1	0.178	0.877	122.2	18.7	49 E	35*	26*	8 19	21 22.97	-21 34.6	0.816	1.820	6.2	18.4	169 E	23	86
12 28	21 21.52	+1 30.4	0.176	0.879	122.1	18.7	49 E	39*	21*	8 24	21 18.94	-21 27.9	0.841	1.833	8.8	18.6	164 E	24	85
12 30	21 18.54	+6 54.7	0.175	0.881	121.4	18.6	50 E	42*	16*	8 29	21 15.53	-21 17.3	0.870	1.848	11.5	18.8	159 E	24	85
1 1	21 15.12	+12 14.6	0.176	0.883	120.1	18.5	51 E	45*	10*	9 3	21 12.89	-21 3.0	0.904	1.862	14.0	19.0	153 E	24	85
1 2	21 13.25	+14 50.9	0.177	0.885	119.2	18.5	52 E	46*	8*	9 13	21 10.17	-20 24.2	0.986	1.893	18.4	19.4	144 E	25	84
1 3	21 11.28	+17 23.9	0.178	0.886	118.3	18.4	53 E	47*	5*	9 23	21 11.00	-19 33.9	1.084	1.924	21.9	19.8	134 E	25	84
1 4	21 9.21	+19 52.9	0.180	0.888	117.3	18.4	53 E	47*	3*	10 3	21 15.07	-18 34.4	1.195	1.956	24.5	20.1	126 E	26	83
1 5	21 7.04	+22 17.6	0.182	0.889	116.2	18.3	54 E	48*	—	10 13	21 21.95	-17 27.0	1.317	1.990	26.3	20.4	118 E	28	81
1 6																			

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

20/22	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°-26°	2021	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°-26°
5682 Beresford (continuation)									143649 2003 QQ₄₇ (continuation)								
4 16	17 9.01	-17 50.3	1.612	2.365	19.5	17.6	128 W	27 82	3 29	0 19.15	-66 16.6	1.128	1.218	50.2	20.0	70 W	- 23*
4 26	17 8.65	-16 58.7	1.488	2.332	16.9	17.3	138 W	28 81	3 31	0 32.94	-65 17.0	1.140	1.222	49.9	20.0	69 W	- 22*
5 6	17 5.13	-15 59.4	1.380	2.299	13.4	17.0	148 W	29 80	4 2	0 45.46	-64 15.9	1.152	1.226	49.6	20.0	69 E	- 21*
5 16	16 58.52	-14 54.2	1.293	2.265	9.4	16.7	159 W	30 79	4 4	0 56.85	-63 13.9	1.163	1.230	49.3	20.0	69 E	- 22*
5 21	16 54.23	-14 20.4	1.258	2.247	7.2	16.5	164 W	31 78	4 6	1 7.24	-62 11.5	1.175	1.234	49.0	20.0	69 E	- 22*
5 26	16 49.41	-13 46.6	1.229	2.230	5.3	16.3	168 W	31 78	4 8	1 16.76	-61 9.2	1.187	1.237	48.7	20.1	68 E	- 22*
5 31	16 44.21	-13 13.3	1.206	2.213	4.2	16.2	171 W	32 77	4 10	1 25.52	-60 7.2	1.198	1.241	48.5	20.1	68 E	- 22*
6 5	16 38.79	-12 41.3	1.189	2.195	4.7	16.2	170 E	32 77	4 12	1 33.60	-59 6.0	1.209	1.244	48.2	20.1	68 E	- 22*
6 10	16 33.34	-12 11.4	1.179	2.177	6.6	16.2	166 E	33 76	4 14	1 41.09	-58 5.6	1.220	1.248	47.9	20.1	67 E	- 22*
6 15	16 28.03	-11 44.3	1.175	2.160	9.0	16.3	161 E	33 76	4 16	1 48.05	-57 6.3	1.231	1.251	47.7	20.1	67 E	- 22*
6 20	16 23.07	-11 20.8	1.177	2.142	11.5	16.4	155 E	34 75	4 18	1 54.55	-56 8.1	1.242	1.254	47.4	20.2	67 E	- 22*
6 25	16 18.61	-11 1.3	1.184	2.124	14.0	16.5	150 E	34 75	4 20	2 0.63	-55 11.1	1.252	1.257	47.2	20.2	67 E	- 22*
7 5	16 11.68	-10 35.7	1.213	2.089	18.6	16.7	139 E	34 75	4 22	2 6.35	-54 15.4	1.262	1.259	47.0	20.2	66 E	- 21*
7 15	16 8.01	-10 28.8	1.257	2.053	22.7	16.8	129 E	35 74	4 24	2 11.74	-53 21.1	1.271	1.262	46.8	20.2	66 E	- 21*
7 25	16 7.91	-10 39.3	1.313	2.018	26.0	17.0	120 E	35 75	4 26	2 16.84	-52 28.0	1.280	1.265	46.6	20.2	66 E	- 21*
8 4	16 11.32	-11 4.4	1.377	1.983	28.5	17.1	111 E	33 75	5 1	2 28.49	-50 21.4	1.301	1.271	46.1	20.2	65 W	- 21*
8 14	16 18.08	-11 40.6	1.446	1.948	30.4	17.3	103 E	32 76	5 6	2 38.86	-48 23.1	1.318	1.276	45.7	20.3	65 W	- 22*
8 24	16 27.88	-12 24.3	1.516	1.914	31.7	17.4	96 E	31 76	5 11	2 48.22	-46 33.0	1.331	1.280	45.5	20.3	65 W	- 24*
9 3	16 40.43	-13 11.6	1.587	1.880	32.4	17.4	90 E	29 76*	5 16	2 56.75	-44 50.7	1.341	1.283	45.3	20.3	64 W	- 26*
9 13	16 55.47	-13 59.2	1.657	1.848	32.8	17.5	84 E	28 74*	5 21	3 4.60	-43 15.8	1.346	1.286	45.2	20.3	64 W	- 28*
9 23	17 12.75	-14 43.9	1.724	1.816	32.8	17.6	79 E	28 69*	5 26	3 11.86	-41 47.7	1.346	1.287	45.2	20.3	64 W	- 30*
10 3	17 32.01	-15 22.4	1.788	1.786	32.5	17.6	74 E	27 65*	5 31	3 18.63	-40 25.9	1.342	1.288	45.3	20.3	65 W	- 33*
10 13	17 53.09	-15 52.2	1.850	1.758	32.0	17.6	69 E	26 60*	6 5	3 24.98	-39 10.0	1.333	1.288	45.5	20.3	65 W	- 36*
10 23	18 15.74	-16 10.4	1.908	1.731	31.3	17.6	65 E	26 55*	6 10	3 30.95	-37 59.6	1.318	1.287	45.8	20.3	65 W	- 39*
11 2	18 39.77	-16 15.0	1.964	1.707	30.4	17.6	60 E	26 50*	6 15	3 36.57	-36 54.2	1.299	1.286	46.3	20.3	66 W	- 42*
11 12	19 4.96	-16 4.0	2.017	1.685	29.3	17.6	56 E	26 45*	7 25	3 46.82	-34 57.1	1.245	1.280	47.4	20.2	68 W	- 48*
11 22	19 31.08	-15 36.2	2.067	1.665	28.1	17.6	53 E	26 40*	7 5	3 55.87	-33 15.1	1.172	1.271	49.0	20.1	71 W	- 54*
12 2	19 57.90	-14 50.8	2.116	1.648	26.9	17.6	49 E	26 36*	7 15	4 3.67	-31 45.5	1.078	1.259	50.8	19.9	74 W	- 61*
12 12	20 25.23	-13 47.8	2.163	1.634	25.5	17.6	46 E	26 31*	7 20	4 7.05	-31 4.1	1.025	1.252	51.9	19.9	76 W	- 64*
12 22	20 52.85	-12 27.7	2.209	1.623	24.1	17.6	42 E	26 26*	7 25	4 10.05	-30 24.2	0.967	1.244	52.9	19.7	78 W	- 67*
1 1	21 20.60	-10 51.6	2.254	1.615	22.6	17.6	39 E	26 22*	7 30	4 12.62	-29 45.1	0.904	1.235	54.0	19.6	80 W	1* 71*
1 11	21 48.34	-9 1.4	2.299	1.611	21.0	17.6	36 E	26 19*	8 4	4 14.69	-29 6.0	0.838	1.225	55.1	19.5	82 W	4* 74*
1 21	22 15.96	-6 59.2	2.344	1.610	19.4	17.6	33 E	23 15*	8 9	4 16.15	-28 25.8	0.768	1.215	56.2	19.3	85 W	8* 77*
12 27	15 8.12	-6 39.9	0.957	51.7	19.7	50 W	34*	29*	8 14	4 16.83	-27 42.7	0.695	1.204	57.2	19.1	88 W	11* 81*
1 1	15 15.21	-10 43.4	1.203	0.971	52.5	19.7	52 W	31*	8 19	4 16.51	-26 54.0	0.619	1.192	58.1	18.8	91 W	14* 84*
1 6	15 22.88	-14 57.8	1.175	0.985	53.3	19.7	53 W	28*	8 24	4 14.83	-25 55.6	0.541	1.180	58.7	18.5	94 W	16* 88*
1 11	15 31.27	-19 23.9	1.145	1.000	54.0	19.7	55 W	24*	8 26	4 13.65	-25 28.0	0.509	1.175	58.9	18.4	96 W	18* 89*
1 16	15 40.55	-24 2.2	1.116	1.016	54.7	19.7	57 W	20*	8 28	4 12.12	-24 57.2	0.477	1.170	58.9	18.2	97 W	19* 89
1 21	15 50.92	-28 52.5	1.088	1.031	55.3	19.7	59 W	15*	8 30	4 10.14	-24 22.3	0.444	1.165	58.9	18.1	99 W	20* 88
1 26	16 2.69	-33 53.9	1.061	1.047	55.7	19.7	61 W	10*	9 1	4 7.63	-23 42.0	0.411	1.159	58.8	17.9	101 W	21* 88
1 31	16 16.28	-39 4.3	1.039	1.063	55.9	19.6	63 W	5*	9 3	4 4.47	-22 54.9	0.378	1.154	58.5	17.7	103 W	22* 87
2 5	16 32.28	-44 20.3	1.020	1.078	56.0	19.6	65 W	5*	9 5	4 0.48	-21 58.8	0.346	1.148	57.9	17.5	105 W	23* 86
2 7	16 39.53	-46 27.1	1.014	1.085	55.9	19.6	66 W	- 56*	9 7	3 55.43	-20 50.4	0.313	1.143	57.1	17.2	108 W	24 85
2 9	16 47.35	-48 33.6	1.008	1.091	55.9	19.6	66 W	- 55*	9 9	3 48.99	-19 25.3	0.280	1.137	55.9	16.9	111 W	26 83
2 11	16 55.84	-50 39.2	1.004	1.097	55.8	19.6	67 W	- 55*	9 11	3 40.70	-17 36.6	0.248	1.131	54.2	16.6	114 W	27 82
2 13	17 5.07	-52 43.5	1.000	1.103	55.7	19.6	67 W	- 53*	9 13	3 29.86	-15 13.4	0.216	1.126	51.8	16.2	118 W	30 79
2 15	17 15.15	-54 45.7	0.998	1.109	55.6	19.6	68 W	- 52*	9 14	3 23.17	-13 43.9	0.201	1.123	50.2	16.0	121 W	31 78
2 17	17 26.19	-56 45.2	0.996	1.115	55.5	19.6	68 W	- 51*	9 15	3 15.40	-11 58.8	0.186	1.120	48.3	15.8	124 W	33 76
2 19	17 38.34	-58 41.2	0.995	1.121	55.3	19.6	69 W	- 49*	9 16	3 6.31	-9 54.3	0.171	1.117	46.0	15.6	127 W	35 74
2 21	17 51.72	-60 32.8	0.995	1.127	55.1	19.7	69 W	- 48*	9 17	2 55.62	-7 25.9	0.157	1.114	43.3	15.3	131 W	38 71
2 23	18 6.51	-62 19.0	0.996	1.133	54.9	19.7	70 W	- 46*	9 18	2 42.97	-4 27.8	0.144	1.111	40.0	15.0	135 W	41 68
2 25	18 22.84	-63 58.9	0.998	1.138	54.7	19.7	70 W	- 44*	9 19	2 27.88	0 54.1	0.132	1.108	36.2	14.7	139 W	44 65
2 27	18 40.86	-65 31.1	1.001	1.144	54.5	19.7	70 W	- 43*	9 20	2 9.83	+ 3 21.1	0.121	1.105	31.9	14.4	144 W	48 61
3 1	19 0.68	-66 54.4	1.005	1.149	54.2	19.7	70 W	- 41*	9 21	1 48.18	+ 8 20.8	0.111	1.102	27.3	14.1	150 W	53 56
3 3	19 22.33	-68 7.6	1.010	1.155	54.0	19.7	70 W	- 39*	9 22	1 22.35	+14 1.4	0.104	1.099	23.4	13.8	154 W	59 50
3 5	19 45.73	-69 9.3	1.015	1.160	53.7	19.7	71 W	- 38*	9 23	0 51.92	+20 7.8	0.100	1.096	21.8	13.7	156 W	65 44
3 7	20 10.69	-69 58.6	1.022	1.166	53.5	19.7	71 W	- 36*	9 24	0 16.98	+26 12.2	0.099	1.093	23.8	13.7	154 W	71 38
3 8	20 23.65	-70 18.2	1.025	1.168	53.3	19.7	71 W	- 35*	9 25	23 38.48	+31 39.8	0.100	1.090	28.9	13.9	148 E	77 32
3 9	20 36.84	-70 34.5	1.029	1.171	53.2	19.8	71 W	- 35*	9 26	22 58.33	+36 2.7	0.105	1.086	35.3	14.1	141 E	81 28
3 10	20 50.20	-70 47.2	1.033	1.174	53.0	19.8	71 W	- 34*	9 27	22 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°
143649 2003 QQ₄₇ (continuation)										86667 2000 FO₁₀ (continuation)									
10 17	18 16.09	+37 31.7	0.404	1.021	75.1	18.1	82 E	75*	21*	9 23	12 19.55	-4 47.5	2.331	1.340	5.2	20.5	7 E	-	1*
10 18	18 13.69	+37 19.6	0.419	1.018	75.2	18.2	81 E	74*	20*	10 3	12 44.30	-6 50.3	2.357	1.359	2.7	20.4	4 E	-	-
10 19	18 11.48	+37 8.3	0.435	1.015	75.2	18.2	80 E	73*	20*	10 13	13 8.96	-8 48.0	2.366	1.369	1.0	20.3	1 W	-	-
10 20	18 9.44	+36 57.7	0.450	1.011	75.1	18.3	79 E	73*	19*	10 23	13 33.79	-10 39.8	2.360	1.369	2.9	20.4	4 W	-	-
10 21	18 7.55	+36 47.7	0.465	1.008	75.0	18.4	78 E	72*	19*	11 2	13 59.11	-12 25.2	2.338	1.360	5.4	20.6	7 W	1*	-
10 22	18 5.78	+36 38.2	0.480	1.005	75.0	18.4	77 E	71*	18*	11 12	14 25.19	-14 3.1	2.300	1.342	8.1	20.6	11 W	4*	1*
10 23	18 4.14	+36 29.3	0.495	1.002	74.8	18.5	76 E	70*	18*	11 22	14 52.36	-15 31.9	2.247	1.314	10.7	20.6	14 W	6*	4*
10 25	18 1.16	+36 12.7	0.525	0.996	74.5	18.6	75 E	69*	16*	12 2	15 20.97	-16 49.8	2.181	1.276	13.5	20.6	18 W	9*	6*
10 27	17 58.51	+35 57.6	0.554	0.990	74.2	18.7	73 E	67*	15*	12 12	15 51.44	-17 54.1	2.101	1.227	16.3	20.5	20 W	11*	9*
10 29	17 56.13	+35 43.8	0.582	0.984	73.7	18.8	72 E	66*	14*	12 22	16 24.25	-18 41.1	2.010	1.168	19.1	20.4	23 W	12*	12*
10 31	17 53.98	+35 30.9	0.610	0.978	73.3	18.8	71 E	65*	12*	12 27	16 41.72	-18 56.7	1.962	1.134	20.5	20.4	24 W	12*	13*
11 2	17 52.00	+35 18.9	0.637	0.973	72.8	18.9	69 E	63*	11*	1 1	17 0.02	-19 6.0	1.912	1.097	22.0	20.3	25 W	12*	14*
11 7	17 47.64	+34 51.3	0.701	0.959	71.4	19.0	66 E	60*	7*	1 6	17 19.22	-19 8.2	1.860	1.058	23.4	20.2	25 W	12*	15*
11 12	17 43.83	+34 25.6	0.759	0.945	70.0	19.1	64 E	57*	2*	1 11	17 39.43	-19 2.1	1.808	1.015	24.8	20.1	26 W	12*	16*
11 17	17 40.34	+34 0.0	0.812	0.933	68.6	19.2	61 E	53*	-	1 16	18 0.76	-18 46.6	1.755	0.969	26.2	19.9	26 W	12*	16*
11 22	17 37.04	+33 32.9	0.858	0.922	67.3	19.3	59 E	50*	-	1 21	18 23.32	-18 20.3	1.704	0.919	27.5	19.8	26 W	11*	16*
11 27	17 33.86	+33 2.9	0.897	0.912	66.1	19.3	58 E	46*	-	70111 1999 LM₇									
12 2	17 30.77	+32 29.0	0.929	0.903	65.1	19.3	56 E	42*	-	12 27	15 8.89	-10 58.9	3.076	2.524	16.8	21.1	48 W	29*	31*
12 7	17 27.76	+31 50.2	0.953	0.895	64.3	19.3	55 E	38*	-	1 6	15 25.41	-11 49.5	2.940	2.490	18.6	21.1	54 W	30*	38*
12 12	17 24.81	+31 5.7	0.968	0.890	63.8	19.3	54 E	33*	-	1 16	15 41.86	-12 32.1	2.797	2.456	20.3	21.0	60 W	31*	45*
12 17	17 21.95	+30 14.2	0.976	0.885	63.6	19.3	54 W	34*	-	1 26	15 58.10	-13 5.8	2.648	2.422	21.8	20.9	66 W	31*	52*
12 22	17 19.20	+29 14.8	0.975	0.883	63.7	19.3	54 W	38*	-	2 5	16 14.01	-13 30.6	2.495	2.387	23.2	20.8	72 W	31*	59*
12 27	17 16.62	+28 6.2	0.966	0.882	64.1	19.3	54 W	42*	-	2 15	16 29.43	-13 45.9	2.339	2.351	24.3	20.6	79 W	31*	66*
1 1	17 14.24	+26 47.4	0.948	0.884	64.8	19.3	54 W	45*	-	2 25	16 44.17	-13 51.9	2.181	2.315	25.2	20.5	85 W	31*	72*
1 6	17 12.09	+25 17.2	0.923	0.886	65.8	19.3	55 W	48*	-	3 7	16 58.02	-13 48.7	2.024	2.278	25.8	20.3	92 W	31*	76*
1 11	17 10.20	+23 33.5	0.891	0.891	67.0	19.3	57 W	50*	3*	3 17	17 10.71	-13 36.8	1.869	2.241	26.1	20.1	98 W	31	78
1 16	17 8.59	+21 34.1	0.851	0.897	68.4	19.2	58 W	52*	9*	3 27	17 21.93	-13 17.0	1.718	2.204	25.9	19.9	105 W	32	77
1 21	17 7.31	+19 15.7	0.805	0.905	70.0	19.2	60 W	53*	15*	4 6	17 31.36	-12 50.8	1.573	2.167	25.2	19.6	113 W	32	77
86667 2000 FO₁₀										4 16	17 38.59	-12 19.8	1.436	2.130	23.9	19.3	121 W	33	76
12 27	15 8.76	-19 22.1	1.869	1.370	30.7	21.0	45 W	22*	34*	4 26	17 43.22	-11 46.6	1.308	2.092	22.0	19.0	129 W	33	76
1 6	15 34.65	-20 16.9	1.788	1.369	33.0	20.9	49 W	22*	39*	5 6	17 44.86	-11 14.3	1.194	2.055	19.3	18.7	138 W	34	75
1 16	16 1.45	-20 55.3	1.695	1.359	35.5	20.9	53 W	22*	43*	5 16	17 43.22	-10 47.1	1.094	2.019	15.8	18.4	147 W	34	75
1 26	16 29.45	-21 14.8	1.591	1.339	38.1	20.8	57 W	22*	48*	5 26	17 38.28	-10 29.6	1.012	1.982	11.8	18.0	157 W	35	74
2 5	16 59.06	-21 11.9	1.480	1.310	40.8	20.6	60 W	22*	52*	6 5	17 30.49	-10 26.6	0.949	1.947	7.9	17.7	165 W	35	74
2 15	17 30.81	-20 41.5	1.363	1.271	43.9	20.5	63 W	22*	55*	6 15	17 20.79	-10 41.9	0.908	1.912	6.8	17.5	167 E	34	75
2 20	17 47.69	-20 13.9	1.304	1.248	45.5	20.4	64 W	22*	57*	6 25	17 10.74	-11 17.7	0.889	1.878	10.4	17.6	161 E	34	75
2 25	18 5.37	-19 36.6	1.245	1.222	47.3	20.3	65 W	22*	59*	6 30	17 6.11	-11 43.2	0.887	1.861	12.9	17.6	156 E	33	76
3 2	18 23.99	-18 48.3	1.186	1.193	49.2	20.2	66 W	22*	58*	7 5	17 2.02	-12 13.2	0.889	1.845	15.6	17.7	151 E	33	76
3 7	18 43.69	-17 47.3	1.129	1.161	51.3	20.1	66 W	22*	59*	7 10	16 58.63	-12 47.5	0.897	1.829	18.2	17.8	146 E	32	77
3 12	19 4.62	-16 32.0	1.074	1.127	53.6	20.0	66 W	22*	58*	7 15	16 56.11	-13 25.5	0.908	1.814	20.7	17.9	141 E	32	77
3 17	19 26.92	-15 0.5	1.021	1.090	56.1	19.9	65 W	23*	58*	7 20	16 54.56	-14 6.5	0.923	1.799	23.1	18.0	136 E	31	78
3 22	19 50.78	-13 10.8	0.973	1.049	58.9	19.8	64 W	24*	57*	7 25	16 54.05	-14 50.1	0.941	1.784	25.2	18.1	131 E	30	79
3 27	20 16.34	-11 1.4	0.929	1.006	61.9	19.7	63 W	24*	55*	8 4	16 56.23	-16 22.0	0.985	1.756	29.0	18.3	123 E	29	80
4 6	21 13.05	-5 41.8	0.864	0.909	68.7	19.5	58 W	23*	49*	8 14	17 2.68	-17 56.5	1.038	1.731	32.0	18.4	115 E	27*	82
4 16	22 17.20	+0 43.9	0.839	0.798	75.6	19.4	50 W	22*	41*	8 24	17 13.17	-19 29.1	1.097	1.708	34.2	18.6	108 E	25*	83
4 26	23 27.43	+7 23.4	0.868	0.673	80.4	19.2	41 W	18*	32*	9 3	17 27.29	-20 55.3	1.160	1.687	35.8	18.7	102 E	24*	85
5 1	0 4.17	+10 25.7	0.906	0.606	80.9	19.1	36 W	16*	27*	9 13	17 44.66	-22 11.3	1.226	1.669	36.8	18.8	96 E	22*	86
5 6	0 41.80	+13 6.3	0.960	0.537	79.2	18.9	32 W	13*	23*	9 23	18 4.86	-23 13.5	1.294	1.655	37.3	19.0	91 E	21*	87
5 11	1 20.45	+15 20.5	1.030	0.470	74.3	18.6	27 W	10*	18*	10 3	18 27.43	-23 58.4	1.365	1.643	37.4	19.1	87 E	21*	80*
5 16	2 0.59	+17 6.6	1.113	0.409	65.1	18.2	22 W	7*	14*	10 13	18 51.95	-24 23.4	1.437	1.635	37.2	19.2	82 W	20*	76*
5 18	2 17.19	+17 41.0	1.149	0.389	59.9	18.0	19 W	5*	12*	10 23	19 17.96	-24 26.6	1.511	1.630	36.7	19.2	78 E	20*	71*
5 20	2 34.15	+18 10.9	1.186	0.372	53.8	17.8	17 W	4*	10*	11 2	19 45.01	-24 6.8	1.586	1.629	35.9	19.3	74 E	21*	67*
5 22	2 51.46	+18 36.3	1.222	0.359	47.0	17.6	15 W	2*	8*	11 7	19 58.80	-23 48.2	1.625	1.630	35.5	19.4	73 E	21*	65*
5 24	3 9.07	+18 57.2	1.258	0.351	39.6	17.4	13 W	1*	6*	11 12	20 12.69	-23 23.8	1.664	1.631	34.9	19.4	71 E	21*	63*
5 26	3 26.87	+19 13.5	1.291	0.348	32.0	17.2	10 W	-	4*	11 17	20 26.65	-22 53.9	1.704	1.634	34.4	19.4	69 E	22*	60*
5 28	3 44.72	+19 25.4	1.323	0.352	24.5	17.1	8 W	-	2*	11 22	20 40.62	-22 18.5	1.744	1.637	33.8	19.5	67 E	23*	58*
5 30	4 2.47	+19 33.0	1.352	0.361	17.6	17.0	6 W	-	-	11 27	20 54.57	-21 38.0	1.784	1.641	33.1	19.			

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°
7350 1993 VA										5164 Mullo									
12 27	15 9.54	-13 20.6	1.434	1.047	43.3	19.8	47 W	27*	32*	12 12	17 2.07	-29 8.4	5.334	4.358	1.5	20.1	7 W	—	—
1 6	15 41.98	-14 42.9	1.466	1.109	42.1	19.9	49 W	26*	35*	12 22	17 13.49	-29 36.7	5.350	4.393	2.7	20.2	12 W	—	6*
1 16	16 12.55	-15 41.9	1.487	1.172	41.3	20.0	52 W	26*	39*	1 1	17 24.72	-30 3.3	5.344	4.427	4.2	20.3	19 W	—	13*
1 26	16 41.23	-16 19.2	1.496	1.234	40.9	20.1	55 W	26*	44*	1 11	17 35.64	-30 28.4	5.318	4.461	5.7	20.4	27 W	3*	20*
2 5	17 8.00	-16 37.1	1.493	1.295	40.6	20.2	59 W	26*	49*	1 21	17 46.13	-30 52.3	5.272	4.494	7.1	20.5	34 W	5*	28*
2 15	17 32.83	-16 38.0	1.478	1.354	40.5	20.3	63 W	26*	54*	17555 Kenkenedy									
2 25	17 55.60	-16 24.3	1.452	1.411	40.4	20.4	68 W	26*	59*	12 27	15 10.29	-2 59.6	3.573	3.049	14.5	20.8	51 W	37*	27*
3 7	18 16.26	-15 58.9	1.415	1.465	40.3	20.4	73 W	26*	64*	1 6	15 22.45	-3 0.1	3.470	3.063	15.8	20.8	58 W	39*	34*
3 17	18 34.65	-15 24.5	1.368	1.515	40.0	20.4	78 W	27*	69*	1 16	15 33.84	-2 49.4	3.358	3.075	16.9	20.8	65 W	41*	42*
3 27	18 50.56	-14 44.0	1.313	1.563	39.4	20.3	84 W	28*	74*	1 26	15 44.28	-2 26.9	3.237	3.086	17.7	20.7	72 W	42*	49*
4 6	19 3.77	-14 0.4	1.250	1.608	38.5	20.3	90 W	29*	77*	2 5	15 53.59	-1 52.3	3.110	3.096	18.3	20.7	80 W	43*	56*
4 16	19 13.92	-13 16.9	1.182	1.649	37.1	20.1	98 W	30*	77	2 15	16 1.55	-1 5.4	2.980	3.105	18.5	20.6	88 W	44	61*
4 26	19 20.56	-12 37.2	1.111	1.687	35.1	20.0	106 W	32*	77	2 25	16 7.93	0 6.3	2.850	3.113	18.4	20.5	96 W	45	64*
5 6	19 23.19	-12 5.1	1.040	1.722	32.3	19.8	114 W	33*	76	3 7	16 12.51	+ 1 4.2	2.723	3.121	17.9	20.4	104 W	46	63
5 16	19 21.22	-11 44.8	0.972	1.753	28.5	19.6	124 W	33*	76	3 17	16 15.06	+ 2 24.9	2.602	3.127	17.0	20.3	113 W	47	62
5 26	19 14.20	-11 40.4	0.913	1.781	23.6	19.4	135 W	33	76	3 27	16 15.40	+ 3 53.5	2.492	3.132	15.7	20.1	122 W	49	60
6 5	19 2.11	-11 54.6	0.867	1.806	17.7	19.1	147 W	33	76	4 6	16 13.44	+ 5 26.3	2.396	3.136	14.1	20.0	130 W	50	59
6 15	18 45.61	-12 27.8	0.840	1.827	11.1	18.8	160 W	33	76	4 16	16 9.20	+ 6 58.8	2.319	3.140	12.3	19.8	138 W	52	57
6 20	18 36.24	-12 50.8	0.835	1.837	8.0	18.7	165 W	32	77	4 21	16 6.29	+ 7 43.0	2.288	3.141	11.4	19.8	142 W	53	56
6 25	18 26.53	-13 17.2	0.836	1.845	5.8	18.6	170 W	32	77	4 26	16 2.92	+ 8 24.9	2.263	3.142	10.5	19.7	145 W	53	56
6 30	18 16.80	-13 46.1	0.844	1.853	5.7	18.6	170 E	31	78	5 1	15 59.14	+ 9 3.6	2.244	3.143	9.8	19.7	148 W	54	55
7 5	18 7.39	-14 16.9	0.858	1.860	7.8	18.8	166 E	31	78	5 6	15 55.03	+ 9 38.5	2.232	3.143	9.4	19.7	150 W	55	54
7 10	17 58.60	-14 48.8	0.878	1.866	10.7	18.9	160 E	30	79	5 16	15 46.19	+ 10 33.8	2.226	3.144	9.2	19.6	150 W	56	53
7 15	17 50.72	-15 21.3	0.904	1.872	13.7	19.1	154 E	30	79	5 26	15 37.19	+ 11 6.6	2.247	3.143	10.2	19.7	147 E	56	53
7 20	17 43.92	-15 53.9	0.935	1.876	16.6	19.3	148 E	29	80	6 5	15 28.81	+ 11 15.5	2.291	3.142	11.8	19.8	141 E	56	53
7 25	17 38.33	-16 26.3	0.971	1.880	19.3	19.5	142 E	29	80	6 15	15 21.71	+ 11 1.2	2.357	3.139	13.7	19.9	133 E	56	53
8 4	17 30.88	-17 29.5	1.055	1.885	23.9	19.8	131 E	28	81	6 25	15 16.40	+ 10 26.5	2.442	3.136	15.4	20.1	125 E	55	54
8 14	17 28.31	-18 30.0	1.151	1.887	27.3	20.1	121 E	27	82	7 5	15 13.12	+ 9 35.1	2.542	3.131	16.9	20.2	117 E	55	54
8 24	17 30.15	-19 26.7	1.255	1.885	29.8	20.4	112 E	26	83	7 15	15 11.95	+ 8 31.0	2.652	3.126	18.0	20.3	108 E	53	55
9 3	17 35.74	-20 18.6	1.364	1.880	31.4	20.6	104 E	25	84	7 25	15 12.84	+ 7 17.7	2.770	3.119	18.7	20.4	101 E	49	57
9 13	17 44.53	-21 4.9	1.473	1.872	32.3	20.8	96 E	24	85	8 4	15 15.67	+ 5 58.6	2.891	3.112	19.0	20.5	93 E	46	58
9 23	17 56.00	-21 44.2	1.582	1.861	32.6	20.9	89 E	23	82*	8 14	15 20.26	+ 4 36.2	3.014	3.103	19.0	20.6	86 E	43	59*
10 3	18 9.71	-22 15.5	1.687	1.847	32.5	21.0	83 E	22	76*	8 24	15 26.45	+ 3 12.5	3.135	3.094	18.7	20.7	78 E	40	58*
10 13	18 25.35	-22 37.6	1.788	1.829	32.0	21.1	76 E	21	69*	9 3	15 34.06	+ 1 49.5	3.251	3.084	18.1	20.7	72 E	37	55*
10 23	18 42.62	-22 49.3	1.881	1.808	31.2	21.2	70 E	21	63*	9 13	15 42.94	+ 0 28.3	3.362	3.072	17.2	20.8	65 E	34	51*
11 2	19 1.28	-22 49.6	1.967	1.783	30.2	21.2	65 E	21	57*	9 23	15 52.95	-0 49.6	3.465	3.060	16.2	20.8	58 E	32	45*
11 12	19 21.16	-22 37.6	2.044	1.756	29.0	21.2	59 E	21	51*	10 3	16 3.96	-2 3.4	3.559	3.047	15.0	20.8	52 E	30	39*
11 22	19 42.07	-22 12.4	2.110	1.725	27.6	21.2	54 E	20	45*	10 13	16 15.87	-3 12.1	3.641	3.032	13.7	20.8	46 E	27	33*
12 2	20 3.87	-21 33.5	2.166	1.690	26.1	21.2	49 E	20	39*	10 23	16 28.57	-4 14.9	3.712	3.017	12.2	20.8	40 E	25	26*
12 12	20 26.48	-20 40.1	2.211	1.653	24.5	21.2	44 E	20	33*	11 2	16 41.97	-5 11.1	3.770	3.001	10.7	20.7	34 E	23	19*
12 22	20 49.77	-19 32.1	2.244	1.612	22.9	21.1	40 E	19	28*	11 12	16 55.99	-6 0.1	3.813	2.984	9.2	20.7	29 E	20	12*
1 1	21 13.71	-18 8.9	2.265	1.567	21.2	21.0	35 E	18	23*	11 22	17 10.52	-6 41.2	3.843	2.966	7.7	20.6	24 E	17	5*
1 11	21 38.29	-16 30.6	2.275	1.520	19.5	20.9	31 E	17	19*	12 2	17 25.49	-7 14.1	3.858	2.947	6.4	20.6	19 E	13	—
1 21	22 3.49	-14 37.1	2.273	1.469	17.9	20.7	27 E	15	16*	12 12	17 40.81	-7 38.3	3.857	2.926	5.5	20.5	17 E	9	—
5164 Mullo										12 22	17 56.39	-7 53.5	3.841	2.905	5.2	20.5	16 W	6	—
12 27	15 9.58	-11 39.2	3.370	2.800	15.0	18.8	47 W	29*	31*	1 1	18 12.16	-7 59.7	3.810	2.883	5.7	20.5	17 W	10*	—
1 6	15 22.01	-12 49.8	3.311	2.852	16.3	18.9	54 W	30*	39*	1 11	18 28.02	-7 56.7	3.764	2.861	6.8	20.5	20 W	14*	—
1 16	15 33.41	-13 53.0	3.241	2.903	17.3	18.9	61 W	30*	47*	1 21	18 43.88	-7 44.6	3.703	2.837	8.3	20.5	24 W	17*	7*
1 26	15 43.60	-14 49.4	3.160	2.954	18.1	18.9	69 W	30*	56*	228283 2000 AO60									
2 5	15 52.39	-15 39.6	3.072	3.005	18.6	18.9	77 W	29*	65*	12 27	15 12.02	-21 42.6	1.997	1.460	27.9	20.8	44 W	19*	34*
2 15	15 59.56	-16 24.3	2.977	3.055	18.8	18.9	85 W	29	73*	1 6	15 27.93	-22 44.5	1.979	1.465	28.5	20.8	45 W	18*	36*
2 25	16 4.89	-17 4.0	2.879	3.106	18.5	18.8	94 W	28	80*	1 16	15 43.88	-23 40.3	1.962	1.471	29.1	20.8	47 W	18*	38*
3 7	16 8.17	-17 39.3	2.782	3.156	17.8	18.7	103 W	27	82	1 11	15 59.84	-24 29.9	1.944	1.479	29.6	20.8	48 W	17*	39*
3 17	16 9.20	-18 10.8	2.689	3.205	16.7	18.7	113 W	27	82	1 16	15 59.84	-25 13.0	1.927	1.488	30.1	20.8	49 W	17	41*
3 27	16 7.85	-18 38.5	2.605	3.255	15.0	18.6	123 W	26	83	1 21	16 31.59	-25 49.6	1.910	1.497	30.6	20.8	51 W	16*	43*
4 6	16 4.14	-19 2.4	2.535	3.304	12.7	18.5	133 W	26	83	1 26	16 47.29	-26 19.7	1.893	1.508	31.1	20.8	52 W	16*	45*
4 16	15 58.21	-19 22.2	2.484	3.352	10.0	18.3	144 W	26	83	1 31	17 2.81	-26 43.3	1.875	1.520	31.6	20.8	54 W	15*	47*
4 26	15 50.45	-19 37.6	2.456	3.400	6.9	18.2	156 W	25	84	2 5	17 18.10	-27 0.7	1.857	1.533	32.0	20.8	56 W	15*	49*
5 6	15 41.45	-19 48.6	2.455	3.447	3.6	18.1	168 W	25	84	2 10	17 33.12	-27 12.1	1.839	1.547	32.4	20.8	57 W	15	51*
5 16	15 31.96	-19 55.6	2.484	3.495	0.3	17.9	179 W	25	84	2 15	17 47.82	-27 17.8	1.820	1.561	32.8	20.8	59 W	14	53*
5 26	15 22.78	-20 0.1	2.542	3.541	3.2	18.2	169 E	25	84	2 20	18 2.14	-27 18.1	1.800	1.577	33.2	20.9	61 W	14	55*
6 5	15 14.60	-20 3.7	2.630	3.587	6.3	18.5	157 E	25	84	2 25	18 16.06	-27 13.4	1.780	1.593	33.6	20.9	63 W	14	57*
6 15	15 7.97	-20 8.3	2.744	3.633	8.9	18.													

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

20/21	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°	20/22	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°
228283 2000 AO₆₀										159889 2004 TR₁₄									
<i>(continuation)</i>										<i>(continuation)</i>									
6 5	20 43.00	-20 11.5	1.227	2.004	24.0	20.3	126 W	25*	84	9 18	16 1.50	-55 4.2	1.968	2.009	29.2	20.3	78 E	—	53*
6 15	20 39.07	-20 1.8	1.185	2.048	19.8	20.1	137 W	25	84	9 23	16 14.30	-55 15.4	2.022	2.018	28.8	20.3	75 E	—	52*
6 25	20 31.39	-20 2.2	1.158	2.092	14.9	20.0	148 W	25	84	9 28	16 27.67	-55 24.7	2.075	2.027	28.3	20.4	73 E	—	51*
6 30	20 26.37	-20 5.2	1.152	2.114	12.1	19.9	154 W	25	84	10 3	16 41.57	-55 31.7	2.126	2.035	27.7	20.4	71 E	—	50*
7 5	20 20.72	-20 9.3	1.151	2.135	9.3	19.8	160 W	25	84	10 8	16 55.95	-55 36.1	2.176	2.042	27.2	20.5	69 E	—	49*
7 10	20 14.64	-20 13.9	1.156	2.157	6.4	19.7	166 W	25	84	10 13	17 10.77	-55 37.5	2.225	2.050	26.6	20.5	67 E	—	48*
7 15	20 8.31	-20 18.6	1.166	2.178	3.5	19.6	173 W	25	84	10 18	17 25.97	-55 35.5	2.272	2.057	26.0	20.5	65 E	—	47*
7 20	20 1.97	-20 22.8	1.184	2.200	0.5	19.4	179 W	25	84	10 23	17 41.47	-55 29.7	2.318	2.063	25.4	20.6	63 E	—	46*
7 25	19 55.82	-20 26.1	1.207	2.221	2.3	19.6	175 E	25	84	10 28	17 57.22	-55 19.8	2.362	2.070	24.8	20.6	61 E	—	46*
7 30	19 50.04	-20 28.3	1.237	2.242	5.0	19.8	169 E	25	84	11 2	18 13.16	-55 5.7	2.405	2.075	24.2	20.6	59 E	—	45*
8 4	19 44.80	-20 29.3	1.273	2.263	7.6	20.0	163 E	25	84	11 7	18 29.23	-54 47.0	2.446	2.081	23.6	20.6	57 E	—	44*
8 14	19 36.39	-20 27.7	1.363	2.304	12.2	20.4	151 E	25	84	11 12	18 45.36	-54 23.8	2.485	2.086	22.9	20.7	55 E	—	43*
8 24	19 31.23	-20 21.5	1.474	2.344	15.9	20.8	141 E	25	84	11 17	19 1.47	-53 56.0	2.523	2.091	22.3	20.7	53 E	—	42*
9 3	19 29.39	-20 11.5	1.602	2.384	18.8	21.1	130 E	25	84	11 22	19 17.50	-53 23.4	2.560	2.095	21.7	20.7	52 E	—	41*
9 13	19 30.67	-19 57.9	1.744	2.422	20.8	21.4	121 E	25	84	11 27	19 33.41	-52 46.2	2.594	2.099	21.1	20.7	50 E	—	40*
299582 2006 GQ₂										498422 2008 AZ₄₁									
12 27	15 12.46	-20 22.4	1.873	1.355	30.4	21.3	44 W	20*	33*	12 27	15 13.87	-38 19.0	2.225	1.646	24.0	21.0	43 W	3*	37*
1 6	15 34.30	-23 34.3	1.859	1.419	31.4	21.4	49 W	19*	40*	1 1	15 30.99	-39 35.6	2.207	1.650	24.5	21.0	44 W	2*	38*
1 16	15 55.61	-26 34.2	1.832	1.480	32.4	21.5	54 W	17*	46*	1 6	15 48.43	-40 44.6	2.189	1.655	25.0	21.1	45 W	1*	39*
1 26	16 16.32	-29 24.8	1.792	1.536	33.3	21.6	59 W	14*	52*	1 11	16 6.13	-41 45.6	2.172	1.661	25.5	21.1	47 W	—	40*
2 5	16 36.36	-32 8.7	1.742	1.588	34.0	21.6	64 W	12*	58*	1 16	16 24.01	-42 38.2	2.155	1.668	26.0	21.1	48 W	—	42*
159889 2004 TR₁₄										498422 2008 AZ₄₁									
12 27	15 12.84	+15 21.1	1.511	1.338	39.8	19.1	61 W	53*	17*	1 16	16 24.01	-42 38.2	2.155	1.668	26.0	21.1	48 W	—	42*
1 6	15 36.95	+12 19.6	1.489	1.350	40.2	19.1	62 W	52*	23*	1 21	16 41.99	-43 22.4	2.139	1.676	26.5	21.1	49 W	—	43*
1 16	15 59.17	+ 9 25.9	1.459	1.365	40.6	19.1	65 W	51*	30*	1 26	16 59.97	-43 58.0	2.122	1.685	27.0	21.1	51 W	—	44*
1 26	16 19.61	+ 6 39.0	1.420	1.383	41.1	19.1	67 W	49*	37*	1 31	17 17.86	-44 25.1	2.105	1.694	27.4	21.1	52 W	—	45*
2 5	16 38.36	+ 3 56.3	1.371	1.405	41.6	19.0	71 W	47*	44*	2 5	17 35.56	-44 44.1	2.087	1.705	27.9	21.1	54 W	—	46*
2 15	16 55.41	+ 1 14.2	1.312	1.428	42.0	19.0	75 W	45*	51*	2 10	17 52.97	-44 55.1	2.070	1.716	28.3	21.1	56 W	—	47*
2 20	17 3.26	- 0 8.0	1.279	1.441	42.1	19.0	78 W	44*	55*	2 15	18 9.98	-44 58.9	2.051	1.728	28.7	21.1	57 W	—	48*
2 25	17 10.63	- 1 32.0	1.244	1.454	42.2	18.9	80 W	43*	58*	2 20	18 26.51	-44 55.7	2.032	1.741	29.1	21.1	59 W	—	49*
3 2	17 17.50	- 2 58.7	1.208	1.467	42.1	18.9	83 W	42*	62*	2 25	18 42.49	-44 46.3	2.011	1.754	29.5	21.1	61 W	—	50*
3 7	17 23.83	- 4 29.0	1.169	1.481	41.9	18.8	86 W	40*	65*	3 2	18 57.86	-44 31.4	1.990	1.768	29.8	21.1	63 W	—	52*
3 12	17 29.56	- 6 3.8	1.129	1.495	41.6	18.8	89 W	39*	68*	3 7	19 12.57	-44 11.6	1.968	1.783	30.2	21.1	65 W	—	53*
3 17	17 34.63	- 7 44.5	1.089	1.510	41.2	18.7	93 W	37*	71*	3 12	19 26.57	-43 47.7	1.944	1.798	30.5	21.1	67 W	—	55*
3 22	17 38.95	- 9 32.3	1.047	1.524	40.5	18.6	96 W	35*	74*	3 17	19 39.83	-43 20.4	1.920	1.814	30.7	21.1	69 W	—	56*
3 27	17 42.44	-11 28.7	1.006	1.539	39.6	18.5	100 W	34*	75*	3 22	19 52.32	-42 50.4	1.893	1.830	31.0	21.1	71 W	—	58*
4 1	17 45.00	-13 35.2	0.964	1.554	38.4	18.4	105 W	31	78	3 27	20 4.03	-42 18.2	1.866	1.847	31.2	21.1	73 W	—	60*
4 6	17 46.49	-15 53.1	0.924	1.570	37.0	18.3	109 W	29	80	4 1	20 14.95	-41 44.5	1.837	1.865	31.3	21.1	76 W	—	62*
4 11	17 46.73	-18 23.7	0.885	1.585	35.2	18.2	114 W	27	82	4 6	20 25.06	-41 9.8	1.807	1.882	31.4	21.1	78 W	—	64*
4 16	17 45.54	-21 7.9	0.849	1.601	33.1	18.1	119 W	24	85	4 11	20 34.35	-40 34.8	1.776	1.900	31.4	21.1	81 W	—	67*
4 21	17 42.71	-24 5.8	0.816	1.616	30.7	17.9	125 W	21	88	4 16	20 42.80	-39 59.9	1.744	1.919	31.3	21.1	84 W	—	69*
4 26	17 38.03	-27 16.5	0.788	1.632	28.0	17.8	130 W	18	89	4 21	20 50.39	-39 25.6	1.710	1.938	31.2	21.0	87 W	—	72*
5 1	17 31.26	-30 37.3	0.765	1.647	25.0	17.7	136 W	14	85	4 26	20 57.11	-38 52.0	1.676	1.957	30.9	21.0	90 W	1*	74*
5 6	17 22.19	-34 3.9	0.747	1.663	21.9	17.5	142 W	11	82	5 1	21 2.94	-38 19.7	1.641	1.976	30.6	21.0	93 W	2*	76*
5 11	17 10.68	-37 29.8	0.737	1.678	19.0	17.4	147 W	8	79	5 6	21 7.85	-37 48.8	1.605	1.996	30.1	20.9	97 W	3*	78*
5 16	16 56.75	-40 47.2	0.735	1.694	16.5	17.4	152 W	4	75	5 11	21 11.80	-37 19.6	1.569	2.016	29.5	20.9	101 W	4*	79*
5 21	16 40.66	-43 47.8	0.740	1.709	15.0	17.3	154 W	1	72	5 16	21 14.75	-36 52.0	1.534	2.036	28.7	20.8	104 W	5*	79
5 26	16 22.92	-46 24.6	0.754	1.724	14.6	17.4	155 W	—	70	5 21	21 16.67	-36 26.2	1.498	2.057	27.8	20.8	108 W	6*	80
5 28	16 15.54	-47 19.5	0.761	1.730	14.8	17.4	154 E	—	69	5 26	21 17.51	-36 2.0	1.464	2.077	26.7	20.7	113 W	7*	80
5 30	16 8.07	-48 9.7	0.770	1.736	15.2	17.5	153 E	—	68	5 31	21 17.25	-35 39.1	1.431	2.098	25.5	20.7	117 W	8*	80
6 1	16 0.58	-48 55.1	0.780	1.742	15.7	17.5	152 E	—	67	6 5	21 15.86	-35 17.2	1.400	2.118	24.0	20.6	122 W	9*	81
6 3	15 53.13	-49 35.7	0.791	1.748	16.4	17.6	151 E	—	66	6 10	21 13.31	-34 55.7	1.371	2.139	22.4	20.5	127 W	10*	81
6 5	15 45.78	-50 11.7	0.803	1.754	17.1	17.6	149 E	—	66	6 15	21 9.62	-34 34.1	1.345	2.160	20.5	20.4	132 W	10*	81
6 7	15 38.60	-50 43.2	0.816	1.760	17.9	17.7	148 E	—	65	6 20	21 4.83	-34 11.4	1.323	2.181	18.4	20.4	137 W	11	82
6 9	15 31.64	-51 10.4	0.830	1.766	18.7	17.8	146 E	—	65	6 25	20 59.02	-33 46.8	1.305	2.202	16.2	20.3	143 W	11	82
6 11	15 24.94	-51 33.6	0.845	1.772	19.5	17.9	144 E	—	64	6 30	20 52.31	-33 19.4	1.292	2.223	13.9	20.2	148 W	12	83
6 13	15 18.56	-51 53.2	0.861	1.778	20.4	17.9	142 E	—	64	7 5	20 44.86	-32 48.6	1.285	2.244	11.4	20.1	154 W	12	83
6 15	15 12.53	-52 9.5	0.878	1.783	21.2	18.0	141 E	—	64	7 10	20 36.86	-32 13.8	1.284	2.265	9.0	20.0	160 W	13	84
6 20	14 59.14	-52 38.1	0.923	1.798	23.1	18.2	136 E	—	63	7 15	20 28.57	-31 34.7	1.289	2.286	6.7	20.0	165 W	13	84
6 25	14 48.30	-52 53.7	0.972	1.812	24.9	18.4	131 E	—	63	7 20	20 20.24	-30 51.3	1.302	2.307	5.0	19.9	169 W	14	85
6 30	14 40.02	-53 0.8	1.024	1.826	26.4	18.6	127 E	—	63	7 25	20 12.13	-30 4.0	1.321	2.328	4.5	19.9	170 E	15	86
7 5	14 34.17	-53 2.9	1.079	1.839	27.7	18.7	123 E	—	63	7 30	20 4.44	-29 13.6	1.348	2.349	5.6	20.1	167 E	16	87
7 10	14 30.57	-53 2.7	1.136																

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°
88954 2001 TE₄₂										489885 2008 HY₃₇									
12 27	15 13.97	-23 43.7	3.402	2.769	14.1	20.8	43 W	17*	34*	12 27	15 14.99	+72 52.7	0.817	1.395	43.7	20.5	101 W	59*	—
1 6	15 29.31	-24 47.2	3.279	2.748	15.8	20.7	50 W	18*	41*	1 1	15 23.32	+73 44.9	0.837	1.420	42.6	20.5	102 W	59*	—
1 16	15 44.40	-25 45.9	3.145	2.725	17.5	20.7	56 W	18*	48*	1 6	15 28.57	+74 47.5	0.856	1.444	41.5	20.6	103 W	59*	—
1 26	15 59.10	-26 39.7	3.002	2.702	18.9	20.6	63 W	18*	56*	1 11	15 30.14	+76 0.0	0.874	1.469	40.4	20.6	104 W	58*	—
2 5	16 13.25	-27 28.7	2.852	2.678	20.2	20.5	70 W	17*	63*	1 16	15 26.88	+77 20.7	0.892	1.494	39.4	20.7	105 W	57*	—
2 15	16 26.64	-28 13.0	2.696	2.653	21.3	20.4	77 W	17*	71*	1 21	15 16.92	+78 46.7	0.910	1.519	38.4	20.7	107 W	56*	—
2 25	16 39.02	-28 53.0	2.536	2.626	22.0	20.3	84 W	16*	78*	1 26	14 57.27	+80 13.0	0.929	1.543	37.5	20.8	107 W	55	—
3 7	16 50.14	-29 29.0	2.375	2.599	22.4	20.1	92 W	16*	85*	1 31	14 23.61	+81 31.2	0.948	1.568	36.6	20.8	108 W	53	—
3 17	16 59.66	-30 1.7	2.214	2.571	22.4	20.0	99 W	15	86	2 5	13 31.83	+82 27.4	0.969	1.593	35.8	20.9	109 W	53	—
3 27	17 7.20	-30 31.2	2.057	2.543	22.0	19.8	108 W	14	85	2 10	12 24.52	+82 42.9	0.991	1.617	35.0	21.0	110 W	52	—
4 6	17 12.37	-30 57.8	1.906	2.513	20.9	19.5	116 W	14	85	2 15	11 16.69	+82 5.6	1.014	1.642	34.4	21.0	110 W	53	—
4 16	17 14.71	-31 21.0	1.764	2.482	19.3	19.3	125 W	14	85	2 20	10 23.65	+80 40.2	1.040	1.666	33.8	21.1	110 W	54	—
4 26	17 13.84	-31 39.4	1.634	2.451	16.9	19.0	135 W	13	84	2 25	9 48.25	+78 41.3	1.068	1.689	33.3	21.2	110 E	56	—
5 6	17 9.52	-31 50.5	1.521	2.419	13.8	18.7	145 W	13	84	3 2	9 26.28	+76 21.8	1.099	1.713	32.9	21.3	110 E	59	—
5 16	17 1.78	-31 50.5	1.427	2.386	10.0	18.4	156 W	13	84	3 7	9 13.26	+73 49.8	1.132	1.736	32.6	21.3	109 E	61	—
5 21	16 56.79	-31 45.1	1.389	2.370	7.9	18.2	161 W	13	84	3 12	9 6.09	+71 10.7	1.169	1.759	32.4	21.4	109 E	64	—
5 26	16 51.21	-31 35.5	1.357	2.353	5.9	18.1	166 W	13	84	3 17	9 2.85	+68 27.8	1.208	1.781	32.2	21.5	108 E	67	—
5 31	16 45.19	-31 21.6	1.331	2.336	4.3	17.9	170 W	14	85	3 22	9 2.28	+65 43.7	1.251	1.803	32.0	21.6	106 E	69	—
6 5	16 38.91	-31 3.1	1.311	2.319	3.9	17.9	171 E	14	85	59490 1999 JD₄									
6 10	16 32.59	-30 40.5	1.298	2.301	5.1	17.9	168 E	14	85	12 27	15 15.01	-24 48.1	2.869	2.250	17.3	19.3	43 W	16*	34*
6 15	16 26.43	-30 14.1	1.291	2.284	7.2	18.0	164 E	15	86	1 6	15 36.00	-25 21.4	2.746	2.215	19.3	19.2	48 W	17*	40*
6 20	16 20.66	-29 44.9	1.291	2.266	9.6	18.1	158 E	15	86	1 16	15 57.20	-25 42.2	2.616	2.179	21.3	19.1	53 W	17*	46*
6 25	16 15.46	-29 13.7	1.296	2.248	12.0	18.1	153 E	16	87	1 26	16 18.49	-25 48.8	2.481	2.143	23.1	19.0	59 W	18*	51*
6 30	16 10.96	-28 41.5	1.307	2.231	14.3	18.2	147 E	16	87	2 5	16 39.74	-25 39.5	2.341	2.108	24.9	18.9	64 W	18*	57*
7 5	16 7.28	-28 9.2	1.323	2.213	16.5	18.3	142 E	17	88	2 15	17 0.80	-25 12.8	2.198	2.072	26.5	18.8	70 W	19*	63*
7 10	16 4.51	-27 37.9	1.344	2.195	18.6	18.4	136 E	17	88	2 25	17 21.46	-24 26.8	2.053	2.037	28.0	18.6	75 W	20*	69*
7 15	16 2.69	-27 8.3	1.368	2.176	20.6	18.5	131 E	18	89	3 7	17 41.55	-23 20.2	1.909	2.002	29.3	18.5	81 W	21*	74*
7 25	16 1.95	-26 16.1	1.426	2.140	23.9	18.6	121 E	19*	90	3 17	18 0.82	-21 51.0	1.766	1.967	30.3	18.3	86 W	22*	79*
8 4	16 4.94	-25 35.2	1.494	2.103	26.5	18.8	113 E	19*	90	3 27	18 19.03	-19 57.6	1.626	1.934	31.0	18.1	92 W	24*	83*
8 14	16 11.39	-25 5.5	1.568	2.066	28.4	18.9	104 E	19*	89	4 6	18 35.91	-17 38.3	1.491	1.901	31.5	17.9	97 W	27*	82
8 24	16 20.94	-24 45.4	1.644	2.030	29.6	19.0	97 E	18*	89	4 16	18 51.16	-14 51.3	1.362	1.869	31.5	17.7	103 W	30*	79
9 3	16 33.22	-24 32.2	1.720	1.993	30.4	19.1	90 E	18*	84*	4 26	19 4.45	-11 35.3	1.242	1.838	31.1	17.4	109 W	33*	76
9 13	16 47.94	-24 22.8	1.796	1.956	30.7	19.1	83 E	18*	77*	5 6	19 15.44	-7 49.7	1.132	1.809	30.3	17.2	115 W	37*	72
9 23	17 4.81	-24 14.1	1.868	1.921	30.7	19.2	78 E	18*	72*	5 16	19 23.71	-3 35.9	1.034	1.781	29.1	16.9	121 W	41	68
10 3	17 23.57	-24 2.8	1.937	1.885	30.3	19.2	72 E	18*	66*	5 21	19 26.71	-1 19.7	0.990	1.768	28.3	16.8	124 W	44	65
10 13	17 44.01	-23 45.9	2.001	1.851	29.7	19.2	67 E	18*	60*	5 26	19 28.91	+1 1.5	0.950	1.756	27.5	16.6	127 W	46	63
10 23	18 5.91	-23 20.8	2.061	1.817	28.9	19.2	62 E	18*	55*	5 31	19 30.26	+3 26.5	0.914	1.744	26.7	16.5	129 W	48	61
11 2	18 29.05	-22 44.8	2.115	1.785	27.9	19.2	57 E	19*	50*	6 5	19 30.73	+5 53.5	0.881	1.732	25.9	16.4	132 W	51	58
11 12	18 53.24	-21 55.8	2.165	1.754	26.7	19.2	53 E	19*	45*	6 10	19 30.31	+8 20.4	0.853	1.721	25.1	16.3	134 W	53	56
11 22	19 18.28	-20 52.4	2.210	1.725	25.5	19.2	49 E	20*	39*	6 15	19 29.01	+10 44.7	0.830	1.711	24.5	16.2	136 W	56	53
12 2	19 43.95	-19 33.3	2.250	1.698	24.1	19.1	45 E	21*	34*	6 20	19 26.90	+13 3.5	0.810	1.701	24.0	16.1	137 W	58	51
12 12	20 10.11	-17 57.9	2.287	1.673	22.7	19.1	41 E	21*	29*	6 25	19 24.06	+15 14.3	0.795	1.692	23.8	16.1	138 W	60	49
12 22	20 36.57	-16 6.3	2.320	1.650	21.2	19.1	37 E	21*	24*	6 30	19 20.60	+17 14.3	0.784	1.684	23.8	16.0	138 W	62	47
1 1	21 3.21	-13 59.2	2.350	1.630	19.7	19.0	34 E	21*	20*	7 5	19 16.67	+19 1.0	0.777	1.676	24.0	16.0	138 W	64	45
1 11	21 29.94	-11 37.5	2.378	1.614	18.2	19.0	31 E	20*	15*	7 10	19 12.44	+20 32.4	0.774	1.669	24.5	16.0	137 E	66	43
1 21	21 56.67	-9 3.1	2.405	1.600	16.6	18.9	28 E	19*	12*	7 15	19 8.15	+21 46.8	0.774	1.663	25.1	16.0	136 E	67	42
349507 2008 QY										7 20	19 4.04	+22 43.8	0.777	1.657	25.8	16.0	135 E	68	41
12 27	15 14.91	-15 13.7	1.040	0.777	63.6	20.4	45 W	25*	31*	7 25	19 0.32	+23 23.4	0.784	1.653	26.7	16.1	133 E	68	40
1 1	15 48.40	-18 41.2	1.043	0.720	64.8	20.3	41 W	21*	30*	7 30	18 57.17	+23 46.2	0.793	1.649	27.6	16.1	131 E	69	41
1 6	16 24.34	-21 47.0	1.060	0.664	64.8	20.1	38 W	16*	28*	8 4	18 54.76	+23 53.3	0.804	1.646	28.4	16.2	129 E	69	40
1 11	17 2.50	-24 19.7	1.090	0.611	63.5	20.0	34 W	12*	26*	8 9	18 53.23	+23 45.9	0.818	1.644	29.4	16.2	127 E	69	40
1 16	17 42.47	-26 8.4	1.133	0.564	60.2	19.8	30 W	8*	23*	8 14	18 52.69	+23 25.9	0.834	1.642	30.2	16.3	125 E	68	41
1 21	18 23.56	-27 4.8	1.187	0.525	54.9	19.6	26 W	4*	20*	8 19	18 53.20	+22 55.0	0.851	1.642	31.0	16.4	123 E	68	41
1 26	19 4.85	-27 3.9	1.250	0.499	47.5	19.4	22 W	1*	16*	8 24	18 54.77	+22 15.1	0.871	1.642	31.7	16.4	121 E	67	42
1 28	19 21.18	-26 47.5	1.276	0.493	44.2	19.3	20 W	—	14*	8 29	18 57.37	+21 28.0	0.892	1.643	32.4	16.5	119 E	66	43
1 30	19 37.28	-26 22.2	1.303	0.489	40.6	19.2	19 W	—	13*	9 3	19 0.99	+20 35.1	0.914	1.645	32.9	16.6	118 E	66	43
2 1	19 53.10	-25 48.5	1.331	0.489	37.0	19.2	17 W	—	11*	9 8	19 5.59								

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

20/21	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°	20/22	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°
234148 2000 FF₁										301583 2010 BR₂									
<i>(continuation)</i>										<i>(continuation)</i>									
2 5	16 53.85	-5 32.9	1.848	1.680	32.0	20.1	65 W	37*	47*	9 3	19 42.17	-9 32.6	1.461	2.282	18.5	19.3	134 E	35	74
2 15	17 16.43	-6 27.4	1.785	1.694	32.9	20.1	69 W	36*	52*	9 13	19 41.39	-9 1.1	1.592	2.316	21.0	19.6	125 E	36	73
2 25	17 37.80	-7 13.5	1.719	1.710	33.6	20.0	73 W	36*	58*	9 23	19 43.68	-8 33.3	1.734	2.350	22.6	19.8	116 E	36	73
3 7	17 57.78	-7 53.7	1.649	1.729	34.1	20.0	77 W	35*	63*	10 3	19 48.59	-8 6.5	1.884	2.383	23.6	20.1	107 E	37	72
3 17	18 16.15	-8 30.5	1.576	1.750	34.3	19.9	82 W	35*	68*	10 13	19 55.69	-7 38.3	2.040	2.416	24.0	20.3	100 E	37	72
3 27	18 32.65	-9 7.5	1.501	1.773	34.2	19.8	88 W	35*	72*	10 23	20 4.58	-7 6.9	2.199	2.448	24.0	20.5	92 E	38	69*
4 6	18 47.03	-9 48.9	1.423	1.798	33.7	19.7	94 W	34*	74*	11 2	20 14.90	-6 30.8	2.358	2.480	23.5	20.6	85 E	38	64*
4 16	18 58.93	-10 39.2	1.345	1.824	32.7	19.6	101 W	34*	75	11 12	20 26.39	-5 49.0	2.517	2.510	22.7	20.8	78 E	39*	58*
4 26	19 7.99	-11 43.6	1.269	1.852	31.0	19.5	108 W	33*	76	11 22	20 38.79	-5 1.0	2.672	2.540	21.7	20.9	72 E	40*	50*
5 6	19 13.79	-13 7.3	1.196	1.880	28.6	19.3	117 W	32*	77	12 2	20 51.89	-4 6.3	2.822	2.570	20.4	21.0	65 E	40*	43*
5 16	19 15.88	-14 54.8	1.130	1.910	25.3	19.1	126 W	30	79	12 12	21 5.53	-3 4.8	2.965	2.598	18.9	21.1	59 E	40*	35*
5 26	19 13.94	-17 8.5	1.075	1.941	21.0	18.9	137 W	28	81	12 22	21 19.57	-1 56.5	3.101	2.626	17.4	21.2	53 E	38*	28*
6 5	19 7.91	-19 46.3	1.036	1.972	15.7	18.7	148 W	25	84	1 1	21 33.89	-0 41.8	3.227	2.652	15.7	21.2	47 E	36*	21*
6 10	19 3.45	-21 11.9	1.024	1.988	12.8	18.6	154 W	24	85	1 11	21 48.41	+0 39.2	3.343	2.678	13.9	21.3	41 E	33*	14*
6 15	18 58.17	-22 40.0	1.018	2.004	9.8	18.5	160 W	22	87	1 21	22 3.03	+2 5.8	3.447	2.703	12.1	21.3	35 E	29*	8*
6 20	18 52.23	-24 8.6	1.018	2.020	6.7	18.4	167 W	21	88	490136 2008 UE₁₂₈									
6 25	18 45.84	-25 35.8	1.024	2.037	3.7	18.2	173 W	19	90	12 27	15 16.14	-9 41.9	2.381	1.850	22.8	21.3	47 W	30*	29*
6 30	18 39.23	-26 59.5	1.037	2.053	1.9	18.2	176 W	18	89	1 6	15 35.66	-11 37.4	2.341	1.894	24.0	21.4	52 W	30*	35*
7 5	18 32.64	-28 18.2	1.057	2.069	3.7	18.4	172 E	17	88	1 16	15 54.21	-13 22.2	2.293	1.938	25.1	21.4	57 W	29*	43*
7 10	18 26.31	-29 30.5	1.083	2.085	6.5	18.6	167 E	15	86	1 26	16 11.63	-14 57.3	2.237	1.983	26.1	21.4	62 W	29*	50*
7 15	18 20.48	-30 35.8	1.116	2.102	9.2	18.8	161 E	14	85	2 5	16 27.75	-16 24.2	2.172	2.028	26.9	21.4	68 W	28*	57*
7 20	18 15.35	-31 33.8	1.154	2.118	11.8	19.0	155 E	13	84	2 15	16 42.36	-17 44.4	2.100	2.073	27.4	21.4	75 W	27*	65*
7 25	18 11.07	-32 24.6	1.198	2.135	14.1	19.1	149 E	13	84	2 25	16 55.19	-19 0.1	2.022	2.119	27.5	21.4	82 W	26*	73*
7 30	18 7.72	-33 8.6	1.247	2.151	16.2	19.3	144 E	12	83	3 7	17 5.95	-20 13.4	1.940	2.164	27.3	21.3	89 W	25*	80*
8 4	18 5.36	-33 46.5	1.300	2.167	18.1	19.5	138 E	11	82	3 17	17 14.28	-21 26.5	1.855	2.209	26.6	21.3	97 W	24	85
8 14	18 3.68	-34 46.2	1.419	2.200	21.1	19.8	129 E	10	81	3 27	17 19.78	-22 41.4	1.771	2.254	25.3	21.2	106 W	22	87
8 24	18 5.88	-35 28.7	1.551	2.232	23.2	20.1	120 E	10	81	4 6	17 22.09	-23 59.5	1.691	2.298	23.3	21.0	115 W	21	88
9 3	18 11.51	-35 57.7	1.691	2.264	24.5	20.4	111 E	9	80	4 16	17 20.83	-25 21.1	1.619	2.342	20.6	20.9	125 W	20	89
9 8	18 15.47	-36 7.9	1.765	2.280	24.9	20.5	107 E	9	80	4 26	17 15.79	-26 44.6	1.561	2.385	17.2	20.8	135 W	18	89
9 13	18 20.10	-36 15.6	1.839	2.295	25.2	20.6	104 E	9	80	5 6	17 7.10	-28 6.2	1.520	2.427	13.2	20.6	147 W	17	88
9 18	18 25.35	-36 20.9	1.914	2.311	25.4	20.7	100 E	9	80	5 16	16 55.31	-29 20.3	1.501	2.469	8.7	20.4	158 W	16	87
9 23	18 31.15	-36 23.9	1.990	2.326	25.4	20.8	96 E	9	80	5 21	16 48.59	-29 52.8	1.502	2.489	6.6	20.4	164 W	15	86
9 28	18 37.44	-36 24.6	2.067	2.342	25.3	20.9	93 E	9	79*	5 26	16 41.57	-30 21.3	1.509	2.510	4.6	20.3	168 W	15	86
10 3	18 44.17	-36 23.2	2.144	2.357	25.1	21.0	89 E	9	78*	5 31	16 34.44	-30 45.7	1.524	2.530	3.6	20.3	171 W	14	85
10 8	18 51.31	-36 19.6	2.221	2.372	24.9	21.1	86 E	9	76*	6 5	16 27.40	-31 5.7	1.545	2.550	4.0	20.3	170 E	14	85
10 13	18 58.80	-36 13.9	2.297	2.387	24.5	21.1	83 E	9	74*	6 10	16 20.65	-31 21.6	1.574	2.570	5.6	20.5	166 E	14	85
10 18	19 6.61	-36 6.0	2.373	2.401	24.1	21.2	80 E	9	72*	6 15	16 14.36	-31 33.7	1.609	2.589	7.4	20.6	161 E	13	84
10 23	19 14.68	-35 56.0	2.449	2.416	23.6	21.3	76 E	9	69*	6 20	16 8.70	-31 42.6	1.651	2.609	9.4	20.8	155 E	13	84
10 28	19 22.99	-35 43.9	2.524	2.431	23.0	21.3	73 E	9	67*	6 25	16 3.75	-31 49.0	1.698	2.628	11.2	20.9	150 E	13	84
11 2	19 31.51	-35 29.8	2.597	2.445	22.4	21.4	70 E	9	64*	6 30	15 59.60	-31 53.5	1.752	2.647	12.9	21.1	145 E	13	84
11 7	19 40.20	-35 13.5	2.670	2.459	21.8	21.4	67 E	9	61*	7 5	15 56.27	-31 56.8	1.811	2.665	14.4	21.2	139 E	13	84
11 12	19 49.04	-35 55.2	2.741	2.473	21.1	21.5	64 E	10*	58*	7 10	15 53.80	-31 59.3	1.874	2.684	15.7	21.4	134 E	13	84
12 27	15 15.35	-34 3.0	2.205	1.618	24.1	19.6	42 W	7*	36*	7 15	15 52.16	-32 1.7	1.941	2.702	16.9	21.5	129 E	13	84
1 1	15 31.85	-35 2.4	2.182	1.618	24.8	19.6	44 W	7*	37*	338847 2003 XZ₂₁									
1 6	15 48.55	-35 54.8	2.159	1.620	25.4	19.6	45 W	6*	39*	12 27	15 16.37	-14 0.7	2.633	2.060	19.8	21.5	45 W	26*	30*
1 11	16 5.40	-36 39.8	2.136	1.622	26.0	19.6	46 W	5*	40*	1 6	15 37.96	-15 13.2	2.509	2.021	21.9	21.4	50 W	26*	36*
1 16	16 22.34	-37 17.3	2.114	1.625	26.6	19.6	48 W	5*	42*	1 16	16 0.12	-16 16.3	2.380	1.981	23.9	21.3	55 W	26*	42*
1 21	16 39.29	-37 47.0	2.091	1.628	27.2	19.6	49 W	4*	43*	1 26	16 22.81	-17 9.0	2.249	1.941	25.9	21.2	59 W	26*	48*
1 26	16 56.18	-38 8.9	2.068	1.633	27.8	19.6	51 W	4*	45*	2 5	16 46.03	-17 50.3	2.116	1.900	27.8	21.1	64 W	26*	54*
1 31	17 12.95	-38 23.0	2.045	1.638	28.4	19.6	52 W	3*	46*	2 15	17 9.72	-18 19.3	1.983	1.859	29.6	20.9	68 W	25*	59*
2 5	17 29.52	-38 29.6	2.021	1.644	28.9	19.6	54 W	3*	47*	2 25	17 33.81	-18 35.1	1.851	1.819	31.3	20.8	73 W	25*	64*
2 10	17 45.81	-38 28.9	1.997	1.651	29.5	19.6	55 W	3*	49*	3 7	17 58.26	-18 37.5	1.720	1.779	32.9	20.6	77 W	25*	69*
2 15	18 1.75	-38 21.1	1.972	1.659	30.0	19.6	57 W	3*	50*	3 17	18 22.98	-18 26.1	1.593	1.739	34.4	20.4	81 W	25*	73*
2 20	18 17.27	-38 6.6	1.946	1.667	30.5	19.6	59 W	3*	52*	3 27	18 47.87	-18 1.2	1.470	1.701	35.8	20.3	85 W	25*	77*
2 25	18 32.32	-37 46.0	1.920	1.676	31.0	19.6	61 W	3*	53*	4 6	19 12.87	-17 23.3	1.351	1.663	37.0	20.1	89 W	25*	79*
3 7	19 0.84	-36 48.1	1.865	1.697	31.9	19.6	65 W	4*	57*	4 16	19 37.87	-16 33.4	1.239	1.627	38.0	19.8	92 W	26*	80*
3 17	19 26.99	-35 31.5	1.805	1.719	32.7	19.5	69 W	4*	61*	4 26	20 2.77	-15 33.1	1.132	1.593	39.9	19.6	96 W	27*	80
3 27	19 50.54	-34 0.4	1.742	1.744	33.3	19.5	73 W	6*	65*	5 6	20 27.49	-14 24.7	1.032	1.560	39.6	19.4	100 W	28*	78
4 6	20 11.36	-32 18.7	1.675	1.771	33.6	19.5	78 W	7*	70*	5 16	20 51.87	-13 11.1	0.940	1.531	40.0	19.2	103 W	29*	77
4 16	20 29.31	-30 29.9	1.605	1.800	33.7	19.4	84 W	9*	76*	5 26	21 15.75	-11 56.1	0.855	1.504	40.1	18.9	107 W	30*	76
4 26	20 44.24	-28 37.0	1.531	1.830	33.4	19.3	90 W	11*	83*	6 5	21 38.97	-10 44.1	0.777	1.481	39.8	18.7	111 W	32*	75
5 6	20 56.00	-26 42.6	1.456	1.862	32.6	19.2	96 W	14*	89	6 15	22 1.18	-9 40.8</							

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°
338847 2003 XZ₂₁										152931 2000 EA₁₀₇									
<i>(continuation)</i>										<i>(continuation)</i>									
10 8	23 18.34	-16 51.0	0.609	1.548	20.4	17.7	147 E	28	81	3 2	20 15.82	-22 28.6	1.115	0.735	60.8	17.9	40 W	7*	34*
10 13	23 19.67	-16 26.6	0.645	1.563	22.5	17.9	143 E	29	80	3 7	20 51.94	-22 38.6	1.120	0.689	61.1	17.8	37 W	4*	31*
10 18	23 21.75	-15 54.5	0.684	1.579	24.4	18.1	139 E	29	80	3 12	21 29.09	-22 7.1	1.137	0.645	60.5	17.7	34 W	—	28*
10 23	23 24.55	-15 15.6	0.726	1.595	26.0	18.3	135 E	30	79	3 17	22 6.44	-20 49.8	1.165	0.603	58.6	17.5	31 W	—	24*
10 28	23 28.01	-14 31.0	0.771	1.612	27.4	18.5	132 E	30	79	3 22	22 43.16	-18 45.5	1.204	0.566	55.2	17.4	28 W	—	20*
11 2	23 32.10	-13 41.5	0.819	1.630	28.7	18.7	128 E	31	78	3 27	23 18.56	-15 56.7	1.252	0.535	50.2	17.2	24 W	—	16*
11 7	23 36.75	-12 47.9	0.869	1.648	29.7	18.9	125 E	32	77	4 1	23 52.17	-12 29.0	1.306	0.515	43.7	17.0	21 W	—	12*
11 12	23 41.93	-11 50.8	0.922	1.666	30.6	19.0	121 E	33	76	4 6	0 23.79	-8 31.2	1.365	0.506	36.0	16.9	17 W	—	8*
11 17	23 47.57	-10 50.9	0.978	1.685	31.2	19.2	118 E	34	75	4 8	0 35.88	-6 50.1	1.388	0.506	32.8	16.8	16 W	—	7*
11 22	23 53.61	-9 48.8	1.035	1.704	31.8	19.4	115 E	35	74	4 10	0 47.64	-5 6.6	1.412	0.509	29.6	16.8	15 W	—	6*
12 2	0 6.72	+ 7 39.6	1.156	1.743	32.4	19.7	109 E	37	72	4 12	0 59.11	-3 21.6	1.435	0.513	26.4	16.7	13 W	—	4*
12 12	0 20.97	+ 5 26.0	1.285	1.782	32.6	20.0	103 E	40	69*	4 14	1 10.28	-1 35.7	1.458	0.519	23.3	16.7	12 W	—	3*
12 22	0 36.11	+ 3 10.6	1.420	1.822	32.4	20.2	97 E	42	65*	4 16	1 21.18	+ 0 10.4	1.481	0.527	20.3	16.7	11 W	—	2*
1 1	0 51.95	+ 0 55.4	1.559	1.863	31.9	20.5	91 E	44	60*	4 21	1 47.35	+ 4 32.2	1.535	0.555	13.6	16.6	7 W	—	—
1 11	1 8.39	+ 1 18.4	1.702	1.903	31.0	20.7	86 E	46	54*	4 26	2 12.25	+ 8 43.3	1.587	0.590	8.0	16.6	5 W	—	—
1 21	1 25.30	+ 3 29.2	1.847	1.944	29.9	20.9	80 E	48	49*	5 1	2 36.15	+12 38.6	1.635	0.630	4.0	16.6	2 E	—	—
86730 2000 GY₃₇										152931 2000 EA₁₀₇									
12 27	15 16.61	-15 45.0	2.848	2.255	17.8	21.4	44 W	24*	31*	5 6	2 59.35	+16 15.1	1.682	0.674	2.7	16.8	2 E	—	—
1 6	15 36.39	-16 37.1	2.722	2.220	19.8	21.3	50 W	25*	37*	5 11	3 22.04	+19 31.6	1.726	0.719	4.3	17.1	3 E	—	—
1 16	15 56.43	-17 19.4	2.590	2.184	21.7	21.2	55 W	25*	43*	5 16	3 44.38	+22 27.6	1.768	0.765	6.2	17.3	5 E	—	—
1 26	16 16.62	-17 50.6	2.453	2.148	23.5	21.1	61 W	26*	50*	5 26	4 28.40	+27 19.2	1.849	0.854	8.8	17.8	7 E	1*	—
2 5	16 36.91	-18 10.0	2.313	2.112	25.2	21.0	66 W	26*	56*	6 5	5 11.83	+30 54.9	1.924	0.938	10.3	18.1	10 E	3*	—
2 15	16 57.16	-18 16.7	2.171	2.076	26.8	20.9	71 W	26*	62*	6 15	5 54.63	+33 21.5	1.993	1.015	11.1	18.4	11 E	5*	—
2 25	17 17.23	-18 10.0	2.028	2.039	28.2	20.7	77 W	26*	68*	6 20	6 15.70	+34 11.3	2.025	1.051	11.4	18.5	12 E	5*	—
3 7	17 36.99	-17 49.5	1.886	2.003	29.4	20.6	82 W	27*	73*	6 25	6 36.48	+34 46.6	2.055	1.084	11.6	18.6	12 E	6*	—
3 17	17 56.24	-17 15.1	1.745	1.967	30.4	20.4	87 W	27*	77*	6 30	6 56.92	+35 8.4	2.084	1.116	11.7	18.7	13 E	6*	—
3 27	18 14.79	-16 26.9	1.608	1.931	31.1	20.2	93 W	28*	80*	7 5	7 16.98	+35 17.8	2.110	1.145	11.8	18.8	13 E	7*	—
4 6	18 32.44	-15 25.4	1.474	1.896	31.5	20.0	98 W	29*	79	7 10	7 36.61	+35 15.7	2.135	1.172	11.9	18.9	14 E	7*	—
4 16	18 48.91	-14 11.3	1.347	1.861	31.6	19.7	104 W	30*	78	7 15	7 55.77	+35 3.0	2.158	1.198	11.9	19.0	14 E	7*	—
4 26	19 3.91	-12 46.2	1.225	1.828	31.2	19.5	110 W	32*	77	7 20	8 14.44	+34 40.8	2.178	1.221	12.0	19.1	14 E	7*	—
5 6	19 17.15	-11 12.1	1.112	1.795	30.4	19.2	116 W	34*	75	7 25	8 32.61	+34 9.7	2.197	1.243	12.1	19.1	15 E	7*	—
5 16	19 28.23	-9 32.0	1.006	1.764	29.1	18.9	122 W	35	74	7 30	8 50.27	+33 30.7	2.213	1.262	12.2	19.2	15 E	8*	—
5 26	19 36.77	-7 50.1	0.911	1.735	27.1	18.6	129 W	37	72	8 4	9 7.43	+32 44.5	2.227	1.280	12.3	19.2	16 E	8*	—
5 31	19 39.98	-7 0.1	0.867	1.721	25.9	18.4	132 W	38	71	8 9	9 24.11	+31 51.8	2.239	1.296	12.5	19.3	16 E	8*	—
6 5	19 42.42	-6 11.8	0.826	1.707	24.5	18.3	136 W	39	70	8 14	9 40.32	+30 53.4	2.249	1.309	12.7	19.3	17 E	7*	—
6 10	19 44.05	-5 26.4	0.789	1.694	22.9	18.1	139 W	40	69	8 24	10 11.42	+28 41.2	2.260	1.331	13.2	19.4	17 E	7*	—
6 15	19 44.85	-4 44.8	0.754	1.682	21.2	18.0	143 W	40	69	9 3	10 40.97	+26 12.0	2.263	1.346	13.8	19.4	19 W	9*	—
6 20	19 44.83	-4 8.2	0.723	1.670	19.4	17.8	147 W	41	68	9 13	11 9.25	+23 28.9	2.255	1.353	14.7	19.4	20 W	10*	—
6 25	19 44.05	-3 37.8	0.695	1.658	17.4	17.6	151 W	41	68	9 23	11 36.52	+20 34.2	2.237	1.352	15.6	19.5	21 W	12*	—
6 30	19 42.56	-3 14.7	0.672	1.648	15.5	17.5	154 W	42	67	10 3	12 3.09	+17 29.6	2.210	1.345	16.8	19.5	23 W	15*	—
7 5	19 40.45	-2 59.9	0.652	1.638	13.8	17.3	157 W	42	67	10 13	12 29.26	+14 16.2	2.173	1.330	18.0	19.4	24 W	17*	—
7 10	19 37.85	-2 54.3	0.636	1.629	12.4	17.2	160 W	42	67	10 23	12 55.31	+10 54.6	2.127	1.307	19.5	19.4	26 W	19*	—
7 15	19 34.98	-2 58.3	0.624	1.620	11.5	17.1	161 E	42	67	11 2	13 21.60	+ 7 24.8	2.071	1.277	21.1	19.3	28 W	21*	—
7 25	19 29.26	-3 35.1	0.613	1.605	12.4	17.1	160 E	41	68	11 12	13 48.51	+ 3 46.6	2.007	1.239	22.8	19.3	29 W	23*	—
8 4	19 25.00	-4 45.2	0.617	1.594	16.0	17.2	154 E	40	69	11 22	14 16.47	+ 0 0.6	1.937	1.194	24.7	19.2	30 W	24*	—
8 14	19 23.72	-6 18.3	0.638	1.586	20.4	17.4	147 E	39	70	12 2	14 46.06	- 3 57.6	1.860	1.140	26.8	19.0	31 W	24*	—
8 19	19 24.53	-7 9.3	0.653	1.583	22.6	17.6	143 E	38	71	12 12	15 18.04	- 8 4.5	1.779	1.079	28.9	18.9	32 W	23*	—
8 24	19 26.39	-8 1.1	0.671	1.582	24.7	17.7	139 E	37	72	12 22	15 53.38	-12 20.3	1.697	1.009	31.2	18.7	32 W	21*	—
8 29	19 29.29	-8 52.2	0.693	1.581	26.6	17.8	136 E	36	73	12 27	16 12.72	-14 30.3	1.657	0.971	32.3	18.6	32 W	19*	—
9 3	19 33.23	-9 41.3	0.717	1.581	28.3	17.9	132 E	35	74	1 1	16 33.46	-16 40.3	1.617	0.931	33.4	18.5	31 W	18*	—
9 8	19 38.17	-10 27.5	0.744	1.582	29.9	18.1	128 E	35	74	1 6	16 55.80	-18 48.5	1.580	0.890	34.4	18.4	31 W	15*	—
9 13	19 44.05	-11 9.6	0.773	1.583	31.3	18.2	125 E	34	75	1 11	17 20.00	-20 52.4	1.544	0.847	35.3	18.2	30 W	13*	—
9 23	19 58.35	-12 19.1	0.839	1.590	33.5	18.4	119 E	33	76	1 16	17 46.32	-22 48.3	1.512	0.803	36.0	18.1	29 W	10*	—
10 3	20 15.43	-13 6.1	0.914	1.599	35.1	18.7	113 E	32	77	1 21	18 14.98	-24 31.1	1.484	0.757	36.5	17.9	27 W	7*	—
10 13	20 34.67	-13 29.0	0.996	1.612	36.1	18.9	108 E	32	77	12 27	15 17.25	- 6 43.7	2.059	1.575	27.5	21.5	48 W	33*	—
10 23	20 55.47	-13 27.5	1.085	1.629	36.5	19.1	103 E	32	77	1 6	15 44.56	- 6 7.1	1.989	1.578	29.2	21.5	52 W	34*	—
11 2	21 17.27	-13 3.1	1.182	1.648	36.6	19.3	98 E	32	77*	1 16	16 11.83	- 5 9.2	1.918	1.582	30.8	21.4	55 W	36*	—
11 12	21 39.68	-12 17.5	1.284	1.670	36.3	19.5	94 E	33	74*	1 26	16 38.88	- 3 49.0	1.846	1.585	32.2	21.4	59 W	38*	—
11 22	22 2.37	-11 13.3	1.392	1.694	35.7	19.7	89 E	34	70*	2 5	17 5.57	- 2 6.3	1.776	1.588	33.5	21.4	63 W	40*	—
12 2	22 25.08	-9 53.5	1.505	1.721	34.8	19.9	85 E	35	65*	2 15	17 31.74	- 0 1.5	1.707	1.590	34.6	21.3	66 W	42*	—
12 12	22 47.68	-8 20.7	1.622	1.749	33.7	20.1	80 E	37	59*	2 25	17 57.19	+ 2 24.3	1.641	1.592	35.6	21.2	69 W	44*	—
12 22	23 10.07	- 6 37.8	1.742	1.780	32.4	20.2	76 E	38	54*	3 7	18 21.77	+ 5 8.9	1.578	1.594	36.5	21.2	73 W	46*	—

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

20/22	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°-26°	2021	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°-26°	
269719 1998 QH₅₆ (continuation)									417949 2007 TB₂₃ (continuation)									
7 5	20 59.92	+39 56.8	0.912	1.590	36.7	20.0	111 W	85	2 10	17 24.43	+40 50.9	0.698	1.104	61.6	20.3	80 W	74*	13*
7 10	20 57.24	+40 10.5	0.883	1.589	36.0	19.9	113 W	85	2 15	17 33.76	+39 23.3	0.671	1.091	63.0	20.3	80 W	74*	16*
7 15	20 53.65	+40 7.1	0.855	1.587	35.2	19.8	116 W	85	2 20	17 42.68	+37 49.7	0.641	1.079	64.4	20.2	80 W	74*	18*
7 20	20 49.28	+39 44.3	0.828	1.586	34.3	19.7	118 W	85	2 25	17 51.36	+36 7.5	0.609	1.067	65.9	20.1	80 W	73*	21*
7 25	20 44.28	+39 0.0	0.801	1.585	33.4	19.6	121 W	84	3 2	17 59.97	+34 13.4	0.573	1.056	67.6	20.0	80 W	72*	24*
7 30	20 38.88	+37 52.1	0.777	1.583	32.3	19.5	124 W	83	3 7	18 8.70	+32 3.3	0.535	1.047	69.2	19.9	81 W	71*	28*
8 4	20 33.32	+36 19.1	0.755	1.582	31.2	19.4	126 E	81	3 12	18 17.75	+29 32.0	0.494	1.038	71.0	19.7	81 W	69*	31*
8 9	20 27.88	+34 19.8	0.735	1.580	30.2	19.3	128 E	79	3 17	18 27.36	+26 31.6	0.452	1.031	72.7	19.6	82 W	67*	35*
8 14	20 22.85	+31 54.4	0.719	1.578	29.2	19.3	131 E	77	3 19	18 31.44	+25 8.9	0.435	1.028	73.5	19.5	82 W	66*	36*
8 19	20 18.51	+29 4.4	0.707	1.577	28.4	19.2	132 E	74	3 21	18 35.68	+23 39.1	0.418	1.025	74.2	19.5	82 W	64*	38*
8 24	20 15.05	+25 52.7	0.698	1.575	27.8	19.1	133 E	71	3 23	18 40.11	+22 1.1	0.400	1.023	74.9	19.4	82 W	63*	40*
8 29	20 12.62	+22 23.3	0.695	1.573	27.6	19.1	134 E	67	3 25	18 44.77	+20 13.7	0.383	1.021	75.6	19.3	83 W	61*	42*
9 3	20 11.33	+18 41.1	0.697	1.571	27.9	19.1	133 E	64	3 27	18 49.70	+18 15.7	0.366	1.019	76.2	19.2	83 W	59*	44*
9 8	20 11.23	+14 51.9	0.704	1.569	28.5	19.2	132 E	60	3 29	18 54.94	+16 5.6	0.349	1.018	76.9	19.1	83 W	57*	47*
9 13	20 12.34	+11 1.8	0.717	1.567	29.4	19.2	130 E	56	3 31	19 0.53	+13 41.9	0.333	1.016	77.6	19.1	83 W	55*	49*
9 18	20 14.64	+7 16.5	0.735	1.565	30.6	19.3	128 E	52	4 2	19 6.53	+11 2.8	0.316	1.015	78.2	19.0	84 W	52*	52*
9 23	20 18.05	+3 40.6	0.758	1.563	31.9	19.4	125 E	49	4 4	19 13.00	+8 6.5	0.301	1.014	78.8	18.9	84 W	49*	55*
9 28	20 22.51	+0 17.6	0.785	1.561	33.3	19.5	121 E	45	4 6	19 20.00	+4 51.1	0.286	1.013	79.3	18.8	84 W	46*	58*
10 3	20 27.93	-2 50.0	0.817	1.559	34.6	19.7	118 E	42	4 8	19 27.63	+1 15.0	0.272	1.013	79.8	18.7	85 W	42*	62*
10 8	20 34.25	-5 40.8	0.853	1.557	35.8	19.8	114 E	39	4 10	19 35.96	-2 43.1	0.260	1.013	80.2	18.6	85 W	38*	65*
10 13	20 41.37	-8 14.0	0.891	1.555	36.9	19.9	111 E	37	4 12	19 45.12	-7 3.7	0.249	1.013	80.6	18.5	85 W	34*	69*
10 23	20 57.71	-12 28.7	0.976	1.551	38.6	20.1	104 E	33	4 14	19 55.22	-11 46.0	0.239	1.013	80.8	18.4	86 W	29*	74*
11 2	21 16.29	-15 39.5	1.068	1.546	39.5	20.4	97 E	29	4 16	20 6.41	-16 47.4	0.232	1.013	81.0	18.4	86 W	24*	77*
11 12	21 36.62	-17 54.1	1.164	1.542	39.9	20.5	91 E	27	4 17	20 12.47	-19 23.8	0.229	1.013	81.1	18.4	86 W	21*	79*
11 22	21 58.24	-19 20.7	1.261	1.538	39.8	20.7	85 E	26	4 18	20 18.86	-22 3.2	0.227	1.014	81.1	18.3	86 W	18*	80*
12 2	22 20.78	-20 6.9	1.357	1.534	39.3	20.9	80 E	25	4 19	20 25.61	-24 44.5	0.225	1.014	81.1	18.3	86 W	15*	80*
12 12	22 44.01	-20 18.9	1.450	1.530	38.5	21.0	75 E	25	4 20	20 32.74	-27 26.8	0.224	1.015	81.1	18.3	86 W	12*	80*
12 22	23 7.72	-20 2.4	1.538	1.526	37.4	21.1	71 E	25	4 21	20 40.27	-30 8.8	0.223	1.015	81.0	18.3	86 W	9*	78*
1 1	23 31.78	-19 22.0	1.622	1.523	36.3	21.1	66 E	26*	4 22	20 48.23	-32 49.5	0.223	1.016	80.9	18.3	86 W	6*	77*
1 11	23 56.12	-18 21.5	1.699	1.519	35.0	21.2	62 E	26*	4 23	20 56.65	-35 27.7	0.224	1.016	80.8	18.3	86 W	3*	75*
1 21	0 20.71	-17 4.6	1.770	1.516	33.7	21.2	59 E	26*	4 24	21 5.53	-38 2.2	0.225	1.017	80.7	18.3	87 W	—	72*
162004 1991 VE																		
12 27	15 17.77	-10 41.1	0.683	0.707	90.1	19.8	46 W	29*	4 25	21 14.91	-40 31.9	0.227	1.018	80.6	18.3	87 W	—	70*
12 29	15 34.90	-12 7.3	0.694	0.678	91.6	19.8	44 W	27*	4 26	21 24.79	-42 55.8	0.230	1.019	80.4	18.4	87 W	—	68*
12 31	15 52.14	-13 29.5	0.708	0.647	92.9	19.8	41 W	25*	4 27	21 35.19	-45 13.0	0.233	1.020	80.2	18.4	87 W	—	65*
1 2	16 9.42	-14 46.9	0.726	0.617	93.8	19.8	39 W	22*	4 28	21 46.10	-47 22.8	0.236	1.020	80.0	18.4	87 W	—	63*
1 4	16 26.70	-15 59.1	0.747	0.585	94.3	19.8	36 W	20*	4 29	21 57.52	-49 24.4	0.241	1.021	79.8	18.4	87 W	—	61*
1 6	16 43.94	-17 5.5	0.772	0.554	94.3	19.7	34 W	18*	4 30	22 9.44	-51 17.5	0.245	1.022	79.6	18.5	87 W	—	58*
1 11	17 26.96	-19 24.1	0.849	0.473	91.6	19.5	29 W	14*	5 1	22 21.82	-53 1.6	0.250	1.023	79.3	18.5	87 W	—	56*
1 16	18 10.44	-21 1.1	0.948	0.394	83.3	19.0	23 W	9*	5 2	22 34.63	-54 36.8	0.256	1.025	79.1	18.6	87 W	—	54*
1 21	18 55.91	-21 49.8	1.065	0.329	67.0	18.3	18 W	4*	5 3	22 47.82	-56 2.8	0.261	1.026	78.8	18.6	86 W	—	53*
1 26	19 44.48	-21 35.4	1.185	0.299	42.3	17.6	12 W	—	5 4	23 1.31	-57 19.8	0.268	1.027	78.5	18.6	86 W	—	51*
1 28	20 4.36	-21 8.7	1.229	0.301	31.6	17.4	9 W	—	5 5	23 15.04	-58 27.9	0.274	1.028	78.2	18.7	86 W	—	49*
1 30	20 24.02	-20 30.4	1.268	0.312	21.6	17.2	7 W	—	5 6	23 28.91	-59 27.6	0.281	1.030	77.9	18.7	86 W	—	48*
2 1	20 43.11	-19 42.0	1.304	0.330	13.1	17.1	4 W	—	5 7	23 42.84	-60 19.2	0.288	1.031	77.6	18.8	86 W	—	46*
2 3	21 1.42	-18 45.4	1.336	0.353	6.8	17.1	2 W	—	5 8	23 56.73	-61 3.1	0.295	1.032	77.3	18.8	86 W	—	45*
2 5	21 18.80	-17 42.7	1.365	0.381	5.2	17.2	2 E	—	5 9	0 10.49	-61 39.8	0.303	1.034	77.0	18.9	86 W	—	43*
2 7	21 35.23	-16 35.7	1.391	0.411	8.0	17.6	3 E	—	5 10	0 24.04	-62 10.0	0.310	1.035	76.6	18.9	86 W	—	42*
2 9	21 50.74	-15 25.8	1.416	0.442	11.2	17.9	5 E	—	5 11	0 37.30	-62 34.1	0.318	1.037	76.3	19.0	86 W	—	41*
2 11	22 5.38	-14 14.3	1.441	0.474	13.8	18.2	7 E	—	5 12	0 50.20	-62 52.8	0.326	1.038	76.0	19.0	86 W	—	40*
2 13	22 19.20	-13 2.0	1.465	0.507	15.9	18.4	8 E	—	5 13	1 2.68	-63 6.6	0.334	1.040	75.6	19.0	86 W	—	39*
2 15	22 32.28	-11 49.6	1.488	0.539	17.5	18.6	9 E	1*	5 14	1 14.71	-63 16.1	0.343	1.042	75.3	19.1	86 W	—	38*
2 20	23 2.16	-8 51.4	1.548	0.618	19.8	19.1	12 E	4*	5 15	1 26.25	-63 21.8	0.351	1.044	74.9	19.1	85 W	—	37*
2 25	23 28.67	-6 0.8	1.608	0.693	20.7	19.5	14 E	6*	5 16	1 37.28	-63 24.2	0.359	1.045	74.6	19.2	85 W	—	37*
3 2	23 52.53	-3 20.1	1.669	0.765	20.7	19.8	16 E	8*	5 18	1 57.81	-63 20.9	0.376	1.049	73.9	19.3	85 W	—	36*
3 7	0 14.25	-0 50.1	1.731	0.831	20.1	20.0	17 E	9*	5 20	2 16.32	-63 9.2	0.393	1.053	73.2	19.3	85 W	—	35*
3 17	0 52.88	+3 38.0	1.854	0.952	18.2	20.4	17 E	9*	5 22	2 32.93	-62 51.8	0.411	1.057	72.5	19.4	85 W	—	34*
3 27	1 26.88	+7 27.5	1.974	1.057	15.7	20.7	17 E	9*	5 24	2 47.82	-62 30.4	0.428	1.061	71.8	19.5	85 W	—	33*
4 6	1 57.72	+10 44.0	2.085	1.148	13.1	20.9	15 E	9*	5 26	3 1.16	-62 6.7	0.445	1.065	71.1	19.6	84 W	—	33*
4 16	2 26.40	+13 32.6	2.185	1.227	10.4	21.0	13 E	5*	5 28	3 13.14	-61 41.6	0.462	1.070	70.4	19.6	84 W	—	32*
4 26	2 53.58	+15 57.2	2.273	1.294	7.8	21.1	10 E	2*	5 30	3 23.93	-61 16.0	0.479	1.075	69.7	19.7	84 W	—	32*
5 6	3 19.73	+18 1.0	2.346	1.349	5.1	21.1	7 E	—	6 1	3 33.68	-60 50.6	0.495	1.079	69.1	19.8	84 W	—	32*
5 16	3 45.21	+19 46.3	2.403	1.395	2.5	21.1	3 E	—	6 3	3 42.54	-60 25.8	0.512	1.084	68.4	19.8	84 W	—	32*
5 26	4 10.27	+21 14.6	2.444	1.431	0.2	21.0	0 W	—	6 5	3 50.60	-60 1.8	0.528	1.089	67.7	19.9	83 W	—	32*
6 5	4 35.10	+22 27.1	2.468	1.457	2.7	21.3	4 W	—	6 7	3 57.97	-59 39.0	0.543	1.094	67.1	19.9	83 W	—	32*

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

20/21	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°	20/22	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°
417949 2007 TB₂₃										82233 2001 JF₁									
<i>(continuation)</i>										<i>(continuation)</i>									
7 30	5 19.94	-58 38.7	0.784	1.251	54.1	20.6	87 W	—	48*	9 23	17 47.32	-29 37.8	1.426	1.705	36.0	19.4	87 E	15*	81*
8 4	5 20.56	-59 28.2	0.789	1.266	53.2	20.6	88 W	—	49*	10 3	18 9.00	-29 15.1	1.490	1.680	36.2	19.5	82 E	15*	76*
8 9	5 19.62	-60 27.1	0.790	1.281	52.3	20.7	90 W	—	50*	10 13	18 32.64	-28 40.3	1.553	1.657	36.0	19.5	78 E	16*	72*
8 14	5 16.77	-61 34.9	0.789	1.296	51.4	20.6	91 W	—	51*	10 23	18 57.79	-27 50.7	1.615	1.636	35.6	19.6	73 E	17*	67*
8 19	5 11.56	-62 50.6	0.785	1.311	50.5	20.6	93 W	—	51*	11 2	19 24.08	-26 44.1	1.675	1.618	35.0	19.6	69 E	18*	63*
8 24	5 3.39	-64 12.4	0.780	1.325	49.5	20.6	95 W	—	51*	11 12	19 51.17	-25 19.1	1.735	1.603	34.2	19.6	66 E	19*	58*
8 29	4 51.48	-65 37.9	0.774	1.339	48.6	20.6	96 W	—	50*	11 22	20 18.71	-23 35.5	1.794	1.591	33.2	19.7	62 E	21*	53*
9 3	4 34.83	-67 2.9	0.766	1.352	47.6	20.6	98 W	—	49	12 2	20 46.41	-21 33.4	1.853	1.582	32.1	19.7	59 E	22*	49*
9 8	4 12.36	-68 20.7	0.758	1.365	46.6	20.5	100 W	—	48	12 12	21 14.07	-19 14.3	1.913	1.576	30.9	19.7	55 E	24*	44*
9 13	3 43.27	-69 21.3	0.750	1.377	45.5	20.5	102 W	—	47	12 22	21 41.52	-16 39.9	1.973	1.574	29.6	19.7	52 E	26*	39*
9 18	3 7.80	-69 52.2	0.743	1.389	44.5	20.5	104 W	—	46	1 1	22 8.64	-13 52.7	2.034	1.575	28.1	19.8	49 E	27*	34*
9 23	2 27.99	-69 40.9	0.738	1.401	43.5	20.5	106 W	—	46	1 11	22 35.41	-10 55.4	2.095	1.579	26.6	19.8	46 E	28*	30*
9 24	2 19.81	-69 32.6	0.737	1.403	43.3	20.4	106 W	—	46	1 21	23 1.79	-7 51.0	2.158	1.587	25.0	19.8	43 E	28*	26*
9 25	2 11.64	-69 22.3	0.736	1.406	43.1	20.4	107 W	—	47	39096 2000 WE₁									
9 26	2 3.52	-69 9.7	0.736	1.408	42.9	20.4	107 W	—	47	12 27	15 20.06	-13 14.5	4.014	3.383	11.8	21.4	45 W	26*	29*
9 27	1 55.47	-68 55.0	0.735	1.410	42.7	20.4	107 W	—	47	1 6	15 31.40	-13 56.3	3.879	3.361	13.3	21.3	52 W	28*	37*
9 28	1 47.53	-68 38.2	0.735	1.412	42.5	20.4	108 W	—	47	1 16	15 42.25	-14 32.6	3.732	3.338	14.7	21.3	59 W	29*	46*
9 29	1 39.73	-68 19.1	0.734	1.414	42.3	20.4	108 W	—	48	1 26	15 52.45	-15 3.4	3.575	3.314	15.9	21.2	67 W	29*	54*
9 30	1 32.09	-67 57.9	0.734	1.416	42.1	20.4	108 W	—	48	2 5	16 1.82	-15 28.7	3.410	3.289	16.8	21.1	75 W	29*	63*
10 1	1 24.65	-67 34.7	0.734	1.418	42.0	20.4	109 W	—	48	2 15	16 10.16	-15 48.5	3.238	3.264	17.5	21.0	83 W	29	71*
10 2	1 17.42	-67 9.3	0.734	1.421	41.8	20.4	109 W	—	49	2 25	16 17.24	-16 3.0	3.064	3.237	17.8	20.9	91 W	29	78*
10 3	1 10.42	-66 42.0	0.734	1.423	41.6	20.4	109 W	—	49	3 7	16 22.80	-16 12.6	2.890	3.210	17.7	20.8	100 W	29	80
10 5	0 57.16	-65 41.5	0.735	1.427	41.3	20.4	110 W	—	50	3 17	16 26.59	-16 17.6	2.720	3.182	17.2	20.6	109 W	29	80
10 7	0 44.95	-64 33.8	0.737	1.431	41.0	20.4	110 E	—	51	3 27	16 28.34	-16 18.3	2.556	3.153	16.2	20.4	118 W	29	80
10 9	0 33.83	-63 19.5	0.739	1.435	40.8	20.4	110 E	—	53	4 6	16 27.82	-16 15.3	2.404	3.123	14.6	20.2	128 W	29	80
10 11	0 23.78	-61 59.4	0.742	1.438	40.5	20.4	111 E	—	54	4 16	16 24.88	-16 9.1	2.268	3.092	12.4	20.0	139 W	29	80
10 13	0 14.76	-60 34.1	0.745	1.442	40.3	20.4	111 E	—	55	4 26	16 19.52	-16 0.1	2.151	3.060	9.6	19.7	149 W	29	80
10 15	0 6.73	-59 4.4	0.749	1.446	40.1	20.5	111 E	—	57	5 6	16 11.97	-15 49.2	2.057	3.028	6.3	19.5	161 W	29	80
10 17	23 59.61	-57 30.9	0.754	1.449	40.0	20.5	111 E	—	58	5 16	16 2.72	-15 37.4	1.990	2.994	2.8	19.2	172 W	29	80
10 19	23 53.34	-55 54.3	0.760	1.453	39.8	20.5	111 E	—	60	5 26	15 52.55	-15 26.4	1.953	2.960	2.4	19.1	173 E	30	79
10 21	23 47.83	-54 15.2	0.766	1.456	39.7	20.5	111 E	—	62	6 5	15 42.41	-15 18.2	1.943	2.925	6.1	19.3	162 E	30	79
10 23	23 43.03	-52 34.1	0.773	1.459	39.7	20.5	111 E	—	63	6 15	15 33.23	-15 15.1	1.961	2.890	9.9	19.4	151 E	30	79
10 25	23 38.86	-50 51.5	0.781	1.462	39.6	20.6	110 E	—	65	6 25	15 25.82	-15 19.0	2.003	2.853	13.4	19.6	139 E	30	79
10 27	23 35.28	-49 8.0	0.790	1.465	39.6	20.6	110 E	—	67	7 5	15 20.71	-15 31.3	2.064	2.816	16.3	19.7	129 E	29	80
10 29	23 32.21	-47 23.9	0.800	1.468	39.6	20.6	109 E	—	69	7 15	15 18.17	-15 52.5	2.141	2.778	18.7	19.8	119 E	29*	80
10 31	23 29.63	-45 39.6	0.810	1.471	39.7	20.7	109 E	—	70	7 25	15 18.26	-16 22.4	2.228	2.739	20.5	19.9	109 E	27*	80
11 2	23 27.47	-43 55.4	0.821	1.474	39.7	20.7	108 E	1	72	8 4	15 20.88	-17 0.1	2.321	2.700	21.7	20.0	101 E	25*	81*
11 7	23 23.71	-39 37.7	0.852	1.481	39.9	20.8	107 E	5	76	8 14	15 25.89	-17 44.4	2.416	2.660	22.4	20.1	92 E	23*	82*
11 12	23 21.89	-35 26.6	0.887	1.487	40.1	20.9	105 E	10	81	8 24	15 33.09	-18 33.8	2.511	2.619	22.6	20.2	85 E	21*	78*
11 17	23 21.62	-31 24.8	0.926	1.492	40.4	21.0	102 E	14	85	9 3	15 42.30	-19 26.9	2.603	2.578	22.5	20.2	77 E	19*	71*
11 22	23 22.57	-27 33.8	0.969	1.497	40.6	21.1	100 E	17	88	9 13	15 53.36	-20 22.0	2.690	2.536	22.0	20.2	70 E	17*	64*
11 27	23 24.53	-23 54.0	1.014	1.501	40.7	21.2	97 E	21	88	9 23	16 6.11	-21 17.6	2.769	2.493	21.2	20.2	64 E	16*	58*
12 2	23 27.32	-20 25.7	1.062	1.504	40.8	21.3	94 E	25	83*	10 3	16 20.44	-22 11.9	2.841	2.450	20.1	20.2	57 E	14*	51*
12 7	23 30.83	-17 8.2	1.113	1.507	40.8	21.4	92 E	28	77*	10 13	16 36.24	-23 3.5	2.903	2.407	18.9	20.2	51 E	13*	45*
82233 2001 JF₁										10 23	16 53.42	-23 50.7	2.955	2.363	17.4	20.1	45 E	12*	39*
12 27	15 18.90	-18 41.6	3.177	2.550	15.3	21.4	43 W	21*	31*	11 2	17 11.89	-24 31.8	2.996	2.319	15.8	20.1	40 E	10*	33*
1 6	15 35.34	-19 51.4	3.054	2.525	17.2	21.3	49 W	22*	38*	11 12	17 31.57	-25 5.4	3.026	2.275	14.1	20.0	34 E	9*	27*
1 16	15 51.69	-20 55.8	2.921	2.500	18.9	21.3	56 W	22*	46*	11 22	17 52.36	-25 29.9	3.046	2.231	12.3	19.9	29 E	7*	22*
1 26	16 7.83	-21 54.4	2.781	2.473	20.5	21.2	62 W	22*	53*	12 2	18 14.18	-25 43.9	3.055	2.187	10.4	19.8	24 E	6*	17*
2 5	16 23.63	-22 47.5	2.634	2.446	22.0	21.1	68 W	22*	60*	12 12	18 36.93	-25 46.0	3.053	2.143	8.4	19.7	19 E	4*	12*
2 15	16 38.94	-23 35.3	2.481	2.417	23.2	21.0	75 W	21*	68*	12 22	19 0.47	-25 35.0	3.041	2.100	6.5	19.5	14 E	1*	7*
2 25	16 53.55	-24 18.5	2.326	2.388	24.2	20.9	81 W	21*	75*	1 1	19 24.70	-25 10.1	3.020	2.057	4.5	19.4	9 E	—	3*
3 7	17 7.24	-24 57.8	2.169	2.358	24.9	20.7	88 W	20*	82*	1 11	19 49.51	-24 30.4	2.991	2.014	2.7	19.2	6 E	—	—
3 17	17 19.74	-25 34.2	2.013	2.328	25.2	20.5	95 W	19*	89*	1 21	20 14.74	-23 35.5	2.954	1.973	1.8	19.1	4 E	—	—
3 27	17 30.71	-26 9.2	1.859	2.296	25.1	20.3	103 W	19	90	455169 1999 KQ₆									
4 6	17 39.79	-26 44.2	1.709	2.264	24.4	20.1	111 W	18	89	12 27	15 20.46	-10 15.3	2.223	1.687	24.6	20.9	46 W	29*	28*
4 16	17 46.52	-27 20.7	1.567	2.232	23.2	19.8	119 W	18	89	1 6	15 48.94	-11 35.7	2.139	1.660	26.3	20.8	49 W	29*	32*
4 26	17 50.42	-27 59.7	1.434	2.198	21.2	19.5	128 W	17	88	1 16	16 18.04	-12 41.2	2.058	1.636	28.0	20.8	51 W	28*	37*
5 6	17 51.00	-28 41.8	1.314	2.165	18.5	19.2	137 W	16	87	1 26	16 47.55	-13 30.0	1.981	1.617	29.6	20.7	54 W	28*	41*
5 16	17 47.85	-29 25.7	1.209	2.131	14.9	18.9	147 W	16	87	2 5	17 17.27	-14 1.0	1.907	1.602	31.1	20.7	57 W	27*	46*
5 26	17 40.87	-30 8.4	1.123	2.096	10.5	18.5	158 W	15	86	2 15	17 46.92	-14 13.9	1.838	1.591	32.5	20.6	60 W	27*	49*
5 31	17 36.06	-30 27.7	1.088	2.079	8.1	18.3	163 W	15	86	2 25	18 16.20	-14 9.2	1.772	1.585	33.7	20.5			

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

20/22	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°	20/22	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°		
455169 1999 KQ₆										7723 Luger											
<i>(continuation)</i>										<i>(continuation)</i>											
8	4	21 57.77	-15 11.6	1.019	2.016	7.5	19.0	165 W	30	79	6	5	16 9.18	-14 4.6	1.606	2.605	5.1	17.4	167 E	31	78
8	9	21 53.55	-16 15.5	1.032	2.039	4.6	18.9	171 W	29	80	6	15	15 58.79	-13 57.9	1.617	2.577	9.3	17.6	156 E	31	78
8	14	21 49.18	-17 17.2	1.051	2.062	2.3	18.8	175 W	28	81	6	25	15 50.12	-14 0.1	1.652	2.549	13.4	17.8	145 E	31	78
8	19	21 44.87	-18 14.9	1.076	2.085	2.8	18.9	174 E	27	82	7	5	15 43.89	-14 12.4	1.707	2.520	16.9	18.0	134 E	31	78
8	24	21 40.78	-19 7.6	1.107	2.108	5.2	19.2	169 E	26	83	7	15	15 40.52	-14 35.1	1.778	2.490	19.9	18.1	124 E	30	79
8	29	21 37.07	-19 54.2	1.144	2.132	7.7	19.4	164 E	25	84	7	25	15 40.14	-15 7.4	1.861	2.459	22.1	18.3	114 E	29	79
9	3	21 33.87	-20 34.2	1.186	2.155	10.1	19.6	158 E	24	85	8	4	15 42.64	-15 47.9	1.952	2.428	23.8	18.4	105 E	27	80
9	13	21 29.39	-21 33.8	1.288	2.202	14.4	20.0	147 E	23	86	8	14	15 47.84	-16 34.9	2.046	2.396	24.8	18.5	97 E	26	81
9	23	21 27.81	-22 7.0	1.408	2.248	17.7	20.3	137 E	23	86	8	24	15 55.51	-17 26.6	2.142	2.363	25.3	18.6	90 E	24	80*
10	3	21 29.11	-22 17.1	1.545	2.295	20.2	20.7	127 E	23	86	9	3	16 5.40	-18 20.8	2.236	2.329	25.4	18.6	82 E	22	75*
10	13	21 33.05	-22 7.6	1.694	2.342	22.0	21.0	119 E	23	86	9	13	16 17.32	-19 15.7	2.326	2.295	25.1	18.7	76 E	20	69*
10	23	21 39.28	-21 41.9	1.854	2.388	23.0	21.2	110 E	23	86	9	23	16 31.08	-20 9.4	2.411	2.261	24.5	18.7	69 E	19	63*
11	2	21 47.38	-21 2.9	2.020	2.434	23.5	21.5	102 E	24	85	10	3	16 46.52	-20 59.9	2.490	2.226	23.7	18.7	63 E	18	57*
157185 2004 PX₈₉										124812 2001 SB₂₈₄											
12	27	15 20.90	-19 48.6	2.637	2.023	19.1	21.4	42 W	20*	31*	12	27	15 20.98	-7 50.6	2.825	2.261	18.3	21.5	46 W	31*	27*
1	6	15 44.00	-21 19.7	2.517	1.982	21.3	21.3	47 W	20*	37*	1	6	15 38.64	-7 48.7	2.762	2.295	19.8	21.5	52 W	33*	33*
1	16	16 7.96	-22 41.6	2.394	1.941	23.4	21.2	51 W	20*	42*	1	16	15 55.41	-7 33.1	2.689	2.329	21.1	21.5	58 W	35*	40*
1	26	16 32.75	-23 52.7	2.270	1.901	25.4	21.1	56 W	19*	48*	1	26	16 11.13	-7 3.5	2.610	2.362	22.1	21.5	65 W	36*	46*
2	5	16 58.37	-24 51.5	2.144	1.860	27.3	21.0	60 W	18*	53*	2	5	16 25.61	-6 19.7	2.523	2.394	22.9	21.5	71 W	38*	53*
2	15	17 24.77	-25 36.5	2.019	1.821	29.2	20.9	64 W	17*	58*	2	15	16 38.65	-5 21.5	2.432	2.426	23.5	21.5	78 W	39*	59*
2	25	17 51.86	-26 6.3	1.895	1.782	31.0	20.8	68 W	17*	62*	2	25	16 50.02	-4 9.4	2.338	2.457	23.7	21.4	85 W	41*	63*
3	7	18 19.52	-26 19.7	1.775	1.745	32.7	20.6	72 W	16*	66*	3	7	16 59.48	-2 44.1	2.242	2.488	23.5	21.3	92 W	42*	66*
3	17	18 47.61	-26 15.8	1.657	1.709	34.3	20.5	76 W	16*	70*	3	17	17 6.76	-1 6.6	2.148	2.518	22.9	21.3	100 W	44	65
3	22	19 1.76	-26 7.2	1.601	1.692	35.1	20.4	77 W	16*	71*	3	27	17 11.61	+0 41.0	2.059	2.547	21.9	21.2	108 W	46	63
3	27	19 15.94	-25 54.2	1.545	1.675	35.8	20.3	79 W	16*	73*	4	6	17 13.83	+2 35.6	1.977	2.576	20.5	21.0	116 W	48	61
4	1	19 30.14	-25 36.7	1.490	1.659	36.5	20.2	81 W	16*	75*	4	16	17 13.24	+4 33.0	1.906	2.604	18.6	20.9	124 W	50	59
4	6	19 44.32	-25 14.7	1.437	1.643	37.2	20.2	83 W	16*	77*	4	26	17 9.85	+6 27.1	1.849	2.630	16.5	20.8	132 W	51	58
4	16	20 12.52	-24 18.0	1.336	1.613	38.3	20.0	86 W	16*	80*	5	6	17 3.89	+8 10.8	1.811	2.656	14.4	20.7	139 W	53	56
4	26	20 40.29	-23 5.3	1.240	1.587	39.4	19.8	89 W	17*	83*	5	16	16 55.82	+9 36.6	1.793	2.682	12.6	20.7	145 W	55	54
5	6	21 7.40	-21 38.4	1.151	1.563	40.2	19.7	92 W	18*	85*	5	26	16 46.43	+10 37.6	1.799	2.706	11.7	20.7	147 W	56	53
5	16	21 33.57	-19 59.8	1.067	1.543	40.7	19.5	96 W	19*	84	6	5	16 36.67	+11 9.6	1.828	2.730	12.0	20.7	146 E	56	53
5	26	21 58.50	-18 12.9	0.991	1.526	40.9	19.3	99 W	21*	82	6	15	16 27.52	+11 11.6	1.880	2.752	13.1	20.8	142 E	56	53
6	5	22 21.93	-16 21.1	0.920	1.514	40.8	19.1	103 W	24*	80	6	25	16 19.81	+10 45.8	1.954	2.774	14.8	21.0	136 E	56	53
6	15	22 43.45	-14 28.9	0.855	1.506	40.2	18.9	107 W	27*	78	7	5	16 14.12	+9 56.9	2.046	2.795	16.5	21.2	129 E	55	54
6	25	23 2.65	-12 40.6	0.796	1.502	39.1	18.7	111 W	30*	77	7	15	16 10.74	+8 50.5	2.153	2.815	18.0	21.3	121 E	54	55
7	5	23 19.07	-11 0.4	0.742	1.502	37.3	18.5	116 W	33*	75	33342 1998 WT₂₄										
7	15	23 32.13	-9 33.0	0.694	1.507	34.7	18.3	122 W	35*	74	12	27	15 21.72	-12 0.1	0.688	0.690	91.1	19.5	45 W	27*	28*
7	25	23 41.25	-8 21.5	0.653	1.516	31.2	18.1	129 W	37	72	1	1	15 55.87	-14 16.4	0.729	0.645	91.1	19.5	41 W	24*	27*
8	4	23 45.97	-7 28.3	0.620	1.530	26.6	17.9	137 W	38	71	1	6	16 30.23	-16 17.2	0.781	0.599	89.9	19.4	38 W	21*	25*
8	14	23 46.02	-6 54.0	0.597	1.547	21.0	17.7	147 W	38	71	1	11	17 4.86	-17 59.9	0.844	0.553	86.8	19.3	34 W	17*	23*
8	24	23 41.81	-6 35.8	0.587	1.568	14.5	17.4	157 W	38	71	1	16	17 39.99	-19 21.8	0.918	0.508	81.8	19.1	31 W	14*	21*
8	29	23 38.43	-6 31.0	0.587	1.580	11.0	17.3	163 W	38	71	1	21	18 15.94	-20 19.6	1.001	0.469	74.4	18.9	27 W	11*	19*
9	3	23 34.46	-6 27.9	0.592	1.593	7.4	17.2	168 W	39	70	1	26	18 52.94	-20 48.8	1.090	0.438	64.5	18.6	24 W	8*	16*
9	8	23 30.16	-6 25.6	0.601	1.606	3.8	17.1	174 W	39	70	1	31	19 30.87	-20 44.5	1.181	0.421	52.7	18.3	20 W	5*	13*
9	13	23 25.80	-6 22.9	0.614	1.620	1.6	17.0	177 W	39	70	2	5	20 9.06	-20 3.0	1.269	0.421	40.2	18.1	16 W	2*	10*
9	18	23 21.65	-6 18.9	0.633	1.635	4.1	17.2	173 E	39	70	2	7	20 24.17	-19 36.1	1.302	0.426	35.4	18.1	14 W	—	8*
9	23	23 17.95	-6 12.7	0.656	1.650	7.3	17.5	168 E	39	70	2	9	20 39.07	-19 3.8	1.333	0.433	30.8	18.0	13 W	—	7*
10	3	23 12.53	-5 52.1	0.715	1.683	13.4	18.0	157 E	39	70	2	11	20 53.70	-18 26.3	1.363	0.443	26.4	18.0	12 W	—	5*
10	13	23 10.45	-5 18.7	0.793	1.718	18.5	18.4	147 E	40	69	2	13	21 8.00	-17 44.3	1.392	0.454	22.4	18.0	10 W	—	4*
10	23	23 11.90	-4 31.9	0.885	1.754	22.5	18.8	138 E	40	69	2	15	21 21.94	-16 58.3	1.419	0.468	18.8	18.0	9 W	—	3*
11	2	23 16.55	-3 33.0	0.991	1.791	25.4	19.2	129 E	41	68	2	17	21 35.48	-16 8.8	1.445	0.483	15.6	18.0	8 W	—	1*
11	12	23 23.96	-2 23.3	1.109	1.830	27.5	19.6	121 E	43	66	2	19	21 48.62	-15 16.6	1.469	0.499	12.7	18.0	6 W	—	—
11	22	23 33.62	-1 4.2	1.237	1.870	28.9	19.9	114 E	44	65	2	21	22 1.34	-14 21.9	1.492	0.516	10.3	18.0	5 W	—	—
12	2	23 45.03	+0 22.3	1.373	1.910	29.6	20.2	107 E	45	64*	2	23	22 13.66	-13 25.5	1.515	0.534	8.2	18.0	4 W	—	—
12	12	23 57.85	+1 54.9	1.516	1.951	29.8	20.4	100 E	47	61*	2	25	22 25.58	-12 27.6	1.536	0.552	6.6	18.0	4 W	—	—
12	22	0 11.77	+3 32.2	1.664	1.992	29.5	20.7	94 E	49	56*	3	2	22 53.74	-9 59.1	1.586	0.598	4.6	18.2	3 E	—	—
1	1	0 26.55	+5 12.6	1.815	2.033	28.9	20.9	88 E	50	51*	3	7	23 19.80	-7 28.7	1.633	0.644	5.0	18.4	3 E	—	—
1	11	0 42.03	+6 55.0	1.969	2.074	28.0	21.1	82 E	52	46*	3	12	23 44.07	-4 59.6	1.676	0.689	6.1	18.7	4 E	—	—
1	21	0 58.06	+8 38.0	2.123	2.114	26.9	21.3	76 E	53*	41*	3	17	0 6.84	-2 33.9	1.718	0.732	7.1	18.9	5 E	—	—
7723 Luger										3	22	0 28.35	-0 13.0	1.756	0.772	7.7	19.1	6 E	—	—	
12	27	15 20.98	-13 29.3																		

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°
33342 1998 WT₂₄										19356 1997 GH₃									
<i>(continuation)</i>										<i>(continuation)</i>									
6 5	4 58.72	+22 25.0	2.025	1.012	1.6	19.7	2 E	—	—	6 5	19 37.52	-16 36.4	1.408	2.285	16.4	20.2	141 W	28	81
6 15	5 35.49	+23 31.6	2.008	0.992	0.6	19.5	1 E	—	—	6 15	19 26.89	-16 51.0	1.402	2.351	11.5	20.1	153 W	28	81
6 25	6 13.63	+24 5.8	1.977	0.961	0.8	19.4	1 W	—	—	6 20	19 20.79	-17 1.0	1.408	2.383	8.9	20.0	159 W	28	81
7 5	6 53.42	+24 3.5	1.933	0.917	1.5	19.3	1 W	—	—	6 25	19 14.37	-17 12.3	1.419	2.415	6.4	20.0	165 W	28	81
7 10	7 14.01	+23 46.9	1.907	0.891	1.9	19.3	2 W	—	—	6 30	19 7.82	-17 24.4	1.438	2.446	3.9	19.9	170 W	28	81
7 15	7 35.11	+23 19.1	1.877	0.861	2.1	19.2	2 W	—	—	7 5	19 1.30	-17 37.0	1.463	2.477	2.2	19.8	175 W	27	82
7 20	7 56.74	+22 38.9	1.843	0.829	2.4	19.1	2 W	—	—	7 10	18 55.00	-17 49.7	1.496	2.508	2.7	20.0	173 E	27	82
7 25	8 18.96	+21 45.5	1.807	0.793	2.7	19.0	2 E	—	—	7 15	18 49.06	-18 2.3	1.535	2.538	4.7	20.2	168 E	27	82
7 30	8 41.80	+20 37.6	1.767	0.754	3.2	18.8	2 E	—	—	7 25	18 38.83	-18 26.5	1.633	2.598	8.9	20.5	157 E	27	82
8 4	9 5.31	+19 13.8	1.724	0.713	4.2	18.7	3 E	—	—	8 4	18 31.28	-18 48.7	1.756	2.656	12.5	20.9	146 E	26	83
8 9	9 29.55	+17 32.6	1.677	0.669	5.8	18.6	4 E	—	—	8 14	18 26.72	-19 8.8	1.900	2.712	15.3	21.2	135 E	26	83
8 14	9 54.58	+15 32.6	1.626	0.623	8.2	18.5	5 E	—	—	8 24	18 25.10	-19 26.6	2.060	2.768	17.4	21.5	125 E	26	83
8 19	10 20.46	+13 12.2	1.569	0.577	11.9	18.4	5 E	—	—	234242 2000 SC₃₄₀									
8 24	10 47.21	+10 30.0	1.507	0.531	17.0	18.3	9 E	—	—	12 27	15 23.15	-18 35.9	2.571	1.957	19.7	20.8	42 W	21*	30*
8 29	11 14.83	+7 25.4	1.436	0.488	24.1	18.3	11 E	—	—	1 6	15 47.01	-20 15.3	2.457	1.918	21.8	20.7	47 W	21*	36*
9 3	11 43.19	+3 59.1	1.356	0.452	33.4	18.2	14 E	1*	8*	1 16	16 11.77	-21 45.3	2.341	1.880	23.9	20.6	51 W	20*	41*
9 8	12 11.95	+0 14.2	1.265	0.428	44.9	18.3	17 E	2*	11*	1 26	16 37.44	-23 4.3	2.224	1.843	25.9	20.5	55 W	19*	47*
9 13	12 40.55	+3 42.8	1.164	0.419	57.9	18.4	21 E	2*	15*	2 5	17 3.98	-24 10.8	2.107	1.806	27.9	20.4	59 W	19*	52*
9 18	13 8.41	+7 43.8	1.058	0.427	71.2	18.7	24 E	2*	18*	2 15	17 31.33	-25 3.2	1.990	1.771	29.7	20.3	63 W	18*	56*
9 23	13 35.25	-11 41.5	0.951	0.451	83.2	19.0	26 E	2*	20*	2 25	17 59.39	-25 40.1	1.877	1.737	31.5	20.2	66 W	17*	60*
9 28	14 1.29	-15 32.2	0.851	0.486	93.1	19.3	29 E	2*	23*	3 2	18 13.65	-25 52.5	1.821	1.721	32.3	20.1	68 W	16*	62*
10 3	14 27.19	-19 15.1	0.759	0.528	100.6	19.6	31 E	1*	25*	3 7	18 28.03	-26 0.7	1.766	1.705	33.2	20.1	70 W	16*	64*
10 8	14 53.86	-22 50.1	0.677	0.574	105.7	19.8	34 E	1*	27*	3 12	18 42.51	-26 4.6	1.712	1.690	34.0	20.0	72 W	16*	66*
10 13	15 22.33	-26 15.9	0.606	0.621	108.9	19.9	36 E	1*	30*	3 17	18 57.06	-26 4.3	1.659	1.675	34.7	20.0	74 W	15*	68*
10 15	15 34.47	-27 34.9	0.581	0.639	109.6	19.9	37 E	1*	31*	3 27	19 26.25	-25 50.6	1.556	1.648	36.1	19.8	77 W	15*	71*
10 17	15 47.14	-28 51.3	0.557	0.657	110.1	19.9	38 E	1*	32*	4 6	19 55.39	-25 20.4	1.459	1.623	37.4	19.7	80 W	15*	74*
10 19	16 0.39	-30 4.8	0.535	0.675	110.3	19.9	39 E	1*	33*	4 16	20 24.20	-24 34.7	1.367	1.601	38.5	19.5	83 W	15*	77*
10 21	16 14.29	-31 14.4	0.514	0.693	110.3	19.8	41 E	1*	34*	4 26	20 52.39	-23 35.6	1.280	1.582	39.4	19.4	87 W	15*	81*
10 23	16 28.88	-32 19.6	0.495	0.710	110.0	19.8	42 E	2*	36*	5 6	21 19.72	-22 25.7	1.199	1.567	40.1	19.3	90 W	16*	84*
10 25	16 44.19	-33 19.2	0.478	0.727	109.5	19.7	44 E	2*	37*	5 16	21 45.88	-21 8.2	1.123	1.556	40.4	19.1	93 W	17*	85*
10 27	17 0.23	-34 12.3	0.462	0.744	108.8	19.7	45 E	3*	39*	5 26	22 10.55	-19 47.1	1.053	1.548	40.5	19.0	97 W	19*	84
10 29	17 16.99	-34 57.9	0.448	0.760	107.9	19.6	47 E	3*	40*	6 5	22 33.44	-18 26.4	0.987	1.545	40.2	18.8	101 W	21*	82
10 31	17 34.41	-35 34.6	0.435	0.776	106.8	19.5	48 E	3*	42*	6 15	22 54.14	-17 10.6	0.925	1.545	39.3	18.6	105 W	23*	81
11 2	17 52.42	-36 1.6	0.424	0.791	105.6	19.4	50 E	4*	44*	6 25	23 12.25	-16 3.9	0.869	1.550	38.0	18.5	110 W	26*	80
11 4	18 10.90	-36 17.7	0.414	0.805	104.2	19.4	52 E	4*	46*	7 5	23 27.31	-15 10.0	0.817	1.558	35.9	18.3	116 W	29*	79
11 6	18 29.72	-36 22.4	0.406	0.820	102.7	19.3	54 E	5*	48*	7 15	23 38.73	-14 32.2	0.770	1.571	33.1	18.1	122 W	30*	79
11 8	18 48.70	-36 15.1	0.399	0.833	101.1	19.2	56 E	6*	49*	7 25	23 45.99	-14 11.9	0.730	1.587	29.4	17.9	130 W	31	78
11 10	19 7.66	-35 55.8	0.394	0.847	99.4	19.1	58 E	7*	51*	8 4	23 48.69	-14 8.2	0.699	1.606	24.8	17.7	138 W	31	78
11 12	19 26.42	-35 24.6	0.390	0.859	97.6	19.0	59 E	8*	53*	8 9	23 48.26	-14 11.5	0.687	1.617	22.1	17.6	143 W	31	78
11 14	19 44.80	-34 42.3	0.388	0.872	95.8	19.0	61 E	9*	55*	8 14	23 46.69	-14 17.2	0.679	1.629	19.3	17.5	148 W	31	78
11 16	20 2.65	-33 49.6	0.386	0.884	94.0	18.9	63 E	11*	57*	8 19	23 44.08	-14 24.0	0.674	1.641	16.3	17.4	153 W	31	78
11 18	20 19.85	-32 47.9	0.386	0.895	92.3	18.9	65 E	12*	59*	8 24	23 40.56	-14 30.6	0.673	1.654	13.2	17.3	158 W	30	79
11 20	20 36.32	-31 38.3	0.388	0.906	90.5	18.8	66 E	13*	60*	8 29	23 36.33	-14 35.9	0.676	1.668	10.3	17.2	163 W	30	79
11 22	20 52.00	-30 22.3	0.390	0.916	88.8	18.8	68 E	15*	62*	9 3	23 31.60	-14 38.6	0.684	1.683	7.6	17.2	167 W	30	79
11 24	21 6.85	-29 1.3	0.393	0.926	87.1	18.8	69 E	16*	63*	9 8	23 26.64	-14 37.6	0.696	1.698	6.0	17.1	170 W	30	79
11 26	21 20.89	-27 36.4	0.397	0.935	85.5	18.7	71 E	17*	64*	9 13	23 21.71	-14 32.0	0.714	1.713	6.2	17.2	169 E	30	79
11 28	21 34.13	-26 9.0	0.402	0.944	84.0	18.7	72 E	19	64*	9 18	23 17.08	-14 21.3	0.736	1.729	8.0	17.4	166 E	31	78
11 30	21 46.59	-24 40.1	0.408	0.952	82.6	18.7	73 E	20	65*	9 23	23 12.97	-14 5.4	0.764	1.745	10.3	17.6	162 E	31	78
12 2	21 58.33	-23 10.6	0.415	0.960	81.3	18.7	74 E	22	65*	10 3	23 6.86	-13 18.5	0.833	1.780	15.3	18.0	152 E	32	77
12 4	22 9.38	-21 41.1	0.422	0.967	80.0	18.7	75 E	23	65*	10 13	23 4.15	-12 14.1	0.919	1.815	19.6	18.4	142 E	33	76
12 6	22 19.80	-20 12.3	0.430	0.974	78.8	18.8	76 E	25	65*	10 23	23 4.95	-10 55.7	1.021	1.852	23.0	18.8	133 E	34	75
12 8	22 29.64	-18 44.7	0.438	0.980	77.7	18.8	77 E	26	65*	11 2	23 8.90	-9 27.1	1.137	1.890	25.5	19.1	125 E	36	73
12 10	22 38.93	-17 18.7	0.446	0.986	76.7	18.8	77 E	28	64*	11 12	23 15.55	-7 50.5	1.263	1.928	27.2	19.5	117 E	37	72
12 12	22 47.74	-15 54.5	0.455	0.992	75.8	18.8	78 E	29	63*	11 22	23 24.39	-6 8.0	1.399	1.967	28.2	19.7	110 E	39	70
12 17	23 7.87	-12 32.8	0.479	1.003	73.9	18.9	78 E	32	61*	12 2	23 34.96	-4 20.9	1.542	2.006	28.6	20.0	103 E	41	68*
12 22	23 25.78	-9 24.7	0.503	1.011	72.4	19.0	78 E	36	58*	12 12	23 46.91	-2 30.5	1.691	2.046	28.6	20.3	96 E	42	64*
12 27	23 41.95	-6 30.0	0.528	1.016															

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

20/21	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°	20/22	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°
246911 1998 QY₉₆										306665 2000 SO₂₇₇									
<i>(continuation)</i>																			
5 26	16 12.99	-60 56.6	2.597	3.437	10.9	20.5	140 W	—	55	12 27	15 24.14	-23 6.6	2.331	1.715	22.1	20.9	41 W	17*	32*
6 5	15 56.62	-60 15.4	2.594	3.442	10.7	20.5	141 E	—	56	1 1	15 38.80	-23 54.2	2.277	1.691	23.2	20.8	43 W	17*	34*
6 15	15 42.28	-59 6.1	2.613	3.447	11.1	20.6	139 E	—	57	1 6	15 53.88	-24 37.7	2.224	1.667	24.3	20.8	44 W	16*	36*
6 25	15 31.25	-57 35.9	2.656	3.451	12.0	20.6	135 E	—	58	1 11	16 9.39	-25 16.4	2.172	1.644	25.4	20.7	46 W	16*	38*
7 5	15 24.05	-55 53.7	2.720	3.453	13.2	20.7	129 E	—	60	1 16	16 25.30	-25 49.9	2.120	1.621	26.4	20.7	47 W	15*	39*
7 15	15 20.66	-54 7.7	2.802	3.455	14.4	20.8	122 E	—	62	1 21	16 41.60	-26 17.5	2.069	1.598	27.5	20.6	49 W	15*	41*
7 25	15 20.78	-52 24.3	2.900	3.457	15.4	21.0	115 E	—	64	1 26	16 58.28	-26 38.7	2.020	1.576	28.5	20.6	50 W	15*	43*
8 4	15 23.90	-50 48.0	3.011	3.457	16.2	21.1	108 E	—	65	1 31	17 15.31	-26 52.9	1.971	1.555	29.5	20.5	51 W	14*	44*
8 14	15 29.60	-49 21.0	3.130	3.456	16.8	21.2	100 E	—	67*	2 5	17 32.65	-26 59.7	1.924	1.534	30.6	20.5	52 W	14*	46*
8 24	15 37.45	-48 4.4	3.255	3.455	17.0	21.3	93 E	—	67*	2 10	17 50.26	-26 58.6	1.879	1.515	31.5	20.4	53 W	14*	47*
9 3	15 47.08	-46 57.8	3.383	3.452	16.9	21.3	85 E	—	65*	2 15	18 8.08	-26 49.2	1.835	1.496	32.5	20.4	54 W	13*	48*
9 13	15 58.24	-46 0.4	3.510	3.449	16.6	21.4	78 E	—	61*	2 20	18 26.04	-26 31.1	1.793	1.478	33.5	20.3	56 W	13*	49*
9 23	16 10.65	-45 10.9	3.634	3.445	16.0	21.5	71 E	—	57*	2 25	18 44.10	-26 4.3	1.752	1.461	34.4	20.3	56 W	13*	50*
10 3	16 24.11	-44 27.7	3.753	3.439	15.2	21.5	64 E	—	52*	3 2	19 2.17	-25 28.5	1.714	1.445	35.3	20.2	57 W	13*	51*
										3 7	19 20.21	-24 43.9	1.678	1.430	36.1	20.2	58 W	13*	52*
507716 2013 UP₈																			
12 27	15 23.78	+24 31.6	1.563	1.448	37.9	19.7	65 W	59*	10*	3 17	19 55.92	-22 48.8	1.611	1.404	37.8	20.1	60 W	13*	54*
1 1	15 38.65	+22 35.7	1.516	1.407	39.1	19.6	64 W	58*	12*	3 27	20 30.72	-20 22.1	1.552	1.384	39.2	20.0	61 W	14*	55*
1 6	15 53.44	+20 34.3	1.471	1.365	40.4	19.5	64 W	57*	15*	4 6	21 4.30	-17 28.3	1.500	1.370	40.5	20.0	63 W	15*	57*
1 11	16 8.20	+18 27.1	1.426	1.324	41.7	19.4	64 W	56*	18*	4 16	21 36.41	-14 13.1	1.456	1.362	41.6	19.9	64 W	16*	58*
1 16	16 22.95	+16 13.4	1.382	1.284	43.1	19.3	63 W	54*	21*	4 26	22 6.90	-10 43.3	1.417	1.361	42.4	19.9	66 W	18*	59*
1 21	16 37.76	+13 52.5	1.339	1.245	44.6	19.2	63 W	53*	24*	5 6	22 35.77	-7 5.1	1.384	1.366	43.0	19.8	68 W	20*	60*
1 26	16 52.68	+11 23.5	1.296	1.208	46.1	19.1	62 W	51*	27*	5 16	23 2.98	-3 24.8	1.353	1.377	43.5	19.8	70 W	22*	60*
1 31	17 7.83	+8 45.6	1.255	1.171	47.8	19.0	62 W	48*	31*	5 26	23 28.54	+0 12.3	1.325	1.395	43.6	19.8	72 W	26*	60*
2 5	17 23.30	+5 57.9	1.214	1.137	49.5	18.9	61 W	45*	34*	6 5	23 52.46	+3 41.9	1.297	1.418	43.6	19.8	75 W	30*	59*
2 10	17 39.24	+2 59.7	1.175	1.105	51.2	18.9	61 W	43*	37*	6 15	0 14.66	+7 0.4	1.268	1.447	43.3	19.8	78 W	35*	57*
2 15	17 55.80	-0 9.5	1.137	1.075	52.9	18.8	60 W	39*	41*	6 25	0 35.04	+10 5.2	1.238	1.480	42.8	19.8	81 W	40*	54*
2 25	18 31.52	-7 1.4	1.070	1.025	56.3	18.6	60 W	32*	46*	7 5	0 53.44	+12 54.6	1.206	1.517	41.9	19.7	86 W	46*	51
3 7	19 12.21	-14 28.7	1.017	0.990	59.2	18.5	59 W	23*	51*	7 15	1 9.55	+15 27.1	1.171	1.558	40.7	19.7	91 W	53*	49
3 17	19 59.57	-22 1.9	0.986	0.973	61.0	18.5	59 W	14*	53*	7 25	1 23.04	+17 41.2	1.134	1.601	39.1	19.7	96 W	59*	46
3 22	20 26.04	-25 35.3	0.981	0.971	61.4	18.5	59 W	9*	53*	8 4	1 33.48	+19 35.9	1.095	1.647	37.0	19.6	103 W	64*	44
3 27	20 54.28	-28 49.9	0.983	0.974	61.3	18.5	59 W	4*	52*	8 14	1 40.34	+21 9.1	1.056	1.694	34.2	19.5	110 W	66*	43
4 1	21 23.99	-31 38.6	0.992	0.982	60.8	18.5	59 W	—	50*	8 24	1 43.18	+22 18.1	1.020	1.743	30.7	19.4	118 W	67	42
4 6	21 54.68	-33 56.1	1.008	0.995	59.9	18.6	59 W	—	49*	9 3	1 41.68	+22 59.2	0.990	1.793	26.5	19.2	128 W	68	41
4 11	22 25.65	-35 40.1	1.030	1.012	58.8	18.6	60 W	—	47*	9 13	1 35.89	+23 7.8	0.969	1.843	21.5	19.1	138 W	68	41
4 16	22 56.19	-36 50.8	1.058	1.033	57.3	18.7	60 W	—	45*	9 18	1 31.59	+22 58.9	0.963	1.869	18.7	19.0	143 W	68	41
4 21	23 25.62	-37 31.3	1.091	1.057	55.7	18.7	60 W	—	44*	9 23	1 26.55	+22 41.1	0.962	1.894	15.9	19.0	149 W	68	41
4 26	23 53.43	-37 46.2	1.127	1.085	54.1	18.8	61 W	—	42*	9 28	1 20.95	+22 14.8	0.966	1.920	13.0	18.9	154 W	67	42
5 1	0 19.30	-37 40.8	1.166	1.115	52.4	18.9	61 W	—	42*	10 3	1 15.03	+21 40.6	0.975	1.945	10.2	18.8	160 W	67	42
5 6	0 43.11	-37 20.7	1.205	1.148	50.7	19.0	62 W	—	41*	10 8	1 9.02	+20 59.7	0.990	1.971	7.9	18.8	164 W	66	43
5 11	1 4.87	-36 50.8	1.246	1.183	49.0	19.1	62 W	—	41*	10 13	1 3.18	+20 13.7	1.011	1.996	6.3	18.8	167 E	65	44
5 16	1 24.65	-36 15.0	1.286	1.220	47.5	19.2	63 W	—	42*	10 18	0 57.73	+19 24.6	1.038	2.021	6.2	18.9	167 E	64	45
5 21	1 42.61	-35 36.6	1.326	1.258	46.0	19.3	63 W	—	43*	10 23	0 52.86	+18 34.2	1.071	2.047	7.5	19.0	164 E	64	45
5 26	1 58.92	-34 58.0	1.364	1.298	44.6	19.4	64 W	—	44*	10 28	0 48.68	+17 44.3	1.110	2.072	9.4	19.2	160 E	63	46
5 31	2 13.75	-34 21.1	1.400	1.338	43.4	19.4	65 W	—	45*	11 2	0 45.30	+16 56.4	1.155	2.097	11.5	19.4	155 E	62	47
6 5	2 27.24	-33 47.2	1.434	1.379	42.2	19.5	66 W	—	47*	11 7	0 42.77	+16 11.9	1.205	2.122	13.5	19.6	150 E	61	48
6 10	2 39.54	-33 17.3	1.466	1.420	41.1	19.6	67 W	—	49*	11 12	0 41.11	+15 31.8	1.261	2.146	15.4	19.8	145 E	61	48
6 15	2 50.74	-32 52.2	1.494	1.462	40.2	19.7	68 W	—	51*	11 22	0 40.33	+14 27.2	1.386	2.195	18.7	20.2	135 E	59	50
6 20	3 0.94	-32 32.3	1.520	1.505	39.3	19.8	70 W	—	53*	12 2	0 42.60	+13 44.4	1.527	2.243	21.1	20.5	125 E	59	50
6 25	3 10.20	-32 17.9	1.543	1.547	38.4	19.8	71 W	—	56*	12 12	0 47.52	+13 22.8	1.681	2.291	22.7	20.8	116 E	58	51
7 5	3 26.14	-32 6.3	1.579	1.632	36.9	19.9	74 W	—	61*	12 22	0 54.63	+13 20.0	1.844	2.337	23.7	21.1	108 E	58	50*
7 15	3 38.81	-32 18.3	1.603	1.716	35.5	20.1	78 W	—	66*	1 1	1 3.50	+13 33.0	2.013	2.382	24.0	21.3	100 E	59	48*
7 25	3 48.22	-32 53.4	1.616	1.799	34.1	20.1	83 W	—	71*	82105 2001 FG₂₆									
8 4	3 54.24	-33 50.2	1.619	1.882	32.6	20.2	88 W	2*	76*	12 27	15 24.53	-20 20.4	2.675	2.045	18.6	19.9	41 W	19*	31*
8 9	3 55.89	-34 26.0	1.618	1.922	31.8	20.2	91 W	4*	78*	1 6	15 47.03	-21 56.5	2.565	2.014	20.6	19.9	46 W	19*	36*
8 14	3 56.55	-35 6.1	1.615	1.963	31.0	20.2	94 W	5*	80*	1 16	16 10.18	-23 24.0	2.451	1.983	22.6	19.8	51 W	19*	42*
8 19	3 56.17	-35 49.7	1.612	2.003	30.1	20.2	97 W	6*	80*	1 26	16 33.93	-24 41.8	2.333	1.952	24.6	19.7	55 W	18*	48*
8 24	3 54.69	-36 35.9	1.608	2.042	29.2	20.3	100 W	7*	79	2 5	16 58.24	-25 48.9	2.214	1.922	26.4	19.6	60 W	17*	53*
8 29	3 52.07	-37 23.8	1.604	2.081	28.2	20.3	103 W	7*	79	2 15	17 23.04	-26 44.7	2.093	1.892	28.1	19.5	65 W	16*	58*
9 3	3 48.25	-38 12.0	1.601	2.120	27.2	20.3	106 W	7*	78	2 25	17 48.20	-27 28.4	1.972	1.863	29.7	19.4	69 W	16*	63*
9 8	3 43.17	-38 59.0	1.599	2.158	26.1	20.3	110 W	6	77	3 7	18 13.60	-28 0.0	1.853	1.835	31.2	19.3	73 W	15*	67*
9 13	3 36.84	-39 43.1	1.600	2.196	25.0	20.3	113 W	5	76	3 17	18 39.09	-28 19.3	1.734	1.807	32.5	19.2	78 W	14*	72*
9 18	3 29.29	-40 22.1	1.602	2.233	23.9	20.3	116 W	5	76	3 27	19 4.45	-28 2							

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°
82105 2001 FG₂₆										434313 2004 GP									
<i>(continuation)</i>										<i>(continuation)</i>									
8 9	22 3.68	-26 59.3	0.640	1.639	9.7	16.0	164 W	18	89	2 5	17 8.76	-8 22.6	0.964	0.980	60.9	21.5	60 W	33*	45*
8 14	21 59.22	-26 54.1	0.641	1.643	8.4	16.0	166 W	18	89	2 10	17 22.91	-8 4.3	0.956	0.998	60.6	21.5	62 W	34*	47*
8 19	21 54.60	-26 42.1	0.647	1.648	8.4	16.0	166 W	18	89	2 15	17 37.31	-7 43.5	0.943	1.012	60.6	21.5	63 W	34*	49*
8 24	21 50.12	-26 22.9	0.658	1.653	9.7	16.1	164 E	19	90	2 20	17 51.98	-7 19.8	0.928	1.023	60.7	21.5	64 W	34*	50*
8 29	21 46.01	-25 56.6	0.672	1.659	11.7	16.3	161 E	19	90	2 25	18 7.01	-6 53.1	0.909	1.031	61.0	21.4	66 W	34*	52*
9 3	21 42.52	-25 23.6	0.692	1.666	14.0	16.4	156 E	20	89	3 2	18 22.48	-6 23.0	0.888	1.036	61.4	21.4	67 W	34*	53*
9 8	21 39.82	-24 44.6	0.716	1.673	16.4	16.6	152 E	20	89	3 7	18 38.48	-5 49.3	0.865	1.037	62.1	21.4	67 W	34*	54*
9 13	21 38.04	-24 0.3	0.743	1.681	18.7	16.7	148 E	21	88	3 12	18 55.12	-5 11.6	0.841	1.034	63.0	21.3	68 W	34*	54*
9 18	21 37.24	-23 11.6	0.775	1.690	20.9	16.9	143 E	22	87	3 17	19 12.54	-4 29.6	0.815	1.029	64.1	21.3	68 W	34*	55*
9 23	21 37.44	-22 19.5	0.810	1.699	22.9	17.1	139 E	23	86	3 22	19 30.88	-3 43.2	0.788	1.020	65.4	21.2	69 W	34*	55*
9 28	21 38.59	-21 24.6	0.849	1.709	24.6	17.2	135 E	24	85	3 27	19 50.34	-2 52.1	0.761	1.007	67.0	21.2	68 W	34*	55*
10 3	21 40.65	-20 27.6	0.890	1.719	26.2	17.4	131 E	25	84	4 1	20 11.12	-1 56.0	0.735	0.991	68.9	21.1	68 W	33*	55*
10 13	21 47.25	-18 28.6	0.982	1.741	28.7	17.7	123 E	27	82	4 6	20 33.47	-0 54.6	0.710	0.972	71.1	21.1	67 W	33*	54*
10 23	21 56.66	-16 25.0	1.084	1.764	30.4	18.0	116 E	29	80	4 11	20 57.59	+0 12.2	0.686	0.949	73.6	21.0	65 W	32*	53*
11 2	22 8.26	-14 18.1	1.194	1.789	31.5	18.3	109 E	31	78	4 16	21 23.69	+1 24.1	0.666	0.922	76.5	21.0	63 W	31*	51*
11 12	22 21.57	-12 8.4	1.312	1.816	32.0	18.5	103 E	33	76	4 21	21 51.91	+2 40.6	0.651	0.892	79.6	21.0	61 W	29*	49*
11 22	22 36.18	-9 56.3	1.436	1.843	32.1	18.8	97 E	35	73*	4 26	22 22.31	+4 0.5	0.641	0.858	83.0	21.0	58 W	27*	47*
12 2	22 51.74	-7 42.4	1.564	1.872	31.8	19.0	92 E	37	67*	5 1	22 54.78	+5 22.2	0.638	0.820	86.5	21.0	54 W	24*	44*
12 12	23 8.04	-5 27.0	1.696	1.901	31.1	19.2	86 W	40	61*	5 6	23 29.01	+6 43.8	0.644	0.778	89.8	21.1	50 W	22*	41*
12 22	23 24.89	-3 10.5	1.830	1.932	30.2	19.3	81 E	42	54*	5 11	0 4.49	+8 2.9	0.661	0.732	92.8	21.1	46 W	19*	37*
1 1	23 42.16	-0 53.9	1.965	1.962	29.0	19.5	75 E	44*	48*	5 16	0 40.63	+9 18.1	0.689	0.683	94.9	21.2	42 W	15*	34*
1 11	23 59.78	+1 22.4	2.101	1.993	27.6	19.6	70 E	46*	42*	5 21	1 16.86	+10 29.3	0.731	0.630	95.8	21.1	38 W	12*	30*
1 21	0 17.68	+3 37.5	2.235	2.024	26.1	19.8	65 E	46*	37*	5 26	1 52.82	+11 37.9	0.787	0.574	94.9	21.1	34 W	9*	27*
89566 2001 XZ₁₀₃										68216 2001 CV₂₆									
12 27	15 24.75	-20 49.6	3.349	2.690	14.0	21.2	41 W	19*	31*	12 27	15 26.19	-21 52.5	2.219	1.609	23.5	20.4	41 W	18*	31*
1 6	15 40.69	-21 47.9	3.229	2.668	15.8	21.1	48 W	20*	38*	1 6	15 49.14	-24 11.8	2.171	1.637	25.3	20.4	45 W	17*	37*
1 16	15 56.44	-22 40.5	3.099	2.645	17.5	21.1	54 W	20*	45*	1 16	16 12.07	-26 21.0	2.113	1.662	27.0	20.4	50 W	16*	42*
1 26	16 11.89	-23 27.0	2.959	2.621	19.1	21.0	61 W	20*	52*	1 26	16 34.95	-28 20.7	2.045	1.684	28.6	20.4	55 W	14*	48*
2 5	16 26.89	-24 7.6	2.812	2.596	20.5	20.9	67 W	20*	60*	2 5	16 57.74	-30 12.0	1.968	1.703	30.1	20.4	60 W	13*	54*
2 15	16 41.25	-24 42.4	2.659	2.571	21.7	20.8	74 W	20*	67*	2 15	17 20.36	-31 56.3	1.884	1.719	31.4	20.4	65 W	11*	59*
2 25	16 54.77	-25 11.8	2.502	2.544	22.6	20.7	81 W	20*	75*	2 25	17 42.69	-33 35.3	1.793	1.731	32.6	20.3	70 W	10*	64*
3 7	17 7.20	-25 36.2	2.343	2.517	23.2	20.6	88 W	19*	82*	3 7	18 4.63	-35 11.3	1.696	1.741	33.5	20.3	76 W	8*	68*
3 17	17 18.27	-25 56.5	2.184	2.489	23.4	20.4	96 W	19	90*	3 17	18 26.04	-36 46.8	1.596	1.747	34.3	20.1	81 W	7*	72*
3 27	17 27.62	-26 13.3	2.027	2.460	23.2	20.2	104 W	19	90	3 27	18 46.69	-38 25.0	1.493	1.750	34.7	20.0	87 W	5*	74*
4 6	17 34.91	-26 27.5	1.875	2.430	22.5	20.0	112 W	19	90	4 6	19 6.40	-40 9.7	1.389	1.750	34.8	19.9	93 W	4*	75*
4 16	17 39.72	-26 39.7	1.730	2.400	21.1	19.7	120 W	18	89	4 16	19 24.84	-42 5.4	1.285	1.747	34.6	19.7	99 W	2*	74
4 26	17 41.61	-26 50.2	1.596	2.369	19.1	19.5	130 W	18	89	4 21	19 33.45	-43 8.7	1.234	1.744	34.3	19.6	102 W	1*	73
5 6	17 40.25	-26 58.4	1.476	2.338	16.2	19.2	140 W	18	89	4 26	19 41.59	-44 16.5	1.184	1.741	33.9	19.5	105 W	-	72
5 16	17 35.44	-27 2.9	1.372	2.306	12.5	18.8	150 W	18	89	5 1	19 49.17	-45 29.5	1.134	1.736	33.5	19.4	108 W	-	71
5 26	17 27.35	-27 1.4	1.289	2.273	8.1	18.5	162 W	18	89	5 6	19 56.10	-46 48.1	1.087	1.731	32.9	19.3	111 W	-	69
5 31	17 22.27	-26 57.6	1.256	2.257	5.7	18.3	167 W	18	89	5 11	20 2.25	-48 12.8	1.040	1.725	32.2	19.1	115 W	-	68
6 5	17 16.67	-26 51.4	1.230	2.240	3.2	18.1	173 W	18	89	5 16	20 7.46	-49 44.1	0.996	1.719	31.4	19.0	118 W	-	66
6 10	17 10.72	-26 42.7	1.209	2.223	1.7	18.0	176 E	18	89	5 21	20 11.57	-51 21.8	0.954	1.711	30.5	18.9	121 W	-	65
6 15	17 4.62	-26 31.5	1.195	2.207	3.3	18.0	173 E	18	89	5 26	20 14.37	-53 5.9	0.914	1.703	29.5	18.7	124 W	-	63
6 20	16 58.60	-26 18.2	1.187	2.190	5.9	18.1	167 E	19	90	5 31	20 15.58	-54 55.6	0.877	1.694	28.5	18.6	127 W	-	61
6 25	16 52.86	-26 3.2	1.186	2.173	8.7	18.2	161 E	19	90	6 5	20 14.85	-56 49.7	0.843	1.684	27.6	18.5	130 W	-	59
6 30	16 47.60	-25 47.0	1.190	2.156	11.3	18.3	155 E	19	90	6 10	20 11.78	-58 46.2	0.812	1.673	26.7	18.4	132 W	-	57
7 5	16 42.99	-25 30.4	1.199	2.139	13.9	18.4	150 E	19	90	6 15	20 5.92	-60 42.0	0.785	1.662	26.0	18.3	134 W	-	55
7 10	16 39.15	-25 13.9	1.214	2.122	16.4	18.5	144 E	20	89	6 17	20 2.70	-61 27.2	0.775	1.657	25.7	18.2	135 W	-	55
7 15	16 36.21	-24 58.3	1.233	2.105	18.7	18.6	139 E	20	89	6 19	19 58.94	-62 11.3	0.766	1.652	25.5	18.2	136 W	-	54
7 25	16 33.22	-24 31.5	1.282	2.071	22.6	18.8	128 E	20	89	6 21	19 54.62	-62 54.0	0.757	1.647	25.4	18.1	136 W	-	53
8 4	16 34.16	-24 12.5	1.343	2.037	25.9	19.0	119 E	21*	88	6 23	19 49.72	-63 35.0	0.749	1.642	25.3	18.1	136 W	-	52
8 14	16 38.90	-24 1.5	1.411	2.003	28.3	19.1	110 E	21*	88	6 25	19 44.24	-64 13.8	0.742	1.637	25.3	18.1	137 W	-	52
8 24	16 47.13	-23 57.5	1.484	1.970	30.1	19.2	103 E	20*	88	6 30	19 27.99	-65 39.2	0.726	1.623	25.4	18.0	137 W	-	50
9 3	16 58.45	-23 57.8	1.559	1.937	31.2	19.3	96 E	20*	88*	7 5	19 8.45	-66 42.9	0.714	1.609	26.0	18.0	136 W	-	49
9 13	17 12.53	-23 59.7	1.634	1.905	31.9	19.4	89 E	20*	83*	7 10	18 46.68	-67 20.1	0.705	1.593	27.0	18.0	135 E	-	49
9 23	17 29.03	-24 0.0	1.708	1.873	32.1	19.5	83 E	19*	77*	7 15	18 24.33								

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°
68216 2001 CV₂₆										100008 1988 QZ									
<i>(continuation)</i>										<i>(continuation)</i>									
7 17	18 15.66	-67 23.3	0.699	1.571	28.9	18.0	132 E	-	49	8 24	18 4.35	-35 56.3	0.959	1.701	31.2	18.0	119 E	9	80
7 19	18 7.30	-67 14.0	0.698	1.564	29.5	18.0	131 E	-	49	8 29	18 8.93	-34 44.0	0.982	1.687	32.6	18.1	116 E	10	81
7 21	17 59.36	-67 0.5	0.698	1.557	30.2	18.0	130 E	-	49	9 3	18 14.55	-33 32.4	1.007	1.674	33.9	18.1	112 E	11	82
7 23	17 51.91	-66 43.2	0.698	1.550	30.9	18.0	129 E	-	49	9 8	18 21.13	-32 21.5	1.034	1.662	35.0	18.2	109 E	13	84
7 25	17 45.02	-66 22.5	0.699	1.543	31.6	18.0	127 E	-	50	9 13	18 28.56	-31 11.2	1.062	1.650	35.9	18.3	106 E	14	85
7 27	17 38.72	-65 58.5	0.700	1.536	32.3	18.0	126 E	-	50	9 18	18 36.75	-30 1.4	1.091	1.640	36.7	18.4	103 E	15	86
7 29	17 33.05	-65 31.7	0.701	1.528	33.0	18.0	125 E	-	50	9 23	18 45.60	-28 51.6	1.121	1.630	37.3	18.4	100 E	16	87
7 31	17 28.01	-65 2.4	0.703	1.521	33.8	18.1	124 E	-	51	9 28	18 55.03	-27 41.7	1.152	1.621	37.8	18.5	97 E	17	88
8 2	17 23.62	-64 31.0	0.705	1.513	34.6	18.1	122 E	-	51	10 3	19 4.97	-26 31.4	1.183	1.613	38.2	18.5	95 E	18	89*
8 4	17 19.87	-63 57.8	0.708	1.506	35.3	18.1	121 E	-	52	10 13	19 26.13	-24 8.0	1.249	1.599	38.6	18.6	90 E	21	83*
8 9	17 13.13	-62 28.5	0.715	1.486	37.2	18.1	118 E	-	54	10 23	19 48.59	-21 39.6	1.317	1.589	38.6	18.7	86 E	23	78*
8 14	17 9.88	-60 53.6	0.723	1.466	39.1	18.2	114 E	-	55	11 2	20 11.96	-19 4.8	1.388	1.583	38.3	18.8	81 E	26	72*
8 19	17 9.65	-59 15.9	0.732	1.445	40.9	18.2	111 E	-	57	11 12	20 35.93	-16 23.1	1.462	1.580	37.7	18.9	78 E	29	66*
8 24	17 11.95	-57 37.2	0.742	1.423	42.6	18.3	108 E	-	58	11 22	21 0.27	-13 34.3	1.538	1.582	36.9	19.0	74 E	31	59*
8 29	17 16.37	-55 58.2	0.752	1.401	44.3	18.3	104 E	-	60	12 2	21 24.78	-10 39.4	1.616	1.588	35.8	19.1	71 E	34	53*
9 3	17 22.57	-54 19.3	0.761	1.378	45.9	18.3	101 E	-	62	12 12	21 49.37	-7 39.2	1.698	1.598	34.6	19.2	67 E	37	47*
9 8	17 30.28	-52 40.4	0.771	1.354	47.4	18.4	98 E	-	63	12 22	22 13.94	-4 35.2	1.781	1.611	33.2	19.3	64 E	39	41*
9 13	17 39.26	-51 1.1	0.779	1.330	48.9	18.4	95 E	-	65*	1 1	22 38.46	-1 29.3	1.867	1.628	31.7	19.4	61 E	41	35*
9 18	17 49.29	-49 20.9	0.787	1.306	50.2	18.4	93 E	-	66*	1 11	23 2.93	+1 36.9	1.956	1.649	30.2	19.4	57 E	42	30*
9 23	18 0.18	-47 39.0	0.794	1.281	51.6	18.4	90 E	-	68*	1 21	23 27.34	+4 41.4	2.046	1.672	28.5	19.5	54 E	42*	26*
9 28	18 11.78	-45 54.5	0.799	1.256	52.9	18.5	88 E	-	69*	154035 2002 CV₅₉									
10 3	18 23.97	-44 6.6	0.804	1.230	54.2	18.5	85 E	-	70*	12 27	15 27.04	-33 25.1	2.074	1.461	25.5	21.0	40 W	7*	33*
10 8	18 36.63	-42 14.3	0.806	1.204	55.4	18.5	83 E	-	70*	1 1	15 41.88	-35 27.4	2.006	1.428	27.2	20.9	42 W	5*	35*
10 13	18 49.68	-40 16.9	0.808	1.179	56.7	18.4	81 E	-	70*	1 6	15 58.08	-37 31.0	1.938	1.394	28.8	20.8	43 W	4*	37*
10 18	19 3.00	-38 13.6	0.807	1.153	58.0	18.4	79 E	-	70*	1 11	16 15.92	-39 34.8	1.871	1.359	30.5	20.7	45 W	2*	38*
10 23	19 16.50	-36 3.6	0.805	1.127	59.2	18.4	77 E	-	70*	1 16	16 35.69	-41 37.0	1.805	1.322	32.2	20.7	46 W	-	39*
10 28	19 30.12	-33 46.2	0.802	1.102	60.5	18.4	75 E	-	70*	1 21	16 57.74	-43 35.0	1.740	1.284	33.9	20.6	47 W	-	40*
11 2	19 43.79	-31 20.7	0.797	1.077	61.9	18.4	73 E	-	70*	1 26	17 22.44	-45 25.0	1.677	1.244	35.6	20.5	47 W	-	40*
11 12	20 11.13	-26 3.8	0.781	1.029	64.6	18.3	70 E	-	70*	1 31	17 50.11	-47 1.9	1.618	1.203	37.3	20.4	48 W	-	39*
11 22	20 38.13	-20 9.7	0.760	0.985	67.6	18.2	67 E	-	70*	2 5	18 20.95	-48 19.1	1.563	1.161	39.0	20.2	48 W	-	38*
12 2	21 4.61	-13 37.5	0.733	0.947	70.6	18.2	65 E	-	70*	2 10	18 54.89	-49 8.6	1.513	1.117	40.7	20.1	48 W	-	36*
12 12	21 30.61	-6 27.7	0.703	0.917	73.5	18.1	63 E	-	70*	2 15	19 31.44	-49 21.8	1.469	1.072	42.2	20.0	47 W	-	34*
12 22	21 56.28	+1 16.1	0.669	0.897	76.3	18.1	62 E	-	70*	2 17	19 46.59	-49 15.2	1.453	1.053	42.8	20.0	46 W	-	33*
12 27	22 9.15	+5 19.1	0.651	0.892	77.5	18.0	62 E	-	70*	2 19	20 1.91	-49 1.0	1.439	1.035	43.4	19.9	46 W	-	32*
1 1	22 22.20	+9 28.3	0.633	0.889	78.5	18.0	62 E	-	70*	2 21	20 17.33	-48 39.0	1.425	1.016	43.9	19.9	45 W	-	31*
1 6	22 35.59	+13 43.0	0.616	0.890	79.3	18.0	63 E	-	70*	2 23	20 32.76	-48 8.9	1.413	0.997	44.4	19.8	45 W	-	30*
1 11	22 49.52	+18 2.1	0.598	0.893	79.9	17.9	63 E	-	70*	2 25	20 48.09	-47 30.6	1.402	0.978	44.9	19.8	44 W	-	29*
1 16	23 4.23	+22 24.5	0.581	0.899	80.1	17.9	64 E	-	70*	2 27	21 3.23	-46 44.0	1.392	0.958	45.3	19.8	43 W	-	27*
1 21	23 20.07	+26 48.6	0.565	0.909	80.1	17.8	65 E	-	70*	3 1	21 18.12	-45 49.2	1.384	0.939	45.7	19.7	43 W	-	26*
12 27	22 9.15	+5 19.1	0.651	0.892	77.5	18.0	62 E	-	70*	3 3	21 32.67	-44 46.4	1.377	0.919	46.0	19.7	42 W	-	25*
1 1	22 22.20	+9 28.3	0.633	0.889	78.5	18.0	62 E	-	70*	3 5	21 46.82	-43 35.8	1.371	0.900	46.2	19.6	41 W	-	24*
1 6	22 35.59	+13 43.0	0.616	0.890	79.3	18.0	63 E	-	70*	3 7	22 0.54	-42 17.7	1.367	0.880	46.4	19.6	40 W	-	23*
1 11	22 49.52	+18 2.1	0.598	0.893	79.9	17.9	63 E	-	70*	3 12	22 32.69	-38 32.5	1.363	0.831	46.5	19.4	37 W	-	20*
1 16	23 4.23	+22 24.5	0.581	0.899	80.1	17.9	64 E	-	70*	3 17	23 1.68	-34 9.9	1.367	0.782	45.8	19.3	34 W	-	17*
1 21	23 20.07	+26 48.6	0.565	0.909	80.1	17.8	65 E	-	70*	3 22	23 27.66	-29 17.2	1.378	0.735	44.4	19.1	31 W	-	15*
12 27	22 9.15	+5 19.1	0.651	0.892	77.5	18.0	62 E	-	70*	3 27	23 50.99	-24 0.7	1.397	0.690	42.0	19.0	28 W	-	12*
1 1	22 22.20	+9 28.3	0.633	0.889	78.5	18.0	62 E	-	70*	4 1	0 12.14	-18 25.8	1.421	0.650	38.6	18.8	24 W	-	10*
1 6	22 35.59	+13 43.0	0.616	0.890	79.3	18.0	63 E	-	70*	4 6	0 31.63	-12 37.1	1.448	0.615	34.1	18.6	20 W	-	8*
1 11	22 49.52	+18 2.1	0.598	0.893	79.9	17.9	63 E	-	70*	4 11	0 49.99	-6 38.6	1.477	0.588	28.7	18.4	16 W	-	7*
1 16	23 4.23	+22 24.5	0.581	0.899	80.1	17.9	64 E	-	70*	4 16	1 7.75	+0 34.6	1.505	0.571	22.8	18.2	13 W	-	5*
1 21	23 20.07	+26 48.6	0.565	0.909	80.1	17.8	65 E	-	70*	4 21	1 25.42	+5 29.7	1.532	0.566	17.2	18.0	10 W	-	3*
12 27	22 9.15	+5 19.1	0.651	0.892	77.5	18.0	62 E	-	70*	4 26	1 43.50	+11 28.4	1.555	0.573	13.4	17.9	8 W	-	1*
1 1	22 22.20	+9 28.3	0.633	0.889	78.5	18.0	62 E	-	70*	5 1	2 2.44	+17 15.5	1.575	0.592	13.0	18.0	8 W	-	-
1 6	22 35.59	+13 43.0	0.616	0.890	79.3	18.0	63 E	-	70*	5 6	2 22.66	+22 44.9	1.594	0.620	15.2	18.2	9 W	-	3*
1 11	22 49.52	+18 2.1	0.598	0.893	79.9	17.9	63 E	-	70*	5 11	2 44.49	+27 51.5	1.612	0.656	18.3	18.5	12 W	-	6*
1 16	23 4.23	+22 24.5	0.581	0.899	80.1	17.9	64 E	-	70*	5 16	3 8.20	+32 30.7	1.630	0.698	21.1	18.7	14 W	-	8*
1 21	23 20.07	+26 48.6	0.565	0.909	80.1	17.8	65 E	-	70*	5 21	3 33.95	+36 38.3	1.651	0.743	23.4	18.9	17 W	-	9*
12 27	22 9.15	+5 19.1	0.651	0.892	77.5	18.0	62 E	-	70*	5 26	4 1.79	+40 10.9	1.674	0.791	24.9	19.2	19 W	-	10*
1 1	22 22.20	+9 28.3	0.633	0.889	78.5	18.0	62 E	-	70*	5 31	4 31.57	+43 5.6	1.700	0.840	25.9	19.4	21 E	-	11*
1 6	22 35.59	+13 43.0	0.616	0.890	79.3	18.0	63 E	-	70*	6 5	5 2.90	+45 20.7	1.730	0.889	26.4	19.5	23 E	-	14*
1 11	22 49.52	+18 2.1	0.598	0.893	79.9	17.9	63 E	-	70*	6 7	5 15.74	+46 3.5	1.743	0.908	26.5	19.6	24 E	-	15*
1 16	23 4.23	+22 24.5	0.581	0.899	80.1	17.9	64 E	-	70*	6 9	5 28.68	+46 39.9	1.757	0.928	26.6	19.7	24 E	-	16*
1 21	23 20.07	+26 48.6	0.565	0.909	80.1	17.8	65 E	-											

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°
154035 2002 CV₅₉										313760 2003 WG₉₈									
<i>(continuation)</i>										<i>(continuation)</i>									
8 9	10 19.13	+34 49.8	2.303	1.434	16.5	20.9	24 E	18*	—	6 5	18 10.91	-40 23.2	1.687	2.644	9.1	20.0	156 W	5	76
8 14	10 32.72	+33 0.1	2.346	1.466	15.6	20.9	23 E	17*	—	6 10	18 3.61	-39 51.7	1.689	2.665	7.5	19.9	160 W	5	76
8 19	10 45.43	+31 11.3	2.387	1.497	14.6	21.0	22 E	16*	—	6 15	17 56.24	-39 14.8	1.697	2.686	6.2	19.9	163 W	6	77
8 24	10 57.39	+29 23.9	2.425	1.526	13.8	21.0	21 E	15*	—	6 20	17 49.00	-38 33.1	1.713	2.707	5.6	19.9	165 E	6	77
8 29	11 8.69	+27 38.1	2.461	1.554	13.1	21.1	20 E	14*	—	6 25	17 42.09	-37 47.3	1.736	2.727	5.9	19.9	164 E	7	78
9 3	11 19.43	+25 54.2	2.494	1.581	12.4	21.1	20 E	12*	—	6 30	17 35.68	-36 58.2	1.766	2.748	6.9	20.0	161 E	8	79
9 8	11 29.68	+24 12.3	2.523	1.607	11.9	21.2	19 E	11*	—	7 5	17 29.88	-36 7.0	1.803	2.768	8.2	20.2	157 E	9	80
9 13	11 39.50	+22 32.4	2.549	1.631	11.6	21.2	19 E	10*	—	7 10	17 24.81	-35 14.7	1.847	2.788	9.7	20.3	152 E	10	81
9 18	11 48.95	+20 54.8	2.571	1.653	11.4	21.2	19 E	9*	—	7 15	17 20.53	-34 22.2	1.897	2.807	11.2	20.4	147 E	11	82
9 23	11 58.07	+19 19.2	2.589	1.675	11.4	21.3	19 W	8*	—	7 20	17 17.06	-33 30.7	1.953	2.827	12.7	20.6	142 E	11	82
9 28	12 6.89	+17 45.7	2.603	1.695	11.6	21.3	20 W	10*	—	7 25	17 14.42	-32 40.7	2.014	2.846	14.0	20.7	137 E	12	83
10 3	12 15.47	+16 14.1	2.613	1.714	11.9	21.4	21 W	12*	—	7 30	17 12.58	-31 52.8	2.081	2.865	15.2	20.8	132 E	13	84
10 8	12 23.81	+14 44.6	2.619	1.732	12.4	21.4	22 W	14*	—	8 4	17 11.51	-31 7.4	2.151	2.884	16.2	20.9	128 E	14	85
10 13	12 31.95	+13 16.9	2.620	1.748	13.0	21.5	23 W	16*	—	8 9	17 11.17	-30 24.7	2.226	2.903	17.1	21.1	123 E	15	86
100933 1998 MK₃₀										160137 2001 BU₄₁									
12 27	15 27.09	-17 22.1	3.617	2.955	12.8	21.5	42 W	22*	29*	12 27	15 28.52	-35 53.8	3.834	3.141	11.5	21.2	40 W	5*	34*
1 6	15 41.22	-18 1.3	3.478	2.919	14.6	21.5	48 W	23*	36*	1 6	15 43.69	-37 0.3	3.734	3.132	13.0	21.2	46 W	5*	40*
1 16	15 55.15	-18 34.3	3.327	2.882	16.3	21.4	55 W	24*	44*	1 16	15 58.52	-38 4.8	3.621	3.121	14.5	21.2	52 W	5*	46*
1 26	16 8.73	-19 0.7	3.167	2.844	17.8	21.3	62 W	25*	52*	1 26	16 12.83	-39 7.2	3.497	3.110	15.8	21.1	59 W	5*	53*
2 5	16 21.83	-19 20.2	2.998	2.804	19.2	21.2	69 W	25*	60*	2 5	16 26.45	-40 8.0	3.364	3.098	16.9	21.1	66 W	4*	59*
2 15	16 34.27	-19 32.6	2.824	2.764	20.3	21.1	76 W	25*	68*	2 15	16 39.13	-41 7.6	3.222	3.085	17.8	21.0	73 W	4*	65*
2 25	16 45.84	-19 37.7	2.645	2.722	21.2	20.9	84 W	25*	75*	2 25	16 50.60	-42 6.3	3.075	3.071	18.5	20.9	80 W	3*	69*
3 7	16 56.30	-19 35.7	2.465	2.679	21.7	20.8	91 W	25	82*	3 7	17 0.57	-43 4.9	2.925	3.055	18.9	20.8	88 W	2*	72*
3 17	17 5.39	-19 26.6	2.287	2.635	21.9	20.6	99 W	26	83	3 17	17 8.66	-44 3.5	2.774	3.039	19.0	20.7	96 W	1	72
3 27	17 12.78	-19 10.5	2.111	2.591	21.6	20.3	107 W	26	83	3 27	17 14.47	-45 2.0	2.625	3.022	18.7	20.6	104 W	—	71
4 6	17 18.13	-18 47.8	1.942	2.545	20.7	20.1	116 W	26	83	4 6	17 17.57	-45 59.6	2.481	3.004	18.0	20.4	112 W	—	70
4 16	17 21.07	-18 18.7	1.782	2.498	19.2	19.8	125 W	27	82	4 11	17 17.96	-46 27.5	2.412	2.995	17.4	20.3	116 W	—	70
4 26	17 21.22	-17 43.7	1.636	2.450	17.0	19.5	135 W	27	82	4 16	17 17.50	-46 54.3	2.346	2.985	16.8	20.2	121 W	—	69
5 6	17 18.35	-17 3.3	1.505	2.401	14.0	19.2	145 W	28	81	4 21	17 16.16	-47 19.5	2.283	2.976	16.1	20.1	125 W	—	69
5 16	17 12.35	-16 18.4	1.393	2.352	10.2	18.8	156 W	29	80	4 26	17 13.92	-47 42.5	2.224	2.966	15.2	20.0	129 W	—	68
5 26	17 3.52	-15 30.7	1.305	2.301	6.0	18.5	166 W	29	80	5 6	17 6.73	-48 18.8	2.118	2.945	13.3	19.8	138 W	—	68
5 31	16 58.27	-15 6.7	1.270	2.276	4.1	18.3	171 W	30	79	5 16	16 56.15	-48 36.6	2.031	2.923	11.2	19.7	146 W	—	67
6 5	16 52.62	-14 43.0	1.241	2.250	3.5	18.2	172 W	30	79	5 26	16 43.06	-48 29.5	1.967	2.900	9.5	19.5	152 W	—	68
6 10	16 46.76	-14 20.3	1.219	2.224	4.8	18.2	169 E	31	78	5 31	16 36.00	-48 15.2	1.945	2.889	9.0	19.5	154 W	—	68
6 15	16 40.85	-13 59.1	1.203	2.199	7.1	18.2	165 E	31	78	6 5	16 28.84	-47 53.6	1.929	2.877	8.8	19.4	154 E	—	68
6 20	16 35.11	-13 40.1	1.193	2.172	9.7	18.3	159 E	31	78	6 10	16 21.82	-47 24.7	1.919	2.864	9.1	19.4	154 E	—	69
6 25	16 29.72	-13 23.9	1.189	2.146	12.3	18.4	153 E	32	77	6 15	16 15.13	-46 49.2	1.916	2.852	9.7	19.4	152 E	—	69
6 30	16 24.84	-13 10.7	1.191	2.120	14.9	18.4	147 E	32	77	6 20	16 8.97	-46 8.0	1.920	2.839	10.6	19.5	149 E	—	70
7 5	16 20.61	-13 1.2	1.197	2.093	17.5	18.5	142 E	32	77	6 25	16 3.48	-45 22.0	1.929	2.827	11.7	19.5	146 E	—	71
7 15	16 14.57	-12 53.6	1.223	2.040	22.1	18.6	131 E	32	77	6 30	15 58.77	-44 32.6	1.945	2.813	13.0	19.6	142 E	—	71
7 25	16 12.21	-13 1.7	1.261	1.987	25.9	18.8	121 E	32*	77	7 5	15 54.91	-43 40.9	1.966	2.800	14.2	19.6	137 E	1	72
8 4	16 13.67	-13 23.9	1.307	1.933	29.1	18.9	112 E	31*	77	7 10	15 51.95	-42 48.0	1.991	2.787	15.5	19.7	133 E	2	73
8 14	16 18.87	-13 57.7	1.357	1.880	31.5	19.0	104 E	30*	78	7 15	15 49.90	-41 55.0	2.022	2.773	16.6	19.7	129 E	3*	74
8 24	16 27.61	-14 40.0	1.409	1.828	33.3	19.0	97 E	29*	79	7 20	15 48.76	-41 2.8	2.056	2.759	17.7	19.8	124 E	4*	75
8 34	16 39.60	-15 27.1	1.460	1.776	34.6	19.1	90 E	27*	78*	7 25	15 48.49	-40 12.3	2.094	2.745	18.7	19.9	120 E	5*	76
9 3	16 39.60	-15 27.1	1.460	1.776	34.6	19.1	90 E	27*	78*	7 30	15 49.05	-39 23.8	2.136	2.730	19.6	19.9	115 E	5*	77
9 13	16 54.61	-16 15.6	1.508	1.725	35.5	19.1	84 E	26*	75*	8 4	15 50.40	-38 37.8	2.179	2.716	20.4	20.0	111 E	5*	77
9 23	17 12.42	-17 1.8	1.553	1.676	36.0	19.1	79 E	25*	71*	8 14	15 55.29	-37 14.1	2.273	2.686	21.6	20.1	103 E	6*	79
10 3	17 32.79	-17 41.9	1.594	1.629	36.2	19.1	74 E	25*	66*	8 24	16 2.78	-36 1.7	2.371	2.655	22.3	20.2	95 E	6*	80*
10 13	17 55.58	-18 12.4	1.630	1.585	36.1	19.1	69 E	24*	61*	9 3	16 12.49	-34 59.5	2.471	2.624	22.6	20.2	87 E	7*	76*
10 23	18 20.55	-18 29.5	1.663	1.543	35.9	19.1	65 E	24*	57*	9 13	16 24.14	-34 5.9	2.570	2.591	22.5	20.3	80 E	7*	71*
11 2	18 47.47	-18 30.0	1.692	1.505	35.6	19.1	62 E	24*	53*	9 23	16 37.45	-33 18.7	2.665	2.558	22.0	20.3	73 E	7*	65*
11 12	19 16.12	-18 10.8	1.719	1.471	35.1	19.1	59 E	25*	49*	10 3	16 52.19	-32 35.6	2.755	2.524	21.3	20.4	66 E	8*	59*
11 22	19 46.17	-17 29.7	1.745	1.443	34.5	19.0	56 E	25*	44*	10 13	17 8.19	-31 54.3	2.839	2.490	20.3	20.4	60 E	8*	53*
12 2	20 17.30	-16 25.2	1.771	1.419	33.8	19.0	53 E	26*	40*	10 23	17 25.26	-31 12.5	2.913	2.454	19.0	20.3	53 E	8*	47*
12 12	20 49.20	-14 57.0	1.798	1.402	33.0	19.0	51 E	27*	37*	11 2	17 43.24	-30 28.1	2.979	2.418	17.5	20.3	47 E	8*	41*
12 22	21 21.53	-13 6.2	1.828	1.390	32.1	19.0	49 E	28*	33*	11 12									

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°		
326332 2000 GS ₁₄₆ (continuation)										326332 2000 GS ₁₄₆ (continuation)											
3	22	18 29.31	-43 9.1	1.042	1.389	45.7	20.4	86 W	1*	70*	7	19	7 18.73	-72 2.7	1.131	1.561	40.5	20.7	93 W	-	28*
3	27	18 43.08	-46 37.8	1.014	1.402	45.3	20.4	88 W	-	68*	7	21	7 24.43	-72 7.6	1.136	1.562	40.5	20.7	93 W	-	28*
4	1	18 57.94	-50 12.4	0.989	1.415	44.9	20.3	91 W	-	65*	7	23	7 30.05	-72 14.4	1.141	1.562	40.5	20.8	93 W	-	29*
4	6	19 14.17	-53 51.4	0.967	1.427	44.5	20.3	93 W	-	62*	7	25	7 35.62	-72 22.9	1.145	1.562	40.5	20.8	92 W	-	29*
4	8	19 21.14	-55 19.8	0.959	1.432	44.3	20.3	94 W	-	60*	7	27	7 41.15	-72 33.2	1.149	1.561	40.5	20.8	92 W	-	29*
4	10	19 28.42	-56 48.4	0.952	1.436	44.0	20.3	95 W	-	59*	7	29	7 46.66	-72 45.4	1.153	1.561	40.5	20.8	92 W	-	29*
4	12	19 36.06	-58 16.9	0.945	1.441	43.8	20.3	95 W	-	57*	7	31	7 52.18	-72 59.3	1.156	1.561	40.5	20.8	92 W	-	29*
4	14	19 44.09	-59 45.2	0.940	1.445	43.6	20.2	96 W	-	55*	8	4	8 3.26	-73 32.4	1.163	1.560	40.6	20.8	91 W	-	29*
4	16	19 52.58	-61 13.0	0.934	1.450	43.4	20.2	97 W	-	55*	8	6	8 8.87	-73 51.6	1.165	1.559	40.6	20.8	91 W	-	29*
4	18	20 1.57	-62 40.0	0.930	1.454	43.2	20.2	97 W	-	53*	8	8	8 14.55	-74 12.6	1.168	1.559	40.6	20.8	91 W	-	29*
4	20	20 11.13	-64 6.0	0.926	1.459	43.0	20.2	98 W	-	52*	8	10	8 20.32	-74 35.4	1.170	1.558	40.6	20.8	91 W	-	29*
4	22	20 21.35	-65 30.6	0.922	1.463	42.8	20.2	99 W	-	50*	8	12	8 26.20	-74 59.9	1.172	1.557	40.6	20.8	91 W	-	29*
4	24	20 32.30	-66 53.5	0.919	1.467	42.6	20.2	99 W	-	49*	8	14	8 32.24	-75 26.1	1.174	1.556	40.6	20.8	90 W	-	29*
4	26	20 44.11	-68 14.3	0.917	1.471	42.4	20.2	100 W	-	47*	8	16	8 38.45	-75 54.0	1.176	1.555	40.6	20.8	90 W	-	29*
4	28	20 56.86	-69 32.6	0.916	1.475	42.2	20.2	100 W	-	46*	8	18	8 44.89	-76 23.5	1.177	1.554	40.7	20.8	90 W	-	29*
4	30	21 10.71	-70 48.0	0.915	1.479	42.1	20.2	100 W	-	45*	8	20	8 51.60	-76 54.7	1.178	1.552	40.7	20.8	90 W	-	29*
5	2	21 25.77	-72 0.0	0.915	1.483	41.9	20.2	101 W	-	44*	8	22	8 58.66	-77 27.5	1.179	1.551	40.7	20.8	90 W	-	29*
5	4	21 42.19	-73 8.1	0.916	1.486	41.7	20.2	101 W	-	42*	8	24	9 6.14	-78 1.8	1.179	1.549	40.7	20.8	90 W	-	29*
5	6	22 0.11	-74 11.6	0.917	1.490	41.6	20.2	101 W	-	41*	8	25	9 10.07	-78 19.6	1.180	1.549	40.7	20.8	90 W	-	28*
5	7	22 9.67	-74 41.5	0.917	1.492	41.5	20.2	101 W	-	41*	8	26	9 14.15	-78 37.7	1.180	1.548	40.8	20.8	90 W	-	28*
5	8	22 19.64	-75 10.0	0.918	1.494	41.5	20.2	101 W	-	40*	8	27	9 18.39	-78 56.1	1.180	1.547	40.8	20.8	90 W	-	28*
5	9	22 30.04	-75 37.1	0.919	1.495	41.4	20.2	102 W	-	39*	8	28	9 22.82	-79 14.9	1.180	1.546	40.8	20.8	89 W	-	28*
5	10	22 40.86	-76 2.7	0.921	1.497	41.4	20.2	102 W	-	39*	8	29	9 27.45	-79 34.1	1.180	1.545	40.8	20.8	89 W	-	28*
5	11	22 52.12	-76 26.7	0.922	1.499	41.3	20.2	102 W	-	38*	8	30	9 32.31	-79 53.5	1.180	1.544	40.8	20.8	89 W	-	28*
5	12	23 3.79	-76 49.0	0.923	1.500	41.2	20.2	102 W	-	38*	8	31	9 37.43	-80 13.3	1.180	1.544	40.8	20.8	89 W	-	28*
5	13	23 15.88	-77 9.6	0.925	1.502	41.2	20.2	102 W	-	37*	9	1	9 42.85	-80 33.4	1.180	1.543	40.9	20.8	89 W	-	28*
5	14	23 28.34	-77 28.3	0.926	1.504	41.1	20.2	102 W	-	37*	9	2	9 48.61	-80 53.7	1.180	1.542	40.9	20.8	89 W	-	27*
5	15	23 41.17	-77 45.2	0.928	1.505	41.1	20.2	102 W	-	36*	9	3	9 54.75	-81 14.3	1.180	1.541	40.9	20.8	89 W	-	27*
5	16	23 54.30	-78 0.1	0.930	1.507	41.1	20.2	102 W	-	36*	9	4	10 1.33	-81 35.1	1.180	1.540	40.9	20.8	89 W	-	27*
5	17	0 7.71	-78 13.1	0.932	1.509	41.0	20.3	102 W	-	35*	9	5	10 8.41	-81 56.0	1.180	1.539	40.9	20.8	89 W	-	27*
5	18	0 21.32	-78 24.2	0.934	1.510	41.0	20.3	102 W	-	35*	9	6	10 16.07	-82 17.0	1.179	1.538	41.0	20.8	89 W	-	27*
5	19	0 35.09	-78 33.2	0.936	1.512	40.9	20.3	102 W	-	34*	9	7	10 24.40	-82 38.2	1.179	1.536	41.0	20.8	89 W	-	27*
5	20	0 48.93	-78 40.3	0.939	1.513	40.9	20.3	102 W	-	34*	9	8	10 33.52	-82 59.3	1.179	1.535	41.0	20.8	89 W	-	26*
5	21	1 2.79	-78 45.5	0.941	1.515	40.9	20.3	102 W	-	34*	9	9	10 43.54	-83 20.2	1.178	1.534	41.0	20.8	89 W	-	26*
5	22	1 16.58	-78 48.9	0.944	1.516	40.9	20.3	102 W	-	33*	9	10	10 54.63	-83 41.0	1.178	1.533	41.1	20.8	89 W	-	26*
5	23	1 30.25	-78 50.4	0.946	1.517	40.8	20.3	102 W	-	33*	9	11	11 6.97	-84 1.4	1.178	1.532	41.1	20.8	89 W	-	26*
5	24	1 43.72	-78 50.2	0.949	1.519	40.8	20.3	101 W	-	33*	9	12	11 20.75	-84 21.3	1.177	1.531	41.1	20.8	89 E	-	25*
5	25	1 56.94	-78 48.4	0.952	1.520	40.8	20.3	101 W	-	32*	9	13	11 36.22	-84 40.5	1.177	1.530	41.1	20.8	89 E	-	26*
5	26	2 9.86	-78 45.2	0.955	1.522	40.8	20.3	101 W	-	32*	9	14	11 53.64	-84 58.6	1.177	1.528	41.1	20.8	89 E	-	26*
5	27	2 22.44	-78 40.5	0.958	1.523	40.7	20.3	101 W	-	32*	9	15	12 13.27	-85 15.4	1.176	1.527	41.2	20.8	88 E	-	26*
5	28	2 34.65	-78 34.5	0.961	1.524	40.7	20.3	101 W	-	31*	9	16	12 35.32	-85 30.5	1.176	1.526	41.2	20.8	88 E	-	27*
5	29	2 46.45	-78 27.4	0.964	1.526	40.7	20.3	101 W	-	31*	9	17	12 59.94	-85 43.4	1.175	1.524	41.2	20.8	88 E	-	27*
5	30	2 57.84	-78 19.3	0.967	1.527	40.7	20.3	101 W	-	31*	9	18	13 27.09	-85 53.6	1.175	1.523	41.3	20.8	88 E	-	27*
5	31	3 8.80	-78 10.3	0.970	1.528	40.7	20.4	101 W	-	30*	9	19	13 56.48	-86 0.6	1.174	1.522	41.3	20.8	88 E	-	28*
6	1	3 19.34	-78 0.5	0.973	1.529	40.7	20.4	101 W	-	30*	9	20	14 27.51	-86 3.9	1.174	1.520	41.3	20.8	88 E	-	28*
6	2	3 29.45	-77 50.0	0.976	1.531	40.7	20.4	101 W	-	30*	9	21	14 59.30	-86 3.3	1.173	1.519	41.3	20.8	88 E	-	29*
6	3	3 39.14	-77 38.9	0.980	1.532	40.6	20.4	100 W	-	30*	9	22	15 30.82	-85 58.5	1.173	1.518	41.4	20.8	88 E	-	29*
6	4	3 48.43	-77 27.4	0.983	1.533	40.6	20.4	100 W	-	29*	9	23	16 1.11	-85 49.7	1.172	1.516	41.4	20.8	88 E	-	29*
6	5	3 57.33	-77 15.5	0.986	1.534	40.6	20.4	100 W	-	29*	9	24	16 29.41	-85 37.1	1.172	1.515	41.4	20.8	88 E	-	30*
6	6	4 5.85	-77 3.3	0.990	1.535	40.6	20.4	100 W	-	29*	9	25	16 55.27	-85 21.1	1.172	1.513	41.5	20.8	88 E	-	30*
6	7	4 14.01	-76 50.9	0.993	1.536	40.6	20.4	100 W	-	29*	9	26	17 18.55	-85 2.0	1.171	1.512	41.5	20.8	88 E	-	31*
6	8	4 21.83	-76 38.3	0.997	1.537	40.6	20.4	100 W	-	29*	9	27	17 39.30	-84 40.3	1.171	1.510	41.5	20.8	88 E	-	31*
6	9	4 29.33	-76 25.6	1.000	1.539	40.6	20.4	100 W	-	29*	9	28	17 57.72	-84 16.4	1.170	1.509	41.6	20.8	88 E	-	32*
6	10	4 36.51	-76 13.0	1.004	1.540	40.6	20.4	99 W	-	28*	9	29	18 14.05	-83 50.5	1.170	1.507	41.6	20.8	88 E	-	32*
6	11	4 43.41	-76 0.3	1.008	1.541	40.6	20.5	99 W	-	28*	9	30	18 28.55	-83 23.0	1.170	1.505	41.7	20.8	87 E	-	33*
6	12	4 50.04	-75 47.7	1.011	1.542	40.6	20.5	99 W	-	28*	10	1	18 41.47	-82 54.0	1.169	1.504	41.7	20.8	87 E	-	33*
6	13	4 56.40	-75 35.3	1.015	1.543	40.6	20.5	99 W	-	28*	10	2	18 53.04	-82 23.8	1.169	1.502	41.7	20.8	87 E	-	34*
6	14	5 2.53	-75 23.0	1.018	1.543	40.6	20.5	99 W	-	28*	10	3	19 3.45	-81 52.5	1.169	1.501	41.8	20.8	87 E	-	34*
6	15	5 8.43	-75 10.9	1.022	1.544	40.6	20.5	99 W	-	28*	10	4	19 12.87	-81 20.2	1.168	1.499	41.8	20.7	87 E	-	35*
6	16	5 14.11	-74 59.0	1.026	1.545	40.6	20.5	98 W	-	28*	10	5	19 21.43	-80 47.0	1.168	1.497	41.8	20.7	87 E	-	35
6	17	5 19.60	-74 47.4	1.029	1.546																

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°	
326332 2000 GS₁₄₆ (continuation)									316883 2000 SA₂₄ (continuation)									
10 29	21 4.12	-64 49.4	1.179	1.450	42.9	20.7	83 E	— 51*	3 17	20 25.52	-43 5.9	1.796	1.577	33.5	19.6	61 W	— 48*	
10 31	21 9.19	-63 20.5	1.182	1.446	43.0	20.7	83 E	— 53*	3 22	20 45.64	-42 39.2	1.771	1.574	34.0	19.5	62 W	— 49*	
11 2	21 14.05	-61 50.6	1.185	1.441	43.0	20.7	82 E	— 54*	3 27	21 5.21	-42 3.7	1.748	1.572	34.5	19.5	63 W	— 49*	
11 4	21 18.73	-60 20.0	1.188	1.437	43.1	20.7	82 E	— 56*	4 1	21 24.14	-41 20.0	1.726	1.571	34.9	19.5	64 W	— 50*	
11 6	21 23.26	-58 48.7	1.192	1.432	43.2	20.7	81 E	— 57*	4 6	21 42.36	-40 29.3	1.705	1.572	35.3	19.5	65 W	— 51*	
11 8	21 27.65	-57 16.7	1.196	1.427	43.3	20.7	81 E	— 58*	4 16	22 16.44	-38 31.1	1.665	1.576	35.9	19.5	67 W	— 53*	
11 10	21 31.91	-55 44.3	1.201	1.422	43.3	20.7	80 E	— 60*	4 26	22 47.23	-36 17.2	1.627	1.586	36.5	19.4	70 W	— 56*	
11 12	21 36.07	-54 11.4	1.206	1.417	43.4	20.7	80 E	— 61*	5 6	23 14.76	-33 55.1	1.589	1.600	36.9	19.4	72 W	— 59*	
11 17	21 46.06	-50 17.8	1.220	1.405	43.6	20.7	78 E	— 64*	5 16	23 39.14	-31 31.5	1.550	1.618	37.1	19.4	75 W	— 64*	
11 22	21 55.56	-46 23.5	1.236	1.392	43.7	20.8	77 E	— 66*	5 26	0 0.50	-29 11.4	1.508	1.640	37.2	19.4	78 W	— 69*	
11 27	22 4.70	-42 29.4	1.254	1.379	43.7	20.8	75 E	3 67*	6 5	0 18.94	-26 58.4	1.462	1.666	37.1	19.3	82 W	1* 74*	
12 2	22 13.55	-38 36.6	1.275	1.365	43.7	20.8	73 E	6 67*	6 15	0 34.47	-24 55.4	1.413	1.696	36.7	19.3	87 W	6* 80*	
12 7	22 22.17	-34 46.0	1.297	1.351	43.6	20.8	71 E	10 65*	6 25	0 46.99	-23 4.2	1.360	1.728	36.0	19.2	92 W	11* 86*	
12 12	22 30.63	-30 58.3	1.321	1.337	43.5	20.8	69 E	14 63*	7 5	0 56.30	-21 25.6	1.304	1.763	34.8	19.1	98 W	16* 85	
12 17	22 38.95	-27 14.2	1.346	1.323	43.3	20.8	67 E	18 59*	7 15	1 2.08	-19 59.6	1.247	1.801	33.0	19.0	105 W	21* 84	
12 22	22 47.16	-23 33.9	1.372	1.308	43.0	20.8	65 E	21* 56*	7 25	1 3.93	-18 45.1	1.190	1.840	30.6	18.9	113 W	25* 83	
12 27	22 55.29	-19 57.7	1.399	1.293	42.6	20.8	63 E	25* 52*	8 4	1 1.44	-17 39.3	1.138	1.882	27.3	18.8	122 W	27 82	
1 1	23 3.39	-16 25.6	1.426	1.278	42.2	20.8	61 E	28* 47*	8 14	0 54.32	-16 38.4	1.094	1.924	23.1	18.6	132 W	28 81	
1 6	23 11.47	-12 57.7	1.453	1.263	41.7	20.8	59 E	31* 43*	8 24	0 42.72	-15 36.2	1.064	1.968	18.0	18.4	143 W	29 80	
1 11	23 19.57	-9 33.7	1.479	1.248	41.2	20.8	57 E	33* 39*	8 29	0 35.46	-15 2.7	1.056	1.990	15.3	18.4	149 W	30 79	
1 16	23 27.70	-6 13.5	1.505	1.233	40.6	20.8	55 E	35* 35*	9 3	0 27.43	-14 26.7	1.054	2.013	12.4	18.3	155 W	31 78	
16724 Ulliloztman									1011 Laodamia									
12 27	15 29.16	+ 7 56.4	4.533	4.017	11.3	21.1	53 W	44* 17*	12 27	15 29.95	-14 39.3	2.724	2.096	18.2	17.4	42 W	24* 27*	
1 6	15 38.34	+ 7 59.3	4.423	4.017	12.2	21.1	60 W	48* 25*	1 6	15 49.17	-15 34.0	2.680	2.137	19.7	17.5	47 W	25* 34*	
1 16	15 46.84	+ 8 12.6	4.303	4.016	13.0	21.0	67 W	51* 33*	1 16	16 7.51	-16 17.1	2.626	2.179	21.1	17.5	53 W	26* 41*	
1 26	15 54.49	+ 8 36.4	4.173	4.014	13.6	21.0	74 W	53* 40*	1 26	16 24.79	-16 49.1	2.563	2.220	22.3	17.5	59 W	26* 48*	
2 5	16 1.14	+ 9 10.7	4.038	4.012	14.1	20.9	81 W	54* 46*	2 5	16 40.85	-17 10.8	2.491	2.261	23.3	17.6	65 W	27* 55*	
2 15	16 6.60	+ 9 55.0	3.900	4.009	14.3	20.9	89 W	55 51*	2 15	16 55.50	-17 23.0	2.411	2.302	24.0	17.5	72 W	27* 62*	
2 25	16 10.68	+ 10 48.4	3.763	4.005	14.2	20.8	97 W	56 53*	2 25	17 8.50	-17 26.9	2.325	2.342	24.5	17.5	79 W	27* 69*	
3 7	16 13.23	+ 11 49.6	3.629	4.000	13.9	20.7	105 W	57 52	3 7	17 19.61	-17 23.7	2.234	2.381	24.6	17.5	86 W	27* 76*	
3 17	16 14.06	+ 12 56.5	3.502	3.995	13.3	20.6	113 W	58 51	3 17	17 28.57	-17 14.8	2.140	2.420	24.2	17.4	94 W	28* 81*	
3 27	16 13.08	+ 14 6.3	3.386	3.988	12.4	20.5	121 W	59 50	3 27	17 35.08	-17 1.6	2.046	2.458	23.4	17.3	102 W	28 81	
4 6	16 10.25	+ 15 15.4	3.286	3.981	11.4	20.4	128 W	60 49	4 6	17 38.90	-16 45.7	1.955	2.496	22.0	17.2	111 W	28 81	
4 16	16 5.64	+ 16 19.4	3.204	3.973	10.4	20.3	135 W	61 48	4 16	17 39.76	-16 28.5	1.870	2.533	19.9	17.1	121 W	29 80	
4 26	15 59.44	+ 17 13.5	3.143	3.965	9.4	20.2	140 W	62 47	4 26	17 37.56	-16 11.3	1.796	2.568	17.3	16.9	131 W	29 80	
5 6	15 52.04	+ 17 53.3	3.106	3.955	8.9	20.1	143 W	63 46	5 6	17 32.36	-15 55.4	1.737	2.604	14.0	16.8	142 W	29 80	
5 16	15 43.92	+ 18 15.0	3.093	3.944	9.0	20.1	143 W	63 46	5 16	17 24.49	-15 41.7	1.698	2.638	10.1	16.6	153 W	29 80	
5 26	15 35.66	+ 18 16.3	3.106	3.933	9.6	20.2	140 E	63 46	5 26	17 14.66	-15 31.2	1.683	2.671	6.0	16.4	164 W	29 80	
6 5	15 27.85	+ 17 56.9	3.141	3.921	10.6	20.2	135 E	63 46	6 5	17 3.85	-15 24.7	1.695	2.704	2.9	16.3	172 W	30 79	
6 15	15 21.00	+ 17 17.9	3.199	3.908	11.8	20.3	128 E	62 47	6 15	16 53.16	-15 23.2	1.734	2.735	4.5	16.5	168 E	30 79	
6 25	15 15.52	+ 16 21.9	3.274	3.895	12.9	20.4	121 E	61 48	6 25	16 43.70	-15 27.5	1.801	2.766	8.2	16.8	157 E	30 79	
7 5	15 11.65	+ 15 12.2	3.365	3.880	13.9	20.5	113 E	60* 49	7 5	16 36.22	-15 37.9	1.892	2.796	11.6	17.0	146 E	29 80	
7 15	15 9.49	+ 13 52.0	3.468	3.865	14.7	20.6	105 E	58* 50	7 15	16 31.19	-15 54.6	2.005	2.824	14.5	17.3	136 E	29 80	
7 25	15 9.07	+ 12 24.5	3.578	3.849	15.2	20.6	98 E	54* 52	7 25	16 28.78	-16 16.9	2.136	2.852	16.8	17.5	126 E	29 80	
8 4	15 10.30	+ 10 52.6	3.693	3.832	15.4	20.7	90 E	50* 53	8 4	16 28.91	-16 43.9	2.280	2.879	18.4	17.7	116 E	28* 81	
8 14	15 13.08	+ 9 18.4	3.809	3.814	15.3	20.8	83 E	46* 54*	8 14	16 31.41	-17 14.4	2.433	2.905	19.4	17.9	108 E	27* 81	
8 24	15 17.28	+ 7 44.0	3.923	3.795	14.9	20.8	75 E	43* 53*	8 24	16 36.01	-17 47.1	2.593	2.930	19.9	18.1	99 E	26* 82	
9 3	15 22.76	+ 6 10.6	4.032	3.776	14.4	20.8	68 E	39* 50*	9 3	16 42.46	-18 20.7	2.756	2.954	20.0	18.3	91 E	25* 81*	
9 13	15 29.40	+ 4 39.6	4.135	3.755	13.6	20.8	61 E	36* 45*	9 13	16 50.53	-18 53.9	2.919	2.977	19.6	18.4	83 E	23* 76*	
9 23	15 37.06	+ 3 11.8	4.228	3.734	12.6	20.8	54 E	33* 40*	9 23	16 59.98	-19 25.6	3.080	2.999	18.9	18.5	76 E	22* 69*	
10 3	15 45.62	+ 1 48.1	4.310	3.712	11.5	20.8	48 E	30* 33*	10 3	17 10.61	-19 54.8	3.236	3.020	18.0	18.6	69 E	21* 62*	
10 13	15 55.00	+ 0 29.1	4.379	3.689	10.3	20.8	41 E	27* 27*	10 13	17 22.24	-20 20.6	3.385	3.040	16.8	18.7	62 E	20* 55*	
10 23	16 5.08	+ 0 44.5	4.433	3.665	9.0	20.8	35 E	24* 19*	10 23	17 34.73	-20 42.3	3.525	3.059	15.4	18.7	55 E	18* 47*	
11 2	16 15.78	+ 1 52.4	4.472	3.641	7.7	20.7	29 E	21* 12*	11 2	17 47.91	-20 59.1	3.655	3.077	13.8	18.7	48 E	17* 40*	
11 12	16 26.99	+ 2 54.1	4.495	3.615	6.5	20.6	24 E	18* 5*	11 12	18 1.67	-21 10.7	3.773	3.094	12.1	18.8	41 E	16* 33*	
11 22	16 38.64	+ 3 49.1	4.500	3.589	5.4	20.6	20 E	14* —	11 22	18 15.88	-21 16.6	3.877	3.110	10.3	18.8	34 E	14* 26*	
12 2	16 50.63	+ 4 37.3	4.488	3.562	4.9	20.5	18 E	10* —	12 2	18 30.41	-21 16.6	3.967	3.125	8.4	18.7	27 E	11* 18*	
12 12	17 2.88	+ 5 18.3	4.457	3.534	4.9	20.5	18 W	9* —	12 12	18 45.17	-21 10.5	4.040	3.139	6.4	18.7	21 E	8* 12*	
12 22	17 15.29	+ 5 52.0	4.409	3.505	5.7	20.5	21 W	14* —	12 22	19 0.05	-20 58.5	4.097	3.152	4.4	18.6	14 E	5* 5*	
1 1	17 27.77	+ 6 18.5	4.342	3.475	6.8	20.5	25 W	19* 2*	1 1	19 14.95	-20 40.6	4.136	3.164	2.3	18.5	7 E	— —	
1 11	17 40.22	+ 6 37.6	4.259	3.445	8.3	20.5	30 W	22* 10*	1 11	19 29.78	-20 17.2	4.158	3.175	0.5	18.4	2 E	— —	
1 21	17 52.53	+ 6 49.7	4.159	3.413	9.8	20.5	36 W	25* 18*	1 21	19 44.45	-19 48.6	4.161	3.185	1.9	18.5	6 W	— —	
316883 2000 SA₂₄																		
12 27	15 29.93	-29 55.5	2.414	1.764	20.6	20.1	39 W	10* 32*										
1 1	15 44.15	-31 28.7	2.366	1.746	21.6	20.0	41 W	9* 34*										
1 6	15 58.98	-32 59.7	2.319	1.729	22.7	20.0	43											