

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

19/20	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°	19/21	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°										
141531 2002 GB										24806 1994 RH₉										<i>(continuation)</i>									
12 23	15 1.87	-0 35.9	1.074	0.863	59.9	21.0	49 W	38*	23*	8 19	17 45.31	-38 21.8	0.896	1.651	32.2	17.0	120 E	7	78	8 19	17 45.31	-38 21.8	0.896	1.651	32.2	17.0	120 E	7	78
12 28	15 11.39	-1 41.8	1.103	0.913	57.5	21.1	52 W	38*	26*	8 24	17 51.05	-37 24.8	0.918	1.639	33.6	17.1	116 E	8	79	8 24	17 51.05	-37 24.8	0.918	1.639	33.6	17.1	116 E	8	79
1 2	15 20.76	-2 46.9	1.124	0.961	55.6	21.2	54 W	38*	30*	8 29	17 57.87	-36 27.3	0.941	1.628	34.8	17.2	113 E	9	80	8 29	17 57.87	-36 27.3	0.941	1.628	34.8	17.2	113 E	9	80
1 7	15 29.93	-3 50.1	1.139	1.007	54.1	21.3	56 W	38*	33*	9 3	18 5.66	-35 29.4	0.966	1.618	35.9	17.2	110 E	10	81	9 3	18 5.66	-35 29.4	0.966	1.618	35.9	17.2	110 E	10	81
1 12	15 38.85	-4 51.3	1.148	1.051	52.9	21.4	58 W	38*	37*	9 8	18 14.32	-34 30.9	0.992	1.609	36.8	17.3	107 E	10	81	9 8	18 14.32	-34 30.9	0.992	1.609	36.8	17.3	107 E	10	81
1 17	15 47.50	-5 50.1	1.150	1.093	51.9	21.4	61 W	37*	41*	9 13	18 23.73	-33 31.4	1.019	1.601	37.5	17.4	104 E	11	82	9 13	18 23.73	-33 31.4	1.019	1.601	37.5	17.4	104 E	11	82
1 22	15 55.85	-6 46.6	1.147	1.132	51.1	21.5	64 W	37*	45*	9 18	18 33.81	-32 30.8	1.048	1.593	38.1	17.4	102 E	12	83	9 18	18 33.81	-32 30.8	1.048	1.593	38.1	17.4	102 E	12	83
1 27	16 3.86	-7 40.9	1.139	1.170	50.5	21.5	66 W	36*	49*	9 23	18 44.48	-31 28.7	1.078	1.587	38.6	17.5	99 E	14	85	9 23	18 44.48	-31 28.7	1.078	1.587	38.6	17.5	99 E	14	85
251346 2007 SJ										141484 2002 DB₄										24806 1994 RH₉									
12 23	15 2.33	-22 51.9	1.858	1.293	30.1	20.0	41 W	17*	32*	10 3	19 7.22	-29 19.1	1.140	1.577	39.2	17.6	95 E	15	86	10 3	19 7.22	-29 19.1	1.140	1.577	39.2	17.6	95 E	15	86
1 2	15 30.99	-25 3.6	1.883	1.369	30.2	20.2	45 W	16*	36*	10 8	19 19.11	-28 11.2	1.172	1.574	39.4	17.7	93 E	17	86*	10 8	19 19.11	-28 11.2	1.172	1.574	39.4	17.7	93 E	17	86*
1 12	15 58.13	-26 49.8	1.898	1.445	30.5	20.3	48 W	15*	41*	10 13	19 31.28	-27 1.0	1.206	1.571	39.4	17.8	90 E	18	84*	10 13	19 31.28	-27 1.0	1.206	1.571	39.4	17.8	90 E	18	84*
1 22	16 23.65	-28 13.7	1.902	1.522	30.9	20.4	53 W	14*	46*	10 18	19 43.66	-25 48.3	1.241	1.570	39.4	17.8	88 E	19	82*	10 18	19 43.66	-25 48.3	1.241	1.570	39.4	17.8	88 E	19	82*
2 1	16 47.37	-29 18.7	1.895	1.597	31.3	20.5	57 W	14*	51*	10 23	19 56.20	-24 33.3	1.276	1.570	39.2	17.9	87 E	20	80*	10 23	19 56.20	-24 33.3	1.276	1.570	39.2	17.9	87 E	20	80*
2 11	17 9.09	-30 8.4	1.875	1.672	31.6	20.6	63 W	13*	57*	11 2	20 21.56	-21 55.9	1.351	1.573	38.8	18.0	83 E	23	75*	11 2	20 21.56	-21 55.9	1.351	1.573	38.8	18.0	83 E	23	75*
2 21	17 28.65	-30 46.1	1.845	1.745	31.8	20.7	69 W	13*	63*	11 7	20 34.30	-20 33.7	1.390	1.575	38.4	18.0	81 E	24	72*	11 7	20 34.30	-20 33.7	1.390	1.575	38.4	18.0	81 E	24	72*
3 2	17 45.78	-31 15.2	1.804	1.817	31.8	20.7	75 W	13*	69*	11 12	20 47.04	-19 9.4	1.430	1.579	38.0	18.1	79 E	26	69*	11 12	20 47.04	-19 9.4	1.430	1.579	38.0	18.1	79 E	26	69*
3 12	18 0.24	-31 38.9	1.754	1.886	31.4	20.7	82 W	12*	75*	11 17	20 59.76	-17 43.2	1.471	1.584	37.5	18.1	77 E	27	66*	11 17	20 59.76	-17 43.2	1.471	1.584	37.5	18.1	77 E	27	66*
3 22	18 11.72	-32 0.1	1.697	1.954	30.7	20.7	89 W	12*	81*	11 27	21 25.06	-14 45.5	1.556	1.597	36.4	18.3	74 E	30	60*	11 27	21 25.06	-14 45.5	1.556	1.597	36.4	18.3	74 E	30	60*
4 1	18 19.84	-32 20.9	1.635	2.020	29.4	20.7	97 W	12*	84	12 7	21 50.06	-11 42.5	1.645	1.614	35.2	18.4	71 E	33*	54*	12 7	21 50.06	-11 42.5	1.645	1.614	35.2	18.4	71 E	33*	54*
4 11	18 24.21	-32 42.9	1.572	2.083	27.6	20.6	106 W	12*	83	12 17	22 14.73	-8 36.1	1.738	1.634	33.8	18.5	67 E	36*	48*	12 17	22 14.73	-8 36.1	1.738	1.634	33.8	18.5	67 E	36*	48*
4 21	18 24.45	-33 6.2	1.511	2.145	25.0	20.5	115 W	12*	83	12 27	22 39.05	-5 28.1	1.835	1.657	32.2	18.6	64 E	39*	42*	12 27	22 39.05	-5 28.1	1.835	1.657	32.2	18.6	64 E	39*	42*
5 1	18 20.23	-33 28.9	1.457	2.204	21.7	20.4	126 W	12	83	1 6	23 3.03	-2 20.7	1.935	1.683	30.5	18.7	60 E	40*	36*	1 6	23 3.03	-2 20.7	1.935	1.683	30.5	18.7	60 E	40*	36*
5 11	18 11.56	-33 46.8	1.415	2.261	17.7	20.3	137 W	11	82	1 16	23 26.71	+0 44.6	2.037	1.712	28.8	18.8	57 E	41*	31*	1 16	23 26.71	+0 44.6	2.037	1.712	28.8	18.8	57 E	41*	31*
5 16	18 5.69	-33 52.2	1.400	2.289	15.5	20.2	143 W	11	82	12 23	15 2.97	-25 10.2	1.543	1.024	38.8	18.9	41 W	15*	32*	12 23	15 2.97	-25 10.2	1.543	1.024	38.8	18.9	41 W	15*	32*
5 21	17 58.93	-33 54.2	1.391	2.316	13.1	20.1	149 W	11	82	12 28	15 25.47	-25 55.0	1.512	0.998	39.9	18.9	41 W	14*	32*	12 28	15 25.47	-25 55.0	1.512	0.998	39.9	18.9	41 W	14*	32*
5 26	17 51.45	-33 52.0	1.387	2.343	10.7	20.0	155 W	11	82	1 2	15 49.09	-26 27.7	1.483	0.971	40.9	18.8	40 W	13*	32*	1 2	15 49.09	-26 27.7	1.483	0.971	40.9	18.8	40 W	13*	32*
5 31	17 43.46	-33 45.2	1.390	2.369	8.3	20.0	160 W	11	82	1 7	16 13.84	-26 46.1	1.456	0.942	41.9	18.7	40 W	13*	32*	1 7	16 13.84	-26 46.1	1.456	0.942	41.9	18.7	40 W	13*	32*
6 5	17 35.21	-33 33.5	1.399	2.395	6.1	19.9	166 W	11	82	1 12	16 39.71	-26 48.0	1.430	0.911	42.9	18.6	39 W	12*	32*	1 12	16 39.71	-26 48.0	1.430	0.911	42.9	18.6	39 W	12*	32*
6 10	17 26.93	-33 17.1	1.415	2.420	4.5	19.9	169 W	12	83	1 17	17 6.65	-26 31.5	1.408	0.878	43.8	18.5	38 W	11*	31*	1 17	17 6.65	-26 31.5	1.408	0.878	43.8	18.5	38 W	11*	31*
6 15	17 18.87	-32 56.3	1.439	2.445	4.2	19.9	170 E	12	83	1 22	17 34.55	-25 54.7	1.388	0.844	44.5	18.5	37 W	11*	30*	1 22	17 34.55	-25 54.7	1.388	0.844	44.5	18.5	37 W	11*	30*
6 20	17 11.24	-32 31.9	1.469	2.469	5.4	20.0	167 E	12	83	1 27	18 3.28	-24 55.9	1.373	0.808	45.0	18.3	35 W	10*	29*	1 27	18 3.28	-24 55.9	1.373	0.808	45.0	18.3	35 W	10*	29*
6 25	17 4.23	-32 4.7	1.506	2.493	7.3	20.2	162 E	13	84	2 1	18 32.68	-23 34.2	1.362	0.772	45.3	18.2	34 W	10*	27*	2 1	18 32.68	-23 34.2	1.362	0.772	45.3	18.2	34 W	10*	27*
6 30	16 57.98	-31 35.8	1.550	2.516	9.2	20.4	157 E	13	84	2 6	19 2.58	-21 49.6	1.356	0.735	45.1	18.1	32 W	10*	25*	2 6	19 2.58	-21 49.6	1.356	0.735	45.1	18.1	32 W	10*	25*
7 5	16 52.60	-31 6.2	1.601	2.539	11.2	20.5	151 E	14	85	2 11	19 32.84	-19 42.9	1.356	0.698	44.4	18.0	30 W	9*	23*	2 11	19 32.84	-19 42.9	1.356	0.698	44.4	18.0	30 W	9*	23*
7 10	16 48.13	-30 36.8	1.656	2.561	12.9	20.7	146 E	14	85	2 16	20 3.35	-17 15.8	1.361	0.663	43.1	17.8	27 W	9*	20*	2 16	20 3.35	-17 15.8	1.361	0.663	43.1	17.8	27 W	9*	20*
7 15	16 44.57	-30 8.3	1.718	2.583	14.6	20.9	140 E	15	86	2 21	20 34.03	-14 31.4	1.373	0.629	41.0	17.7	25 W	8*	18*	2 21	20 34.03	-14 31.4	1.373	0.629	41.0	17.7	25 W	8*	18*
7 20	16 41.94	-29 41.2	1.784	2.604	16.0	21.0	135 E	15	86	2 26	21 4.84	-11 33.4	1.390	0.598	38.1	17.5	22 W	7*	15*	2 26	21 4.84	-11 33.4	1.390	0.598	38.1	17.5	22 W	7*	15*
7 25	16 40.20	-29 16.0	1.854	2.625	17.3	21.1	130 E	16	87	3 2	21 35.78	-8 26.5	1.411	0.573	34.2	17.4	19 W	6*	12*	3 2	21 35.78	-8 26.5	1.411	0.573	34.2	17.4	19 W	6*	12*
7 30	16 39.31	-28 53.0	1.928	2.645	18.3	21.3	125 E	16	87	3 7	22 6.82	-5 16.0	1.437	0.554	29.4	17.2	16 W	5*	8*	3 7	22 6.82	-5 16.0	1.437	0.554	29.4	17.2	16 W	5*	8*
8 4	16 39.21	-28 32.3	2.006	2.665	19.2	21.4	120 E	16*	87	3 12	22 37.94	-2 7.1	1.465	0.543	24.0	17.0	13 W	4*	5*	3 12	22 37.94	-2 7.1	1.465	0.543	24.0	17.0	13 W	4*	5*
24806 1994 RH₉										141484 2002 DB₄										24806 1994 RH₉									
12 23	15 2.59	-22 42.7	3.208	2.552	14.7	20.2	41 W	17*	31*	3 17	23 9.04	+0 54.9	1.494	0.541	18.4	16.9	10 W	2*	—	3 17	23 9.04	+0 54.9	1.494	0.541	18.4	16.9	1		

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

19/21	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°	19/21	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°
141484 2002 DB₄										142781 2002 UM₁₁									
<i>(continuation)</i>										<i>(continuation)</i>									
11 27	16 16.44	-19 44.2	1.686	0.700	2.5	17.0	2 E	—	—	3 2	16 54.14	-23 16.4	2.031	2.208	26.6	20.6	87 W	22*	80*
12 2	16 44.51	-19 46.7	1.646	0.664	5.0	17.0	3 E	—	—	3 12	17 1.20	-21 31.8	1.927	2.247	26.1	20.5	95 W	23	85*
12 7	17 13.85	-19 33.3	1.605	0.630	8.4	17.0	5 E	—	—	3 22	17 5.27	-19 29.4	1.822	2.285	25.0	20.4	104 W	26	83
12 12	17 44.38	-19 2.7	1.562	0.600	12.4	17.0	8 E	1*	—	4 1	17 6.03	-17 8.1	1.723	2.320	23.1	20.2	114 W	28	81
12 17	18 15.96	-18 14.7	1.517	0.574	17.3	17.0	10 E	4*	—	4 11	17 3.27	-14 28.0	1.635	2.355	20.5	20.0	125 W	31	78
12 22	18 48.39	-17 9.9	1.471	0.555	22.9	17.0	13 E	6*	1*	4 21	16 56.97	-11 31.1	1.563	2.387	17.1	19.9	136 W	33	76
12 27	19 21.42	-15 50.0	1.423	0.543	29.0	17.1	16 E	9*	2*	4 26	16 52.56	-9 58.0	1.535	2.403	15.2	19.8	141 W	35	74
1	1 19 54.79	-14 18.0	1.374	0.541	35.3	17.2	19 E	11*	4*	5 1	16 47.40	-8 23.0	1.513	2.418	13.3	19.7	147 W	37	72
1	6 20 28.24	-12 37.0	1.326	0.548	41.3	17.3	22 E	14*	6*	5 6	16 41.62	-6 47.7	1.498	2.433	11.3	19.6	152 W	38	71
1	11 21 1.55	-10 50.5	1.281	0.564	46.6	17.5	25 E	17*	9*	5 11	16 35.33	-5 13.4	1.490	2.448	9.6	19.5	156 W	40	69
1	16 21 34.54	-9 1.4	1.240	0.587	51.1	17.6	28 E	19*	11*	5 16	16 28.69	-3 41.8	1.490	2.462	8.4	19.5	159 W	41	68
92359 2000 HC₂₄										7604 Kridsaporn									
12 23	15 2.99	-16 23.7	2.929	2.304	16.8	20.9	43 W	23*	29*	12 23	15 5.05	+ 0 2.8	5.184	4.599	9.3	20.8	49 W	38*	22*
1	2 15 21.51	-17 53.2	2.804	2.269	18.8	20.9	48 W	24*	36*	1	2 15 12.45	+ 0 1.5	5.083	4.620	10.3	20.8	57 W	41*	30*
1	12 15 40.30	-19 17.2	2.672	2.235	20.8	20.8	54 W	24*	43*	1	12 15 19.13	+ 0 8.4	4.969	4.640	11.1	20.8	65 W	44*	39*
1	22 15 59.34	-20 35.5	2.534	2.199	22.6	20.7	59 W	23*	49*	1	22 15 24.96	+ 0 23.6	4.844	4.659	11.7	20.8	73 W	45*	47*
2	1 16 18.55	-21 47.8	2.391	2.163	24.3	20.6	65 W	22*	56*	2	1 15 29.79	+ 0 47.2	4.712	4.677	12.0	20.7	82 W	46	54*
2	11 16 37.85	-22 54.1	2.246	2.126	25.9	20.5	70 W	22*	63*	2	11 15 33.48	+ 1 18.9	4.577	4.695	12.1	20.7	91 W	46	60*
2	21 16 57.16	-23 54.7	2.098	2.090	27.3	20.3	76 W	21*	69*	2	21 15 35.90	+ 1 58.2	4.442	4.711	11.9	20.6	100 W	47	62*
3	2 17 16.36	-24 50.1	1.950	2.052	28.5	20.2	81 W	20*	75*	3	2 15 36.93	+ 2 44.4	4.311	4.728	11.4	20.5	109 W	48	61*
3	12 17 35.31	-25 41.2	1.802	2.015	29.5	20.0	87 W	19*	81*	3	12 15 36.48	+ 3 36.1	4.194	4.743	10.6	20.5	118 W	49	60
3	22 17 53.86	-26 29.3	1.658	1.977	30.2	19.8	93 W	18*	87*	3	22 15 34.55	+ 4 31.3	4.081	4.757	9.6	20.4	128 W	50	59
4	1 18 11.79	-27 16.0	1.517	1.940	30.6	19.6	99 W	18*	89	4	1 15 31.17	+ 5 27.7	3.995	4.771	8.3	20.3	137 W	50	59
4	11 18 28.88	-28 3.8	1.381	1.903	30.6	19.3	105 W	17*	88	4	11 15 26.50	+ 6 22.4	3.930	4.784	6.9	20.2	145 W	51	58
4	21 18 44.85	-28 55.2	1.251	1.866	30.2	19.0	111 W	16*	87	4	21 15 20.78	+ 7 12.3	3.889	4.797	5.7	20.1	152 W	52	57
5	1 18 59.31	-29 53.6	1.129	1.829	29.2	18.8	118 W	15*	86	5	1 15 14.34	+ 7 54.4	3.877	4.808	5.1	20.1	155 W	53	56
5	11 19 11.86	-31 2.3	1.017	1.794	27.6	18.4	125 W	14	85	5	11 15 7.61	+ 8 26.1	3.893	4.819	5.3	20.1	154 E	53	56
5	21 19 21.96	-32 24.3	0.915	1.760	25.4	18.1	132 W	13	84	5	21 15 0.99	+ 8 45.9	3.938	4.830	6.3	20.2	148 E	54	55
5	26 19 25.89	-33 10.9	0.868	1.743	24.0	17.9	136 W	12	83	5	31 14 54.89	+ 8 53.0	4.009	4.839	7.6	20.3	141 E	54	55
5	31 19 28.97	-34 1.4	0.825	1.726	22.4	17.7	139 W	11	82	6	10 14 49.66	+ 8 47.5	4.103	4.848	8.9	20.4	133 E	54	55
6	5 19 31.14	-34 55.2	0.785	1.710	20.7	17.6	143 W	10	81	6	20 14 45.54	+ 8 30.6	4.217	4.856	10.0	20.5	124 E	54	55
6	10 19 32.34	-35 52.1	0.749	1.695	18.8	17.4	147 W	9	80	6	30 14 42.67	+ 8 3.6	4.347	4.863	10.9	20.6	115 E	53	56
6	15 19 32.49	-36 51.0	0.717	1.680	16.9	17.2	151 W	8	79	7	10 14 41.12	+ 7 28.3	4.489	4.870	11.6	20.7	106 E	51	57
6	20 19 31.58	-37 50.5	0.688	1.665	15.0	17.0	155 W	7	78	7	20 14 40.89	+ 6 46.4	4.638	4.876	11.9	20.8	98 E	47*	57
6	25 19 29.64	-38 49.0	0.664	1.651	13.3	16.9	158 W	6	77	7	30 14 41.94	+ 5 59.6	4.790	4.881	12.0	20.9	89 E	44*	58
6	30 19 26.79	-39 44.3	0.644	1.637	12.1	16.7	160 W	5	76	8	8 14 44.16	+ 5 9.5	4.942	4.886	11.8	20.9	81 E	40*	58*
7	5 19 23.19	-40 34.3	0.628	1.624	11.5	16.7	161 W	4	75	8	8 29 14 47.48	+ 4 17.2	5.090	4.889	11.4	21.0	73 E	37*	55*
7	10 19 19.06	-41 17.0	0.617	1.612	11.9	16.6	161 E	4	75	8	29 14 51.77	+ 3 23.9	5.231	4.892	10.8	21.0	65 E	34*	51*
7	15 19 14.70	-41 50.7	0.609	1.600	13.1	16.6	159 E	3	74	9	8 14 56.95	+ 2 30.8	5.362	4.895	10.0	21.0	57 E	31*	45*
7	20 19 10.44	-42 13.8	0.606	1.590	14.9	16.7	156 E	3	74	9	18 15 2.89	+ 1 38.6	5.481	4.896	9.1	21.1	50 E	28*	38*
7	25 19 6.63	-42 25.9	0.607	1.579	17.2	16.7	153 E	3	74	9	28 15 9.50	+ 0 48.2	5.585	4.897	8.0	21.0	43 E	25*	31*
7	30 19 3.64	-42 27.0	0.611	1.570	19.5	16.8	149 E	3	74	10	8 15 16.69	+ 0 2.2	5.672	4.898	6.9	21.0	36 E	23*	23*
8	4 19 1.72	-42 17.6	0.618	1.561	21.9	16.9	145 E	3	74	10	18 15 24.35	+ 0 44.7	5.741	4.897	5.7	21.0	29 E	20*	15*
8	9 19 1.03	-41 58.6	0.629	1.554	24.2	17.0	141 E	3	74	10	28 15 32.41	+ 1 25.8	5.791	4.896	4.6	21.0	24 E	17*	7*
8	14 19 1.68	-41 31.2	0.642	1.547	26.4	17.1	137 E	3	74	11	7 15 40.75	+ 2 2.8	5.820	4.894	3.8	20.9	19 E	13*	—
8	19 19 3.72	-40 56.2	0.658	1.541	28.5	17.2	133 E	4	75	11	17 15 49.31	+ 2 35.0	5.828	4.891	3.4	20.9	17 E	9*	—
8	24 19 7.15	-40 14.8	0.677	1.536	30.3	17.3	130 E	5	76	11	27 15 57.97	+ 3 2.0	5.815	4.888	3.7	20.9	18 W	9*	—
8	29 19 11.89	-39 27.7	0.697	1.532	31.9	17.4	127 E	6	77	12	7 16 6.64	+ 3 23.4	5.780	4.884	4.4	20.9	23 W	16*	—
9	3 19 17.82	-38 35.6	0.720	1.529	33.4	17.5	123 E	6	77	12	17 16 15.22	+ 3 38.9	5.724	4.879	5.5	21.0	28 W	22*	3*
9	8 19 24.82	-37 39.1	0.744	1.526	34.7	17.6	120 E	7	78	12	27 16 23.61	+ 3 48.2	5.648	4.874	6.6	21.0	35 W	27*	11*
9	13 19 32.76	-36 38.4	0.771	1.525	35.8	17.7	118 E	8	79	1	6 16 31.67	+ 3 51.0	5.553	4.868	7.8	21.0	42 W	31*	19*
9	18 19 41.51	-35 33.8	0.799	1.525	36.7	17.8	115 E	8	79	1	16 16 39.31	+ 3 47.4	5.440	4.861	8.9	21.0	50 W	35*	28*
9	23 19 50.96	-34 25.5	0.828	1.526	37.4	17.9	112 E	11	82	1640 Nemo									
9	28 20 1.00	-33 13.7	0.860	1.527	38.1	18.0	110 E	12	83	12 23	15 5.36	-21 15.2	3.319	2.654	14.0	18.8	41 W	18*	30*
10	3 20 11.49	-31 58.7	0.893	1.530	38.5	18.1	108 E	13	84	1	2 15 21.37	-22 32.3	3.193	2.624	15.9	18.8	47 W	19*	37*
10	8 20 22.33	-30 40.5	0.927	1.534	38.9	18.2	105 E	14	85	1	12 15 37.37	-23 45.3	3.056	2.593	17.7	18.7	53 W	19*	45*
10	13 20 33.46	-29 19.5	0.964	1.538	39.1	18.3	103 E	16	87	1	22 15 53.26	-24 54.1	2.911	2.561	19.4	18.6	60 W	19*	52*
10	18 20 44.79	-27 55.8	1.001	1.544	39.3	18.4	101 E	17	88	2	1 16 8.92	-25 58.7	2.758	2.528	20.9	18.5	66 W	19*	59*
10	23 20 56.28	-26 29.6	1.041	1.550	39.3	18.5	99 E	19	90	2	11 16 24.20	-26 59.3	2.600	2.493	22.2	18.4	73 W	18*	66*
10	28 21 7.85	-25 1.3	1.082	1.558	39.3	18.6	97 E	20	89	2	21 16 38.93	-27 56.3	2.438	2.458	23.3	18.3	80 W	17*	73*
11	2 21 19.47	-23 31.0	1.124	1.566	39.1	18.7	95 E	21	87*	3	2 16 52.88	-28 50.5	2.274	2.423	24.1	18.1	86 W	16*	80*
11	7 21 31.10	-21 59.2	1.169	1.575	38.9	18.8	93 E	23	84*	3	12 17 5.79	-29 42.7	2.111	2.386	24.6	18.0	93 W	15	86*
11	12 21 42.70	-20 25.9	1.214	1.585	38.6	18.9	91 E	25	81*	3	22 17 17.37	-30 34.1	1.949	2.348	24.6	17.7	101 W	14	85
11	17 21 54.27	-18 51.6	1.261	1.595	38.3	19.0	89 E	26	78*	4	1 17 27.21	-31 25.8	1.792	2.310	24.2	17.5			

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

19/21	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°-26°	19/21	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°-26°
1640 Nemo (continuation)									100754 1998 FP₂ (continuation)								
4 26	17 41.17	-33 43.0	1.434	2.212	20.7	16.8	129 W	11 82	9 23	20 21.56	+3 9.4	0.889	1.681	29.2	18.6	125 E	48 61
5 1	17 41.59	-34 11.9	1.371	2.191	19.4	16.7	134 W	11 82	9 28	20 26.46	+0 58.7	0.924	1.685	30.3	18.8	122 E	46 63
5 6	17 41.08	-34 40.7	1.311	2.171	18.0	16.5	138 W	10 81	10 3	20 32.15	-1 1.5	0.962	1.689	31.3	18.9	119 E	44 65
5 11	17 39.58	-35 9.1	1.256	2.151	16.4	16.3	143 W	10 81	10 8	20 38.55	-2 50.5	1.003	1.693	32.2	19.0	115 E	42 67
5 21	17 33.52	-36 1.8	1.159	2.110	12.7	16.0	153 W	9 80	10 18	20 53.23	-5 54.3	1.094	1.702	33.6	19.3	109 E	39 70
5 31	17 23.59	-36 42.9	1.082	2.068	9.0	15.7	161 W	8 79	10 28	21 9.95	-8 13.3	1.194	1.711	34.5	19.5	103 E	37 72
6 10	17 10.81	-37 4.4	1.027	2.027	7.0	15.4	166 E	8 79	11 7	21 28.21	-9 51.2	1.300	1.721	34.9	19.7	96 E	35 73*
6 15	17 3.86	-37 6.0	1.008	2.006	7.7	15.4	165 E	8 79	11 12	21 37.78	-10 26.1	1.355	1.726	34.9	19.8	94 E	35 72*
6 20	16 56.91	-37 1.0	0.995	1.985	9.3	15.4	162 E	8 79	11 17	21 47.59	-10 52.4	1.411	1.731	34.8	19.9	91 E	34 71*
6 25	16 50.24	-36 49.7	0.988	1.965	11.6	15.4	157 E	8 79	11 22	21 57.60	-11 10.7	1.467	1.737	34.6	20.0	88 E	34 69*
6 30	16 44.17	-36 32.8	0.985	1.944	14.0	15.5	152 E	8 79	11 27	22 7.77	-11 21.7	1.524	1.742	34.4	20.0	85 E	34 67*
7 5	16 38.91	-36 11.4	0.988	1.924	16.6	15.6	147 E	9 80	12 2	22 18.07	-11 25.9	1.581	1.747	34.0	20.1	82 E	34 64*
7 10	16 34.66	-35 46.7	0.995	1.903	19.1	15.7	142 E	9 80	12 7	22 28.48	-11 23.8	1.639	1.753	33.6	20.2	80 E	34 62*
7 15	16 31.54	-35 19.8	1.006	1.883	21.5	15.7	137 E	10 81	12 12	22 38.96	-11 16.1	1.696	1.758	33.1	20.3	77 E	34 59*
7 20	16 29.64	-34 51.9	1.020	1.862	23.8	15.8	132 E	10 81	12 17	22 49.52	-11 3.1	1.753	1.764	32.5	20.3	74 E	34 56*
7 25	16 29.01	-34 24.0	1.038	1.842	25.9	15.9	128 E	11 82	12 22	23 0.14	-10 45.4	1.809	1.769	31.9	20.4	72 E	34 54*
7 30	16 29.66	-33 57.0	1.057	1.823	27.8	16.0	123 E	11* 82	12 27	23 10.79	-10 23.3	1.865	1.774	31.2	20.4	69 E	35 51*
8 9	16 34.60	-33 7.0	1.103	1.784	31.1	16.1	115 E	12* 83	1 1	23 21.47	-9 57.5	1.920	1.780	30.5	20.5	67 E	35 48*
8 19	16 44.03	-32 23.0	1.153	1.746	33.6	16.2	107 E	12* 84	1 6	23 32.17	-9 28.3	1.974	1.785	29.8	20.5	64 E	35 46*
8 29	16 57.48	-31 43.8	1.207	1.710	35.5	16.3	101 E	13* 84	1 11	23 42.89	-8 55.9	2.027	1.791	29.0	20.6	62 E	35 44*
9 8	17 14.39	-31 6.3	1.261	1.676	36.8	16.4	95 E	13* 85*	1 16	23 53.62	-8 20.9	2.080	1.796	28.2	20.6	60 E	35 42*
9 18	17 34.25	-30 26.3	1.316	1.644	37.7	16.5	89 E	14* 82*	294169 2007 TD₃₇₄								
9 28	17 56.64	-29 39.8	1.370	1.614	38.1	16.6	84 E	15* 78*	12 23	15 6.20	+2 15.7	3.633	3.093	14.1	21.5	50 W	40* 21*
10 8	18 21.07	-28 42.8	1.423	1.587	38.3	16.6	80 E	16* 74*	1 2	15 18.38	+2 0.1	3.532	3.101	15.3	21.4	57 W	43* 28*
10 18	18 47.12	-27 31.9	1.476	1.564	38.1	16.6	76 E	17* 70*	1 12	15 29.86	+1 55.5	3.421	3.107	16.4	21.4	63 W	45* 35*
10 28	19 14.38	-26 4.4	1.528	1.544	37.7	16.7	72 E	18* 65*	1 22	15 40.50	+2 2.0	3.302	3.112	17.3	21.4	70 W	46* 43*
11 7	19 42.44	-24 18.8	1.581	1.528	37.1	16.7	69 E	20* 61*	2 1	15 50.09	+2 20.2	3.176	3.117	18.0	21.3	78 W	47* 50*
11 17	20 10.96	-22 14.6	1.635	1.516	36.3	16.7	65 E	22* 56*	2 11	15 58.45	+2 49.8	3.045	3.120	18.4	21.2	85 W	48 55*
11 27	20 39.64	-19 52.0	1.689	1.508	35.4	16.8	62 E	25* 52*	3 2	16 5.34	+3 30.7	2.913	3.123	18.4	21.1	93 W	49 59*
12 7	21 8.23	-17 12.8	1.746	1.504	34.3	16.8	59 E	27* 47*	3 2	16 10.52	+4 22.1	2.782	3.124	18.2	21.0	101 W	49 60*
12 17	21 36.58	-14 19.1	1.805	1.505	33.0	16.9	57 E	29* 42*	3 12	16 13.75	+5 22.5	2.656	3.125	17.5	20.9	109 W	50 59
12 27	22 4.58	-11 13.6	1.866	1.511	31.7	16.9	54 E	31* 37*	3 22	16 14.83	+6 29.8	2.537	3.124	16.4	20.8	117 W	51 58
1 6	22 32.17	-7 59.8	1.931	1.521	30.2	16.9	51 E	33* 32*	4 1	16 13.59	+7 40.7	2.431	3.123	15.0	20.6	126 W	53 56
1 16	22 59.38	-4 40.8	1.999	1.535	28.7	17.0	48 E	34* 28*	4 11	16 9.98	+8 50.9	2.340	3.121	13.3	20.5	134 W	54 55
12 23	15 5.62	-10 52.2	2.336	1.764	22.7	20.7	44 W	28* 27*	4 16	16 7.33	+9 24.0	2.302	3.119	12.5	20.4	138 W	54 55
1 2	15 30.78	-11 2.9	2.249	1.753	24.7	20.6	48 W	29* 31*	4 21	16 4.14	+9 54.9	2.269	3.118	11.6	20.4	141 W	55 54
1 12	15 56.09	-10 55.6	2.160	1.742	26.5	20.6	52 W	31* 36*	4 26	16 0.47	+10 22.8	2.241	3.116	10.8	20.3	144 W	55 54
1 22	16 21.46	-10 28.7	2.068	1.732	28.3	20.5	56 W	32* 41*	5 1	15 56.39	+10 46.8	2.220	3.114	10.2	20.3	147 W	56 53
2 1	16 46.74	-9 40.8	1.976	1.722	29.9	20.5	61 W	33* 45*	5 6	15 51.98	+11 6.4	2.204	3.111	9.7	20.2	149 W	56 53
2 11	17 11.76	-8 31.2	1.884	1.712	31.4	20.4	65 W	34* 50*	5 11	15 47.33	+11 20.9	2.195	3.108	9.5	20.2	150 W	56 53
2 21	17 36.37	-6 59.6	1.793	1.702	32.7	20.3	69 W	36* 53*	5 21	15 37.71	+11 33.0	2.197	3.102	9.9	20.2	148 E	57 52
3 2	18 0.36	-5 6.0	1.703	1.693	33.9	20.2	72 W	37* 57*	5 31	15 28.38	+11 21.2	2.223	3.095	11.3	20.3	143 E	56 53
3 12	18 23.55	-2 51.7	1.617	1.685	35.0	20.1	76 W	39* 59*	6 10	15 20.12	+10 46.1	2.273	3.087	13.1	20.4	136 E	56 53
3 22	18 45.77	-0 18.2	1.533	1.677	35.8	20.0	80 W	42* 60*	6 20	15 13.51	+9 50.5	2.343	3.079	15.0	20.5	128 E	55 54
4 1	19 6.83	+2 32.2	1.453	1.670	36.5	19.9	84 W	44* 60*	6 30	15 8.94	+8 38.1	2.430	3.069	16.7	20.7	120 E	54 55
4 11	19 26.54	+5 36.4	1.376	1.663	37.0	19.8	87 W	47* 58*	7 10	15 6.55	+7 13.3	2.530	3.058	18.0	20.8	112 E	52 57
4 21	19 44.72	+8 50.9	1.303	1.657	37.3	19.7	91 W	51* 55	7 20	15 6.34	+5 39.9	2.640	3.046	18.9	20.9	104 E	48* 58
4 26	19 53.17	+10 30.8	1.268	1.655	37.4	19.6	93 W	52* 53	7 30	15 8.20	+4 1.0	2.756	3.034	19.4	21.0	96 E	45* 60
5 1	20 1.14	+12 11.5	1.233	1.652	37.4	19.6	94 W	54* 52	8 9	15 11.97	+2 19.5	2.874	3.020	19.6	21.1	88 E	41* 62*
5 6	20 8.61	+13 52.5	1.200	1.650	37.4	19.5	96 W	56* 50	8 19	15 17.47	+0 37.3	2.992	3.005	19.4	21.2	81 E	38* 62*
5 11	20 15.55	+15 33.2	1.167	1.648	37.3	19.4	98 W	58* 48	8 29	15 24.53	-1 4.0	3.108	2.990	18.9	21.2	74 E	35* 59*
5 16	20 21.93	+17 12.8	1.135	1.647	37.2	19.4	100 W	60* 47	9 8	15 32.97	-2 43.1	3.219	2.973	18.2	21.2	67 E	32* 55*
5 21	20 27.68	+18 50.6	1.104	1.645	37.0	19.3	102 W	62* 45	9 18	15 42.65	-4 18.9	3.322	2.956	17.2	21.3	60 E	29* 50*
5 26	20 32.78	+20 25.7	1.073	1.644	36.7	19.2	104 W	65* 44	9 28	15 53.45	-5 50.7	3.418	2.938	16.0	21.3	54 E	26* 44*
5 31	20 37.17	+21 57.1	1.044	1.643	36.4	19.2	106 W	67* 42	10 8	16 5.25	-7 17.6	3.502	2.919	14.6	21.3	47 E	24* 37*
6 5	20 40.81	+23 23.8	1.015	1.642	36.0	19.1	108 W	68* 41	10 18	16 17.95	-8 39.0	3.576	2.899	13.0	21.2	41 E	22* 31*
6 10	20 43.67	+24 44.8	0.986	1.641	35.5	19.0	110 W	70 39	10 28	16 31.46	-9 54.3	3.637	2.878	11.4	21.2	35 E	19* 24*
6 15	20 45.70	+25 58.8	0.959	1.641	34.9	18.9	112 W	71 38	11 7	16 45.69	-11 2.9	3.684	2.856	9.6	21.1	29 E	16* 17*
6 20	20 46.84	+27 4.4	0.932	1.641	34.3	18.8	115 W	72 37	11 17	17 0.57	-12 4.5	3.717	2.833	7.8	21.1	23 E	14* 10*
6 25	20 47.10	+28 0.0	0.907	1.641	33.5	18.8	117 W	73 36	11 27	17 16.02	-12 58.5	3.735	2.809	6.0	21.0	17 E	10* 4*
6 30	20 46.46	+28 44.0	0.883	1.641	32.7	18.7	119 W	74 35	12 7	17 31.95	-13 44.8	3.738	2.784	4.4	20.9	12 E	6* —
7 5	20 44.97	+29 14.7	0.860	1.642	31.7	18.6	122 W	74 35	12 17	17 48.29	-14 23.0	3.726	2.759	3.3	20.8	9 E	2* —
7 10	20 42.68	+29 30.5	0.838	1.643	30.7	18.5	124 W	75 34	12 27	18 4.97	-14 53.1	3.698	2.733	3.4	20.8	10 W	3* —
7 15	20 39.67	+29 29.7	0.819	1.644	29.7	18.4	127 W	74 35	1 6	18 21.90	-15 15.1	3.654	2.705	4.7			

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

19/21	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°	19/21	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°
478574 2012 TS ₇₈ (continuation)										3752 Camillo (continuation)									
2 16	19 26.58	-41 22.4	1.566	1.083	38.6	21.2	43 W	—	34*	3 12	19 5.89	+32 56.3	1.624	1.618	35.7	18.9	72 W	64*	23*
2 21	19 52.51	-41 29.5	1.585	1.103	38.1	21.2	44 W	—	34*	3 22	19 26.23	+35 31.1	1.632	1.651	35.3	18.9	73 W	66*	24*
2 26	20 17.57	-41 17.3	1.604	1.126	37.6	21.3	44 W	—	33*	4 1	19 43.90	+38 3.3	1.633	1.680	35.1	18.9	75 W	68*	23*
3 2	20 41.51	-40 48.4	1.624	1.149	37.1	21.4	44 W	—	33*	4 11	19 58.71	+40 32.3	1.626	1.708	34.9	19.0	77 W	70*	22*
3 7	21 4.18	-40 5.3	1.644	1.174	36.7	21.4	45 W	—	33*	4 16	20 4.99	+41 45.6	1.619	1.721	34.8	19.0	78 W	71*	22*
3 12	21 25.52	-39 10.6	1.663	1.199	36.2	21.5	46 W	—	33*	4 21	20 10.45	+42 57.8	1.610	1.733	34.7	19.0	79 W	72*	21*
219481 2001 DF ₁₅										3752 Camillo (continuation)									
12 23	15 6.39	-30 18.0	2.267	1.635	22.6	19.6	40 W	10*	33*	4 26	20 15.04	+44 8.7	1.599	1.744	34.7	19.0	81 W	73*	20*
12 28	15 21.65	-31 51.4	2.239	1.632	23.3	19.6	41 W	9*	35*	5 1	20 18.71	+45 18.0	1.586	1.755	34.6	19.0	82 W	75*	19
1 2	15 37.33	-33 20.0	2.211	1.630	24.1	19.6	43 W	8*	36*	5 6	20 21.39	+46 25.2	1.570	1.765	34.6	18.9	83 W	77*	18
1 7	15 53.42	-34 43.2	2.184	1.630	24.8	19.6	44 W	7*	38*	5 11	20 23.03	+47 29.9	1.552	1.775	34.5	18.9	85 W	79*	17
1 12	16 9.91	-36 0.6	2.158	1.630	25.5	19.6	46 W	6*	40*	5 16	20 23.54	+48 31.5	1.533	1.784	34.5	18.9	86 W	80*	15
1 17	16 26.77	-37 11.6	2.132	1.630	26.2	19.6	47 W	5*	41*	5 21	20 22.84	+49 29.1	1.511	1.792	34.4	18.9	88 W	82*	15
1 22	16 43.96	-38 15.8	2.107	1.632	26.9	19.6	49 W	4*	42*	5 26	20 20.83	+50 21.6	1.487	1.800	34.3	18.9	90 W	84*	14
1 27	17 1.42	-39 12.7	2.082	1.635	27.5	19.6	50 W	3*	44*	5 31	20 17.46	+51 7.7	1.462	1.807	34.1	18.8	92 W	84*	13
2 1	17 19.09	-40 2.0	2.058	1.638	28.1	19.6	52 W	2*	45*	6 5	20 12.70	+51 45.8	1.436	1.813	33.9	18.8	94 W	83	12
2 6	17 36.90	-40 43.6	2.034	1.643	28.7	19.6	53 W	1*	46*	6 10	20 6.53	+52 14.2	1.409	1.819	33.7	18.7	96 W	83	12
2 11	17 54.76	-41 17.2	2.011	1.648	29.2	19.6	55 W	—	47*	6 15	19 58.98	+52 31.0	1.381	1.823	33.5	18.7	98 W	82	11
2 16	18 12.59	-41 43.1	1.988	1.654	29.7	19.6	56 W	—	48*	6 20	19 50.16	+52 33.8	1.354	1.828	33.2	18.7	100 W	82	11
2 21	18 30.30	-42 1.3	1.965	1.661	30.2	19.6	58 W	—	49*	6 25	19 40.26	+52 20.4	1.326	1.832	32.9	18.6	102 W	83	12
2 26	18 47.78	-42 12.1	1.942	1.669	30.6	19.6	59 W	—	50*	6 30	19 29.56	+51 48.3	1.299	1.835	32.5	18.6	104 W	83	12
3 2	19 4.96	-42 16.0	1.919	1.677	31.1	19.6	61 W	—	51*	7 5	19 18.41	+50 55.9	1.273	1.837	32.1	18.5	106 W	84	13
3 7	19 21.74	-42 13.3	1.896	1.687	31.5	19.6	63 W	—	52*	7 10	19 7.19	+49 41.8	1.249	1.839	31.7	18.5	108 E	85	14
3 12	19 38.07	-42 4.8	1.873	1.697	31.8	19.6	64 W	—	53*	7 15	18 56.27	+48 5.2	1.228	1.840	31.3	18.4	110 E	87	16
3 17	19 53.87	-41 51.0	1.849	1.707	32.2	19.6	66 W	—	54*	7 20	18 46.02	+46 5.8	1.209	1.840	31.0	18.4	111 E	89	18
3 22	20 9.10	-41 32.7	1.825	1.719	32.5	19.6	68 W	—	56*	7 25	18 36.72	+43 44.7	1.194	1.840	30.7	18.3	112 E	89	20
4 1	20 37.64	-40 45.4	1.775	1.743	33.0	19.5	72 W	—	59*	7 30	18 28.62	+41 3.4	1.183	1.839	30.5	18.3	113 E	86	23
4 11	21 3.44	-39 48.3	1.723	1.770	33.3	19.5	76 W	—	62*	8 4	18 21.82	+38 4.7	1.176	1.837	30.4	18.3	114 E	83	26
4 21	21 26.38	-38 47.1	1.667	1.799	33.4	19.5	80 W	—	66*	8 9	18 16.38	+34 51.5	1.175	1.835	30.4	18.3	114 E	80	29
5 1	21 46.29	-37 46.8	1.609	1.830	33.3	19.4	85 W	—	71*	8 14	18 9.50	+27 55.6	1.188	1.828	30.8	18.3	112 E	73	36
5 11	22 3.07	-36 51.6	1.548	1.862	32.8	19.4	91 W	—	76*	8 19	18 7.97	+24 20.3	1.203	1.824	31.2	18.3	111 E	69	40
5 21	22 16.54	-36 4.9	1.485	1.896	32.0	19.3	97 W	2*	80*	8 24	18 6.30	+20 44.9	1.223	1.819	31.7	18.4	109 E	66	43
5 31	22 26.43	-35 29.6	1.421	1.930	30.7	19.2	104 W	4*	81*	8 29	18 7.60	+17 12.5	1.248	1.814	32.2	18.4	106 E	62	47
6 10	22 32.42	-35 6.8	1.358	1.966	28.8	19.1	111 W	7*	81*	9 3	18 9.97	+13 45.6	1.278	1.808	32.8	18.5	104 E	59	50
6 20	22 34.12	-34 55.9	1.300	2.002	26.3	19.0	119 W	9*	81*	9 8	18 12.54	+10 26.4	1.313	1.801	33.3	18.6	101 E	55	54
6 25	22 33.23	-34 54.1	1.273	2.021	24.8	18.9	124 W	10*	81*	9 13	18 15.92	+7 16.2	1.352	1.793	33.7	18.6	98 E	52	57
6 30	22 31.15	-34 53.8	1.248	2.039	23.1	18.8	128 W	10*	81*	9 18	18 20.05	+4 16.1	1.394	1.785	34.1	18.7	95 E	49	60*
7 5	22 27.88	-34 54.1	1.227	2.058	21.2	18.8	133 W	10	81	9 23	18 24.87	+1 26.7	1.438	1.776	34.3	18.8	92 E	46	62*
7 10	22 23.44	-34 53.8	1.209	2.077	19.2	18.7	138 W	10	81	10 8	18 36.30	-3 39.3	1.534	1.757	34.5	18.9	85 E	41*	64*
7 15	22 17.90	-34 51.8	1.195	2.096	17.1	18.6	143 W	10	81	10 18	18 49.85	-8 3.0	1.635	1.735	34.2	19.0	78 E	36*	62*
7 20	22 11.35	-34 46.8	1.186	2.115	15.0	18.5	148 W	10	81	10 28	19 5.22	-11 47.5	1.735	1.710	33.5	19.1	72 E	32*	59*
7 25	22 3.97	-34 37.2	1.181	2.133	12.8	18.5	152 W	10	81	11 2	19 13.51	-13 26.3	1.785	1.697	33.0	19.1	69 E	30*	56*
7 30	21 55.99	-34 22.1	1.183	2.152	10.9	18.4	156 W	11	82	11 7	19 22.17	-14 56.9	1.833	1.683	32.4	19.1	65 E	29*	54*
8 4	21 47.66	-34 0.5	1.191	2.171	9.3	18.4	160 W	11	82	11 12	19 31.18	-16 19.7	1.880	1.668	31.7	19.1	62 E	27*	51*
8 9	21 39.25	-33 32.1	1.205	2.190	8.4	18.4	162 W	11	82	11 17	19 40.54	-17 35.2	1.924	1.653	30.9	19.1	59 E	26*	48*
8 14	21 31.03	-32 57.1	1.225	2.209	8.4	18.4	161 E	12	83	11 27	20 0.19	-19 45.9	2.006	1.621	29.2	19.1	53 E	23*	43*
8 19	21 23.25	-32 15.8	1.252	2.228	9.2	18.5	159 E	13	84	12 7	20 21.04	-21 32.4	2.076	1.587	27.2	19.1	47 E	20*	37*
8 24	21 16.14	-31 29.1	1.286	2.247	10.6	18.7	156 E	14	85	12 17	20 43.03	-22 57.1	2.133	1.550	25.2	19.1	42 E	17*	32*
8 29	21 9.86	-30 38.0	1.325	2.265	12.2	18.8	152 E	14	85	12 27	21 6.16	-24 2.0	2.174	1.511	23.1	19.0	37 E	14*	28*
9 3	21 4.51	-29 43.6	1.371	2.284	13.9	19.0	147 E	15	86	1 6	21 30.44	-24 48.9	2.199	1.471	21.2	18.9	33 E	11*	25*
9 8	21 0.14	-28 47.1	1.422	2.302	15.5	19.1	142 E	16	87	1 16	21 55.93	-25 18.6	2.207	1.428	19.5	18.8	29 E	8*	22*
9 13	20 56.77	-27 49.3	1.478	2.321	17.1	19.3	137 E	17	88										
9 18	20 54.38	-26 51.0	1.539	2.339	18.4	19.4	133 E	18	89										
9 28	20 52.38	-24 54.9	1.673	2.376	20.6	19.7	123 E	20	89	12 23	15 7.58	-33 54.1	2.524	1.872	19.5	19.2	39 W	6*	33*
10 8	20 53.65	-23 1.6	1.820	2.412	22.2	20.0	114 E	22	87	1 2	15 33.69	-34 52.9	2.501	1.911	20.7	19.2	43 W	7*	37*
10 18	20 57.64	-21 11.9	1.977	2.447	23.0	20.2	106 E	24	85	1 12	15 58.83	-35 33.7	2.471	1.952	21.9	19.3	48 W	7*	42*
10 28	21 3.85	-19 25.2	2.141	2.482	23.4	20.4	98 E	26	83	1 22	16 22.74	-35 57.6	2.432	1.994	23.1	19.3	53 W	7*	47*
11 7	21 11.82	-17 40.8	2.307	2.516	23.2	20.6	90 E	27	78*	2 1	16 45.16	-36 6.0	2.383	2.037	24.2	19.4	58 W	7*	52*
11 17	21 21.17	-15 57.6	2.476	2.550	22.6	20.8	83 E	29	70*	2 11	17 5.81	-36 0.8	2.326	2.081	25.1	19.4	63 W	8*	57*
11 27	21 31.60	-14 14.6	2.642	2.582	21.7	20.9	76 E	31	61*	2 21	17 24.46	-35 43.6	2.261	2.126	25.8	19.4	69 W	8*	63*
12 7	21 42.87	-12 31.2	2.805	2.614	20.6	21.0	69 E	32*	53*	3 2	17 40.84	-35 16.2	2.187	2.170	26.3	19.4	76 W	9*	69*
12 17	21 54.78	-10 46.7	2.963	2.646	19.2	21.1	62 E	33*	44*	3 12	17 54.69	-34 40.2	2.108	2.215	26.4	19.3	83 W	10*	75*
12 27	22 7.17	-9 0.8	3.112	2.676	17.6	21.2	55 E	33*	36*	3 22	18 5.74	-33 57.1	2.023	2.261	26.2	19.3	90 W	11*	80*
1 6	22 19.90	-7 13.4	3.253	2.706	15.8	21.3	49 E	32*	29*										

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

Table with columns for date (19/21), alpha_2000, delta_2000, Delta, r, beta, V, psi, and 45-26 degrees. It contains three sections: 280017 2001 WC2, 366774 2004 TB18, and 4257 Ubasti. Each section lists multiple rows of data with various numerical values and directional indicators (E, W, etc.).

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

19/21	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°-26°	19/21	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°-26°
7304 Namiki (continuation)									185290 2006 UB₂₁₉ (continuation)								
10 8	21 4.25	-25 49.1	1.881	2.484	21.2	18.2	116 E	19 90	9 18	15 38.77	-17 33.7	4.919	4.523	11.2	21.2	61 E	17* 55*
106628 2000 WH₁₂₆									418083 2007 VV₃₀₇								
12 23	15 8.53	-1 2.8	3.660	3.085	13.6	21.0	48 W	37* 22*	12 23	15 9.38	-27 5.3	2.491	1.836	19.8	20.5	39 W	13* 31*
185290 2006 UB₂₁₉									200840 2001 XN₂₅₄								
12 23	15 8.82	-13 7.8	4.912	4.237	9.0	21.0	42 W	26* 27*	12 23	15 9.85	-18 59.0	1.563	1.033	38.0	20.2	40 W	20* 29*

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

19/21	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°	20/21	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°
95087 2002 AQ₈₉										137805 1999 YK₅ (continuation)									
12 23	15 10.48	-0 3.7	3.011	2.461	17.2	20.0	48 W	37*	21*	1 24	19 43.67	-26 8.7	1.288	0.373	30.4	16.3	11 W	-	5*
1 2	15 26.53	-0 14.5	2.943	2.489	18.6	20.0	54 W	40*	27*	1 26	20 2.63	-25 0.8	1.308	0.367	24.2	16.1	9 W	-	3*
1 12	15 41.76	-0 12.4	2.866	2.518	19.7	20.0	60 W	42*	34*	1 28	20 21.14	-23 40.4	1.327	0.367	18.0	16.0	7 W	-	—
1 22	15 56.04	+0 2.8	2.781	2.545	20.7	20.0	66 W	43*	41*	1 30	20 39.06	-22 9.1	1.344	0.371	12.3	15.8	5 W	-	—
2 1	16 9.18	+0 31.7	2.690	2.572	21.4	19.9	73 W	45*	47*	2 1	20 56.28	-20 29.1	1.360	0.380	8.1	15.7	3 E	-	—
2 11	16 20.96	+1 13.9	2.594	2.597	21.9	19.9	79 W	46*	53*	2 3	21 12.74	-18 42.5	1.373	0.393	7.5	15.8	3 E	-	—
2 21	16 31.19	+2 9.2	2.494	2.622	22.1	19.8	86 W	47*	58*	2 5	21 28.43	-16 51.3	1.386	0.409	10.1	16.0	4 E	-	—
3 2	16 39.60	+3 16.9	2.394	2.646	22.0	19.8	94 W	48	60*	2 7	21 43.35	-14 57.4	1.397	0.428	13.5	16.3	6 E	-	—
3 12	16 45.93	+4 35.4	2.295	2.669	21.4	19.7	101 W	50	59	2 9	21 57.56	-13 2.2	1.408	0.450	16.9	16.5	8 E	1*	—
3 22	16 49.94	+6 2.5	2.200	2.692	20.5	19.6	109 W	51	58	2 11	22 11.09	-11 7.0	1.419	0.473	19.8	16.7	9 E	2*	—
4 1	16 51.39	+7 35.0	2.114	2.713	19.2	19.5	117 W	53	56	2 13	22 24.01	-9 12.7	1.429	0.497	22.2	16.9	11 E	4*	1*
4 11	16 50.14	+9 8.3	2.038	2.734	17.6	19.4	125 W	54	55	2 15	22 36.38	-7 20.1	1.439	0.521	24.3	17.1	13 E	6*	1*
4 16	16 48.51	+9 53.4	2.005	2.744	16.7	19.3	128 W	55	54	2 17	22 48.25	-5 29.5	1.450	0.547	25.9	17.3	14 E	7*	2*
4 21	16 46.21	+10 36.4	1.977	2.753	15.7	19.2	132 W	56	53	2 19	22 59.68	-3 41.5	1.462	0.572	27.3	17.4	15 E	9*	2*
4 26	16 43.28	+11 16.4	1.953	2.763	14.8	19.2	136 W	57	53	2 21	23 10.70	-1 56.2	1.473	0.597	28.3	17.6	17 E	10*	3*
5 1	16 39.78	+11 52.4	1.934	2.772	13.9	19.1	139 W	57	52	2 26	23 36.78	+2 13.5	1.505	0.660	30.0	17.9	19 E	13*	3*
5 6	16 35.78	+12 23.5	1.920	2.781	13.1	19.1	141 W	57	52	3 2	0 1.11	+6 3.0	1.541	0.721	30.6	18.1	22 E	16*	4*
5 11	16 31.36	+12 49.0	1.911	2.790	12.4	19.1	144 W	58	51	3 7	0 24.09	+9 32.1	1.579	0.778	30.6	18.4	24 E	17*	4*
5 16	16 26.63	+13 8.3	1.909	2.798	11.9	19.1	145 W	58	51	3 12	0 45.99	+12 41.4	1.620	0.832	30.2	18.6	25 E	19*	4*
5 21	16 21.70	+13 20.6	1.912	2.806	11.7	19.1	146 W	58	51	3 17	1 7.02	+15 32.0	1.663	0.883	29.5	18.7	26 E	20*	4*
5 31	16 11.73	+13 23.5	1.936	2.822	12.1	19.1	144 E	58	51	3 22	1 27.34	+18 5.1	1.708	0.931	28.6	18.9	27 E	21*	4*
6 10	16 2.41	+13 57.5	1.983	2.837	13.3	19.2	140 E	58	51	3 27	1 47.09	+20 21.9	1.753	0.975	27.7	19.0	27 E	21*	4*
6 20	15 54.53	+12 5.6	2.051	2.851	14.9	19.4	134 E	57	52	4 1	2 6.35	+22 23.7	1.798	1.016	26.6	19.1	27 E	21*	4*
6 25	15 51.32	+11 31.3	2.093	2.858	15.7	19.4	130 E	57	52	4 6	2 25.20	+24 11.5	1.842	1.054	25.5	19.2	27 E	21*	4*
6 30	15 48.66	+10 52.4	2.139	2.864	16.5	19.5	127 E	56	53	4 11	2 43.68	+25 46.5	1.886	1.088	24.4	19.3	27 E	21*	4*
7 5	15 46.57	+10 9.6	2.188	2.870	17.3	19.6	123 E	55	54	4 16	3 1.87	+27 9.6	1.929	1.120	23.3	19.4	26 E	20*	4*
7 10	15 45.07	+9 23.6	2.241	2.876	18.0	19.7	119 E	54	55	4 21	3 19.79	+28 21.6	1.970	1.149	22.2	19.4	26 E	20*	4*
7 20	15 43.82	+7 44.5	2.357	2.887	19.1	19.8	111 E	52*	56	4 26	3 37.47	+29 23.4	2.009	1.175	21.1	19.5	25 E	19*	3*
7 30	15 44.84	+5 59.5	2.481	2.897	19.9	20.0	104 E	49*	58	5 1	3 54.93	+30 15.4	2.046	1.199	20.1	19.5	24 E	18*	3*
8 9	15 47.94	+4 12.4	2.612	2.906	20.3	20.1	96 E	46*	60	5 11	4 29.25	+31 32.7	2.113	1.237	17.9	19.6	22 E	16*	3*
8 19	15 52.91	+2 25.8	2.746	2.914	20.3	20.2	89 E	43*	62*	5 21	5 2.85	+32 17.3	2.169	1.266	15.8	19.7	20 E	14*	2*
8 29	15 59.55	+0 41.7	2.881	2.922	20.0	20.3	82 E	40*	62*	5 31	5 35.78	+32 31.9	2.213	1.284	13.8	19.7	18 E	11*	1*
9 8	16 7.66	-0 58.1	3.014	2.928	19.5	20.4	75 E	37*	59*	6 10	6 8.05	+32 18.7	2.244	1.292	11.9	19.6	15 E	9*	—
9 18	16 17.06	-2 32.8	3.144	2.933	18.6	20.5	69 E	35*	55*	6 20	6 39.72	+31 39.1	2.261	1.290	10.1	19.6	13 E	7*	—
9 28	16 27.59	-4 1.3	3.268	2.937	17.6	20.5	62 E	32*	50*	6 30	7 10.83	+30 34.2	2.264	1.279	8.4	19.5	11 E	5*	—
10 8	16 39.10	-5 22.8	3.384	2.941	16.3	20.6	56 E	30*	44*	7 10	7 41.46	+29 4.3	2.252	1.257	7.0	19.4	9 E	3*	—
10 18	16 51.48	-6 36.9	3.491	2.943	14.9	20.6	49 E	28*	37*	7 20	8 11.75	+27 9.3	2.226	1.225	6.0	19.2	7 E	1*	—
10 28	17 4.59	-7 43.1	3.588	2.944	13.4	20.6	43 E	25*	30*	7 30	8 41.88	+24 48.3	2.186	1.182	5.5	19.1	6 E	-	—
11 7	17 18.34	-8 41.0	3.673	2.944	11.7	20.6	37 E	23*	24*	8 9	9 12.09	+21 59.8	2.131	1.129	5.6	19.0	6 W	-	—
11 17	17 32.62	-9 30.3	3.745	2.944	10.0	20.6	31 E	20*	16*	8 19	9 42.74	+18 41.0	2.064	1.064	6.1	18.8	6 W	-	—
11 27	17 47.33	-10 10.8	3.803	2.942	8.3	20.5	25 E	17*	9*	8 29	10 14.32	+14 48.2	1.983	0.987	6.9	18.6	7 W	1*	—
12 7	18 2.37	-10 42.4	3.846	2.940	6.6	20.5	20 E	13*	3*	9 3	10 30.65	+12 37.4	1.938	0.944	7.2	18.4	7 W	1*	—
12 17	18 17.66	-11 5.2	3.874	2.936	5.1	20.4	15 E	9*	—	9 8	10 47.50	+10 16.1	1.891	0.897	7.4	18.3	7 W	1*	—
12 27	18 33.10	-11 19.3	3.885	2.932	4.1	20.4	12 E	4*	—	9 13	11 5.01	+7 43.4	1.840	0.847	7.4	18.1	6 W	-	—
1 6	18 48.59	-11 25.0	3.881	2.926	4.0	20.3	12 W	5*	—	9 18	11 23.35	+4 58.3	1.788	0.794	7.2	17.9	6 W	-	—
1 16	19 4.05	-11 22.5	3.860	2.920	4.9	20.4	15 W	9*	—	9 23	11 42.76	+2 0.1	1.732	0.737	6.7	17.6	5 W	-	—
										9 28	12 3.52	-1 11.8	1.674	0.678	5.7	17.3	4 W	-	—
308698 2006 FZ₉										137805 1999 YK₅ (continuation)									
12 23	15 10.61	-13 32.2	3.010	2.369	16.1	21.3	42 W	25*	27*	10 8	12 50.73	-8 16.1	1.549	0.552	4.7	16.7	3 W	-	—
1 2	15 27.38	-13 25.1	2.957	2.414	17.6	21.4	48 W	27*	33*	10 18	13 49.46	-15 53.2	1.400	0.433	17.8	16.4	8 E	-	1*
1 12	15 43.15	-13 5.4	2.894	2.459	19.0	21.4	55 W	29*	40*	10 28	15 3.64	-22 19.4	1.205	0.367	47.3	16.6	16 E	-	10*
1 22	15 57.79	-12 32.8	2.820	2.504	20.2	21.5	61 W	31*	47*	10 30	15 19.95	-23 9.8	1.160	0.367	54.5	16.7	17 E	-	11*
2 1	16 11.11	-11 46.8	2.738	2.549	21.1	21.5	69 W	33*	54*	11 1	15 36.47	-23 47.2	1.114	0.371	61.5	16.9	19 E	-	13*
2 11	16 22.92	-10 47.1	2.649	2.593	21.7	21.4	76 W	34*	61*	11 3	15 53.04	-24 11.0	1.068	0.380	68.2	17.0	21 E	-	15*
2 21	16 33.02	-9 33.8	2.556	2.636	21.9	21.4	84 W	35*	67*	11 5	16 9.56	-24 20.8	1.022	0.393	74.4	17.2	22 E	1*	16*
3 2	16 41.17	-8 6.9	2.460	2.679	21.7	21.3	92 W	37	71*	11 7	16 25.94	-24 16.7	0.978	0.410	79.8	17.4	24 E	3*	18*
3 12	16 47.15	-6 27.2	2.366	2.721	21.1	21.3	100 W	39	70	11 9	16 42.13	-23 59.4	0.935	0.429	84.4	17.6	26 E	5*	19*
3 22	16 50.76	-4 35.8	2.276	2.763	20.0	21.2	109 W	40	69	11 11	16 58.11	-23 29.5	0.895	0.451	88.3	17.7	27 E	6*	20*
4 1	16 51.81	-2 35.1	2.196	2.803	18.4	21.1	118 W	42	67	11 13	17 13.89	-22 47.7	0.857	0.474	91.5	17.9	29 E	8*	22*
4 11	16 50.26	-0 28.7	2.128	2.844	16.4	21.0	127 W	45	64	11 15	17 29.49	-21 54.6	0.821	0.498	93.9	18.0	30 E	10*	23*
4 21	16 46.17	+1 38.5	2.078	2.883	14.1	20.9	136 W	47	62	11 17	17 44.90	-20 51.1	0.788	0.523	95.8	18.1	32 E	12*	24*
5 1	16 39.82	+3 39.9	2.049	2.922	11.8	20.8	144 W	49	60	11 22	18 22.81	-17 30.6	0.719	0.586	97.8	18.2	36 E	18*	26*
5 11	16 31.77	+5 28.4	2.045	2.960	10.0	20.8	149 W	50	59	11 27	18 59.91	-13 20.0	0.667	0.649	97.2	18.3	41 E	24*	27*
5 21	16 22.73	+6 57.5	2.066	2.997	9.2	20.8	152 W												

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

19/21	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°	19/20	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°
90916 1997 LR										99761 2002 JK₁₀₁									
<i>(continuation)</i>																			
12 23	15 12.15	-11 52.8	2.942	2.308	16.6	21.4	42 W	26*	26*	5 16	17 28.35	+ 8 20.1	1.548	2.414	15.5	19.4	140 W	53	56
1 2	15 30.88	-12 55.0	2.823	2.276	18.6	21.4	47 W	28*	32*	5 21	17 23.47	+ 8 15.7	1.539	2.430	14.3	19.4	144 W	53	56
1 12	15 49.76	-13 48.8	2.696	2.244	20.5	21.3	53 W	28*	39*	5 31	17 12.64	+ 7 44.7	1.538	2.462	12.3	19.3	149 W	53	56
1 22	16 8.74	-14 33.7	2.563	2.212	22.3	21.2	58 W	28*	45*	6 10	17 1.36	+ 6 44.1	1.561	2.493	11.7	19.4	150 E	52	57
2 1	16 27.72	-15 9.0	2.425	2.178	24.0	21.1	64 W	29*	52*	6 20	16 50.80	+ 5 17.0	1.608	2.523	12.6	19.5	147 E	50	59
2 11	16 46.59	-15 34.4	2.284	2.145	25.5	21.0	69 W	28*	58*	6 25	16 46.12	+ 4 25.2	1.640	2.538	13.4	19.6	145 E	49	60
2 21	17 5.24	-15 49.9	2.140	2.111	26.9	20.9	75 W	28*	65*	6 30	16 41.97	+ 3 29.2	1.679	2.553	14.4	19.7	141 E	48	61
3 2	17 23.52	-15 55.5	1.996	2.077	28.1	20.7	81 W	29*	70*	7 5	16 38.42	+ 2 29.9	1.722	2.568	15.4	19.8	138 E	47	62
3 12	17 41.25	-15 51.9	1.852	2.042	29.0	20.6	86 W	29*	75*	7 10	16 35.51	+ 1 28.3	1.771	2.582	16.5	19.9	134 E	46	63
3 22	17 58.26	-15 39.8	1.709	2.008	29.7	20.4	92 W	29*	79*	7 15	16 33.28	+ 0 25.0	1.825	2.596	17.5	20.0	130 E	45	64
4 1	18 14.31	-15 20.4	1.570	1.973	30.1	20.2	98 W	29*	79	7 20	16 31.72	- 0 39.0	1.882	2.610	18.4	20.1	126 E	44	65
4 11	18 29.14	-14 55.8	1.435	1.939	30.1	19.9	104 W	30*	79	7 30	16 30.63	- 2 47.3	2.009	2.638	19.9	20.3	118 E	42*	67
4 21	18 42.49	-14 28.1	1.305	1.905	29.6	19.7	110 W	30*	78	8 9	16 32.10	- 4 52.4	2.148	2.665	21.0	20.5	110 E	40*	69
5 1	18 53.96	-14 0.7	1.182	1.872	28.6	19.4	117 W	31*	78	8 19	16 35.86	- 6 51.8	2.296	2.690	21.6	20.7	102 E	37*	71
5 11	19 3.19	-13 37.4	1.068	1.839	26.9	19.1	124 W	31*	78	8 29	16 41.68	- 8 44.0	2.449	2.716	21.8	20.9	94 E	34*	73
5 21	19 9.74	-13 23.1	0.964	1.807	24.5	18.7	132 W	32	77	9 8	16 49.27	-10 28.0	2.605	2.740	21.5	21.0	87 E	32*	73*
5 26	19 11.86	-13 21.0	0.915	1.792	22.9	18.6	136 W	32	77	9 18	16 58.39	-12 3.2	2.762	2.763	21.0	21.1	80 E	30*	69*
5 31	19 13.15	-13 23.3	0.871	1.776	21.1	18.4	141 W	32	77	9 28	17 8.86	-13 29.5	2.916	2.786	20.1	21.3	73 E	28*	63*
6 5	19 13.59	-13 30.6	0.829	1.761	19.1	18.2	145 W	31	78	10 8	17 20.45	-14 46.5	3.066	2.807	18.9	21.3	66 E	26*	57*
6 10	19 13.17	-13 43.6	0.791	1.747	16.8	18.0	150 W	31	78	10 18	17 33.01	-15 54.4	3.210	2.828	17.6	21.4	59 E	24*	50*
6 20	19 9.73	-14 28.5	0.728	1.719	11.5	17.6	160 W	31	78	10 28	17 46.39	-16 53.0	3.345	2.848	16.0	21.5	52 E	22*	43*
6 30	19 3.37	-15 39.4	0.682	1.693	5.9	17.2	170 W	29	80	11 7	18 0.45	-17 42.5	3.471	2.867	14.3	21.5	46 E	20*	36*
7 10	18 55.36	-17 12.8	0.655	1.669	4.4	17.0	173 E	28	81	3554 Amun									
7 15	18 51.27	-18 5.5	0.649	1.657	7.0	17.1	168 E	27	82	12 23	15 12.40	-24 26.3	1.801	1.203	30.8	18.8	39 W	15*	30*
7 20	18 47.47	-19 0.4	0.647	1.647	10.2	17.2	163 E	26	83	12 28	15 29.36	-26 19.4	1.769	1.191	31.8	18.8	40 W	13*	32*
7 25	18 44.22	-19 56.3	0.650	1.637	13.5	17.3	158 E	25	84	1 2	15 47.20	-28 8.3	1.736	1.178	32.9	18.8	41 W	12*	33*
7 30	18 41.75	-20 51.7	0.657	1.627	16.7	17.4	153 E	24	85	1 7	16 6.02	-29 51.7	1.704	1.164	33.9	18.7	41 W	10*	35*
8 4	18 40.26	-21 45.6	0.668	1.618	19.7	17.6	148 E	23	86	1 12	16 25.90	-31 28.3	1.671	1.149	35.0	18.7	42 W	9*	36*
8 9	18 39.85	-22 37.0	0.683	1.610	22.5	17.7	143 E	22	87	1 17	16 46.94	-32 56.3	1.640	1.133	36.0	18.6	43 W	7*	36*
8 14	18 40.61	-23 25.1	0.700	1.603	25.1	17.8	138 E	22	87	1 22	17 9.19	-34 13.8	1.609	1.115	37.0	18.6	43 W	6*	37*
8 19	18 42.58	-24 9.2	0.721	1.597	27.4	17.9	134 E	21	88	1 27	17 32.65	-35 18.5	1.580	1.096	38.0	18.5	43 W	4*	37*
8 29	18 50.20	-25 23.8	0.770	1.586	31.2	18.2	125 E	20	89	2 1	17 57.29	-36 8.0	1.552	1.076	39.0	18.5	43 W	2*	37*
9 8	19 2.33	-26 17.9	0.827	1.578	34.2	18.4	118 E	19	90	2 6	18 23.01	-36 39.6	1.526	1.055	39.9	18.4	43 W	1*	37*
9 18	19 18.33	-26 49.4	0.891	1.574	36.3	18.6	112 E	18	89	2 11	18 49.64	-36 51.1	1.503	1.033	40.7	18.4	43 W	—	36*
9 23	19 27.57	-26 56.2	0.925	1.573	37.0	18.7	109 E	18	89	2 16	19 16.97	-36 40.3	1.482	1.010	41.5	18.3	43 W	—	35*
9 28	19 37.51	-26 56.8	0.961	1.573	37.6	18.8	107 E	18	89	2 21	19 44.69	-36 5.3	1.464	0.986	42.2	18.3	42 W	—	34*
10 3	19 48.04	-26 51.3	0.997	1.574	38.1	18.9	104 E	18	89	2 26	20 12.49	-35 5.2	1.449	0.962	42.8	18.2	41 W	—	33*
10 8	19 59.08	-26 39.6	1.035	1.576	38.4	19.0	102 E	18	89	3 2	20 40.05	-33 39.7	1.438	0.937	43.2	18.1	40 W	—	32*
10 13	20 10.53	-26 21.7	1.074	1.579	38.6	19.1	99 E	19	90	3 7	21 7.08	-31 49.2	1.429	0.911	43.5	18.1	39 W	—	31*
10 18	20 22.32	-25 57.8	1.114	1.582	38.7	19.2	97 E	19	90	3 12	21 33.38	-29 34.7	1.425	0.886	43.6	18.0	38 W	—	29*
10 23	20 34.39	-25 27.9	1.156	1.586	38.7	19.3	95 E	20	88*	3 17	21 58.83	-26 58.0	1.424	0.861	43.5	17.9	37 W	—	28*
10 28	20 46.66	-24 52.3	1.198	1.591	38.6	19.3	93 E	20	86*	3 22	22 23.36	-24 1.2	1.427	0.836	43.1	17.9	35 W	—	27*
11 2	20 59.07	-24 11.2	1.242	1.597	38.4	19.4	91 E	21	83*	3 27	22 46.98	-20 46.8	1.433	0.812	42.5	17.8	33 W	—	25*
11 7	21 11.55	-23 25.0	1.286	1.604	38.2	19.5	89 E	22	81*	4 1	23 9.76	-17 17.3	1.442	0.789	41.5	17.7	32 W	—	24*
11 12	21 24.06	-22 34.0	1.332	1.611	37.8	19.6	87 E	22	78*	4 6	23 31.83	-13 35.4	1.454	0.767	40.3	17.6	30 W	—	22*
11 17	21 36.59	-21 38.4	1.378	1.619	37.4	19.7	85 E	23	75*	4 11	23 53.33	- 9 43.8	1.469	0.748	38.8	17.6	28 W	—	21*
11 22	21 49.08	-20 38.7	1.426	1.628	37.0	19.7	83 E	24	73*	4 16	0 14.46	- 5 45.3	1.487	0.732	36.9	17.5	26 W	—	19*
11 27	22 1.52	-19 35.3	1.474	1.637	36.5	19.8	81 E	25	70*	4 21	0 35.40	- 1 42.8	1.506	0.718	34.9	17.4	24 W	—	18*
12 2	22 13.88	-18 28.5	1.524	1.647	36.0	19.9	79 E	27	67*	4 26	0 56.33	+ 2 20.8	1.527	0.708	32.7	17.4	22 W	—	16*
12 7	22 26.13	-17 18.8	1.574	1.658	35.4	19.9	77 E	28	64*	5 1	1 17.45	+ 6 22.2	1.550	0.702	30.3	17.3	21 W	—	15*
12 12	22 38.29	-16 6.6	1.625	1.669	34.7	20.0	75 E	29	61*	5 6	1 38.93	+10 18.2	1.573	0.701	27.9	17.3	19 W	1*	13*
12 17	22 50.34	-14 52.1	1.677	1.681	34.1	20.1	73 E	30	58*	5 11	2 0.93	+14 5.5	1.597	0.703	25.6	17.2	18 W	3*	11*
12 22	23 2.28	-13 35.8	1.730	1.694	33.4	20.1	71 E	31	55*	5 16	2 23.60	+17 40.8	1.621	0.710	23.5	17.2	16 W	4*	9*
12 27	23 14.11	-12 18.1	1.783	1.706	32.6	20.2	69 E	33*	53*	5 21	2 47.02	+21 0.7	1.646	0.720	21.6	17.2	15 W	4*	7*
1 1	23 25.82	-10 59.3	1.837	1.720	31.9	20.3	67 E	34*	50*	5 26	3 11.22	+24 2.5	1.672	0.734	20.0	17.3	14 W	5*	5*
1 6	23 37.42	- 9 39.7	1.891	1.734	31.1	20.3	66 E	35*	47*	5 31	3 36.20	+26 43.4	1.697	0.751	18.6	17.3	14 W	6*	3*
1 11	23 48.92	- 8 19.7	1.946	1.748	30.3	20.4	64 E	36*	45*	6 5	4 1.87	+29 1.4	1.723	0.771	17.4	17.4	13 W	6*	1*
1 16	0 0.33	- 6 59.5	2.001	1.762	29.4	20.4	62 E	36*	42*	6 10	4 28.08	+30 55.0	1.749	0.792	16.5	17.4	13 W	6*	—
99761 2002 JK₁₀₁										6 15	4 54.65	+32 23.5	1.776	0.815	15.8	17.5	13 W	7*	—
12 23	15 12.16	+ 2 16.2	2.422	1.921	22.6	20.1	49 W	39*	19*	6 20	5 21.33	+33 26.7	1.803	0.840	15.1	17.6	12 W	6*	—
1 2	15 33.67	+ 1 39.5	2.380	1.954	23.7	20.2	53 W	41*	25*	6 25	5 47.84	+34 5.4	1.830	0.865	14.5	17.6	12 W	6*	—
1 12	15 54.18	+ 1 16.5	2.332	1.987	24.7	20.2	58 W	42*	31*	6 30	6								

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

19/21	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°	19/21	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°		
3554 Amun (continuation)										85372 1996 EO₁₂											
10	8	12 2.29	+2 52.5	2.168	1.236	12.7	18.7	16 W	9*	2*	12	23	15 13.25	-24 2.9	3.419	2.720	13.0	21.1	39 W	15*	30*
10	18	12 27.36	-1 17.1	2.153	1.245	14.4	18.8	18 W	11*	5*	1	2	15 29.14	-25 8.4	3.316	2.710	14.8	21.1	45 W	16*	36*
10	28	12 52.54	-5 27.1	2.128	1.247	16.2	18.8	21 W	13*	8*	1	12	15 44.76	-26 8.8	3.202	2.700	16.5	21.1	51 W	17*	43*
11	7	13 18.27	-9 36.6	2.094	1.245	18.2	18.8	23 W	14*	11*	1	22	16 0.00	-27 4.0	3.078	2.688	18.1	21.0	58 W	17*	51*
11	17	13 44.99	-13 44.7	2.052	1.237	20.2	18.8	26 W	14*	14*	2	1	16 14.69	-27 54.1	2.944	2.676	19.4	21.0	65 W	16*	58*
11	27	14 13.19	-17 49.7	2.002	1.224	22.3	18.8	28 W	14*	18*	2	11	16 28.63	-28 39.2	2.803	2.663	20.6	20.9	72 W	16*	65*
12	7	14 43.46	-21 48.8	1.947	1.205	24.4	18.8	30 W	13*	21*	2	21	16 41.62	-29 19.8	2.657	2.648	21.5	20.8	79 W	16*	73*
12	12	14 59.57	-23 44.8	1.917	1.194	25.5	18.8	31 W	12*	23*	3	2	16 53.37	-29 56.5	2.507	2.633	22.1	20.7	86 W	15*	80*
12	17	15 16.45	-25 37.5	1.887	1.181	26.5	18.8	32 W	11*	24*	3	12	17 3.58	-30 29.7	2.356	2.617	22.3	20.5	94 W	15	85*
12	22	15 34.19	-27 25.9	1.857	1.168	27.6	18.7	33 W	10*	26*	3	22	17 11.93	-31 0.0	2.206	2.600	22.0	20.4	102 W	14	85
12	27	15 52.87	-29 8.8	1.826	1.153	28.6	18.7	34 W	9*	27*	4	1	17 18.01	-31 27.9	2.060	2.582	21.3	20.2	110 W	14	85
1	1	16 12.58	-30 44.9	1.795	1.136	29.6	18.7	35 W	7*	28*	4	11	17 21.42	-31 53.2	1.921	2.563	20.0	20.0	119 W	13	84
1	6	16 33.40	-32 12.4	1.765	1.119	30.6	18.6	35 W	6*	29*	4	21	17 21.77	-32 15.0	1.792	2.544	18.0	19.7	129 W	13	84
1	11	16 35.39	-33 29.6	1.735	1.100	31.5	18.6	36 W	4*	30*	5	1	17 18.76	-32 31.3	1.677	2.523	15.3	19.5	139 W	12	83
1	16	17 18.54	-34 34.1	1.707	1.081	32.4	18.5	36 W	3*	30*	5	11	17 12.35	-32 38.9	1.580	2.502	11.9	19.2	149 W	12	83
12	23	15 12.51	-5 45.0	2.768	2.179	18.5	19.9	45 W	32*	23*	5	16	17 7.95	-32 38.2	1.539	2.491	10.0	19.1	155 W	12	83
1	2	15 29.01	-7 14.8	2.717	2.217	19.9	19.9	50 W	33*	30*	5	21	17 2.87	-32 33.9	1.505	2.480	8.1	18.9	160 W	12	83
1	12	15 44.60	-8 35.0	2.656	2.255	21.1	19.9	56 W	34*	38*	5	26	16 57.22	-32 25.5	1.476	2.468	6.2	18.8	165 W	13	84
1	22	15 59.15	-9 46.2	2.585	2.293	22.3	19.9	62 W	34*	45*	5	31	16 51.17	-32 12.8	1.454	2.457	4.6	18.7	169 W	13	84
2	1	16 12.48	-10 49.3	2.505	2.331	23.1	19.9	68 W	33*	53*	6	5	16 44.91	-31 55.8	1.439	2.445	3.9	18.6	170 E	13	84
2	11	16 24.38	-11 45.4	2.417	2.369	23.8	19.9	75 W	33*	61*	6	10	16 38.62	-31 34.8	1.430	2.433	4.8	18.6	168 E	13	84
2	21	16 34.61	-12 36.0	2.322	2.406	24.1	19.9	83 W	32*	69*	6	15	16 32.51	-31 10.2	1.427	2.421	6.6	18.7	164 E	14	85
3	2	16 42.89	-13 22.4	2.223	2.442	23.9	19.8	91 W	32	75*	6	20	16 26.76	-30 42.7	1.432	2.408	8.7	18.8	159 E	14	85
3	12	16 48.91	-14 6.5	2.122	2.478	23.3	19.7	99 W	31	78	6	25	16 21.55	-30 13.1	1.442	2.396	10.8	18.9	154 E	15	86
3	22	16 52.35	-14 49.9	2.022	2.514	22.2	19.6	108 W	30	79	6	30	16 17.01	-29 42.4	1.458	2.383	13.0	19.0	148 E	15	86
4	1	16 52.88	-15 33.9	1.928	2.549	20.3	19.5	118 W	29	80	7	5	16 13.25	-29 11.6	1.480	2.370	15.0	19.1	143 E	16	87
4	11	16 50.30	-16 19.8	1.844	2.583	17.8	19.3	128 W	29	80	7	10	16 10.33	-28 41.4	1.506	2.357	16.9	19.2	137 E	16	87
4	21	16 44.51	-17 7.7	1.775	2.617	14.6	19.2	139 W	28	81	7	20	16 7.16	-27 45.6	1.570	2.331	20.3	19.3	127 E	17*	88
5	1	16 35.73	-17 57.0	1.725	2.649	10.8	19.0	151 W	27	82	7	30	16 7.56	-26 58.8	1.648	2.304	22.9	19.5	118 E	17*	89
5	11	16 24.57	-18 45.9	1.700	2.682	6.4	18.8	163 W	26	83	8	9	16 11.30	-26 22.5	1.734	2.276	24.9	19.6	109 E	18*	90
5	16	16 18.39	-19 9.7	1.698	2.697	4.1	18.7	169 W	25	83	8	19	16 18.05	-25 55.9	1.825	2.248	26.2	19.8	101 E	18*	90
5	21	16 11.99	-19 32.6	1.703	2.713	1.8	18.5	175 W	25	84	8	29	16 27.50	-25 37.4	1.918	2.219	27.0	19.9	93 E	17*	87*
5	26	16 5.56	-19 54.7	1.715	2.728	0.7	18.5	178 E	25	84	9	8	16 39.29	-25 24.7	2.011	2.190	27.3	19.9	86 E	17*	80*
5	31	15 59.24	-20 15.7	1.736	2.743	2.9	18.7	172 E	25	84	9	18	16 53.14	-25 15.1	2.102	2.161	27.2	20.0	80 E	17*	74*
6	5	15 53.19	-20 35.9	1.763	2.758	5.1	18.9	166 E	24	85	9	28	17 8.81	-25 6.0	2.189	2.131	26.8	20.1	73 E	17*	67*
6	10	15 47.55	-20 55.2	1.797	2.773	7.2	19.0	160 E	24	85	10	8	17 26.06	-24 54.7	2.272	2.102	26.0	20.1	67 E	17*	61*
6	20	15 37.90	-21 32.0	1.886	2.802	11.0	19.3	148 E	23	86	10	18	17 44.70	-24 38.9	2.348	2.072	25.1	20.1	62 E	17*	55*
6	30	15 30.88	-22 8.0	1.997	2.830	14.1	19.6	137 E	23	86	10	28	18 4.56	-24 16.4	2.418	2.042	23.9	20.1	56 E	17*	50*
7	10	15 26.74	-22 44.7	2.128	2.857	16.5	19.8	127 E	22*	87	11	7	18 25.43	-23 45.2	2.481	2.012	22.5	20.1	51 E	17*	44*
7	20	15 25.40	-23 23.3	2.272	2.884	18.2	20.0	117 E	21*	87	11	17	18 47.17	-23 3.8	2.537	1.982	21.0	20.0	46 E	17*	38*
7	30	15 26.68	-24 4.3	2.427	2.909	19.4	20.2	108 E	19*	88	11	27	19 9.62	-22 10.6	2.585	1.953	19.4	20.0	41 E	17*	32*
8	9	15 30.29	-24 47.7	2.588	2.934	19.9	20.4	100 E	17*	89	12	7	19 32.62	-21 4.8	2.625	1.924	17.7	19.9	36 E	16*	27*
8	19	15 35.95	-25 33.1	2.752	2.958	20.0	20.6	92 E	15*	86*	12	17	19 56.05	-19 45.7	2.658	1.896	15.9	19.9	32 E	16*	21*
8	29	15 43.41	-26 19.9	2.916	2.981	19.7	20.7	84 E	14*	78*	12	27	20 19.78	-18 12.9	2.684	1.869	14.1	19.8	28 E	15*	16*
9	8	15 52.41	-27 7.4	3.077	3.003	19.0	20.8	76 E	12*	70*	1	6	20 43.71	-16 26.6	2.703	1.843	12.2	19.7	23 E	13*	11*
9	18	16 2.76	-27 54.8	3.233	3.024	18.1	20.9	69 E	10*	63*	1	16	21 7.76	-14 27.2	2.716	1.817	10.3	19.6	19 E	11*	7*
9	28	16 14.29	-28 41.2	3.383	3.044	16.9	21.0	62 E	9*	56*	392466 2011 CB₆₆										
10	8	16 26.84	-29 26.0	3.523	3.063	15.5	21.0	55 E	7*	49*	12	23	15 13.93	-27 43.9	2.166	1.518	23.5	20.9	38 W	12*	30*
10	18	16 40.28	-30 8.4	3.652	3.082	14.0	21.1	48 E	6*	42*	12	28	15 28.73	-29 43.4	2.134	1.513	24.5	20.9	40 W	10*	33*
10	28	16 54.49	-30 47.9	3.769	3.099	12.3	21.1	42 E	4*	36*	1	2	15 44.14	-31 39.8	2.103	1.509	25.4	20.9	41 W	9*	35*
11	7	17 9.35	-31 23.8	3.872	3.116	10.6	21.1	35 E	2*	29*	1	7	16 0.18	-33 32.4	2.073	1.506	26.3	20.9	43 W	7*	36*
11	17	17 24.76	-31 55.7	3.961	3.132	8.8	21.1	29 E	—	23*	1	12	16 16.89	-35 20.4	2.044	1.503	27.1	20.9	44 W	6*	38*
11	27	17 40.61	-32 23.5	4.033	3.146	7.0	21.0	23 E	—	17*	1	17	16 34.30	-37 2.8	2.015	1.502	27.9	20.8	46 W	4*	40*
12	7	17 56.80	-32 46.7	4.089	3.160	5.2	21.0	17 E	—	11*	1	22	16 52.42	-38 38.8	1.988	1.501	28.6	20.8	47 W	3*	41*
12	17	18 13.22	-33 5.6	4.128	3.173	3.8	20.9	12 E	—	5*	1	27	17 11.23	-40 7.4	1.962	1.501	29.4	20.8	48 W	1*	42*
12	27	18 29.78	-33 20.0	4.149	3.185	3.1	20.9	10 E	—	—	2	1	17 30.72	-41 27.7	1.938	1.501	30.0	20.8	50 W	—	43*
1	6	18 46.36	-33 30.5	4.152	3.196	3.6	21.0	12 W	—	4*	2	6	17 50.83	-42 38.8	1.914	1.503	30.6	20.8	51 W	—	43*
1	16	19 2.88	-33 37.3	4.137	3.207	5.0	21.0	17 W	—	9*	2	11	18 11.47	-43 40.0	1.892	1.505	31.2	20.8	52 W	—	44*
12	23	15 12.78	-33 52.1	1.852	1.242	29.5	20.8	38 W	6*	32*	2	16	18 32.56	-44 30.6	1.871	1.509	31.7	20.8	53 W	—	44*

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

19/20	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°	19/21	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°
392466 2011 CB ₆₆ (continuation)										130216 2000 AC ₂₃₈ (continuation)									
6 5	0 20.38	-34 10.6	1.482	1.737	35.6	20.7	86 W	—	73*	12 7	20 55.58	+ 3 15.9	1.743	1.583	34.0	18.7	64 E	46*	34*
6 10	0 27.52	-33 37.7	1.455	1.752	35.4	20.7	88 W	—	76*	12 17	21 23.88	+ 4 28.1	1.806	1.590	32.9	18.8	61 E	46*	30*
6 15	0 33.89	-33 8.9	1.427	1.767	35.1	20.7	91 W	—	79*	12 27	21 52.49	+ 5 49.9	1.873	1.601	31.7	18.8	59 E	46*	26*
6 20	0 39.45	-32 44.4	1.398	1.782	34.7	20.6	94 W	1*	81*	1 6	22 21.20	+ 7 19.2	1.945	1.616	30.3	18.9	56 E	46*	22*
6 25	0 44.15	-32 24.4	1.368	1.797	34.2	20.6	97 W	3*	83*	1 16	22 49.88	+ 8 53.8	2.022	1.633	28.8	19.0	53 E	44*	19*
6 30	0 47.95	-32 8.9	1.338	1.813	33.5	20.5	100 W	5*	84	168981 2001 CT ₃									
7 5	0 50.79	-31 57.8	1.307	1.829	32.8	20.5	103 W	7*	84	12 23	15 14.45	-11 46.9	3.594	2.931	12.9	21.5	42 W	26*	25*
7 10	0 52.61	-31 51.0	1.275	1.844	31.9	20.4	107 W	9*	84	1 2	15 28.07	-12 32.3	3.478	2.916	14.6	21.4	48 W	28*	32*
7 15	0 53.33	-31 48.2	1.245	1.860	30.8	20.3	110 W	11*	84	1 12	15 41.31	-13 10.8	3.350	2.901	16.1	21.4	55 W	29*	40*
7 20	0 52.87	-31 49.0	1.214	1.876	29.6	20.3	114 W	12*	84	1 22	15 54.04	-13 42.2	3.211	2.884	17.5	21.4	62 W	30*	48*
7 25	0 51.15	-31 52.7	1.185	1.891	28.2	20.2	118 W	13*	84	2 1	16 6.09	-14 6.3	3.064	2.866	18.7	21.3	69 W	30*	56*
7 30	0 48.11	-31 58.1	1.158	1.907	26.7	20.1	123 W	13*	84	2 11	16 17.26	-14 23.2	2.910	2.847	19.7	21.2	77 W	30*	64*
8 4	0 43.70	-32 4.0	1.133	1.923	24.9	20.0	127 W	13*	84	2 21	16 27.35	-14 32.9	2.752	2.828	20.4	21.1	84 W	30*	71*
8 9	0 37.90	-32 8.8	1.110	1.938	23.0	20.0	132 W	13*	84	3 2	16 36.10	-14 35.9	2.591	2.807	20.7	20.9	92 W	30*	77*
8 14	0 30.75	-32 10.8	1.092	1.954	21.0	19.9	136 W	13*	84	3 12	16 43.23	-14 32.5	2.432	2.785	20.6	20.8	100 W	30*	79
8 19	0 22.33	-32 7.8	1.077	1.969	18.9	19.8	141 W	13*	84	3 22	16 48.44	-14 23.4	2.275	2.763	20.0	20.6	109 W	31*	78
8 24	0 12.80	-31 57.8	1.068	1.984	16.9	19.7	145 W	13*	84	4 1	16 51.42	-14 9.4	2.125	2.740	18.8	20.4	118 W	31*	78
8 29	0 2.43	-31 38.9	1.064	2.000	15.0	19.7	149 W	13*	84	4 11	16 51.87	-13 51.4	1.986	2.715	17.0	20.2	128 W	31*	78
9 3	23 51.53	-31 9.8	1.067	2.015	13.5	19.6	152 W	14*	85	4 21	16 49.58	-13 30.9	1.861	2.690	14.6	19.9	138 W	31*	78
9 8	23 40.46	-30 29.8	1.076	2.030	12.6	19.6	154 W	15*	86	5 1	16 44.48	-13 9.1	1.754	2.664	11.5	19.7	148 W	32*	77
9 13	23 29.57	-29 39.0	1.092	2.045	12.4	19.7	154 W	15*	86	5 11	16 36.81	-12 48.1	1.669	2.637	7.9	19.4	159 W	32*	77
9 18	23 19.22	-28 38.2	1.114	2.059	12.9	19.8	153 E	16*	87	5 21	16 27.09	-12 30.0	1.609	2.609	4.4	19.1	169 W	32*	77
9 23	23 9.69	-27 28.8	1.144	2.074	14.1	19.9	150 E	18*	89	5 31	16 16.23	-12 17.5	1.577	2.580	4.0	19.0	170 E	33*	76
9 28	23 1.21	-26 12.5	1.180	2.088	15.5	20.0	146 E	19*	90	6 10	16 5.39	-12 12.9	1.571	2.551	7.6	19.2	161 E	33*	76
10 3	22 53.90	-24 51.4	1.223	2.103	17.1	20.2	142 E	20*	89	6 20	15 55.71	-12 18.2	1.591	2.521	11.8	19.3	150 E	33*	76
10 8	22 47.81	-23 27.1	1.271	2.117	18.7	20.3	137 E	22*	87	6 30	15 48.14	-12 34.7	1.634	2.490	15.6	19.5	139 E	32*	77
10 13	22 42.96	-22 1.2	1.324	2.131	20.1	20.5	133 E	23*	86	7 10	15 43.30	-13 2.4	1.694	2.458	18.9	19.7	128 E	32*	77
10 18	22 39.30	-20 35.0	1.382	2.144	21.5	20.6	128 E	24*	85	7 20	15 41.43	-13 40.3	1.768	2.425	21.6	19.8	119 E	31*	78
10 23	22 36.77	-19 9.1	1.445	2.158	22.7	20.8	123 E	26*	83	7 30	15 42.57	-14 27.2	1.852	2.392	23.6	19.9	110 E	29*	78
10 28	22 35.28	-17 44.3	1.511	2.171	23.7	20.9	119 E	27*	82	8 9	15 46.56	-15 21.0	1.941	2.358	24.9	20.1	101 E	27*	79
11 2	22 34.75	-16 21.0	1.580	2.184	24.5	21.0	114 E	29*	80	8 19	15 53.19	-16 19.8	2.032	2.324	25.8	20.1	93 E	25*	80*
11 7	22 35.07	-14 59.4	1.652	2.197	25.1	21.2	110 E	30*	79	8 29	16 2.24	-17 21.7	2.124	2.289	26.1	20.2	86 E	23*	78*
11 12	22 36.16	-13 39.4	1.725	2.209	25.5	21.3	106 E	31*	78	9 8	16 13.47	-18 24.5	2.212	2.254	26.1	20.3	79 E	22*	72*
11 17	22 37.94	-12 21.1	1.801	2.222	25.8	21.4	102 E	33*	76	9 18	16 26.70	-19 26.3	2.297	2.218	25.6	20.3	73 E	20*	66*
11 22	22 40.35	-11 4.3	1.878	2.234	26.0	21.5	98 E	34*	74*	9 28	16 41.76	-20 25.3	2.376	2.182	24.9	20.3	67 E	19*	60*
130216 2000 AC ₂₃₈										233972 1992 PZ ₅									
12 23	15 13.97	-28 20.4	3.302	2.599	13.5	20.5	38 W	11*	31*	10 8	16 58.49	-21 19.3	2.448	2.146	24.0	20.3	61 E	18*	54*
1 2	15 32.09	-29 4.9	3.184	2.567	15.4	20.5	44 W	12*	37*	10 18	17 16.77	-22 6.8	2.513	2.110	22.8	20.3	55 E	17*	49*
1 12	15 50.20	-29 42.0	3.056	2.535	17.2	20.5	50 W	13*	43*	10 28	17 36.48	-22 45.8	2.570	2.074	21.5	20.3	50 E	16*	43*
1 22	16 8.19	-30 10.9	2.919	2.502	19.0	20.4	56 W	13*	49*	11 7	17 57.48	-23 14.5	2.619	2.037	20.0	20.2	45 E	15*	37*
2 1	16 25.92	-30 30.8	2.773	2.469	20.6	20.3	62 W	13*	56*	11 17	18 19.65	-23 31.5	2.660	2.001	18.4	20.2	40 E	14*	32*
2 11	16 43.21	-30 41.1	2.620	2.434	22.1	20.2	68 W	14*	62*	11 27	18 42.85	-23 35.1	2.692	1.966	16.7	20.1	35 E	13*	27*
2 21	16 59.89	-30 41.1	2.462	2.399	23.4	20.1	75 W	14*	69*	12 7	19 6.94	-23 24.2	2.717	1.931	14.9	20.0	30 E	12*	22*
3 2	17 15.71	-30 30.2	2.301	2.364	24.5	19.9	81 W	14*	75*	12 17	19 31.78	-22 57.8	2.733	1.897	13.1	19.9	26 E	10*	17*
3 12	17 30.41	-30 8.0	2.138	2.327	25.3	19.7	88 W	15*	81*	12 27	19 57.21	-22 15.2	2.742	1.863	11.2	19.8	22 E	8*	13*
3 22	17 43.71	-29 33.8	1.976	2.290	25.7	19.6	95 W	15*	86*	1 6	20 23.07	-21 16.2	2.745	1.831	9.3	19.7	18 E	6*	9*
4 1	17 55.25	-28 46.7	1.815	2.253	25.7	19.3	102 W	16*	87	1 16	20 49.26	-20 0.9	2.741	1.800	7.4	19.6	14 E	4*	6*
4 11	18 4.64	-27 45.7	1.659	2.215	25.1	19.1	110 W	17*	88	233972 1992 PZ ₅									
4 21	18 11.46	-26 29.2	1.510	2.177	23.9	18.8	118 W	19*	90	12 23	15 15.24	-21 39.8	2.426	1.766	20.3	20.9	39 W	17*	28*
5 1	18 15.22	-24 55.1	1.371	2.138	22.0	18.5	127 W	20*	89	1 2	15 42.79	-23 33.6	2.321	1.722	22.5	20.8	42 W	17*	33*
5 11	18 15.53	-23 1.2	1.246	2.100	19.2	18.2	137 W	22*	87	1 12	16 11.91	-25 14.2	2.215	1.678	24.7	20.7	45 W	16*	37*
5 21	18 12.11	-20 45.4	1.136	2.061	15.4	17.8	147 W	24*	85	1 22	16 42.64	-26 38.0	2.111	1.636	26.8	20.6	49 W	15*	41*
5 31	18 4.99	-18 7.3	1.047	2.023	10.9	17.4	158 W	27*	82	2 1	17 14.95	-27 40.9	2.010	1.595	28.9	20.5	51 W	14*	45*
6 5	18 0.22	-16 40.8	1.011	2.004	8.5	17.2	163 W	28*	81	2 6	17 31.64	-28 3.4	1.961	1.575	29.9	20.4	53 W	13*	46*
6 10	17 54.81	-15 10.5	0.981	1.984	6.4	17.0	167 W	30*	79	2 11	17 48.66	-28 19.1	1.913	1.556	30.9	20.4	54 W	13*	48*
6 15	17 48.92	-13 37.7	0.958	1.966	5.3	16.9	170 W	31*	78	2 16	18 5.99	-28 27.8	1.867	1.537	31.9	20.3	55 W	12*	49*
6 20	17 42.75	-12 4.2	0.941	1.947	6.1	16.9	168 E	33*	76	2 21	18 23.56	-28 29.0	1.821	1.519	32.9	20.3	56 W	12*	50*
6 25	17 36.55	-10 31.9	0.930	1.928	8.3	16.9	164 E	34*	75	2 26	18 41.33	-28 22.3	1.778	1.501	33.8	20.2	58 W	11*	52*
6 30	17 30.56	-9 2.8	0.926	1.909	11.1	17.0	159 E	36*	73	3 2	18 59.24	-28 7.6	1.735	1.485	34.8	20.2	59 W	11*	53*
7 5	17 25.01	-7 38.7	0.927	1.891	14.0	17.1	153 E	37*	72	3 7	19 17.22	-27 44.6	1.695	1.469	35.7	20.1	60 W	11*	54*
7 10	17 20.07	-6 21.1	0.934	1.873	17.0	17.2	147 E	39*	70	3 12	19 35.23	-27 13.3	1.656	1.454	36.5	20.1	61 W	10*	54*
7 15	17 15.91	-5 11.2	0.946	1.855	19.8	17.3	142 E	40*	69	3 17	19 53.21	-26 33.7	1.619	1.440	37.4	20.0	62 W	10*	55*
7 20	17 12.65	-4 9.5	0.962	1.837	22.4	17.4	137 E	41*	68	3 22	20 11.08</								

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

19/21	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°	19/20	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°
233972 1992 PZ ₅ (continuation)										54690 2001 EB (continuation)									
9 23	1 59.52	+19 52.1	0.848	1.766	19.1	18.5	145 W	65	44	7 10	18 27.91	-82 39.7	1.260	1.970	26.7	20.3	119 E	-	33
9 28	1 54.00	+19 56.3	0.846	1.788	16.0	18.5	151 W	65	44	7 11	18 19.56	-82 37.6	1.264	1.971	26.8	20.3	119 E	-	33
10 3	1 47.78	+19 53.0	0.848	1.810	12.8	18.4	156 W	65	44	7 12	18 11.45	-82 34.3	1.268	1.973	26.8	20.3	119 E	-	33
10 8	1 41.11	+19 42.5	0.856	1.833	9.6	18.3	162 W	65	44	7 13	18 3.63	-82 29.9	1.273	1.974	26.8	20.3	119 E	-	34
10 13	1 34.27	+19 25.6	0.869	1.855	6.8	18.2	167 W	64	45	7 14	17 56.13	-82 24.6	1.277	1.976	26.9	20.3	119 E	-	34
10 18	1 27.53	+19 3.4	0.888	1.878	5.0	18.2	170 E	64	45	7 15	17 49.00	-82 18.3	1.281	1.978	26.9	20.3	118 E	-	34
10 23	1 21.19	+18 37.5	0.913	1.900	5.3	18.3	170 E	64	45	7 16	17 42.26	-82 11.1	1.286	1.979	26.9	20.3	118 E	-	34
10 28	1 15.46	+18 9.7	0.944	1.923	7.2	18.5	166 E	63	46	7 17	17 35.93	-82 3.1	1.291	1.981	27.0	20.4	118 E	-	34
11 2	1 10.53	+17 41.4	0.980	1.945	9.6	18.7	161 E	63	46	7 18	17 30.01	-81 54.4	1.295	1.982	27.0	20.4	118 E	-	34
11 7	1 6.49	+17 14.3	1.023	1.968	12.1	18.9	155 E	62	47	7 19	17 24.52	-81 44.9	1.300	1.984	27.1	20.4	117 E	-	34
11 12	1 3.41	+16 49.3	1.070	1.990	14.4	19.2	150 E	62	47	7 20	17 19.44	-81 34.8	1.305	1.985	27.1	20.4	117 E	-	34
11 17	1 1.32	+16 27.5	1.122	2.012	16.5	19.4	145 E	61	48	7 21	17 14.78	-81 24.1	1.310	1.987	27.2	20.4	117 E	-	35
11 27	1 0.02	+15 56.1	1.240	2.055	20.1	19.7	134 E	61	48	7 22	17 10.52	-81 12.9	1.315	1.988	27.2	20.4	116 E	-	35
12 7	1 2.20	+15 42.2	1.373	2.098	22.6	20.1	125 E	61	48	7 23	17 6.66	-81 1.2	1.320	1.990	27.3	20.4	116 E	-	35
12 17	1 7.32	+15 45.2	1.517	2.141	24.4	20.4	116 E	61	48	7 24	17 3.17	-80 49.1	1.326	1.991	27.3	20.4	116 E	-	35
12 27	1 14.90	+16 3.4	1.670	2.182	25.4	20.7	108 E	61	47*	7 25	17 0.05	-80 36.6	1.331	1.993	27.4	20.4	116 E	-	35
1 6	1 24.45	+16 34.2	1.829	2.222	25.8	20.9	100 E	62	45*	7 26	16 57.27	-80 23.8	1.336	1.994	27.4	20.5	115 E	-	36
1 16	1 35.61	+17 14.9	1.992	2.262	25.8	21.1	93 E	62	42*	7 27	16 54.82	-80 10.7	1.342	1.995	27.5	20.5	115 E	-	36
54690 2001 EB										54690 2001 EB (continuation)									
12 23	15 15.46	-11 55.5	1.954	1.377	28.1	20.5	41 W	26*	25*	7 28	16 52.88	-79 57.3	1.347	1.997	27.5	20.5	115 E	-	36
1 2	15 38.61	-15 48.5	1.927	1.410	29.4	20.6	45 W	24*	31*	7 29	16 50.83	-79 43.6	1.353	1.998	27.6	20.5	114 E	-	36
1 12	16 1.69	-19 32.5	1.891	1.445	30.7	20.6	49 W	22*	38*	7 30	16 49.25	-79 29.8	1.359	1.999	27.6	20.5	114 E	-	37
1 22	16 24.81	-23 8.6	1.848	1.480	32.0	20.6	53 W	19*	44*	7 31	16 47.94	-79 15.8	1.365	2.001	27.7	20.5	114 E	-	37
2 1	16 48.03	-26 38.3	1.798	1.516	33.2	20.7	57 W	16*	51*	8 1	16 46.87	-79 1.6	1.370	2.002	27.8	20.5	113 E	-	37
2 11	17 11.37	-30 3.3	1.742	1.552	34.2	20.7	62 W	13*	56*	8 2	16 46.03	-78 47.2	1.376	2.003	27.8	20.5	113 E	-	37
2 21	17 34.85	-33 25.6	1.682	1.587	35.1	20.7	67 W	10*	61*	8 3	16 45.40	-78 32.8	1.382	2.004	27.9	20.6	113 E	-	37
3 2	17 58.44	-36 47.6	1.618	1.622	35.6	20.7	72 W	7*	65*	8 4	16 44.98	-78 18.2	1.388	2.006	27.9	20.6	112 E	-	38
3 12	18 22.08	-40 11.7	1.553	1.657	35.9	20.6	78 W	3*	67*	8 5	16 44.74	-78 3.5	1.395	2.007	28.0	20.6	112 E	-	38
3 22	18 45.70	-43 40.4	1.488	1.690	35.8	20.6	83 W	-	68*	8 6	16 44.68	-77 48.7	1.401	2.008	28.0	20.6	111 E	-	38
4 1	19 9.15	-47 16.3	1.425	1.722	35.5	20.5	89 W	-	67*	8 7	16 44.79	-77 33.9	1.407	2.009	28.1	20.6	111 E	-	38
4 11	19 32.24	-51 1.4	1.365	1.754	34.7	20.4	94 W	-	65*	8 8	16 45.05	-77 19.0	1.414	2.010	28.1	20.6	111 E	-	39
4 16	19 43.57	-52 57.8	1.338	1.769	34.3	20.4	97 W	-	63*	8 9	16 45.46	-77 4.0	1.420	2.012	28.2	20.6	110 E	-	39
4 21	19 54.69	-54 57.0	1.312	1.784	33.7	20.4	100 W	-	61*	8 11	16 46.68	-76 34.0	1.433	2.014	28.3	20.7	110 E	-	39
4 26	20 5.52	-56 58.9	1.288	1.798	33.1	20.3	103 W	-	59	8 13	16 48.39	-76 3.8	1.446	2.016	28.4	20.7	109 E	-	40
5 1	20 15.99	-59 3.2	1.266	1.812	32.5	20.3	105 W	-	57	8 15	16 50.53	-75 33.5	1.460	2.018	28.5	20.7	108 E	-	40
5 6	20 25.99	-61 9.7	1.247	1.826	31.8	20.2	108 W	-	55	8 17	16 53.06	-75 3.1	1.473	2.020	28.6	20.7	107 E	-	41
5 11	20 35.41	-63 17.9	1.230	1.840	31.1	20.2	110 W	-	53	8 19	16 55.93	-74 32.7	1.487	2.022	28.7	20.8	106 E	-	41
5 16	20 44.05	-65 27.3	1.216	1.853	30.3	20.2	112 W	-	51	8 21	16 59.09	-74 2.2	1.502	2.024	28.8	20.8	106 E	-	42
5 21	20 51.66	-67 37.0	1.205	1.865	29.6	20.1	114 W	-	48	8 23	17 2.53	-73 31.8	1.516	2.026	28.9	20.8	105 E	-	42
5 23	20 54.34	-68 28.8	1.201	1.870	29.4	20.1	115 W	-	48	8 25	17 6.20	-73 1.3	1.531	2.027	28.9	20.8	104 E	-	43
5 25	20 56.77	-69 20.4	1.198	1.875	29.1	20.1	116 W	-	47	8 27	17 10.09	-72 30.8	1.545	2.029	29.0	20.9	103 E	-	43
5 27	20 58.92	-70 11.8	1.195	1.880	28.8	20.1	116 W	-	46	8 29	17 14.15	-72 0.3	1.560	2.031	29.1	20.9	102 E	-	44
5 29	21 0.77	-71 2.8	1.193	1.885	28.6	20.1	117 W	-	45	8 31	17 18.38	-71 29.8	1.575	2.032	29.1	20.9	101 E	-	45
5 31	21 2.26	-71 53.3	1.191	1.889	28.4	20.1	118 W	-	44	9 2	17 22.75	-70 59.2	1.591	2.034	29.2	20.9	101 E	-	45
6 2	21 3.36	-72 43.3	1.190	1.894	28.1	20.1	118 W	-	43	9 4	17 27.24	-70 28.6	1.606	2.035	29.2	20.9	100 E	-	46
6 4	21 4.01	-73 32.6	1.189	1.899	27.9	20.1	119 W	-	42	9 6	17 31.84	-69 57.9	1.621	2.036	29.3	21.0	99 E	-	46
6 6	21 4.15	-74 21.2	1.189	1.903	27.7	20.1	119 W	-	42	9 8	17 36.54	-69 27.2	1.637	2.038	29.3	21.0	98 E	-	47
6 8	21 3.72	-75 8.9	1.189	1.908	27.5	20.1	120 W	-	41	9 13	17 48.63	-68 10.0	1.677	2.040	29.4	21.1	96 E	-	48
6 10	21 2.63	-75 55.6	1.190	1.912	27.4	20.1	120 W	-	40	9 18	18 1.10	-66 52.0	1.717	2.043	29.4	21.1	94 E	-	49*
6 11	21 1.81	-76 18.4	1.191	1.914	27.3	20.1	120 W	-	40	9 23	18 13.83	-65 33.2	1.758	2.045	29.4	21.2	91 E	-	50*
6 12	21 0.79	-76 41.0	1.191	1.916	27.2	20.1	120 W	-	39	9 28	18 26.70	-64 13.5	1.800	2.046	29.3	21.2	89 E	-	52*
6 13	20 59.55	-77 3.2	1.192	1.918	27.2	20.1	120 W	-	39	10 3	18 39.61	-62 52.7	1.842	2.047	29.2	21.3	87 E	-	53*
6 14	20 58.08	-77 25.1	1.193	1.921	27.1	20.1	121 W	-	39	10 8	18 52.51	-61 30.6	1.884	2.047	29.1	21.3	85 E	-	54*
6 15	20 56.38	-77 46.5	1.194	1.923	27.0	20.1	121 W	-	38	10 13	19 5.35	-60 7.2	1.927	2.047	28.9	21.3	82 E	-	55*
6 16	20 54.41	-78 7.6	1.196	1.925	27.0	20.1	121 W	-	38	10 18	19 18.10	-58 42.4	1.969	2.047	28.6	21.4	80 E	-	56*
6 17	20 52.16	-78 28.1	1.197	1.927	26.9	20.1	121 W	-	38	10 23	19 30.72	-57 16.3	2.012	2.046	28.4	21.4	78 E	-	56*
6 18	20 49.63	-78 48.2	1.198	1.929	26.9	20.1	121 W	-	37	10 28	19 43.19	-55 48.7	2.054	2.045	28.1	21.5	75 E	-	57*
6 19	20 46.78	-79 7.8	1.200	1.931	26.8	20.1	121 W	-	37	11 2	19 55.47	-54 19.8	2.096	2.043	27.7	21.5	73 E	-	57*
6 20	20 43.61	-79 26.7	1.202	1.933	26.8	20.1	121 W	-	37	208661 2002 GE ₄									
6 21	20 40.09	-79 45.1	1.204	1.935	26.7	20.1	121 W	-	36	12 23	15 15.83	-9 33.1	2.326	1.727	22.4	21.3	42 W	28*	24*
6 22	20 36.22	-80 2.9	1.205	1.937	26.7	20.1	121 W	-	36	1 2	15 38.09	-11 57.6	2.284	1.752	23.9	21.3	46 W	28*	30*
6 23	20 31.97	-80 19.9	1.208	1.939	26.7	20.2	121 W	-	36	1 12	15 59.86	-14 11.7	2.235	1.779	25.2	21.4	50 W	27*	36*
6 24	20 27.33	-80 36.2	1.210	1.941	26.7	20.2	121 W	-	35	1 22	16 21.04	-16 16.0	2.180	1.807	26.5	21.4	55 W	26*	43*
6 25	20 22.29	-80 51.7	1.212	1.943	26.6	20.2	121 W	-	35	2 1	16 41.52	-18 11.4	2.119	1.837	27.7	21.4	60 W	25*	50*
6 26	20 16.85	-81 6.4	1.214	1.945	26.6	20.2	121 W	-	35	2 11	17								

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

19/21	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°	20/21	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°			
208661 2002 GE₄										152952 2000 GC₂												
(continuation)										(continuation)												
6	20	17 43.67	-45 53.2	1.347	2.319	9.7	20.3	157 E	—	70	1	30	19 9.94	-55 21.4	1.673	1.144	34.9	20.4	42 W	—	26*	
6	25	17 35.55	-46 20.6	1.372	2.336	10.3	20.4	156 E	—	70	2	1	19 25.23	-55 14.6	1.673	1.141	34.9	20.4	42 W	—	25*	
6	30	17 27.89	-46 38.8	1.402	2.352	11.4	20.5	153 E	—	69	2	3	19 40.35	-55 1.2	1.674	1.139	34.9	20.4	41 W	—	24*	
7	5	17 20.94	-46 48.8	1.438	2.369	12.7	20.6	149 E	—	69	2	5	19 55.20	-54 41.5	1.676	1.137	34.8	20.4	41 W	—	23*	
7	10	17 14.89	-46 51.5	1.480	2.385	14.1	20.7	145 E	—	69	2	7	20 9.71	-54 15.7	1.678	1.135	34.7	20.4	41 W	—	22*	
7	15	17 9.87	-46 48.3	1.526	2.402	15.5	20.9	141 E	—	69	2	9	20 23.81	-53 44.1	1.681	1.133	34.6	20.4	41 W	—	21*	
7	20	17 5.96	-46 40.5	1.577	2.418	16.8	21.0	137 E	—	69	2	11	20 37.46	-53 7.1	1.685	1.132	34.4	20.4	40 W	—	21*	
7	25	17 3.19	-46 29.2	1.632	2.434	18.0	21.1	132 E	—	70	2	13	20 50.61	-52 25.1	1.689	1.130	34.2	20.4	40 W	—	20*	
7	30	17 1.56	-46 15.6	1.691	2.450	19.1	21.3	128 E	—	70	2	15	21 3.24	-51 38.7	1.694	1.129	34.1	20.4	40 W	—	19*	
8	4	17 1.01	-46 0.6	1.754	2.466	20.0	21.4	124 E	—	70	2	17	21 15.34	-50 48.1	1.699	1.128	33.8	20.4	39 W	—	19*	
8	9	17 1.49	-45 44.7	1.819	2.481	20.8	21.5	120 E	—	70	2	19	21 26.90	-49 53.9	1.705	1.127	33.6	20.4	39 W	—	18*	
											2	21	21 37.93	-48 56.5	1.712	1.126	33.3	20.4	39 W	—	17*	
3401 Vanphilos										152952 2000 GC₂												
12	23	15 16.62	-36 10.7	3.771	3.055	11.4	18.4	38 W	4*	32*	2	26	22 3.28	-46 21.4	1.729	1.125	32.6	20.4	38 W	—	16*	
1	2	15 31.79	-37 30.6	3.703	3.073	12.8	18.4	44 W	4*	38*	3	2	22 25.71	-43 34.0	1.749	1.125	31.9	20.4	37 W	—	15*	
1	12	15 46.49	-38 48.2	3.622	3.089	14.2	18.4	50 W	4*	44*	3	7	22 45.59	-40 38.7	1.769	1.126	31.0	20.4	36 W	—	14*	
1	22	16 0.56	-40 3.9	3.528	3.105	15.4	18.4	57 W	4*	51*	3	12	23 3.31	-37 38.9	1.790	1.128	30.2	20.4	35 W	—	14*	
2	1	16 13.79	-41 18.2	3.424	3.120	16.5	18.4	64 W	3*	57*	3	17	23 19.22	-34 36.8	1.811	1.131	29.4	20.4	34 W	—	14*	
2	11	16 25.93	-42 31.5	3.311	3.134	17.3	18.4	71 W	2*	63*	3	22	23 33.64	-31 34.3	1.831	1.135	28.6	20.4	33 W	—	15*	
2	21	16 36.72	-43 44.5	3.192	3.147	17.9	18.3	78 W	1*	67*	3	27	23 46.82	-28 32.6	1.850	1.140	27.9	20.5	32 W	—	15*	
3	2	16 45.83	-44 57.4	3.068	3.158	18.2	18.3	86 W	—	70*	4	1	23 58.97	-25 32.3	1.867	1.147	27.4	20.5	32 W	—	16*	
3	7	16 49.63	-45 34.0	3.006	3.164	18.3	18.2	90 W	—	70*	4	6	0	10.27	-22 33.8	1.882	1.154	26.9	20.5	31 W	—	17*
3	12	16 52.88	-46 10.6	2.943	3.169	18.2	18.2	94 W	—	70	4	11	0	20.86	-19 37.3	1.894	1.162	26.7	20.5	31 W	—	19*
3	17	16 55.51	-46 47.1	2.881	3.174	18.1	18.1	98 W	—	69	4	16	0	30.89	-16 42.8	1.903	1.170	26.6	20.5	31 W	—	20*
3	22	16 57.48	-47 23.6	2.820	3.179	17.9	18.1	102 W	—	69	4	21	0	40.44	-13 50.1	1.909	1.180	26.6	20.6	32 W	—	22*
3	27	16 58.72	-47 59.6	2.759	3.183	17.5	18.0	106 W	—	68	4	26	0	49.61	-10 59.0	1.912	1.190	26.9	20.6	32 W	—	24*
4	1	16 59.18	-48 35.0	2.701	3.187	17.1	18.0	110 W	—	67	5	1	0	58.46	-8 9.2	1.912	1.201	27.3	20.6	33 W	—	25*
4	6	16 58.82	-49 9.4	2.644	3.191	16.6	17.9	114 W	—	67	5	6	1	7.06	-5 20.5	1.908	1.213	27.8	20.7	34 W	—	27*
4	11	16 57.61	-49 42.3	2.591	3.195	16.0	17.9	119 W	—	66	5	11	1	15.48	-2 32.4	1.901	1.224	28.4	20.7	35 W	—	29*
4	21	16 52.49	-50 41.3	2.493	3.201	14.5	17.7	127 W	—	65	5	16	1	23.76	+0 15.4	1.891	1.237	29.2	20.7	37 W	2*	31*
5	1	16 43.83	-51 26.4	2.412	3.207	12.8	17.6	135 W	—	65	5	21	1	31.94	+3 3.4	1.878	1.250	30.0	20.8	38 W	5*	32*
5	11	16 32.11	-51 51.1	2.350	3.211	11.0	17.5	143 W	—	64	5	26	1	40.08	+5 51.9	1.862	1.263	30.9	20.8	40 W	8*	33*
5	16	16 25.38	-51 54.2	2.328	3.213	10.3	17.4	146 W	—	64	5	31	1	48.19	+8 41.3	1.843	1.276	31.8	20.8	42 W	11*	34*
5	21	16 18.30	-51 50.3	2.312	3.215	9.6	17.4	148 W	—	64	6	5	1	56.33	+11 32.0	1.822	1.290	32.7	20.8	43 W	14*	35*
5	26	16 11.05	-51 39.2	2.302	3.216	9.2	17.4	149 E	—	64	6	10	2	4.54	+14 24.4	1.798	1.304	33.7	20.9	45 W	18*	35*
5	31	16 3.84	-51 21.1	2.299	3.217	9.1	17.4	150 E	—	65	6	15	2	12.85	+17 18.8	1.773	1.317	34.6	20.9	47 W	22*	35*
6	5	15 56.88	-50 56.4	2.302	3.218	9.2	17.4	150 E	—	65	6	20	2	21.30	+20 15.6	1.746	1.331	35.4	20.9	49 W	26*	34*
6	10	15 50.33	-50 25.7	2.311	3.219	9.6	17.4	148 E	—	66	6	25	2	29.94	+23 15.1	1.718	1.345	36.3	20.9	51 W	30*	33*
6	15	15 44.35	-49 49.8	2.327	3.219	10.2	17.4	146 E	—	66	6	30	2	38.82	+26 17.5	1.688	1.359	37.0	20.9	54 W	34*	32*
6	20	15 39.04	-49 9.7	2.349	3.219	11.0	17.5	143 E	—	67	7	5	2	47.98	+29 22.8	1.659	1.373	37.7	20.9	56 W	39*	30*
6	25	15 34.52	-48 26.4	2.377	3.219	11.8	17.5	140 E	—	68	7	10	2	57.51	+32 31.4	1.629	1.387	38.4	20.9	58 W	43*	28*
6	30	15 30.82	-47 41.2	2.410	3.218	12.7	17.6	136 E	—	68	7	15	3	7.48	+35 43.0	1.599	1.400	38.9	20.9	60 W	47*	26*
7	5	15 27.96	-46 55.0	2.448	3.218	13.6	17.7	132 E	—	69	7	20	3	17.97	+38 57.7	1.570	1.414	39.4	20.9	62 W	51*	23*
7	10	15 25.95	-46 8.7	2.491	3.217	14.5	17.7	128 E	—	70	7	25	3	29.11	+42 15.0	1.543	1.427	39.8	20.9	64 W	55*	20*
7	15	15 24.75	-45 23.1	2.539	3.216	15.3	17.8	124 E	—	71	7	30	3	31.04	+45 34.4	1.516	1.440	40.1	20.9	66 W	59*	17*
7	20	15 24.35	-44 38.7	2.589	3.214	16.0	17.9	120 E	—	71	8	4	3	43.95	+48 55.2	1.491	1.452	40.3	20.9	68 W	61*	14*
7	25	15 24.70	-43 56.3	2.644	3.212	16.6	17.9	115 E	—	72	8	9	4	8.09	+52 16.4	1.468	1.465	40.4	20.9	70 W	64*	11*
7	30	15 25.76	-43 16.0	2.701	3.210	17.1	18.0	111 E	—	73	8	14	4	23.79	+55 36.6	1.447	1.477	40.5	20.8	71 W	65*	8*
8	4	15 27.48	-42 38.3	2.760	3.208	17.6	18.1	107 E	1*	73	8	19	4	41.46	+58 54.1	1.429	1.489	40.5	20.8	73 W	65*	4*
8	9	15 29.82	-42 3.1	2.821	3.206	17.9	18.1	103 E	1*	74	8	24	5	1.67	+62 6.8	1.413	1.500	40.5	20.8	74 W	65*	1*
8	19	15 36.15	-41 0.6	2.947	3.200	18.4	18.2	95 E	1*	74	8	29	5	25.20	+65 11.7	1.399	1.511	40.4	20.8	76 W	63*	—
8	29	15 44.45	-40 8.4	3.076	3.193	18.4	18.3	87 E	1*	72*	9	3	5	53.06	+68 5.0	1.389	1.522	40.2	20.8	77 W	61*	—
9	8	15 54.42	-39 25.3	3.203	3.185	18.1	18.4	80 E	1*	72*	9	8	6	26.49	+70 42.2	1.381	1.532	40.0	20.8	78 W	59*	—
9	18	16 5.81	-38 49.8	3.328	3.176	17.6	18.4	73 E	1*	62*	9	13	7	6.77	+72 57.0	1.375	1.542	39.8	20.8	79 W	57*	—
9	28	16 18.43	-38 20.4	3.447	3.166	16.7	18.5	66 E	—	56*	9	18	7	54.63	+74 42.3	1.372	1.552	39.6	20.8	80 W	55*	—
10	8	16 32.10	-37 55.3	3.558	3.155	15.7	18.5	59 E	—	50*	9	23	8	49.24	+75 50.7	1.370	1.561	39.4	20.8	81 W	53*	—
10	18	16 46.66	-37 32.9	3.660	3.143	14.4	18.5	52 E	—	44*	9	28	9	47.29	+76 17.9	1.371	1.569	39.1	20.8	81 W	51*	—
10	28	17 1.99	-37 11.7	3.750	3.131	13.0	18.5	45 E	—	38*	10	3	10	43.84	+76 5.3	1.373	1.578	38.9	20.8	82 W	49*	—
11	7	17 17.95	-36 50.4	3.827	3.117	11.5	18.5	39 E	—	32*	10	8	11	34.74	+75 19.9	1.376	1.585	38.6	20.8	82 W	48*	—
11	17	17 34.42	-36 27.8	3.890	3.101	9.8	18.4	32 E</														

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

19/21	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°	19/21	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°
22099 2000 EX₁₀₆										699 Hela <i>(continuation)</i>									
12 23	15 19.76	-12 13.8	1.777	1.205	31.8	20.9	40 W	25*	24*	7 15	18 33.29	+3 0.8	0.724	1.686	17.1	13.1	151 E	48	61
12 28	15 37.94	-13 9.1	1.742	1.185	32.8	20.9	41 W	25*	25*	7 20	18 29.48	+3 57.3	0.722	1.670	19.3	13.1	147 E	49	60
1 2	15 56.71	-14 0.1	1.709	1.165	33.8	20.8	41 W	24*	27*	7 30	18 23.88	+5 17.6	0.729	1.639	23.8	13.2	139 E	50	59
1 7	16 16.08	-14 46.0	1.676	1.143	34.7	20.7	41 W	24*	28*	8 9	18 21.99	+5 56.1	0.748	1.612	28.0	13.4	132 E	51	58
1 12	16 36.08	-15 26.2	1.645	1.121	35.7	20.7	42 W	23*	29*	8 19	18 24.42	+5 59.3	0.776	1.588	31.6	13.5	125 E	51	58
1 17	16 56.71	-15 59.8	1.616	1.099	36.6	20.6	42 W	22*	30*	8 24	18 27.33	+5 50.5	0.793	1.578	33.1	13.6	122 E	51	58
1 22	17 17.99	-16 26.2	1.589	1.076	37.5	20.6	42 W	21*	30*	8 29	18 31.36	+5 36.5	0.812	1.569	34.4	13.7	119 E	51	58
1 27	17 39.88	-16 44.5	1.564	1.053	38.3	20.5	41 W	20*	31*	9 3	18 36.45	+5 18.4	0.831	1.561	35.6	13.7	116 E	50	59
2 1	18 2.36	-16 54.1	1.541	1.029	39.0	20.5	41 W	19*	31*	9 8	18 42.56	+4 57.3	0.852	1.555	36.6	13.8	113 E	50	59
2 6	18 25.38	-16 54.1	1.521	1.006	39.7	20.4	41 W	18*	32*	9 13	18 49.62	+4 34.1	0.874	1.549	37.4	13.9	111 E	50	59
2 11	18 48.89	-16 44.2	1.505	0.982	40.3	20.3	40 W	17*	32*	9 18	18 57.59	+4 9.9	0.897	1.545	38.1	14.0	109 E	49	60
3 21	19 37.14	-15 52.6	1.481	0.937	41.0	20.2	38 W	15*	31*	9 23	19 6.40	+3 45.4	0.921	1.542	38.6	14.0	106 E	49	60
3 2	20 26.46	-14 18.2	1.471	0.894	41.2	20.1	36 W	13*	29*	9 28	19 15.98	+3 21.6	0.947	1.541	39.0	14.1	104 E	48	61
3 12	21 16.16	-12 3.1	1.475	0.857	40.5	20.0	34 W	10*	28*	10 3	19 26.26	+2 59.1	0.973	1.540	39.3	14.2	103 E	48	61
3 17	21 40.96	-10 41.9	1.482	0.841	39.8	20.0	33 W	9*	26*	10 8	19 37.16	+2 38.5	1.001	1.541	39.6	14.2	101 E	48	61
3 22	22 5.64	-9 12.9	1.493	0.827	39.0	19.9	31 W	8*	25*	10 18	20 0.58	+2 5.1	1.062	1.547	39.7	14.4	97 E	47	62*
3 27	22 30.14	-7 37.2	1.506	0.816	37.9	19.9	30 W	7*	24*	10 28	20 25.72	+1 44.9	1.128	1.558	39.5	14.5	94 E	47	61*
4 1	22 54.42	-5 56.1	1.522	0.807	36.7	19.8	29 W	5*	23*	11 7	20 52.01	+1 40.1	1.202	1.573	39.0	14.7	91 E	47	59*
4 6	23 18.44	-4 11.0	1.541	0.802	35.3	19.8	28 W	4*	22*	11 17	21 19.01	+1 51.4	1.283	1.593	38.3	14.8	88 E	47	56*
4 11	23 42.17	-2 23.2	1.562	0.799	33.8	19.8	26 W	3*	20*	11 27	21 46.30	+2 18.7	1.373	1.617	37.4	15.0	85 E	47	53*
4 16	0 5.60	-0 34.3	1.585	0.800	32.2	19.8	25 W	2*	19*	12 7	22 13.55	+3 0.6	1.470	1.645	36.3	15.1	82 E	48	49*
4 21	0 28.72	+1 15.1	1.610	0.804	30.6	19.8	24 W	1*	18*	12 17	22 40.50	+3 55.2	1.574	1.677	35.1	15.3	78 E	49	45*
4 26	0 51.51	+3 2.8	1.636	0.811	29.0	19.8	23 W	1*	17*	12 27	23 7.02	+5 0.3	1.686	1.712	33.6	15.4	75 E	50*	41*
5 1	1 13.98	+4 47.9	1.662	0.821	27.5	19.8	22 W	—	16*	1 6	23 32.98	+6 13.3	1.804	1.749	32.1	15.6	71 E	50*	37*
5 6	1 36.10	+6 29.3	1.689	0.834	26.0	19.8	21 W	—	15*	1 16	23 58.36	+7 31.6	1.927	1.789	30.4	15.7	67 E	50*	34*
5 11	1 57.90	+8 5.9	1.717	0.849	24.7	19.9	21 W	—	15*										
5 16	2 19.37	+9 37.0	1.745	0.866	23.4	19.9	20 W	—	14*										
5 21	2 40.51	+11 1.9	1.773	0.885	22.4	20.0	19 W	—	13*										
5 31	3 21.82	+13 30.9	1.827	0.927	20.6	20.1	19 W	—	13*	12 23	15 20.68	-27 36.2	0.842	0.589	84.9	21.1	37 W	11*	29*
6 10	4 1.82	+15 30.2	1.880	0.972	19.3	20.2	18 W	—	12*	12 28	16 4.61	-29 53.4	0.896	0.523	83.3	20.9	32 W	7*	25*
6 20	4 40.51	+16 59.0	1.929	1.019	18.6	20.3	19 W	—	12*	1 2	16 50.50	-30 54.2	0.967	0.456	78.5	20.6	27 W	4*	21*
6 30	5 17.85	+17 57.8	1.973	1.065	18.2	20.5	19 W	2*	13*	1 7	17 37.64	-30 30.1	1.053	0.392	69.0	20.1	22 W	1*	16*
7 10	5 53.81	+18 28.3	2.011	1.111	18.2	20.6	20 W	4*	13*	1 12	18 25.50	-28 35.9	1.149	0.342	53.3	19.5	16 W	—	10*
7 20	6 28.41	+18 32.8	2.042	1.155	18.6	20.7	21 W	6*	13*	1 14	18 44.66	-27 25.1	1.186	0.329	45.3	19.3	14 W	—	8*
7 30	7 1.65	+18 13.8	2.066	1.196	19.2	20.8	23 W	9*	14*	1 16	19 3.68	-26 1.1	1.223	0.321	36.6	19.1	11 W	—	5*
8 9	7 33.57	+17 34.3	2.082	1.235	20.0	20.9	25 W	12*	15*	1 18	19 22.39	-24 25.6	1.256	0.320	27.6	18.9	9 W	—	3*
8 19	8 4.26	+16 36.9	2.089	1.269	21.0	21.0	27 W	15*	15*	1 20	19 40.64	-22 41.2	1.286	0.325	18.8	18.7	6 W	—	—
8 29	8 33.79	+15 24.2	2.087	1.301	22.2	21.1	29 W	18*	16*	1 22	19 58.27	-20 50.6	1.312	0.336	10.8	18.5	4 W	—	—
9 8	9 2.30	+13 58.7	2.075	1.328	23.5	21.2	32 W	22*	17*	1 24	20 15.19	-18 56.3	1.334	0.351	4.6	18.4	2 W	—	—
9 18	9 29.92	+12 22.7	2.054	1.352	24.9	21.3	34 W	25*	18*	1 26	20 31.33	-17 0.7	1.354	0.371	5.3	18.5	2 E	—	—
9 28	9 56.79	+10 38.3	2.024	1.371	26.4	21.3	37 W	28*	19*	1 28	20 46.72	-15 5.4	1.370	0.394	9.8	18.9	4 E	—	—
10 8	10 23.06	+8 47.4	1.985	1.387	27.9	21.3	41 W	31*	21*	1 30	21 1.39	-13 11.8	1.386	0.418	14.0	19.2	6 E	—	—
10 18	10 48.91	+6 51.8	1.936	1.399	29.5	21.3	44 W	34*	22*	2 1	21 15.38	-11 20.5	1.400	0.444	17.5	19.5	8 E	2*	—
10 28	11 14.48	+4 53.3	1.879	1.406	31.2	21.3	47 W	36*	25*	2 6	21 47.81	-6 55.6	1.432	0.511	23.7	20.0	12 E	6*	—
11 7	11 39.95	+2 53.7	1.814	1.409	32.9	21.3	50 W	38*	27*	2 11	22 17.25	-2 52.3	1.465	0.577	27.1	20.5	15 E	9*	—
11 17	12 5.51	+0 54.4	1.742	1.409	34.6	21.3	54 W	39*	30*	2 16	22 44.37	+0 49.0	1.499	0.641	28.9	20.8	18 E	12*	—
11 27	12 31.33	-1 2.6	1.664	1.404	36.3	21.2	57 W	40*	33*	2 21	23 9.66	+4 9.0	1.535	0.700	29.6	21.0	20 E	14*	—
12 7	12 57.63	-2 55.7	1.581	1.395	38.0	21.1	61 W	40*	37*	2 26	23 33.47	+7 9.0	1.573	0.755	29.6	21.3	22 E	16*	—
12 17	13 24.62	-4 43.0	1.494	1.382	39.8	21.0	64 W	39*	41*	3 2	23 56.06	+9 50.6	1.613	0.805	29.2	21.4	23 E	17*	1*
12 27	13 52.52	-6 22.2	1.404	1.365	41.6	20.9	67 W	38*	45*										
1 6	14 21.63	-7 51.2	1.312	1.343	43.4	20.8	70 W	37*	50*										
1 16	14 52.23	-9 7.4	1.221	1.318	45.4	20.7	73 W	36*	54*										
699 Hela																			
12 23	15 20.43	-23 8.2	3.325	2.608	13.1	17.2	37 W	15*	28*	12 23	15 21.79	+8 59.8	1.891	1.483	31.0	19.8	51 W	44*	14*
1 2	15 38.34	-23 50.2	3.193	2.564	15.2	17.1	43 W	17*	34*	1 2	15 43.56	+9 4.6	1.922	1.581	30.7	19.9	55 W	46*	19*
1 12	15 56.43	-24 24.4	3.052	2.519	17.1	17.1	49 W	18*	40*	1 12	16 2.96	+9 25.0	1.941	1.676	30.4	20.1	60 W	49*	24*
1 22	16 14.62	-24 49.7	2.903	2.474	19.0	17.0	55 W	18*	47*	1 22	16 20.05	+10 1.3	1.947	1.767	30.2	20.2	65 W	51*	30*
2 1	16 32.81	-25 5.3	2.747	2.428	20.8	16.9	61 W	19*	54*	2 1	16 34.79	+10 53.6	1.941	1.856	30.0	20.3	70 W	53*	36*
2 11	16 50.87	-25 10.0	2.585	2.381	22.4	16.7	67 W	19*	60*	2 11	16 47.06	+12 1.2	1.925	1.941	29.6	20.3	76 W	55*	41*
2 21	17 8.67	-25 3.2	2.420	2.334	23.9	16.6	73 W	19*	67*	2 21	16 56.72	+13 23.1	1.900	2.022	29.0	20.4	82 W	58*	45*
3 2	17 26.03	-24 43.8	2.253	2.287	25.2	16.4	79 W	20*	73*	3 2	17 7.20	+16 41.9	1.832	2.177	27.0	20.4	96 W	62	47*
3 12	17 42.77	-24 11.1	2.086	2.239	26.3	16.3	86 W	20*	79*	3 17	17 7.79	+17 36.4	1.814	2.213	26.3	20.4	100 W	63	46
3 22	17 58.69	-23 24.2	1.920	2.191	27.0	16.1	92 W	21*	85*	3 22	17 7.50	+18 31.7	1.796	2.249	25.5	20.4	104 W	64	45
4 1	18 13.51	-22 22.2	1.757	2.144	27.5	15.8	98 W	22*	86*	3 27	17 6.30	+19 26.8	1.779	2.285	24.6	20.4	107 W	64	45
4 11	18 26.97	-21 4.1	1.600	2.096	27.5	15.6	105 W	24*	85*	4									

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

19/21	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°	19/21	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°
250614 2005 GG										100446 1996 RC₄									
<i>(continuation)</i>										<i>(continuation)</i>									
6 20	15 26.11	+19 33.3	2.089	2.784	17.7	20.9	124 E	65	44	4 11	18 17.79	+12 33.0	1.611	2.078	28.1	20.8	103 W	58*	51
6 25	15 22.35	+18 28.6	2.153	2.808	18.2	21.0	120 E	63	46	4 21	18 22.51	+15 43.9	1.533	2.083	27.2	20.6	108 W	61	48
6 30	15 19.33	+17 21.3	2.221	2.832	18.6	21.1	117 E	62	47	5 1	18 23.99	+18 55.3	1.464	2.087	26.2	20.5	114 W	64	45
7 5	15 17.03	+16 12.2	2.292	2.855	19.1	21.2	114 E	61*	48	5 11	18 21.97	+21 57.7	1.405	2.089	25.1	20.4	119 W	67	42
7 10	15 15.41	+15 2.3	2.367	2.877	19.4	21.3	110 E	60*	49	5 16	18 19.62	+23 22.2	1.380	2.090	24.5	20.3	121 W	68	41
7 15	15 14.44	+13 52.0	2.444	2.899	19.7	21.4	106 E	58*	50	5 21	18 16.37	+24 40.1	1.358	2.090	24.0	20.3	123 W	70	39
61343 2000 PC₅										100446 1996 RC₄									
12 23	15 21.86	-11 17.2	2.924	2.261	16.3	20.5	40 W	26*	23*	5 26	18 12.28	+25 49.6	1.340	2.090	23.5	20.2	125 W	71	38
1 2	15 41.31	-12 20.6	2.810	2.230	18.2	20.4	45 W	27*	29*	5 31	18 7.44	+26 49.1	1.324	2.089	23.1	20.2	126 W	72	37
1 12	16 0.96	-13 15.4	2.690	2.199	20.2	20.4	50 W	28*	36*	6 5	18 1.95	+27 37.2	1.313	2.088	22.8	20.2	127 W	73	36
1 22	16 20.77	-14 0.8	2.564	2.167	22.0	20.3	56 W	28*	42*	6 10	17 55.96	+28 12.6	1.305	2.087	22.6	20.2	128 W	73	36
2 1	16 40.65	-14 36.5	2.433	2.136	23.8	20.2	61 W	28*	49*	6 15	17 49.64	+28 34.4	1.300	2.085	22.6	20.1	128 W	74	35
2 11	17 0.49	-15 2.1	2.299	2.104	25.4	20.1	66 W	28*	55*	6 20	17 43.18	+28 42.0	1.299	2.083	22.7	20.1	128 E	74	35
2 21	17 20.20	-15 17.7	2.163	2.072	26.9	20.0	71 W	28*	61*	6 25	17 36.79	+28 35.2	1.302	2.080	22.9	20.2	127 E	74	35
3 2	17 39.62	-15 23.6	2.026	2.040	28.2	19.8	77 W	28*	67*	6 30	17 30.67	+28 14.3	1.308	2.078	23.3	20.2	126 E	73	36
3 12	17 58.61	-15 20.5	1.889	2.008	29.3	19.7	82 W	29*	72*	7 5	17 25.01	+27 40.2	1.318	2.074	23.7	20.2	125 E	73	36
3 22	18 17.02	-15 9.5	1.752	1.977	30.2	19.5	87 W	29*	76*	7 10	17 19.95	+26 54.0	1.331	2.071	24.3	20.2	123 E	72	37
4 1	18 34.65	-14 52.0	1.619	1.946	30.9	19.3	93 W	29*	79*	7 15	17 15.61	+25 56.9	1.347	2.067	24.9	20.3	121 E	71	38
4 11	18 51.29	-14 30.3	1.488	1.915	31.2	19.1	99 W	30*	79	7 20	17 12.08	+24 50.4	1.366	2.062	25.5	20.3	119 E	70	39
4 21	19 6.71	-14 7.0	1.362	1.885	31.1	18.9	105 W	30*	78	7 25	17 9.43	+23 35.9	1.388	2.058	26.1	20.4	117 E	69	40
5 1	19 20.61	-13 45.5	1.242	1.856	30.5	18.6	111 W	31*	78	7 30	17 7.69	+22 15.0	1.412	2.052	26.8	20.4	114 E	67	42
5 11	19 32.66	-13 30.2	1.128	1.829	29.3	18.4	117 W	31*	78	8 4	17 6.84	+20 49.4	1.439	2.047	27.4	20.5	112 E	66	43
5 21	19 42.49	-13 26.1	1.023	1.802	27.5	18.1	125 W	32	77	8 9	17 6.89	+19 20.1	1.467	2.041	28.0	20.5	109 E	64	45
5 31	19 49.65	-13 39.2	0.927	1.777	24.9	17.7	132 W	31	78	8 14	17 7.78	+17 48.5	1.498	2.035	28.5	20.6	107 E	63*	46
6 5	19 52.12	-13 54.0	0.883	1.765	23.2	17.6	137 W	31	78	8 19	17 9.51	+16 15.5	1.530	2.028	29.0	20.6	104 E	61*	48
6 10	19 53.78	-14 15.4	0.843	1.753	21.3	17.4	141 W	31	78	8 24	17 12.03	+14 42.1	1.563	2.021	29.4	20.7	101 E	59*	49
6 15	19 54.60	-14 43.8	0.806	1.742	19.1	17.2	146 W	30	79	8 29	17 15.29	+13 9.2	1.598	2.014	29.7	20.7	99 E	58*	51
6 20	19 54.56	-15 19.7	0.772	1.732	16.7	17.0	151 W	30	79	9 3	17 19.25	+11 37.4	1.633	2.006	30.0	20.8	96 E	56*	52
6 30	19 51.98	-16 54.1	0.718	1.712	11.0	16.6	161 W	28	81	9 8	17 23.86	+10 7.3	1.670	1.998	30.2	20.8	93 E	54*	54
7 10	19 46.65	-18 54.9	0.681	1.695	4.5	16.2	172 W	26	83	9 13	17 29.08	+ 8 39.5	1.707	1.989	30.4	20.9	91 E	52*	55*
7 20	19 39.74	-21 11.6	0.664	1.679	2.6	16.0	176 E	24	85	9 18	17 34.89	+ 7 14.2	1.745	1.981	30.5	20.9	88 E	51*	56*
7 25	19 36.25	-22 21.4	0.663	1.673	6.1	16.2	170 E	23	86	9 23	17 41.24	+ 5 51.9	1.783	1.972	30.5	20.9	85 E	49*	56*
7 30	19 33.09	-23 29.4	0.667	1.667	9.6	16.4	164 E	22	87	9 28	17 48.10	+ 4 32.9	1.821	1.962	30.4	21.0	83 E	48*	56*
8 4	19 30.48	-24 33.9	0.675	1.662	12.9	16.5	159 E	20	89	10 3	17 55.42	+ 3 17.4	1.860	1.952	30.3	21.0	80 E	46*	55*
8 9	19 28.63	-25 33.6	0.688	1.657	16.1	16.7	153 E	19	90	10 8	18 3.19	+ 2 5.7	1.898	1.942	30.1	21.0	77 E	45*	54*
8 14	19 27.70	-26 27.5	0.705	1.653	19.0	16.8	148 E	19	90	10 13	18 11.38	+ 0 58.0	1.936	1.932	29.9	21.1	75 E	44*	53*
8 19	19 27.79	-27 14.7	0.725	1.650	21.7	16.9	143 E	18	89	10 18	18 19.96	- 0 5.8	1.973	1.921	29.6	21.1	72 E	42*	52*
8 29	19 31.37	-28 28.2	0.776	1.646	26.3	17.2	134 E	17	88	10 23	18 28.91	- 1 5.3	2.011	1.910	29.3	21.1	70 E	41*	50*
9 8	19 39.39	-29 13.5	0.837	1.644	29.8	17.5	126 E	16	87	10 28	18 38.21	- 2 0.5	2.047	1.898	28.9	21.1	67 E	40*	48*
9 18	19 51.36	-29 31.3	0.908	1.646	32.4	17.7	119 E	15	86	11 2	18 47.82	- 2 51.3	2.083	1.887	28.4	21.1	65 E	39*	45*
9 23	19 58.65	-29 30.3	0.946	1.648	33.4	17.9	115 E	15	86	11 7	18 57.73	- 3 37.7	2.118	1.875	27.9	21.1	62 E	38*	43*
9 28	20 6.68	-29 22.9	0.986	1.650	34.2	18.0	112 E	16	87	11 12	19 7.92	- 4 19.7	2.152	1.862	27.4	21.1	60 E	37*	41*
10 3	20 15.35	-29 9.4	1.027	1.654	34.8	18.1	109 E	16	87	11 17	19 18.37	- 4 57.1	2.185	1.850	26.8	21.1	57 E	36*	38*
10 8	20 24.56	-28 50.0	1.070	1.658	35.3	18.2	106 E	16	87	11 22	19 29.07	- 5 30.1	2.217	1.837	26.1	21.1	55 E	35*	35*
10 13	20 34.24	-28 24.9	1.114	1.663	35.7	18.3	104 E	17	88	11 27	19 39.99	- 5 58.5	2.247	1.824	25.4	21.1	53 E	34*	33*
10 18	20 44.30	-27 54.2	1.159	1.668	35.9	18.4	101 E	17	88	12 2	19 51.12	- 6 22.6	2.276	1.810	24.7	21.1	50 E	33*	30*
10 23	20 54.68	-27 18.3	1.206	1.674	36.0	18.5	99 E	18	89	12 7	20 2.43	- 6 42.2	2.304	1.797	24.0	21.1	48 E	32*	28*
10 28	21 5.32	-26 37.4	1.254	1.681	36.0	18.6	96 E	18	89	12 12	20 13.92	- 6 57.6	2.330	1.783	23.2	21.1	45 E	31*	25*
11 2	21 16.13	-25 51.9	1.302	1.688	35.9	18.7	94 E	19	88*	12 17	20 25.58	- 7 8.7	2.355	1.769	22.3	21.1	43 E	30*	23*
11 7	21 27.08	-25 1.9	1.352	1.696	35.7	18.8	91 E	20	85*	12 22	20 37.38	- 7 15.6	2.378	1.754	21.5	21.0	41 E	29*	20*
11 12	21 38.13	-24 7.9	1.403	1.705	35.5	18.8	89 E	21	82*	12 27	20 49.33	- 7 18.5	2.399	1.740	20.6	21.0	38 E	28*	18*
11 17	21 49.23	-23 10.1	1.455	1.714	35.2	18.9	87 E	22	79*	1 1	21 1.39	- 7 17.6	2.418	1.725	19.7	21.0	36 E	26*	16*
11 22	22 0.36	-22 8.8	1.507	1.723	34.8	19.0	85 E	23	76*	1 6	21 13.58	- 7 12.9	2.436	1.710	18.7	21.0	34 E	25*	14*
11 27	22 11.50	-21 4.4	1.561	1.734	34.3	19.1	82 E	24	73*	1 11	21 25.88	- 7 4.6	2.451	1.695	17.8	20.9	32 E	23*	12*
12 2	22 22.61	-19 57.3	1.615	1.744	33.9	19.2	80 E	25	69*	1 16	21 38.28	- 6 52.9	2.465	1.680	16.8	20.9	30 E	21*	11*
12 7	22 33.68	-18 47.8	1.669	1.756	33.3	19.2	78 E	26	66*	396593 2001 HC									
12 12	22 44.70	-17 36.2	1.725	1.767	32.7	19.3	76 E	27	63*	12 23	15 22.04	- 7 35.3	1.171	0.784	56.3	20.9	42 W	29*	22*
12 17	22 55.68	-16 22.7	1.781	1.779	32.1	19.4	74 E	29	60*	12 28	15 33.35	- 9 20.7	1.208	0.833	53.9	21.0	43 W	29*	25*
12 22	23 6.59	-15 7.7	1.837	1.792	31.4	19.4	72 E	30	57*	1 2	15 44.75	-11 3.1	1.237	0.880	52.1	21.1	45 W	28*	28*
12 27	23 17.44	-13 51.5	1.894	1.805	30.7	19.5	70 E	31*	54*	1 7	15 56.17	-12 41.9	1.259	0.925	50.7	21.2	47 W	27*	31*
1 1	23 28.22	-12 34.5	1.951	1.818	30.0	19.5	67 E	32*	51*	1 12	16 7.61	-14 17.1	1.274	0.967	49.8	21.3	49 W	26*	35*
1 6	23 38.93	-11 16.8	2.008	1.831	29.2	19.6	65 E	33*	48*	1 17	16 19.05	-15							

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

19/21	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°	19/21	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°
154347 2002 XK₄										137078 1998 XZ₄									
<i>(continuation)</i>										<i>(continuation)</i>									
3 12	20 21.33	-33 49.3	1.418	1.145	44.0	18.7	53 W	-	45*	5 31	3 54.04	+32 27.4	2.016	1.058	13.0	18.6	14 W	8*	-
3 17	20 48.66	-31 50.7	1.365	1.086	46.2	18.6	52 W	-	44*	6 5	4 15.29	+33 33.0	2.067	1.109	12.6	18.7	14 W	8*	-
3 22	21 16.44	-29 21.6	1.319	1.026	48.3	18.5	50 W	-	42*	6 10	4 35.93	+34 23.1	2.118	1.160	12.2	18.9	14 W	8*	-
3 27	21 44.41	-26 21.0	1.281	0.965	50.4	18.3	48 W	-	41*	6 15	4 55.90	+34 59.3	2.169	1.211	12.0	19.0	14 W	8*	-
4 1	22 12.33	-22 49.3	1.253	0.905	52.2	18.2	46 W	-	38*	6 20	5 15.16	+35 23.2	2.218	1.262	11.8	19.2	15 W	9*	-
4 6	22 40.04	-18 48.6	1.235	0.845	53.6	18.1	43 W	-	36*	6 25	5 33.67	+35 36.3	2.265	1.312	11.8	19.3	15 W	9*	-
4 11	23 7.46	-14 22.8	1.229	0.787	54.4	17.9	40 W	1*	33*	6 30	5 51.41	+35 40.0	2.311	1.362	11.8	19.4	16 W	10*	-
4 16	23 34.62	-9 37.4	1.234	0.731	54.4	17.8	36 W	1*	30*	7 5	6 8.38	+35 35.8	2.355	1.412	11.9	19.5	17 W	11*	-
4 21	0 1.62	+ 4 39.2	1.251	0.680	53.3	17.6	33 W	2*	27*	7 10	6 24.58	+35 24.6	2.397	1.460	12.1	19.6	18 W	12*	-
4 26	0 28.68	+ 0 24.2	1.279	0.635	50.8	17.4	29 W	3*	23*	7 15	6 40.04	+35 7.6	2.436	1.508	12.4	19.8	19 W	13*	-
5 1	0 56.04	+ 5 24.9	1.317	0.600	47.0	17.3	26 W	3*	20*	7 20	6 54.79	+34 45.7	2.472	1.555	12.8	19.9	20 W	14*	-
5 6	1 23.97	+10 14.2	1.363	0.578	41.8	17.1	22 W	4*	16*	7 25	7 8.84	+34 19.8	2.506	1.601	13.3	20.0	21 W	15*	1*
5 11	1 52.61	+14 43.8	1.415	0.570	35.9	17.0	19 W	4*	12*	7 30	7 22.22	+33 50.5	2.536	1.647	13.8	20.1	23 W	17*	1*
5 16	2 21.95	+18 45.9	1.470	0.578	29.9	16.9	17 W	5*	9*	8 9	7 47.12	+32 44.2	2.585	1.736	15.0	20.3	26 W	20*	4*
5 21	2 51.77	+22 14.6	1.529	0.600	24.3	16.9	14 W	5*	5*	8 19	8 9.73	+31 31.2	2.621	1.821	16.3	20.5	30 W	24*	6*
5 26	3 21.72	+25 6.8	1.588	0.635	19.7	17.0	12 W	4*	2*	8 29	8 30.25	+30 14.6	2.640	1.903	17.7	20.6	35 W	29*	8*
5 31	3 51.36	+27 22.2	1.649	0.680	16.2	17.1	11 W	4*	-	9 8	8 48.85	+28 57.1	2.644	1.981	19.1	20.8	40 W	34*	11*
6 5	4 20.31	+29 3.0	1.710	0.731	13.7	17.3	10 W	4*	-	9 18	9 5.66	+27 40.9	2.632	2.057	20.1	20.9	46 W	39*	14*
6 10	4 48.23	+30 12.5	1.772	0.786	11.8	17.4	9 W	3*	-	9 28	9 20.72	+26 27.9	2.604	2.129	21.6	21.0	51 W	45*	17*
6 15	5 14.87	+30 54.9	1.835	0.845	10.5	17.6	9 W	3*	-	10 8	9 34.07	+25 19.8	2.561	2.199	22.6	21.0	58 W	51*	20*
6 20	5 40.09	+31 14.6	1.897	0.905	9.5	17.8	8 W	2*	-	10 18	9 45.65	+24 18.3	2.503	2.265	23.4	21.1	65 W	57*	23*
6 25	6 3.80	+31 15.4	1.960	0.965	8.8	18.0	8 W	2*	-	10 28	9 55.35	+23 25.3	2.433	2.329	24.0	21.1	72 W	62*	27*
6 30	6 26.01	+31 1.1	2.022	1.026	8.1	18.2	8 W	2*	-	11 7	10 3.01	+22 42.1	2.352	2.390	24.1	21.1	80 W	66*	31*
7 5	6 46.75	+30 34.8	2.083	1.086	7.6	18.3	8 W	2*	-	11 17	10 8.39	+22 10.6	2.263	2.448	23.8	21.0	89 W	67	35*
7 10	7 6.10	+29 59.0	2.142	1.145	7.2	18.5	8 W	2*	-	11 27	10 11.19	+21 52.2	2.170	2.504	23.0	21.0	98 W	67	39*
7 15	7 24.17	+29 15.9	2.200	1.204	7.0	18.6	8 W	2*	-	12 7	10 11.09	+21 47.6	2.077	2.557	21.5	20.9	108 W	67	42*
7 20	7 41.06	+28 27.3	2.256	1.261	7.0	18.8	9 W	3*	-	12 17	10 7.75	+21 57.0	1.989	2.607	19.3	20.8	119 W	67	42
7 25	7 56.86	+27 34.5	2.310	1.318	7.1	18.9	9 W	3*	-	12 27	10 0.94	+22 18.7	1.912	2.655	16.4	20.6	130 W	67	42
7 30	8 11.68	+26 38.7	2.361	1.373	7.4	19.1	10 W	4*	-	1 6	9 50.70	+22 48.9	1.854	2.701	12.8	20.5	143 W	68	41
8 4	8 25.60	+25 40.7	2.409	1.427	7.9	19.2	11 W	5*	-	1 16	9 37.45	+23 21.8	1.820	2.745	8.6	20.3	155 W	68	41
8 9	8 38.71	+24 41.2	2.454	1.480	8.5	19.4	12 W	6*	-	339714 2005 ST₁									
8 19	9 2.82	+22 40.0	2.533	1.582	9.9	19.7	16 W	9*	-	12 23	15 22.63	+34 37.5	0.409	0.923	86.1	21.3	69 W	62*	-
8 29	9 24.48	+20 38.2	2.598	1.680	11.6	19.9	19 W	13*	3*	12 28	15 21.26	+31 59.1	0.421	0.932	84.3	21.3	71 W	64*	6*
9 8	9 44.09	+18 38.0	2.647	1.773	13.3	20.1	24 W	17*	6*	1 2	15 20.54	+29 21.2	0.430	0.944	82.2	21.3	72 W	66*	12*
9 18	10 1.92	+16 40.8	2.678	1.862	15.1	20.3	29 W	22*	9*	1 7	15 20.28	+26 44.2	0.437	0.960	80.1	21.3	74 W	67*	17*
9 28	10 18.17	+14 47.5	2.693	1.947	16.8	20.5	34 W	27*	13*	1 12	15 20.29	+24 8.3	0.441	0.977	77.8	21.3	76 W	66*	23*
10 8	10 32.96	+12 59.2	2.690	2.028	18.4	20.6	40 W	32*	16*	1 17	15 20.39	+21 33.6	0.442	0.997	75.4	21.3	79 W	65*	29*
10 18	10 46.36	+11 16.4	2.670	2.105	19.9	20.7	46 W	37*	21*	1 22	15 20.35	+19 0.2	0.441	1.018	73.0	21.2	82 W	64*	34*
10 28	10 58.35	+ 9 40.1	2.632	2.179	21.3	20.8	53 W	42*	25*	1 27	15 19.94	+16 27.9	0.438	1.042	70.3	21.2	85 W	61*	39*
11 7	11 8.90	+ 8 11.0	2.580	2.249	22.4	20.9	60 W	46*	30*	2 1	15 18.91	+13 56.0	0.433	1.066	67.5	21.1	89 W	59	45*
11 17	11 17.88	+ 6 50.0	2.512	2.316	23.2	20.9	67 W	49*	36*	2 6	15 17.02	+11 23.4	0.425	1.092	64.4	21.0	93 W	56	50*
11 27	11 25.13	+ 5 38.4	2.433	2.379	23.6	20.9	75 W	50*	42*	2 11	15 14.04	+ 8 49.4	0.417	1.119	61.0	20.9	97 W	54	54*
12 7	11 30.42	+ 4 37.4	2.343	2.440	23.7	20.9	84 W	50*	49*	2 16	15 9.70	+ 6 12.8	0.407	1.146	57.3	20.8	102 W	51	58*
12 17	11 33.50	+ 3 48.3	2.247	2.497	23.2	20.8	93 W	49	55*	2 21	15 3.67	+ 3 33.2	0.397	1.174	53.2	20.7	108 W	49	60*
12 27	11 34.03	+ 3 12.8	2.149	2.552	22.1	20.8	103 W	48	60*	2 26	14 55.68	+ 0 50.1	0.388	1.202	48.7	20.6	114 W	46	63
1 6	11 31.74	+ 2 52.4	2.054	2.603	20.3	20.7	113 W	48	61	3 2	14 45.50	- 1 56.2	0.380	1.231	43.6	20.4	121 W	43	66
1 16	11 26.39	+ 2 48.5	1.967	2.652	17.8	20.5	125 W	48	61	3 7	14 33.04	- 4 44.0	0.373	1.259	38.1	20.3	128 W	40	69
137078 1998 XZ₄										167701 2004 TM₁₃									
12 23	15 22.36	-34 21.3	2.296	1.614	21.2	20.1	36 W	5*	30*	3 12	14 18.35	- 7 29.8	0.371	1.288	32.1	20.2	136 W	38	71
12 28	15 39.18	-35 27.1	2.226	1.568	22.6	20.0	38 W	4*	32*	3 17	14 1.71	-10 8.6	0.372	1.316	25.9	20.0	145 W	35	74
1 2	15 57.11	-36 28.3	2.156	1.521	23.9	19.9	39 W	3*	33*	3 22	13 43.67	-12 34.2	0.378	1.344	19.7	19.9	153 W	32	77
1 7	16 16.23	-37 23.2	2.087	1.473	25.3	19.8	40 W	3*	34*	3 27	13 25.05	-14 40.9	0.390	1.372	13.9	19.8	161 W	30	79
1 12	16 36.63	-38 10.1	2.019	1.425	26.7	19.7	41 W	2*	35*	4 1	13 6.80	-16 25.3	0.408	1.400	9.5	19.8	167 W	29	80
1 17	16 58.34	-38 46.7	1.954	1.376	28.1	19.6	41 W	1*	35*	4 6	12 49.81	-17 46.8	0.432	1.427	8.1	19.9	168 E	27	82
1 22	17 21.40	-39 10.6	1.890	1.326	29.5	19.5	42 W	-	35*	4 11	12 34.73	-18 47.2	0.462	1.453	10.3	20.2	165 E	26	83
1 27	17 45.74	-39 19.0	1.829	1.275	30.9	19.4	42 W	-	35*	4 16	12 21.93	-19 30.1	0.497	1.480	13.7	20.5	160 E	25	84
2 1	18 11.26	-39 8.9	1.772	1.225	32.3	19.2	42 W	-	35*	4 21	12 11.55	-19 59.6	0.537	1.505	17.2	20.8	154 E	25	84
2 6	18 37.77	-38 37.3	1.718	1.174	33.6	19.1	41 W	-	34*	4 26	12 3.56	-20 19.9	0.581	1.531	20.4	21.2	148 E	25	84
2 11	19 5.01	-37 41.7	1.670	1.122	34.9	19.0	41 W	-	32*	5 1	11 57.79	-20 34.4	0.629	1.555	23.2	21.5	143 E	24	85
2 16	19 32.68	-36 19.6	1.626	1.071	36.1	18.9	40 W	-	32*	167701 2004 TM₁₃									
2 21	20 0.46	-34 29.8	1.588	1.021	37.1	18.7	38 W	-	31*	12 23	15 23.64	-23 29.6	2.708	2.001	16.9	21.0	36 W	15*	27*
2 26	20 28.02	-32 11.6	1.556	0.971	37.9	18.6	37 W	-	30*	1 2	15 47.95	-24 44.3	2.609	1.971	19.0	20.9	41 W	15*	32*
3 2	20 55.10	-29 25.5	1.531	0.923	38.4	18.5	35 W	-	28*	1 12	16 12.95	-25 46.3	2.505	1.941	21.0	20.9	45 W	15*	37*
3 7	21 21.50	-26 13.1	1.513	0.877	38.6	18.4	33 W	-	26*	1 22	16 38.57	-26 34.0	2.398	1.911	23.0	20.8	49 W	15*	42*
3 12	21 47.14	-22 37.0	1.503	0.834	38.3	18.2	31 W	-	24*	2 1	17 4.68	-27 5.5	2.289	1.882	25.0	20.7	54 W	15*	

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

19/21	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°	19/21	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°
167701 2004 TM₁₃ (continuation)										194126 2001 SG₂₇₆ (continuation)									
7 5	22 23.72	+ 1 32.2	0.818	1.635	30.4	18.3	126 W	43	66	9 3	3 46.19	+ 8 33.6	1.116	1.677	35.7	20.6	104 W	54*	55
7 10	22 25.74	+ 0 22.5	0.791	1.637	28.7	18.2	129 W	45	64	9 8	3 47.49	+ 9 31.9	1.073	1.688	34.5	20.5	108 W	55	54
7 15	22 26.79	+ 0 42.8	0.766	1.639	26.9	18.1	133 W	46	63	9 13	3 47.69	+10 32.0	1.030	1.698	33.1	20.4	113 W	56	53
7 20	22 26.86	+ 1 42.7	0.744	1.642	24.8	18.0	137 W	47	62	9 18	3 46.65	+11 34.4	0.989	1.708	31.3	20.3	118 W	57	52
7 25	22 25.94	+ 2 36.3	0.725	1.646	22.6	17.9	142 W	48	61	9 28	3 40.36	+13 46.9	0.911	1.726	26.9	20.0	129 W	59	50
7 30	22 24.10	+ 3 22.6	0.709	1.651	20.2	17.7	146 W	48	61	10 8	3 27.76	+16 9.1	0.846	1.741	21.1	19.7	141 W	61	48
8 4	22 21.42	+ 4 0.8	0.697	1.656	17.7	17.6	150 W	49	60	10 18	3 8.58	+18 33.8	0.800	1.755	13.9	19.3	155 W	64	45
8 9	22 18.02	+ 4 30.3	0.688	1.662	15.2	17.5	155 W	50	59	10 23	2 56.84	+19 42.9	0.787	1.760	10.0	19.2	162 W	65	44
8 19	22 9.77	+ 5 1.8	0.684	1.675	10.9	17.4	162 W	50	59	10 28	2 44.11	+20 47.1	0.780	1.766	6.3	19.0	169 W	66	43
8 29	22 1.12	+ 4 58.4	0.697	1.691	9.5	17.4	164 E	50	59	11 2	2 30.84	+21 44.6	0.781	1.770	3.9	18.9	173 W	67	42
9 8	21 53.95	+ 4 28.6	0.730	1.709	12.1	17.6	159 E	49	60	11 7	2 17.55	+22 34.2	0.790	1.774	5.4	19.0	170 E	68	41
9 13	21 51.37	+ 4 7.4	0.752	1.719	14.1	17.8	155 E	49	60	11 12	2 4.76	+23 15.6	0.806	1.778	8.9	19.2	164 E	68	41
9 18	21 49.63	+ 3 44.1	0.779	1.729	16.2	17.9	151 E	49	60	11 17	1 52.95	+23 49.3	0.829	1.781	12.5	19.4	157 E	69	40
9 23	21 48.82	+ 3 20.2	0.811	1.740	18.3	18.1	147 E	48	61	11 22	1 42.50	+24 16.8	0.858	1.784	16.0	19.6	150 E	69	40
9 28	21 48.95	+ 2 57.0	0.846	1.751	20.3	18.3	143 E	48	61	11 27	1 33.62	+24 39.8	0.893	1.785	19.2	19.8	144 E	70	39
10 3	21 50.02	+ 2 35.7	0.885	1.763	22.1	18.4	138 E	48	61	12 2	1 26.43	+25 0.1	0.933	1.787	22.0	20.0	137 E	70	39
10 8	21 51.97	+ 2 17.1	0.927	1.775	23.8	18.5	134 E	47	62	12 7	1 20.93	+25 19.2	0.977	1.787	24.5	20.1	131 E	70	39
10 18	21 58.35	+ 1 49.8	1.020	1.800	26.5	18.9	126 E	47	62	12 12	1 17.04	+25 38.5	1.024	1.788	26.6	20.3	126 E	71	38
10 28	22 7.60	+ 1 38.5	1.125	1.826	28.4	19.2	119 E	47	62	12 17	1 14.70	+25 58.8	1.073	1.787	28.3	20.5	121 E	71	38
11 7	22 19.16	+ 1 43.8	1.238	1.854	29.7	19.5	112 E	47	62	12 22	1 13.77	+26 21.1	1.125	1.786	29.8	20.6	116 E	71	38*
11 17	22 32.54	+ 2 5.1	1.359	1.882	30.4	19.8	106 E	47	62*	12 27	1 14.14	+26 45.6	1.178	1.785	31.0	20.7	111 E	72	37*
11 27	22 47.34	+ 2 41.4	1.486	1.911	30.6	20.0	99 E	48	60*	1 1	1 15.66	+27 12.7	1.232	1.782	31.9	20.9	107 E	72	36*
12 7	23 3.20	+ 3 30.8	1.618	1.941	30.4	20.2	93 E	49	56*	1 6	1 18.23	+27 42.4	1.286	1.780	32.6	21.0	102 E	73	34*
12 17	23 19.86	+ 4 31.4	1.753	1.971	29.9	20.4	87 E	50	51*	1 11	1 21.75	+28 14.5	1.340	1.776	33.2	21.1	99 E	73	32*
12 27	23 37.15	+ 5 41.4	1.891	2.002	29.1	20.6	82 E	51	46*	1 16	1 26.14	+28 49.1	1.394	1.772	33.6	21.2	95 E	74	30*
1 6	23 54.89	+ 6 58.8	2.030	2.032	28.0	20.7	76 E	52*	41*	269806 1999 VM₉₅									
1 16	0 13.00	+ 8 21.6	2.168	2.063	26.7	20.9	71 E	52*	36*	12 23	15 23.93	-16 23.6	2.757	2.069	16.9	20.0	38 W	21*	25*
12 23	15 23.85	-13 4.4	1.708	1.127	33.2	20.6	39 W	24*	23*	1 2	15 47.05	-16 23.5	2.639	2.029	19.2	19.9	43 W	23*	30*
12 28	15 41.24	-15 26.6	1.689	1.116	33.8	20.6	39 W	22*	25*	1 12	16 10.64	-16 6.2	2.518	1.989	21.4	19.8	47 W	24*	35*
1 2	15 59.19	-17 45.6	1.671	1.106	34.4	20.6	39 W	21*	27*	1 22	16 34.65	-15 29.4	2.394	1.950	23.5	19.8	52 W	26*	40*
1 7	16 17.78	-20 0.2	1.655	1.098	35.0	20.5	40 W	19*	29*	2 1	16 58.95	-14 30.8	2.269	1.913	25.5	19.7	57 W	27*	45*
1 12	16 37.04	-22 9.1	1.641	1.091	35.5	20.5	40 W	17*	31*	2 11	17 23.42	-13 8.5	2.146	1.877	27.4	19.5	61 W	29*	49*
1 17	16 57.03	-24 11.0	1.628	1.085	36.0	20.5	40 W	14*	32*	2 21	17 47.92	-11 20.9	2.025	1.843	29.1	19.4	65 W	31*	53*
1 22	17 17.76	-26 4.4	1.616	1.081	36.4	20.5	41 W	12*	34*	3 2	18 12.28	-9 6.9	1.908	1.811	30.8	19.3	69 W	33*	57*
1 27	17 39.22	-27 47.6	1.607	1.079	36.8	20.5	41 W	10*	34*	3 12	18 36.35	-6 26.1	1.797	1.781	32.2	19.2	73 W	35*	59*
2 1	18 1.37	-29 19.2	1.599	1.078	37.1	20.5	41 W	8*	35*	3 22	18 59.97	-3 19.3	1.694	1.753	33.5	19.1	76 W	38*	60*
2 6	18 24.13	-30 37.7	1.593	1.078	37.4	20.5	42 W	6*	36*	4 1	19 22.96	+ 0 11.8	1.598	1.729	34.7	18.9	80 W	41*	60*
2 11	18 47.41	-31 41.9	1.589	1.081	37.7	20.5	42 W	4*	36*	4 11	19 45.18	+ 4 3.8	1.512	1.707	35.6	18.8	83 W	44*	59*
2 16	19 11.06	-32 30.9	1.587	1.084	37.8	20.5	42 W	2*	36*	4 16	19 55.95	+ 6 6.4	1.472	1.698	36.0	18.8	84 W	46*	57*
2 21	19 34.92	-33 4.1	1.586	1.089	38.0	20.5	43 W	1*	36*	4 21	20 6.48	+ 8 12.5	1.434	1.689	36.4	18.7	86 W	48*	56*
2 26	19 58.78	-33 21.2	1.587	1.096	38.0	20.5	43 W	—	36*	4 26	20 16.73	+10 21.4	1.399	1.681	36.7	18.6	87 W	50*	54*
3 2	20 22.44	-33 22.6	1.590	1.104	38.0	20.5	43 W	—	36*	5 1	20 26.67	+12 32.3	1.366	1.674	37.0	18.6	88 W	52*	51
3 7	20 45.72	-33 9.0	1.595	1.114	38.0	20.6	44 W	—	35*	5 6	20 36.30	+14 44.2	1.335	1.668	37.2	18.5	90 W	54*	49
3 12	21 8.46	-32 41.3	1.600	1.124	37.9	20.6	44 W	—	35*	5 11	20 45.60	+16 56.4	1.305	1.663	37.4	18.5	91 W	56*	47
3 17	21 30.52	-32 0.8	1.607	1.136	37.9	20.6	44 W	—	35*	5 16	20 54.53	+19 8.0	1.278	1.659	37.5	18.4	92 W	59*	45
3 22	21 51.80	-31 9.2	1.614	1.149	37.8	20.7	45 W	—	35*	5 21	21 3.06	+21 18.2	1.252	1.656	37.6	18.4	93 W	61*	43
3 27	22 12.23	-30 7.9	1.622	1.163	37.6	20.7	45 W	—	35*	5 26	21 11.16	+23 25.9	1.228	1.654	37.6	18.4	95 W	64*	41
4 1	22 31.78	-28 58.5	1.630	1.177	37.5	20.7	46 W	—	36*	5 31	21 18.79	+25 30.3	1.205	1.653	37.6	18.3	96 W	67*	38
4 6	22 50.44	-27 42.7	1.638	1.193	37.4	20.8	46 W	—	36*	6 5	21 25.92	+27 30.5	1.183	1.653	37.5	18.3	97 W	70*	36
4 11	23 8.23	-26 21.7	1.646	1.209	37.3	20.8	47 W	—	37*	6 10	21 32.51	+29 25.7	1.162	1.654	37.4	18.2	99 W	72*	35
4 16	23 25.18	-24 57.0	1.653	1.225	37.2	20.8	48 W	—	37*	6 15	21 38.52	+31 15.2	1.142	1.656	37.2	18.2	100 W	75*	33
4 21	23 41.34	-23 29.6	1.660	1.243	37.1	20.9	48 W	—	38*	6 20	21 43.89	+32 57.9	1.123	1.659	36.9	18.1	102 W	78*	31
4 26	23 56.75	-22 0.5	1.665	1.260	37.1	20.9	49 W	—	39*	6 25	21 48.58	+34 32.9	1.104	1.663	36.5	18.1	103 W	80	29
5 1	0 11.46	-20 30.8	1.670	1.278	37.0	20.9	50 W	—	41*	6 30	21 52.55	+35 59.4	1.086	1.668	36.1	18.1	105 W	81	28
5 6	0 25.51	-19 0.9	1.673	1.296	37.1	21.0	51 W	—	42*	7 5	21 55.77	+37 16.3	1.069	1.673	35.6	18.0	107 W	82	27
5 11	0 38.96	-17 31.5	1.674	1.314	37.1	21.0	52 W	—	43*	7 10	21 58.21	+38 22.7	1.051	1.680	35.0	18.0	109 W	83	26
5 16	0 51.85	-16 3.1	1.674	1.333	37.2	21.0	53 W	—	44*	7 15	21 59.85	+39 17.7	1.035	1.688	34.3	17.9	111 W	84	25
5 21	1 4.23	-14 36.1	1.672	1.351	37.3	21.1	54 W	—	47*	7 20	22 0.69	+40 0.0	1.019	1.696	33.5	17.9	113 W	85	24
5 26	1 16.12	-13 10.8	1.667	1.369	37.4	21.1	55 W	—	48*	7 25	22 0.75	+40 28.3	1.003	1.706	32.6	17.8	115 W	85	24
5 31	1 27.56	-11 47.5	1.661	1.388	37.5	21.1	56 W	—	50*	7 30	22 0.12	+40 41.5	0.989	1.716	31.6	17.8	118 W	86	23
6 5	1 38.57	-10 26.2	1.652	1.406	37.7	21.1	58 W	2*	52*	8 4	21 58.90	+40 38.7	0.976	1.727	30.5	17.7	120 W	86	23
6 10	1 49.18	-9 7.2	1.641	1.424															

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

19/21	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	$45^\circ-26^\circ$	19/21	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	$45^\circ-26^\circ$				
269806 1999 VM₉₅ (continuation)									72569 2001 EC₁₃ (continuation)												
11	7	22 26.01	+ 8 11.9	1.414	2.046	25.9	18.8	115 E	53	56	6	10	15 42.41	-14 50.4	1.861	2.823	8.1	18.3	157 E	30	79
11	17	22 39.43	+ 6 2.5	1.552	2.087	26.7	19.1	108 E	51	58	6	20	15 32.33	-15 33.4	1.905	2.802	11.8	18.5	146 E	29	80
11	27	22 53.81	+ 4 29.8	1.701	2.128	27.0	19.3	101 E	49	59*	6	30	15 24.51	-16 21.3	1.972	2.781	15.1	18.6	135 E	29	80
12	7	23 8.87	+ 3 28.7	1.858	2.170	26.9	19.5	95 E	48	57*	7	10	15 19.38	-17 14.3	2.058	2.759	17.8	18.8	124 E	28*	81
12	17	23 24.41	+ 2 54.2	2.020	2.212	26.4	19.7	88 E	48	53*	7	20	15 17.06	-18 12.0	2.157	2.735	19.8	18.9	114 E	26*	82
12	27	23 40.30	+ 2 41.6	2.185	2.255	25.5	19.9	81 E	48	49*	7	30	15 17.49	-19 14.1	2.264	2.711	21.2	19.1	105 E	23*	83
1	6	23 56.41	+ 2 46.6	2.351	2.297	24.4	20.1	75 E	48*	44*	8	9	15 20.50	-20 20.1	2.377	2.686	22.0	19.2	96 E	21*	84
1	16	0 12.67	+ 3 5.3	2.516	2.339	23.0	20.2	68 E	47*	39*	8	19	15 25.85	-21 29.0	2.490	2.660	22.4	19.3	88 E	18*	82*
3737 Beckman									274627 2008 TE₈₂												
12	23	15 24.81	-33 26.0	3.806	3.063	10.8	18.4	36 W	5*	30*	12	23	15 25.58	-17 52.1	3.113	2.402	14.3	21.2	37 W	20*	25*
1	2	15 40.51	-34 22.1	3.696	3.038	12.5	18.4	42 W	7*	36*	1	2	15 44.93	-18 44.6	2.990	2.361	16.3	21.1	43 W	21*	31*
1	12	15 56.05	-35 15.1	3.573	3.011	14.1	18.4	48 W	7*	42*	1	12	16 4.60	-19 28.2	2.860	2.321	18.4	21.1	48 W	22*	37*
1	22	16 11.30	-36 4.9	3.438	2.983	15.7	18.3	55 W	7*	49*	1	22	16 24.54	-20 2.1	2.723	2.280	20.3	21.0	53 W	22*	44*
2	1	16 26.09	-36 51.6	3.292	2.954	17.1	18.2	62 W	7*	56*	2	1	16 44.66	-20 25.3	2.582	2.239	22.1	20.9	59 W	22*	50*
2	11	16 40.24	-37 35.2	3.138	2.925	18.3	18.2	69 W	7*	62*	2	11	17 4.86	-20 37.0	2.436	2.197	23.9	20.8	64 W	23*	56*
2	21	16 53.53	-38 16.1	2.977	2.894	19.3	18.1	76 W	6*	68*	2	21	17 25.03	-20 36.7	2.289	2.157	25.5	20.6	70 W	23*	62*
3	2	17 5.69	-38 54.6	2.811	2.862	20.1	17.9	83 W	6*	73*	3	2	17 45.03	-20 23.8	2.141	2.116	26.9	20.5	75 W	23*	68*
3	12	17 16.43	-39 31.2	2.643	2.829	20.6	17.8	90 W	5*	76*	3	12	18 4.72	-19 58.2	1.993	2.076	28.2	20.3	81 W	24*	73*
3	22	17 25.39	-40 6.3	2.474	2.795	20.7	17.6	98 W	5	76	3	22	18 23.93	-19 19.9	1.848	2.036	29.2	20.2	86 W	24*	78*
3	27	17 29.08	-40 23.3	2.391	2.777	20.6	17.5	102 W	5	76	4	1	18 42.45	-18 29.1	1.705	1.997	30.0	20.0	91 W	25*	81*
4	1	17 32.16	-40 39.8	2.309	2.759	20.4	17.4	106 W	4	75	4	11	19 0.11	-17 26.4	1.567	1.959	30.5	19.8	97 W	27*	81
4	6	17 34.58	-40 55.8	2.228	2.741	20.0	17.3	110 W	4	75	4	21	19 16.67	-16 12.7	1.434	1.922	30.7	19.5	103 W	28*	80
4	11	17 36.28	-41 11.1	2.149	2.723	19.5	17.2	115 W	4	75	5	1	19 31.84	-14 49.6	1.308	1.886	30.5	19.3	108 W	30*	79
4	16	17 37.21	-41 25.5	2.072	2.705	18.9	17.1	119 W	4	75	5	11	19 45.35	-13 18.8	1.190	1.852	29.8	19.0	114 W	31*	77
4	21	17 37.31	-41 38.6	1.997	2.686	18.2	17.0	123 W	3	74	5	21	19 56.87	-11 43.1	1.080	1.820	28.5	18.7	121 W	33*	76
4	26	17 36.51	-41 50.1	1.926	2.667	17.3	16.9	128 W	3	74	5	31	20 5.99	-10 5.9	0.981	1.789	26.7	18.4	128 W	35	74
5	1	17 34.78	-41 59.3	1.859	2.648	16.2	16.7	133 W	3	74	6	10	20 12.40	-8 32.0	0.892	1.762	24.1	18.1	135 W	36	73
5	11	17 28.52	-42 8.1	1.736	2.609	13.7	16.5	142 W	3	74	6	15	20 14.49	-7 47.9	0.852	1.749	22.6	17.9	139 W	37	72
5	21	17 18.64	-41 58.6	1.633	2.569	10.8	16.2	152 W	3	74	6	20	20 15.80	-7 6.9	0.816	1.736	20.9	17.8	142 W	38	71
5	31	17 5.86	-41 23.8	1.554	2.528	8.2	15.9	159 W	4	75	6	25	20 16.31	-6 29.9	0.783	1.725	19.0	17.6	146 W	39	70
6	5	16 58.81	-40 55.5	1.524	2.507	7.4	15.8	162 W	4	75	6	30	20 16.07	-5 57.9	0.754	1.714	17.0	17.5	151 W	39	70
6	10	16 51.58	-40 19.7	1.500	2.486	7.2	15.8	162 E	5	76	7	5	20 15.13	-5 31.5	0.729	1.704	14.9	17.3	154 W	39	70
6	15	16 44.42	-39 36.6	1.483	2.464	7.9	15.8	161 E	5	76	7	10	20 13.58	-5 11.6	0.708	1.695	12.8	17.2	158 W	40	69
6	20	16 37.54	-38 47.0	1.473	2.443	9.2	15.8	157 E	6	77	7	20	20 9.08	-4 53.5	0.678	1.678	9.6	16.9	164 W	40	69
6	25	16 31.17	-37 51.8	1.469	2.421	10.8	15.8	153 E	7	78	7	30	20 3.96	-5 5.6	0.666	1.666	9.5	16.9	164 E	40	69
6	30	16 25.48	-36 52.5	1.472	2.399	12.7	15.9	149 E	8	79	8	9	19 59.87	-5 43.9	0.671	1.657	12.8	17.0	159 E	39	70
7	5	16 20.61	-35 50.4	1.480	2.377	14.7	16.0	144 E	9	80	8	14	19 58.65	-6 10.6	0.680	1.654	15.0	17.1	155 E	39	70
7	10	16 16.65	-34 47.1	1.493	2.355	16.6	16.0	139 E	10	81	8	19	19 58.20	-6 40.7	0.693	1.652	17.3	17.2	151 E	38	71
7	15	16 13.66	-33 43.8	1.512	2.332	18.4	16.1	134 E	11	82	8	24	19 58.63	-7 12.8	0.709	1.651	19.6	17.3	147 E	38	71
7	20	16 11.66	-32 41.8	1.535	2.309	20.1	16.2	129 E	12	83	8	29	20 0.00	-7 45.5	0.730	1.651	21.7	17.5	143 E	37	72
7	25	16 10.65	-31 41.9	1.561	2.287	21.7	16.2	124 E	13*	84	9	3	20 2.33	-8 17.7	0.753	1.652	23.7	17.6	139 E	37	72
7	30	16 10.61	-30 44.8	1.591	2.263	23.1	16.3	119 E	14*	85	9	8	20 5.61	-8 48.3	0.780	1.654	25.5	17.7	135 E	36	73
8	9	16 13.27	-29 0.8	1.657	2.217	25.5	16.4	110 E	15*	87	9	13	20 9.80	-9 16.5	0.810	1.656	27.1	17.9	131 E	36	73
8	19	16 19.25	-27 30.9	1.729	2.170	27.2	16.5	101 E	16*	88	9	18	20 14.86	-9 41.4	0.842	1.660	28.6	18.0	128 E	35	74
8	29	16 28.17	-26 14.2	1.805	2.123	28.4	16.6	94 E	17*	88*	9	28	20 27.37	-10 19.4	0.915	1.671	30.9	18.2	121 E	35	74
9	8	16 39.64	-25 8.0	1.879	2.075	29.0	16.6	86 E	17*	80*	10	8	20 42.53	-10 38.9	0.997	1.684	32.5	18.5	115 E	34	75
9	18	16 53.34	-24 9.2	1.952	2.027	29.2	16.7	80 E	17*	74*	10	18	20 59.72	-10 39.0	1.088	1.702	33.5	18.7	109 E	34	75
9	28	17 9.00	-23 14.5	2.020	1.979	29.0	16.7	73 E	18*	67*	10	28	21 18.45	-10 19.4	1.187	1.722	34.0	19.0	104 E	35	74
10	8	17 26.39	-22 20.5	2.082	1.932	28.5	16.7	67 E	19*	61*	11	7	21 38.19	-9 41.4	1.293	1.746	34.1	19.2	99 E	35	73*
10	18	17 45.31	-21 24.1	2.138	1.884	27.8	16.7	62 E	20*	55*	11	17	21 58.59	-8 46.6	1.406	1.772	33.8	19.4	94 E	36	70
10	28	18 5.59	-20 22.2	2.186	1.838	26.8	16.6	57 E	20*	49*	11	27	22 19.38	-7 37.2	1.524	1.801	33.2	19.6	89 E	37	66*
11	7	18 27.07	-19 12.2	2.227	1.792	25.7	16.6	52 E	21*	43*	12	7	22 40.31	-6 15.4	1.647	1.832	32.3	19.8	84 E	39	61*
11	17	18 49.61	-17 51.8	2.261	1.748	24.5	16.5	47 E	22*	37*	12	17	23 1.25	-4 43.6	1.775	1.865	31.2	19.9	79 E	40	55*
11	27	19 13.09	-16 18.9	2.287	1.705	23.3	16.5	43 E	22*	31*	12	27	23 22.12	-3 4.1	1.906	1.900	30.0	20.1	75 E	42	49*
12	7	19 37.37	-14 32.1	2.307	1.664	22.0	16.4	39 E	23*	25*	1	6	23 42.84	-1 19.1	2.039	1.936	28.5	20.2	70 E	43*	44*
12	17	20 2.38	-12 30.2	2.321	1.625	20.7	16.3	36 E	23*	20*	1	16	0 3.41	+ 0 29.3	2.173	1.973	26.9	20.4	65 E	44*	39*
12	27	20 28.01	-10 12.7	2.329	1.589	19.4	16.2	32 E	22*	15*	12	23	15 26.24	-2 1.0	3.777	3.137	12.5	19.7	43 W	34*	18*
1	6	20 54.21	-7 39.8	2.334	1.557	18.2	16.1	30 E	22*	10*	1	2	15 38.06	-2 40.2	3.674	3.133	13.9	19.7	50 W	36*	26*
1	16	21 20.95	-4 52.2	2.336	1.528	17.1	16.1	27 E	20*	6*	1	12	15 49.34	-3 11.1	3.557	3.128	15.2	19.7			

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

19/21		α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°-26°											45°	-26°											
		17640 Mount Stromlo (continuation)									52453 1994 WC (continuation)																					
		h m	° ' " S	'	"	"	"	"	"	h m	° ' " S	'	"	"	"	"	"	"	"	h m	° ' " S	'	"	"	"	"	"	"				
2	11	16 18.27	3 54.0	3.146	3.106	18.1	19.5	79 W	41*	57*																						
2	21	16 25.62	3 52.6	2.996	3.097	18.6	19.4	86 W	41*	64*																						
3	2	16 31.44	3 44.2	2.844	3.087	18.7	19.3	95 W	41	67*																						
3	12	16 35.46	3 29.9	2.693	3.075	18.3	19.1	103 W	41	68																						
3	22	16 37.42	3 11.1	2.546	3.063	17.5	19.0	112 W	42	67																						
4	1	16 37.08	2 49.7	2.407	3.049	16.2	18.8	121 W	42	67																						
4	11	16 34.25	2 28.0	2.281	3.035	14.4	18.6	131 W	43	66																						
4	21	16 28.89	2 9.1	2.172	3.019	12.1	18.4	141 W	43	66																						
5	1	16 21.14	1 56.5	2.085	3.002	9.5	18.2	150 W	43	66																						
5	11	16 11.44	1 53.9	2.022	2.985	7.2	18.0	158 W	43	66																						
5	21	16 0.48	2 4.0	1.987	2.966	6.1	17.9	162 W	43	66																						
5	31	15 49.17	2 29.1	1.981	2.946	7.4	18.0	158 E	43	66																						
6	10	15 38.50	3 9.3	2.003	2.925	10.1	18.1	150 E	42	67																						
6	20	15 29.30	4 3.7	2.051	2.903	13.0	18.2	140 E	41	68																						
6	30	15 22.21	5 10.0	2.120	2.880	15.7	18.4	130 E	40	69																						
7	10	15 17.57	6 25.8	2.207	2.856	17.9	18.5	120 E	38*	70																						
7	20	15 15.47	7 48.6	2.306	2.831	19.6	18.7	111 E	36*	72																						
7	30	15 15.86	9 16.2	2.413	2.804	20.7	18.8	102 E	33*	73																						
8	9	15 18.57	10 47.0	2.524	2.777	21.4	18.9	93 E	30*	75																						
8	19	15 23.41	12 19.3	2.637	2.749	21.5	18.9	85 E	27*	74*																						
8	29	15 30.20	13 52.1	2.746	2.720	21.3	19.0	78 E	24*	70*																						
9	8	15 38.74	15 24.3	2.851	2.689	20.7	19.0	71 E	21*	64*																						
9	18	15 48.87	16 54.9	2.949	2.658	19.8	19.1	64 E	19*	57*																						
9	28	16 0.47	18 23.3	3.038	2.626	18.6	19.1	57 E	16*	50*																						
10	8	16 13.41	19 48.4	3.117	2.593	17.2	19.0	50 E	14*	44*																						
10	18	16 27.62	21 9.5	3.184	2.558	15.6	19.0	44 E	12*	37*																						
10	28	16 43.01	22 25.9	3.238	2.523	13.9	19.0	38 E	10*	31*																						
11	7	16 59.51	23 36.7	3.279	2.487	12.0	18.9	31 E	8*	25*																						
11	17	17 17.06	24 41.0	3.306	2.451	10.0	18.8	25 E	6*	19*																						
11	27	17 35.61	25 38.3	3.319	2.413	7.9	18.7	20 E	3*	13*																						
12	7	17 55.10	26 27.6	3.317	2.374	5.8	18.5	14 E	—	8*																						
12	17	18 15.48	27 8.4	3.302	2.335	3.8	18.4	9 E	—	3*																						
12	27	18 36.68	27 39.9	3.273	2.295	2.3	18.2	5 E	—	—																						
1	6	18 58.64	28 1.8	3.231	2.255	2.6	18.2	6 W	—	—																						
1	16	19 21.32	28 13.4	3.176	2.214	4.4	18.2	10 W	—	3*																						
12	23	15 26.96	13 25.5	1.668	1.080	34.2	21.0	38 W	23*	23*																						
12	28	15 48.87	14 43.9	1.650	1.059	34.6	20.9	38 W	22*	23*																						
1	2	16 11.34	15 55.3	1.635	1.039	34.9	20.9	37 W	21*	24*																						
1	7	16 34.31	16 58.3	1.624	1.021	35.1	20.8	37 W	20*	24*																						
1	12	16 57.71	17 51.9	1.617	1.006	35.1	20.8	36 W	18*	25*																						
1	17	17 21.42	18 35.1	1.614	0.993	35.1	20.8	35 W	17*	25*																						
1	22	17 45.34	19 7.1	1.614	0.983	34.9	20.7	35 W	16*	25*																						
1	27	18 9.33	19 27.4	1.618	0.976	34.6	20.7	34 W	15*	25*																						
2	1	18 33.25	19 35.8	1.625	0.972	34.1	20.7	34 W	13*	25*																						
2	6	18 56.96	19 32.5	1.634	0.971	33.7	20.7	33 W	12*	25*																						
2	11	19 20.36	19 17.9	1.646	0.973	33.1	20.7	33 W	11*	25*																						
2	16	19 43.33	18 52.6	1.660	0.978	32.6	20.7	32 W	10*	25*																						
2	21	20 5.77	18 17.4	1.676	0.986	32.0	20.7	32 W	9*	25*																						
2	26	20 27.62	17 33.5	1.693	0.997	31.4	20.8	32 W	8*	25*																						
3	2	20 48.80	16 41.9	1.711	1.010	30.9	20.8	32 W	8*	25*																						
3	7	21 9.30	15 43.8	1.730	1.026	30.4	20.9	32 W	7*	25*																						
3	12	21 29.10	14 40.4	1.750	1.044	30.0	20.9	32 W	6*	26*																						
3	17	21 48.19	13 32.7	1.770	1.064	29.6	21.0	32 W	6*	26*																						
3	22	22 6.60	12 21.7	1.790	1.086	29.3	21.0	32 W	5*	26*																						
3	27	22 24.33	11 8.5	1.809	1.110	29.1	21.1	33 W	5*	27*																						
4	1	22 41.42	9 53.9	1.828	1.135	29.0	21.2	33 W	5*	27*																						
4	6	22 57.89	8 38.8	1.845	1.161	28.9	21.2	34 W	5*	28*																						
4	11	23 13.78	7 23.6	1.862	1.187	28.8	21.3	35 W	5*	29*																						
4	16	23 29.13	6 9.1	1.878	1.215	28.9	21.4	36 W	5*	30*																						
4	21	23 43.96	4 55.7	1.892	1.243	29.0	21.4	37 W	5*	31*																						
4	26	23 58.31	3 43.8	1.904	1.272	29.1	21.5	38 W	5*	32*																						
12	23	15 27.42	-31 19.6	3.730	2.980	10.9	20.5	35 W	7*	29*																						
1	2	15 42.06	-32 45.7	3.654	2.991	12.6	20.5	42 W	8*	35*																						
1	12	15 56.34	-34																													

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

19/21	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°	19/21	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°
5649 Donnashirley (continuation)																			
6 25	15 46.10	-50 20.2	2.167	3.021	12.4	19.4	140 E	-	66	2 21	17 9.00	-30 53.3	2.638	2.528	21.9	20.6	73 W	13*	67*
206335 2003 OV22 (continuation)																			
2 21	17 9.00	-30 53.3	2.638	2.528	21.9	20.6	73 W	13*	67*	3 2	17 25.18	-31 41.4	2.472	2.485	23.1	20.4	79 W	13*	73*
154661 2004 FL32																			
12 23	15 27.76	+3 4.0	3.066	2.487	16.5	20.6	46 W	38*	16*	8 14	17 50.49	-36 57.2	1.012	1.800	27.3	17.9	125 E	8	79
86534 2000 DT08																			
12 23	15 28.14	-19 24.7	2.625	1.918	17.6	20.5	36 W	18*	25*	1 2	15 52.58	-21 3.4	2.531	1.891	19.6	20.5	40 W	18*	30*
206335 2003 OV22																			
12 23	15 28.06	-24 45.8	3.517	2.771	11.8	21.1	35 W	13*	27*	8 14	23 3.19	-18 45.5	0.743	1.726	12.4	17.4	158 W	26	83

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

19/21	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45° - 26°	19/21	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45° - 26°
86534 2000 DT₉₈									484247 2007 FL₃								
<i>(continuation)</i>									<i>(continuation)</i>								
8 19	22 58.83	-18 59.3	0.741	1.735	9.7	17.3	163 W	26 83	11 17	22 53.26	-48 36.6	1.510	1.787	33.6	20.7	89 E	- 67
8 24	22 53.96	-19 10.1	0.744	1.745	7.4	17.2	167 W	26 83	11 22	23 0.53	-48 10.3	1.573	1.799	33.2	20.7	86 E	- 68*
8 29	22 48.82	-19 16.6	0.753	1.755	6.2	17.2	169 W	26 83	11 27	23 8.31	-47 38.3	1.633	1.810	32.8	20.8	84 E	- 68*
9 3	22 43.68	-19 17.8	0.766	1.765	6.7	17.3	168 E	26 83	12 2	23 16.52	-47 1.4	1.692	1.822	32.3	20.9	81 E	- 68*
9 8	22 38.79	-19 13.3	0.784	1.776	8.5	17.4	165 E	26 83	12 7	23 25.10	-46 19.8	1.749	1.833	31.8	21.0	79 E	- 68*
9 13	22 34.36	-19 2.7	0.807	1.787	10.9	17.6	160 E	26 83	12 12	23 34.00	-45 34.1	1.805	1.844	31.3	21.0	77 E	- 67*
9 18	22 30.59	-18 46.2	0.835	1.799	13.4	17.8	156 E	26 83	12 17	23 43.19	-44 44.6	1.858	1.855	30.7	21.1	74 E	- 66*
9 28	22 25.54	-17 56.6	0.905	1.822	18.0	18.1	146 E	27 82	12 22	23 52.61	-43 51.6	1.910	1.867	30.2	21.2	72 E	1 65*
10 8	22 24.14	-16 48.6	0.991	1.847	21.9	18.5	136 E	28 81	12 27	0 2.24	-42 55.4	1.959	1.878	29.6	21.2	71 E	2 64*
10 18	22 26.27	-15 26.7	1.090	1.873	24.9	18.8	128 E	30 79	1 1	0 12.03	-41 56.4	2.007	1.889	29.0	21.3	69 E	3 62*
10 28	22 31.57	-13 54.2	1.202	1.900	27.0	19.1	120 E	31 78	1 6	0 21.97	-40 54.8	2.053	1.900	28.5	21.3	67 E	4 61*
11 7	22 39.47	-12 13.6	1.323	1.928	28.5	19.4	112 E	33 76	1 11	0 32.03	-39 50.8	2.097	1.911	27.9	21.4	65 E	5* 59*
11 17	22 49.48	-10 26.7	1.451	1.955	29.2	19.6	105 E	35 74	1 16	0 42.21	-38 44.6	2.139	1.921	27.4	21.4	64 E	6* 58*
11 27	23 1.16	-8 34.5	1.585	1.984	29.5	19.9	98 E	36 72*	192497 1998 HJ₈₉								
12 7	23 14.14	-6 38.3	1.724	2.012	29.3	20.1	92 E	38 66*	12 23	15 29.54	-18 18.3	2.309	1.620	20.9	21.3	36 W	19* 24*
12 17	23 28.13	-4 38.9	1.864	2.041	28.7	20.3	86 E	40 60*	1 2	15 58.99	-19 28.3	2.250	1.612	22.6	21.3	39 W	19* 28*
12 27	23 42.93	-2 37.1	2.006	2.069	27.9	20.4	80 E	42 53*	1 12	16 28.78	-20 18.3	2.191	1.606	24.3	21.3	42 W	19* 32*
1 6	23 58.36	-0 33.8	2.148	2.098	26.7	20.6	74 E	44* 47*	1 22	16 58.69	-20 46.9	2.132	1.604	25.9	21.3	45 W	19* 36*
1 16	0 14.31	+1 30.1	2.288	2.126	25.4	20.7	68 E	45* 41*	2 1	17 28.47	-20 53.5	2.073	1.604	27.5	21.2	49 W	19* 40*
12 23	15 28.85	+12 43.7	2.177	1.755	26.3	21.2	52 W	46* 11*	2 11	17 57.82	-20 38.1	2.014	1.607	28.9	21.2	52 W	19* 44*
1 2	15 58.26	+13 33.6	2.096	1.733	27.7	21.1	55 W	48* 14*	2 21	18 26.49	-20 1.8	1.955	1.613	30.3	21.2	55 W	19* 48*
1 12	16 28.38	+14 36.5	2.022	1.711	29.0	21.1	58 W	50* 16*	3 2	18 54.20	-19 6.0	1.895	1.622	31.5	21.2	59 W	20* 52*
1 22	16 58.98	+15 51.3	1.957	1.689	30.2	21.0	60 W	52* 19*	3 12	19 20.75	-17 53.3	1.834	1.633	32.7	21.2	62 W	20* 56*
2 1	17 29.77	+17 16.3	1.902	1.669	31.2	20.9	61 W	53* 22*	3 22	19 45.95	-16 26.1	1.773	1.646	33.6	21.1	66 W	21* 59*
2 11	18 0.42	+18 48.6	1.855	1.649	32.0	20.9	62 W	54* 24*	4 1	20 9.65	-14 47.7	1.710	1.662	34.4	21.1	70 W	22* 63*
2 21	18 30.64	+20 25.3	1.815	1.631	32.8	20.8	63 W	54* 25*	4 11	20 31.70	-13 1.2	1.646	1.680	35.1	21.1	74 W	24* 66*
3 2	19 0.11	+22 3.3	1.782	1.613	33.5	20.8	64 W	54* 27*	4 21	20 52.00	-11 9.7	1.580	1.700	35.4	21.0	79 W	25* 69*
3 12	19 28.58	+23 39.6	1.751	1.597	34.1	20.8	64 W	55* 28*	5 1	21 10.40	-9 16.7	1.513	1.722	35.6	20.9	84 W	28* 71*
3 22	19 55.87	+25 11.8	1.721	1.582	34.8	20.7	65 W	55* 29*	5 11	21 26.77	-7 25.3	1.445	1.746	35.3	20.9	89 W	30* 71*
4 1	20 21.85	+26 37.7	1.689	1.569	35.5	20.7	66 W	55* 30*	5 21	21 40.91	-5 38.9	1.376	1.771	34.7	20.8	94 W	33* 70
4 11	20 46.44	+27 55.2	1.652	1.558	36.2	20.6	67 W	55* 31*	5 31	21 52.57	-4 1.1	1.307	1.797	33.7	20.7	101 W	36* 68
4 21	21 9.61	+29 2.9	1.609	1.549	37.1	20.6	68 W	55* 32*	6 10	22 1.48	-2 35.5	1.239	1.824	32.1	20.5	108 W	40* 67
5 1	21 31.31	+29 59.1	1.557	1.542	37.9	20.5	70 W	55* 32*	6 20	22 7.33	-1 26.3	1.175	1.852	29.8	20.4	115 W	43* 65
5 11	21 51.54	+30 41.2	1.496	1.537	38.9	20.5	73 W	57* 33*	6 30	22 9.80	-0 38.0	1.116	1.880	26.8	20.2	124 W	44 65
5 16	22 1.09	+30 56.3	1.461	1.535	39.3	20.4	74 W	58* 33*	7 10	22 8.72	-0 14.7	1.066	1.909	22.9	20.0	133 W	45 64
5 21	22 10.26	+31 6.9	1.424	1.534	39.8	20.4	76 W	59* 33*	7 20	22 4.15	-0 19.7	1.028	1.939	18.3	19.8	143 W	45 64
5 26	22 19.03	+31 12.4	1.385	1.533	40.2	20.3	78 W	60* 33	7 30	21 56.57	-0 54.4	1.006	1.968	13.1	19.7	154 W	44 65
5 31	22 27.37	+31 12.2	1.343	1.533	40.6	20.3	80 W	61* 33	8 9	21 47.01	-1 55.3	1.004	1.998	8.0	19.5	164 W	43 66
6 5	22 35.29	+31 5.4	1.298	1.534	40.9	20.2	82 W	62* 33	8 14	21 41.92	-2 33.5	1.011	2.013	6.0	19.4	168 W	42 67
6 10	22 42.76	+30 51.3	1.252	1.535	41.2	20.1	85 W	64* 33	8 19	21 36.88	-3 15.1	1.024	2.028	5.2	19.4	170 E	42 67
6 15	22 49.74	+30 28.7	1.203	1.537	41.3	20.1	87 W	66* 34	8 24	21 32.09	-3 58.9	1.044	2.043	6.0	19.5	168 E	41 68
6 20	22 56.20	+29 56.3	1.152	1.539	41.3	20.0	90 W	67* 34	8 29	21 27.74	-4 43.3	1.069	2.058	7.9	19.7	164 E	40 69
6 25	23 2.09	+29 12.4	1.100	1.542	41.2	19.9	93 W	69* 35	9 3	21 23.95	-5 27.0	1.100	2.073	10.1	19.8	159 E	40 69
6 30	23 7.35	+28 14.8	1.047	1.545	40.8	19.7	97 W	70* 36	9 8	21 20.85	-6 8.9	1.136	2.087	12.4	20.0	154 E	39 70
7 5	23 11.95	+27 1.2	0.992	1.549	40.1	19.6	101 W	71* 37	9 13	21 18.50	-6 48.0	1.177	2.102	14.5	20.2	148 E	38 71
7 10	23 15.82	+25 28.7	0.938	1.553	39.2	19.5	105 W	70* 39	9 18	21 16.95	-7 23.7	1.224	2.116	16.5	20.4	143 E	38 71
7 15	23 18.87	+23 33.8	0.884	1.558	37.9	19.3	110 W	69 40	9 28	21 16.31	-8 22.8	1.329	2.145	19.8	20.7	133 E	37 72
7 20	23 21.04	+21 12.3	0.832	1.563	36.1	19.1	115 W	66 43	10 8	21 18.79	-9 4.1	1.450	2.174	22.4	21.0	124 E	36 73
7 25	23 22.23	+18 19.7	0.782	1.569	33.7	19.0	121 W	63 46	10 18	21 24.02	-9 27.5	1.581	2.202	24.1	21.2	115 E	36 73
7 30	23 22.39	+14 51.5	0.736	1.575	30.8	18.7	127 W	60 49	10 28	21 31.62	-9 33.7	1.721	2.229	25.2	21.5	107 E	35 74
8 4	23 21.47	+10 44.3	0.694	1.582	27.1	18.5	135 W	56 53	188174 2002 JC								
8 9	23 19.45	+ 5 56.5	0.660	1.589	22.9	18.3	143 W	51 58	12 23	15 29.67	+16 24.9	1.155	0.993	53.9	19.7	55 W	48* 9*
8 14	23 16.31	+ 0 30.4	0.633	1.596	18.0	18.1	151 W	46 63	12 28	15 43.86	+15 50.0	1.172	1.017	52.8	19.7	55 W	49* 11*
8 19	23 12.12	- 5 26.1	0.617	1.604	12.9	17.8	159 W	40 69	1 2	15 57.50	+15 13.9	1.185	1.039	51.9	19.8	56 W	50* 13*
8 21	23 10.18	- 7 54.4	0.613	1.607	10.9	17.8	162 W	37 72	1 7	16 10.67	+14 37.5	1.194	1.060	51.3	19.8	57 W	50* 15*
8 23	23 8.10	-10 24.2	0.612	1.611	9.1	17.7	165 W	35 74	1 12	16 23.44	+14 1.0	1.198	1.077	50.9	19.8	58 W	50* 18*
8 25	23 5.90	-12 54.3	0.612	1.614	7.7	17.6	168 W	32 77	1 22	16 48.01	+12 49.2	1.192	1.106	50.5	19.9	60 W	51* 23*
8 27	23 3.59	-15 23.7	0.614	1.617	7.0	17.6	169 W	30 79	2 1	17 11.63	+11 39.5	1.169	1.126	50.8	19.9	62 W	50* 28*
8 29	23 1.20	-17 50.9	0.618	1.621	7.0	17.6	169 W	27 82	2 11	17 34.72	+10 30.7	1.129	1.137	51.6	19.8	65 W	50* 34*
8 31	22 58.73	-20 15.0	0.624	1.624	7.8	17.7	167 W	25 84	2 21	17 57.82	+ 9 20.2	1.073	1.138	53.0	19.8	67 W	49* 39*
9 2	22 56.22	-22 34.9	0.632	1.628	9.2	17.8	165 W	22 87	2 26	18 9.54	+ 8 43.2	1.039	1.136	53.9	19.7	68 W	48* 41*
9 4	22 53.67	-24 49.7	0.641	1.631	10.8	17.9	162 W	20 89	3 2	18 21.51	+ 8 4.1	1.003	1.131	54.9	19.7	69 W	48* 43*
9 6	22 51.11	-26 58.6	0.653	1.635	12.5	18.0	159 E	18 89	3 7	18 33.84	+ 7 22.0	0.963	1.125	56.1	19.6	70 W	47* 46*
9 8	22 48.56	-29 1.1	0.665	1.639	14.3	18.1	156 E	16 87	3 12	18 46.69	+ 6 35.9	0.920	1.115	57.5	19.5	71 W	46* 48*
9 13	22 42.38	-33 36.9	0.704	1.648	18.5	18.4	149 E	11 82	3 17	19 0.26	+ 5 44.6	0.875	1.104	59.0	19.4	72 W	45* 5

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

19/21	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45° - 26°	19/21	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45° - 26°
188174 2002 JC (continuation)									5867 1988 RE (continuation)								
5 7	23 32.41	-12 18.9	0.486	0.859	93.0	18.8	58 W	7* 52*	6 20	0 18.32	+36 51.4	1.292	1.371	44.7	18.2	72 W	57* 27*
5 9	23 50.94	-12 56.4	0.488	0.845	94.6	18.9	57 W	5* 50*	6 25	0 32.44	+37 32.2	1.274	1.376	44.9	18.1	73 W	59* 26
5 11	0 9.59	-13 26.0	0.493	0.831	96.1	18.9	55 W	2* 48*	6 30	0 46.32	+38 4.7	1.254	1.382	45.0	18.1	74 W	61* 26
5 13	0 28.15	-13 46.9	0.500	0.816	97.4	19.0	53 W	— 46*	7 5	0 59.91	+38 28.7	1.233	1.388	45.2	18.1	76 W	62* 26
5 15	0 46.45	-13 58.8	0.510	0.801	98.5	19.0	52 W	— 44*	7 10	1 13.17	+38 44.1	1.209	1.396	45.2	18.1	77 W	64* 25
5 17	1 4.31	-14 1.4	0.522	0.785	99.3	19.1	50 W	— 42*	7 15	1 26.04	+38 50.7	1.184	1.404	45.3	18.0	79 W	67* 25
5 19	1 21.59	-13 55.1	0.537	0.770	99.9	19.1	49 W	— 40*	7 20	1 38.46	+38 48.2	1.157	1.413	45.2	18.0	81 W	69* 25
5 21	1 38.19	-13 40.3	0.554	0.754	100.2	19.1	47 W	— 39*	7 25	1 50.35	+38 36.3	1.128	1.423	45.1	18.0	83 W	71* 25
5 23	1 54.03	-13 17.4	0.574	0.738	100.2	19.2	46 W	— 37*	7 30	2 1.65	+38 14.5	1.097	1.434	44.9	17.9	85 W	73* 26
5 25	2 9.07	-12 47.3	0.595	0.722	100.0	19.2	45 W	— 35*	8 4	2 12.29	+37 42.3	1.065	1.445	44.6	17.8	88 W	76* 26
5 27	2 23.32	-12 10.5	0.619	0.706	99.5	19.2	43 W	— 34*	8 9	2 22.21	+36 59.1	1.032	1.457	44.1	17.8	91 W	78* 27
5 29	2 36.78	-11 27.7	0.644	0.690	98.8	19.2	42 W	— 33*	8 14	2 31.30	+36 4.4	0.997	1.470	43.4	17.7	94 W	79* 28
5 31	2 49.48	-10 39.4	0.671	0.674	97.8	19.2	41 W	— 31*	8 19	2 39.49	+34 57.1	0.962	1.483	42.6	17.6	97 W	80* 29
6 5	3 18.31	-8 17.6	0.745	0.634	94.4	19.1	39 W	— 29*	8 24	2 46.68	+33 36.1	0.927	1.496	41.5	17.5	101 W	79 30
6 10	3 43.72	-5 29.8	0.826	0.596	89.6	19.0	36 W	— 27*	8 29	2 52.80	+32 0.3	0.891	1.511	40.2	17.4	105 W	77 32
6 15	4 6.76	-2 19.5	0.912	0.562	83.5	18.9	33 W	— 25*	9 3	2 57.77	+30 8.5	0.856	1.525	38.6	17.3	109 W	75 34
6 20	4 28.43	+1 10.3	1.002	0.533	76.2	18.7	31 W	— 23*	9 8	3 1.52	+27 59.4	0.823	1.540	36.6	17.2	114 W	73 36
6 25	4 49.62	+4 55.6	1.091	0.511	67.9	18.5	28 W	— 21*	9 13	3 3.97	+25 31.8	0.791	1.555	34.3	17.1	119 W	71 38
6 30	5 11.07	+8 50.3	1.178	0.500	59.1	18.4	25 W	— 19*	9 18	3 5.09	+22 45.0	0.762	1.571	31.7	16.9	125 W	68 41
7 5	5 33.32	+12 45.9	1.259	0.500	50.4	18.3	22 W	— 16*	9 28	3 3.29	+16 14.5	0.716	1.602	25.2	16.7	137 W	61 48
7 10	5 56.70	+16 32.6	1.333	0.512	42.5	18.2	20 W	2* 13*	10 8	2 56.59	+8 44.7	0.692	1.635	18.0	16.4	150 W	54 55
7 15	6 21.28	+20 1.0	1.398	0.533	36.0	18.2	18 W	4* 10*	10 18	2 46.18	+0 58.3	0.697	1.668	12.0	16.3	160 W	46 63
7 20	6 46.99	+23 3.7	1.455	0.563	31.2	18.3	17 W	7* 7*	10 23	2 40.20	-2 42.5	0.711	1.684	10.9	16.3	161 W	42 67
7 25	7 13.59	+25 36.3	1.504	0.597	27.9	18.4	16 W	8* 4*	10 28	2 34.11	-6 5.4	0.733	1.701	11.6	16.4	160 W	39 70
7 30	7 40.79	+27 36.5	1.548	0.635	26.0	18.5	16 W	9* 1*	11 2	2 28.17	-9 5.7	0.762	1.717	13.5	16.6	156 E	36 73
8 4	8 8.27	+29 4.0	1.586	0.675	24.9	18.7	16 W	10*	11 7	2 22.64	-11 40.4	0.798	1.734	15.9	16.8	151 E	33 76
8 9	8 35.67	+30 0.0	1.622	0.716	24.3	18.9	17 W	11*	—	—	—	—	—	—	—	—	—
8 14	9 2.67	+30 26.7	1.655	0.755	24.1	19.0	18 W	11*	11 17	2 13.56	-15 31.7	0.887	1.767	20.7	17.2	141 E	29 80
8 19	9 29.01	+30 26.7	1.685	0.794	23.9	19.2	19 W	11*	11 27	2 7.94	-17 48.7	0.994	1.800	24.6	17.6	131 E	27 82
8 24	9 54.45	+30 3.2	1.715	0.832	23.8	19.3	19 W	11*	12 7	2 6.03	-18 51.8	1.113	1.832	27.3	18.0	121 E	26 83
8 29	10 18.84	+29 19.6	1.743	0.867	23.6	19.4	20 W	11*	—	—	—	—	—	—	—	—	—
9 3	10 42.10	+28 18.9	1.770	0.901	23.4	19.5	21 W	10*	12 12	2 6.40	-19 2.0	1.176	1.848	28.3	18.1	117 E	26 83
9 8	11 4.22	+27 4.0	1.795	0.933	23.2	19.6	21 W	10*	12 17	2 7.59	-19 0.8	1.241	1.864	29.0	18.3	113 E	26 83
9 13	11 25.21	+25 37.8	1.820	0.962	22.9	19.7	22 E	10*	12 22	2 9.55	-18 50.0	1.307	1.879	29.6	18.4	109 E	26 83
9 18	11 45.15	+24 2.6	1.844	0.989	22.5	19.8	22 E	10*	12 27	2 12.22	-18 31.6	1.374	1.894	30.0	18.6	106 E	26 83
9 23	12 4.10	+22 20.4	1.867	1.014	22.2	19.9	22 E	11*	1 1	2 15.52	-18 6.7	1.441	1.910	30.2	18.7	102 E	27 82
9 28	12 22.15	+20 33.0	1.888	1.037	21.8	19.9	23 E	11*	1 6	2 19.40	-17 36.6	1.509	1.925	30.3	18.8	99 E	27 82*
10 3	12 39.39	+18 41.7	1.908	1.057	21.4	20.0	23 E	10*	1 11	2 23.81	-17 2.2	1.576	1.939	30.3	18.9	96 E	28 80*
10 8	12 55.92	+16 47.8	1.926	1.075	21.0	20.0	23 E	10*	1 16	2 28.71	-16 24.4	1.644	1.954	30.2	19.0	93 E	29 77*
10 13	13 11.84	+14 52.1	1.942	1.091	20.6	20.0	23 W	10*	—	—	—	—	—	—	—	—	—
10 18	13 27.23	+12 55.5	1.956	1.104	20.2	20.1	23 W	11*	—	—	—	—	—	—	—	—	—
10 28	13 56.75	+9 1.6	1.978	1.125	19.6	20.1	22 W	12*	—	—	—	—	—	—	—	—	—
11 7	14 25.08	+5 9.3	1.990	1.136	19.3	20.1	22 W	13*	—	—	—	—	—	—	—	—	—
11 17	14 52.78	+1 20.1	1.990	1.139	19.2	20.2	22 W	15*	—	—	—	—	—	—	—	—	—
11 27	15 20.36	-2 25.2	1.979	1.132	19.5	20.1	23 W	16*	—	—	—	—	—	—	—	—	—
12 7	15 48.35	-6 6.7	1.955	1.117	20.2	20.1	23 W	17*	—	—	—	—	—	—	—	—	—
12 17	16 17.33	-9 44.6	1.918	1.092	21.3	20.0	24 W	17* 5*	12 23	15 29.88	-31 55.5	2.607	2.607	12.4	20.5	35 W	6* 28*
12 27	16 47.96	-13 18.9	1.869	1.059	22.9	20.0	25 W	16* 9*	1 2	15 46.93	-33 34.1	3.305	2.638	14.1	20.6	41 W	7* 34*
1 6	17 21.12	-16 48.6	1.809	1.016	24.8	19.9	26 W	14* 14*	1 12	16 3.62	-35 8.5	3.241	2.667	15.6	20.6	47 W	7* 41*
1 16	17 57.91	-20 10.1	1.740	0.965	27.0	19.7	26 W	11* 17*	1 22	16 19.80	-36 39.3	3.166	2.695	17.0	20.7	53 W	6* 47*
12 23	15 29.84	-13 20.9	2.396	1.722	20.3	19.3	37 W	23* 22*	2 1	16 35.30	-38 7.5	3.081	2.723	18.2	20.7	60 W	6* 54*
1 2	15 56.40	-12 50.3	2.293	1.689	22.7	19.2	42 W	25* 26*	2 11	16 49.90	-39 34.0	2.987	2.749	19.2	20.6	67 W	5* 59*
1 12	16 23.69	-11 57.2	2.188	1.656	25.1	19.2	46 W	27* 30*	2 21	17 3.35	-41 0.0	2.886	2.775	20.0	20.6	74 W	4* 65*
1 22	16 51.69	-10 38.8	2.082	1.623	27.4	19.1	49 W	29* 34*	3 2	17 15.36	-42 26.7	2.780	2.799	20.5	20.6	81 W	2* 69*
2 1	17 20.30	-8 53.0	1.980	1.591	29.6	19.0	53 W	31* 38*	3 12	17 25.57	-43 55.1	2.671	2.822	20.6	20.5	88 W	1* 71*
2 11	17 49.44	-6 38.4	1.881	1.560	31.6	18.9	56 W	33* 41*	3 22	17 33.60	-45 26.2	2.561	2.845	20.4	20.4	96 W	— 71
2 21	18 19.02	-3 54.6	1.790	1.529	33.5	18.8	59 W	35* 43*	3 27	17 36.65	-46 12.8	2.507	2.856	20.1	20.4	100 W	— 70
3 2	18 48.92	-0 43.0	1.707	1.501	35.3	18.7	61 W	37* 44*	4 1	17 38.96	-47 0.1	2.455	2.866	19.8	20.3	104 W	— 69
3 12	19 19.03	+2 53.0	1.633	1.474	36.8	18.6	63 W	39* 45*	4 6	17 40.18	-47 47.7	2.403	2.876	19.3	20.3	108 W	— 68
3 17	19 34.15	+4 48.6	1.601	1.461	37.6	18.6	64 W	40* 45*	4 11	17 41.45	-48 35.6	2.354	2.886	18.7	20.2	112 W	— 67
3 22	19 49.29	+6 48.3	1.571	1.449	38.3	18.5	64 W	41* 45*	4 16	17 40.91	-49 23.2	2.307	2.896	18.1	20		

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

19/21	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°	19/21	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°
163242 2002 FE										427521 2002 JK₂₀									
(continuation)																			
8 24	16 8.77	-45 43.0	2.760	3.058	19.1	20.7	97 E	—	70*	12 23	15 32.14	-13 2.8	2.721	2.025	17.0	20.8	37 W	23*	22*
8 29	16 12.97	-45 15.6	2.827	3.060	19.2	20.8	94 E	—	70*	1 2	15 55.15	-14 38.6	2.609	1.980	19.1	20.7	41 W	24*	27*
9 3	16 17.69	-44 50.2	2.894	3.063	19.2	20.8	90 E	—	69*	1 12	16 18.99	-16 6.3	2.493	1.935	21.2	20.7	45 W	24*	33*
9 8	16 22.87	-44 26.7	2.961	3.065	19.1	20.9	86 E	—	68*	1 22	16 43.70	-17 24.7	2.376	1.892	23.3	20.6	50 W	23*	39*
9 13	16 28.47	-44 4.9	3.028	3.067	19.0	20.9	83 E	—	66*	2 1	17 9.25	-18 32.9	2.259	1.850	25.3	20.5	53 W	23*	44*
9 18	16 34.48	-43 44.6	3.095	3.068	18.8	20.9	79 E	—	64*	2 11	17 35.60	-19 29.6	2.142	1.810	27.3	20.4	57 W	22*	49*
9 23	16 40.84	-43 25.7	3.161	3.070	18.5	21.0	76 E	—	62*	2 21	18 2.70	-20 14.3	2.028	1.773	29.2	20.3	61 W	21*	53*
9 28	16 47.54	-43 8.0	3.226	3.071	18.1	21.0	72 E	—	60*	3 2	18 30.45	-20 46.2	1.916	1.737	31.0	20.1	64 W	20*	58*
10 3	16 54.54	-42 51.3	3.289	3.072	17.7	21.0	69 E	—	58*	3 12	18 58.73	-21 5.4	1.808	1.705	32.7	20.0	68 W	19*	61*
10 8	17 1.81	-42 35.3	3.350	3.072	17.2	21.1	65 E	—	55*	3 22	19 27.44	-21 12.0	1.705	1.675	34.3	19.9	71 W	19*	65*
10 13	17 9.33	-42 19.9	3.410	3.073	16.7	21.1	62 E	—	52*	4 1	19 56.36	-21 6.8	1.607	1.649	35.7	19.8	74 W	18*	68*
10 18	17 17.09	-42 4.8	3.468	3.073	16.1	21.1	59 E	—	50*	4 11	20 25.33	-20 51.2	1.514	1.627	37.0	19.7	78 W	17*	72*
10 23	17 25.05	-41 50.0	3.523	3.072	15.5	21.1	56 E	—	47*	4 21	20 54.13	-20 27.2	1.427	1.609	38.1	19.5	81 W	17*	75*
10 28	17 33.21	-41 35.2	3.576	3.072	14.8	21.1	52 E	—	44*	5 1	21 22.51	-19 57.3	1.346	1.596	38.9	19.4	84 W	17*	78*
11 2	17 41.52	-41 20.3	3.626	3.071	14.2	21.1	49 E	—	42*	5 11	21 50.22	-19 24.7	1.272	1.587	39.5	19.3	87 W	17*	80*
11 7	17 49.99	-41 5.1	3.674	3.070	13.4	21.1	46 E	—	39*	5 21	22 16.98	-18 52.9	1.203	1.583	39.7	19.2	91 W	17*	82*
11 12	17 58.58	-40 49.6	3.718	3.069	12.7	21.1	43 E	—	36*	5 31	22 42.44	-18 26.2	1.139	1.584	39.7	19.1	95 W	18*	82
11 17	18 7.30	-40 33.5	3.759	3.067	11.9	21.1	40 E	—	33*	6 10	23 6.26	-18 8.5	1.081	1.589	39.2	18.9	99 W	20*	82
11 22	18 16.11	-40 16.8	3.797	3.066	11.2	21.1	37 E	—	30*	6 20	23 28.05	-18 3.8	1.027	1.600	38.2	18.8	103 W	21*	82
11 27	18 25.00	-39 59.5	3.831	3.064	10.4	21.1	34 E	—	27*	6 30	23 47.32	-18 15.9	0.978	1.614	36.8	18.7	108 W	23*	82
12 2	18 33.95	-39 41.3	3.862	3.061	9.6	21.1	31 E	—	25*	7 10	0 3.59	-18 47.1	0.935	1.634	34.8	18.6	114 W	25*	83
12 7	18 42.95	-39 22.3	3.889	3.059	8.8	21.1	28 E	—	22*	7 20	0 16.32	-19 38.5	0.898	1.657	32.1	18.4	120 W	25*	84
12 12	18 51.99	-39 2.4	3.913	3.056	8.0	21.1	26 E	—	19*	7 25	0 21.17	-20 11.4	0.881	1.670	30.6	18.4	123 W	25*	84
12 17	19 1.04	-38 41.6	3.932	3.053	7.3	21.0	23 E	—	16*	7 30	0 24.94	-20 48.6	0.867	1.684	28.9	18.3	127 W	24	85
12 22	19 10.11	-38 19.8	3.948	3.049	6.6	21.0	21 E	—	14*	8 4	0 27.59	-21 29.1	0.855	1.699	27.1	18.2	130 W	24	85
12 27	19 19.16	-37 57.1	3.960	3.046	6.0	21.0	19 E	—	11*	8 9	0 29.08	-22 11.9	0.846	1.714	25.1	18.2	134 W	23	86
1 1	19 28.20	-37 33.4	3.967	3.042	5.5	21.0	17 E	—	9*	8 14	0 29.40	-22 55.8	0.840	1.731	23.1	18.1	138 W	22	87
1 6	19 37.20	-37 8.7	3.971	3.038	5.1	20.9	16 E	—	7*	8 19	0 28.56	-23 39.2	0.837	1.748	21.0	18.1	142 W	21	88
1 11	19 46.16	-36 43.1	3.971	3.033	4.9	20.9	15 E	—	5*	8 24	0 26.64	-24 20.2	0.837	1.766	18.9	18.0	145 W	21	88
1 16	19 55.07	-36 16.5	3.966	3.028	4.9	20.9	15 E	—	3*	8 29	0 23.76	-24 57.0	0.841	1.784	17.0	18.0	149 W	20	89
69466 1996 VZ₅																			
12 23	15 31.73	-7 39.3	2.639	1.980	18.4	19.5	39 W	28*	19*	9 3	0 20.08	-25 27.5	0.850	1.803	15.3	18.0	152 W	20	89
1 2	15 51.21	-9 14.8	2.603	2.017	19.8	19.6	44 W	29*	26*	9 8	0 15.79	-25 50.5	0.863	1.822	14.0	18.0	154 W	19	90
1 12	16 9.90	-10 39.3	2.558	2.055	21.2	19.6	49 W	30*	33*	9 13	0 11.09	-26 4.5	0.880	1.842	13.3	18.0	155 W	19	90
1 22	16 27.69	-11 53.7	2.503	2.094	22.5	19.7	55 W	30*	40*	9 18	0 6.24	-26 8.7	0.903	1.863	13.1	18.1	155 W	19	90
2 1	16 44.43	-12 59.0	2.440	2.132	23.7	19.7	60 W	30*	47*	9 23	0 1.48	-26 2.8	0.930	1.884	13.6	18.2	154 W	19	90
2 11	16 59.96	-13 56.5	2.367	2.171	24.6	19.7	66 W	29*	55*	9 28	23 57.03	-25 46.8	0.963	1.905	14.4	18.3	152 E	19	90
2 21	17 14.10	-14 47.8	2.287	2.209	25.3	19.7	73 W	29*	62*	10 3	23 53.06	-25 21.4	1.000	1.927	15.6	18.5	149 E	20	89
3 2	17 26.59	-15 35.0	2.200	2.247	25.7	19.6	80 W	29*	70*	10 8	23 49.71	-24 47.6	1.041	1.949	16.9	18.6	145 E	20	89
3 12	17 37.19	-16 20.2	2.108	2.285	25.7	19.6	87 W	28*	76*	10 13	23 47.07	-24 6.4	1.088	1.971	18.2	18.8	142 E	21	88
3 22	17 45.61	-17 5.8	2.013	2.323	25.3	19.5	95 W	28*	81*	10 18	23 45.19	-23 18.8	1.138	1.993	19.5	19.0	138 E	22	87
4 1	17 51.51	-17 54.0	1.918	2.360	24.3	19.4	103 W	27*	82	10 23	23 44.11	-22 25.9	1.193	2.016	20.8	19.1	134 E	23	86
4 11	17 54.55	-18 47.1	1.827	2.396	22.7	19.3	113 W	26*	83	10 28	23 43.81	-21 28.6	1.251	2.039	21.9	19.3	130 E	24	85
4 21	17 54.43	-19 46.7	1.742	2.433	20.4	19.1	122 W	25	84	11 2	23 44.25	-20 28.0	1.313	2.062	22.8	19.5	126 E	25	84
5 1	17 50.91	-20 53.2	1.669	2.468	17.4	19.0	133 W	24	85	11 7	23 45.39	-19 24.9	1.379	2.085	23.6	19.6	122 E	26	83
5 11	17 44.02	-22 5.4	1.613	2.503	13.7	18.8	144 W	23	86	11 12	23 47.19	-18 19.8	1.447	2.109	24.3	19.8	119 E	27	82
5 21	17 34.09	-23 20.2	1.579	2.537	9.3	18.6	156 W	22	87	11 17	23 49.58	-17 13.2	1.518	2.132	24.9	19.9	115 E	28	81
5 26	17 28.22	-23 57.2	1.571	2.554	7.0	18.5	162 W	21	88	11 27	23 55.98	-14 57.3	1.667	2.179	25.6	20.2	108 E	30	79
5 31	17 21.94	-24 33.1	1.570	2.571	4.6	18.4	168 W	20	89	12 7	0 4.15	-12 39.9	1.824	2.226	25.8	20.4	101 E	32	77*
6 5	17 15.40	-25 7.3	1.576	2.587	2.3	18.3	174 W	20	89	12 17	0 13.75	-10 22.7	1.987	2.274	25.6	20.6	94 E	35	71*
6 10	17 8.79	-25 39.4	1.589	2.603	1.1	18.2	177 E	19	90	12 27	0 24.50	-8 6.8	2.154	2.321	25.0	20.8	87 E	37	64*
6 15	17 2.27	-26 9.0	1.609	2.619	3.0	18.4	172 E	19	90	1 6	0 36.17	-5 53.1	2.322	2.368	24.2	21.0	80 E	39	57*
6 20	16 56.03	-26 36.1	1.637	2.635	5.2	18.6	166 E	18	89	1 16	0 48.57	-3 42.2	2.491	2.414	23.1	21.2	74 E	41*	51*
6 25	16 50.22	-27 0.6	1.672	2.651	7.4	18.8	160 E	18	89	159608 2002 AC₂									
6 30	16 44.97	-27 22.8	1.713	2.667	9.5	18.9	154 E	18	89	12 23	15 32.77	+33 58.1	2.048	1.903	28.5	20.7	68 W	60*	—
7 5	16 40.39	-27 43.0	1.760	2.682	11.3	19.1	149 E	17	88	1 2	16 2.61	+33 30.2	1.981	1.864	29.4	20.6	69 W	62*	2*
7 10	16 36.53	-28 1.4	1.813	2.697	13.0	19.2	143 E	17	88	1 12	16 31.89	+33 6.4	1.918	1.824	30.3	20.5	69 W	63*	5*
7 20	16 31.14	-28 34.4	1.934	2.726	15.9	19.5	133 E	16	87	1 22	17 0.37	+32 47.1	1.859	1.781	31.3	20.4	70 W	64*	9*
7 30	16 28.90	-29 4.3	2.070	2.755	18.1	19.7	123 E	16*	87	2 1	17 27.83	+32 32.8	1.800	1.737	32.3	20.3	70 W	64*	12*
8 9	16 29.65	-29 33.0	2.219	2.783	19.5	19.9	113 E	15*	86	2 11	17 54.08	+32 23.4	1.741	1.692	33.4	20.2	71 W	64*	15*
8 19	16 33.07	-30 1.3	2.376	2.810	20.4	20.1	105 E	14*	86	2 16	18 6.73	+32 20.2	1.711	1.668	34.0	20.2	71 W	64*	17*
8 29	16 38.87	-30 29.5	2.538	2.836	20.7	20.3	97 E	13*	86*	2 21	18 19.04	+32 18.1	1.679	1.645	34.6	20.1	71 W	64*	18*
9 8	16 46.72	-30 5																	

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

2020	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45° – 26°	19/21	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45° – 26°				
159608 2002 AC₂ (continuation)									159608 2002 AC₂ (continuation)												
5	23	21 23.15	+25 32.8	0.673	1.206	57.1	18.1	89 W	63*	38	11 19	6 40.13	-56 32.2	1.092	1.535	39.9	19.2	95 W	—	59	
5	25	21 27.77	+24 40.9	0.642	1.198	57.7	18.0	90 W	63*	39	11 21	6 32.47	-56 12.0	1.085	1.545	39.5	19.2	96 W	—	60	
5	27	21 32.61	+23 42.1	0.611	1.191	58.3	17.9	91 W	62*	40	11 23	6 24.66	-55 47.5	1.078	1.555	39.0	19.2	98 W	—	60	
5	29	21 37.71	+22 35.4	0.580	1.183	58.9	17.8	92 W	61*	41	11 25	6 16.73	-55 18.3	1.072	1.565	38.6	19.2	99 W	—	61	
5	31	21 43.12	+21 19.4	0.549	1.176	59.4	17.7	93 W	60*	43	11 27	6 8.75	-54 44.5	1.066	1.575	38.1	19.2	100 W	—	61	
6	2	21 48.87	+19 52.4	0.518	1.169	59.9	17.6	94 W	59*	44	11 29	6 0.77	-54 5.6	1.060	1.584	37.6	19.1	101 W	—	62	
6	4	21 55.05	+18 12.6	0.488	1.162	60.4	17.4	95 W	58*	46	12 1	5 52.83	-53 21.7	1.055	1.594	37.1	19.1	103 W	—	63	
6	6	22 1.71	+16 17.7	0.458	1.156	60.8	17.3	96 W	56*	48	12 3	5 44.99	-52 32.7	1.050	1.604	36.6	19.1	104 W	—	63	
6	8	22 8.95	+14 4.8	0.429	1.150	61.2	17.2	97 W	54*	50	12 5	5 37.30	-51 38.4	1.046	1.613	36.1	19.1	105 W	—	64	
6	10	22 16.88	+11 30.6	0.401	1.144	61.5	17.0	98 W	52*	52	12 7	5 29.80	-50 39.0	1.042	1.623	35.6	19.1	106 W	—	65	
6	12	22 25.61	+ 8 31.3	0.374	1.138	61.7	16.8	99 W	49*	55	12 9	5 22.53	-49 34.5	1.039	1.633	35.1	19.1	108 W	—	66	
6	14	22 35.30	+ 5 2.8	0.348	1.132	61.9	16.7	100 W	45*	59	12 11	5 15.53	-48 25.1	1.037	1.642	34.6	19.1	109 W	—	68	
6	16	22 46.14	+ 1 0.6	0.325	1.127	62.0	16.5	102 W	41*	63	12 13	5 8.82	-47 10.9	1.036	1.652	34.2	19.1	110 E	—	69	
6	18	22 58.33	- 3 38.8	0.304	1.122	62.1	16.4	103 W	37*	68	12 15	5 2.44	-45 52.2	1.036	1.661	33.7	19.1	111 E	—	70	
6	20	23 12.15	- 8 57.3	0.286	1.117	62.3	16.2	103 W	31*	73	12 17	4 56.40	-44 29.3	1.037	1.671	33.2	19.1	111 E	1	72	
6	22	23 27.89	-14 52.8	0.271	1.113	62.5	16.1	104 W	25*	79	12 22	4 42.85	-40 46.0	1.044	1.694	32.2	19.1	113 E	4	75	
6	24	23 45.89	-21 17.9	0.261	1.109	62.9	16.0	104 W	18*	85	12 27	4 31.56	-36 45.1	1.059	1.717	31.4	19.1	114 E	8	79	
6	26	0 6.50	-27 58.4	0.256	1.105	63.4	16.0	104 W	11*	88	1	1	4 22.43	-32 33.4	1.081	1.739	30.9	19.2	115 E	12	83
6	28	0 30.02	-34 34.3	0.257	1.102	64.2	16.0	103 W	4*	81	1	6	4 15.30	-28 17.5	1.111	1.761	30.6	19.3	114 E	17	88
6	30	0 56.63	-40 44.3	0.262	1.098	65.2	16.1	101 W	—	75*	1	11	4 9.98	-24 3.4	1.149	1.783	30.4	19.4	113 E	21	88
7	1	1 11.08	-43 33.4	0.266	1.097	65.7	16.1	101 W	—	72*	1	16	4 6.26	-19 55.8	1.195	1.805	30.5	19.5	111 E	25	84
7	2	1 26.24	-46 9.5	0.272	1.096	66.2	16.2	100 W	—	69*	86819 2000 GK₁₃₇										
7	3	1 42.03	-48 31.4	0.278	1.094	66.7	16.3	99 W	—	66*	12 23	15 32.89	-13 38.6	2.330	1.649	20.9	21.4	37 W	23*	22*	
7	4	1 58.36	-50 38.3	0.286	1.093	67.1	16.3	98 W	—	64*	1	2	16 2.23	-14 48.0	2.206	1.579	23.4	21.2	40 W	23*	26*
7	5	2 15.10	-52 30.0	0.295	1.092	67.6	16.4	97 W	—	61*	1	12	16 33.74	-15 42.1	2.084	1.508	26.0	21.1	42 W	23*	29*
7	6	2 32.08	-54 6.7	0.304	1.091	68.0	16.5	96 W	—	59*	1	22	17 7.60	-16 16.7	1.968	1.436	28.5	20.9	44 W	22*	33*
7	7	2 49.15	-55 29.0	0.314	1.090	68.3	16.6	95 W	—	57*	2	1	17 43.91	-16 27.0	1.859	1.365	31.0	20.8	46 W	22*	35*
7	8	3 6.12	-56 37.8	0.325	1.089	68.6	16.7	94 W	—	55*	2	11	18 22.62	-16 8.2	1.762	1.296	33.5	20.6	46 W	21*	37*
7	9	3 22.84	-57 34.2	0.336	1.088	68.8	16.7	93 W	—	53*	2	21	19 3.56	-15 16.3	1.678	1.229	35.7	20.4	47 W	20*	38*
7	10	3 39.14	-58 19.3	0.347	1.088	69.1	16.8	92 W	—	51*	3	2	19 46.34	-13 48.8	1.610	1.166	37.7	20.3	46 W	19*	38*
7	11	3 54.89	-58 54.5	0.360	1.087	69.2	16.9	91 W	—	49*	3	12	20 30.40	-11 46.2	1.560	1.109	39.3	20.2	45 W	17*	38*
7	12	4 9.99	-59 21.1	0.372	1.087	69.3	17.0	91 W	—	48*	3	22	21 15.12	- 9 12.4	1.530	1.061	40.4	20.0	44 W	16*	37*
7	13	4 24.38	-59 40.2	0.385	1.086	69.4	17.0	90 W	—	47*	3	27	21 37.52	- 7 46.1	1.522	1.040	40.6	20.0	43 W	15*	36*
7	14	4 37.99	-59 52.9	0.398	1.086	69.4	17.1	89 W	—	46*	4	1	21 59.84	- 6 15.0	1.518	1.023	40.7	20.0	42 W	14*	35*
7	15	4 50.83	-60 0.4	0.412	1.086	69.4	17.2	88 W	—	45*	4	6	22 22.02	- 4 40.5	1.519	1.008	40.7	19.9	41 W	14*	34*
7	16	5 2.87	-60 3.5	0.425	1.085	69.3	17.3	88 W	—	44*	4	11	22 43.99	- 3 3.8	1.524	0.997	40.4	19.9	40 W	13*	33*
7	17	5 14.15	-60 3.0	0.439	1.085	69.2	17.3	87 W	—	43*	4	16	23 5.72	+ 0 26.2	1.533	0.990	40.1	19.9	39 W	12*	33*
7	18	5 24.68	-59 59.6	0.453	1.085	69.1	17.4	86 W	—	42*	4	21	23 27.14	+ 0 10.9	1.545	0.986	39.5	19.9	39 W	11*	32*
7	19	5 34.51	-59 53.9	0.467	1.086	69.0	17.4	86 W	—	41*	4	26	23 48.24	+ 1 46.5	1.560	0.987	38.9	19.9	38 W	11*	31*
7	20	5 43.68	-59 46.4	0.481	1.086	68.8	17.5	85 W	—	40*	5	1	0 8.96	+ 3 19.3	1.578	0.991	38.2	19.9	37 W	10*	31*
7	21	5 52.23	-59 37.4	0.495	1.086	68.6	17.6	84 W	—	40*	5	6	0 29.29	+ 4 48.6	1.597	0.999	37.5	19.9	37 W	10*	30*
7	22	6 0.19	-59 27.4	0.510	1.086	68.4	17.6	84 W	—	40*	5	11	0 49.21	+ 6 13.6	1.618	1.010	36.8	20.0	37 W	9*	30*
7	23	6 7.63	-59 16.5	0.524	1.087	68.2	17.7	83 W	—	39*	5	21	1 27.77	+ 8 48.2	1.664	1.043	35.3	20.0	37 W	9*	30*
7	24	6 14.57	-59 5.1	0.538	1.087	67.9	17.7	83 W	—	39*	5	31	2 4.52	+10 59.8	1.710	1.087	34.1	20.2	37 W	10*	30*
7	25	6 21.05	-58 53.3	0.553	1.088	67.6	17.8	82 W	—	38*	6	10	2 39.39	+12 46.8	1.756	1.141	33.2	20.3	38 W	11*	30*
7	26	6 27.12	-58 41.3	0.567	1.089	67.4	17.8	82 W	—	38*	6	20	3 12.34	+14 9.2	1.797	1.201	32.5	20.4	39 W	13*	31*
7	27	6 32.81	-58 29.2	0.581	1.090	67.1	17.9	81 W	—	38*	6	30	3 43.35	+15 8.1	1.833	1.267	32.2	20.6	42 W	16*	32*
7	28	6 38.14	-58 17.0	0.595	1.090	66.8	17.9	81 W	—	38*	7	10	4 12.38	+15 45.2	1.862	1.335	32.0	20.7	44 W	19*	33*
7	29	6 43.14	-58 4.9	0.609	1.091	66.4	18.0	80 W	—	38*	7	20	4 39.44	+16 2.5	1.882	1.405	32.0	20.9	47 W	23*	35*
7	30	6 47.85	-57 53.0	0.624	1.093	66.1	18.0	80 W	—	37*	7	30	5 4.49	+16 2.2	1.892	1.477	32.2	21.0	51 W	28*	36*
8	1	6 56.47	-57 29.7	0.652	1.095	65.4	18.1	79 W	—	37*	8	9	5 27.53	+15 46.7	1.892	1.548	32.4	21.1	55 W	33*	38*
8	3	7 4.15	-57 7.5	0.679	1.098	64.7	18.2	78 W	—	37*	8	19	5 48.51	+15 18.3	1.881	1.619	32.5	21.2	59 W	38*	40*
8	5	7 11.04	-56 46.4	0.706	1.101	64.0	18.2	77 W	—	37*	8	29	6 7.35	+14 39.0	1.859	1.689	32.6	21.3	64 W	43*	42*
8	7	7 17.25	-56 26.7	0.733	1.104	63.3	18.3	77 W	—	37*	9	8	6 23.97	+13 51.1	1.827	1.758	32.6	21.3	70 W	48*	44*
8	9	7 22.88	-56 8.3	0.759	1.108	62.5	18.3	76 W	—	38*	9	18	6 38.25	+12 56.6	1.785	1.825	32.3	21.3	76 W	52*	47*
8	11	7 27.99	-55 51.3	0.785	1.112	61.8	18.4	75 W	—	38*	9	28	6 49.97	+11 57.8	1.735	1.890	31.7	21.3	83 W	55*	49*
8	13	7 32.65	-55 35.7	0.810	1.116	61.1	18.5	75 W	—	38*	10	8	6 58.91	+10 56.9	1.677	1.954	30.8	21.3	90 W	56*	52*
8	15	7 36.91	-55 21.5	0.834	1.121	60.3	18.5	74 W	—	38*	10	18	7 4.77	+ 9 56.4	1.616	2.016	29.3	21.2	98 W	55	54*
8	17	7 40.83	-55 8.5	0.858	1.126	59.6	18.6	73 W	—	39*	10	28	7 7.24	+ 8 59.3	1.553	2.076	27.2	21.2	107 W	54	55
8	19	7 44.42	-54 56.9	0.880	1.131	58.9	18.6	73 W	—	39*	11	7	7 6.03	+ 8 8.6	1.494	2.134	24.5	21.1	117 W	53	56
8	24																				

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

19/21	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45° – 26°	19/21	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45° – 26°
106239 2000 UM₄₆ <i>(continuation)</i>									65776 1995 SW₃ <i>(continuation)</i>								
4 1	18 4.98	-23 48.2	1.963	2.357	24.7	20.4	100 W	21* 88	3 12	17 54.42	-30 26.6	2.247	2.341	24.9	20.3	83 W	14* 76*
4 11	18 14.24	-23 39.0	1.812	2.326	24.2	20.2	108 W	21* 88	3 22	18 10.11	-30 51.4	2.087	2.303	25.6	20.1	89 W	14* 82*
4 21	18 21.26	-23 27.5	1.667	2.296	23.1	19.9	116 W	22 87	4 1	18 24.72	-31 14.1	1.928	2.263	26.0	19.9	96 W	13* 85*
5 1	18 25.63	-23 15.0	1.531	2.264	21.4	19.6	125 W	22 87	4 11	18 37.98	-31 36.0	1.773	2.224	26.0	19.7	103 W	13* 84
5 11	18 26.95	-23 2.3	1.407	2.233	18.9	19.3	134 W	22 87	4 21	18 49.54	-31 58.9	1.623	2.184	25.6	19.4	110 W	13* 84
5 21	18 24.91	-22 49.8	1.297	2.201	15.5	19.0	144 W	22 87	5 1	18 58.94	-32 24.2	1.480	2.144	24.6	19.1	118 W	13* 84
5 31	18 19.40	-22 37.1	1.206	2.168	11.3	18.7	155 W	22 87	5 11	19 5.73	-32 53.3	1.346	2.103	22.9	18.9	126 W	12 83
6 10	18 10.79	-22 23.4	1.135	2.136	6.2	18.3	167 W	23 86	5 16	19 7.98	-33 9.4	1.283	2.083	21.8	18.7	130 W	12 83
6 15	18 5.56	-22 15.8	1.108	2.120	3.5	18.1	173 W	23 86	5 21	19 9.37	-33 26.5	1.224	2.063	20.5	18.5	134 W	12 83
6 20	17 59.93	-22 7.6	1.087	2.103	0.8	17.8	178 W	23 86	5 26	19 9.82	-33 44.4	1.168	2.043	19.0	18.4	139 W	11 82
6 25	17 54.09	-21 58.8	1.073	2.087	2.5	17.9	175 E	23 86	5 31	19 9.29	-34 2.5	1.115	2.023	17.3	18.2	144 W	11 82
6 30	17 48.27	-21 49.6	1.064	2.071	5.5	18.1	169 E	23 86	6 10	19 5.22	-34 37.5	1.023	1.982	13.4	17.8	153 W	10 81
7 5	17 42.70	-21 40.2	1.061	2.054	8.4	18.2	163 E	23 86	6 20	18 57.22	-35 4.7	0.950	1.942	9.2	17.4	162 W	10 81
7 10	17 37.55	-21 31.0	1.064	2.038	11.3	18.3	157 E	23 86	6 30	18 46.12	-35 15.5	0.897	1.903	6.5	17.2	168 W	10 81
7 15	17 33.03	-21 22.1	1.072	2.022	14.1	18.4	151 E	24 85	7 5	18 39.93	-35 12.3	0.879	1.884	7.0	17.1	167 E	10 81
7 20	17 29.28	-21 14.1	1.085	2.006	16.8	18.5	145 E	24 85	7 10	18 33.68	-35 2.8	0.866	1.865	8.7	17.1	164 E	10 81
7 30	17 24.56	-21 1.7	1.123	1.973	21.5	18.7	135 E	24 85	7 15	18 27.64	-34 46.8	0.859	1.846	11.0	17.2	160 E	10 81
8 9	17 23.87	-20 55.1	1.174	1.942	25.3	18.9	125 E	24 85	7 20	18 22.11	-34 24.6	0.856	1.827	13.7	17.3	155 E	11 82
8 19	17 27.22	-20 54.0	1.235	1.911	28.4	19.0	116 E	24 85	7 25	18 17.35	-33 57.0	0.858	1.809	16.5	17.3	150 E	11 82
8 29	17 34.40	-20 56.8	1.303	1.881	30.7	19.2	108 E	24* 85	7 30	18 13.60	-33 25.0	0.864	1.791	19.2	17.4	145 E	12 83
9 8	17 45.00	-21 0.9	1.373	1.851	32.3	19.3	101 E	24* 85	8 4	18 10.99	-32 49.7	0.874	1.773	21.8	17.5	140 E	12 83
9 18	17 58.62	-21 3.4	1.446	1.823	33.3	19.4	94 E	24* 85	8 9	18 9.61	-32 12.1	0.888	1.756	24.2	17.6	135 E	13 84
9 28	18 14.88	-21 1.3	1.519	1.796	33.9	19.5	88 E	24* 81*	8 14	18 9.48	-31 33.0	0.904	1.739	26.4	17.7	130 E	13 84
10 8	18 33.38	-20 51.6	1.591	1.771	34.0	19.6	83 E	24* 75*	8 19	18 10.63	-30 53.1	0.923	1.723	28.5	17.8	126 E	14 85
10 18	18 53.78	-20 31.6	1.662	1.748	33.9	19.6	78 E	24* 70*	8 29	18 16.61	-29 32.7	0.968	1.692	31.9	17.9	118 E	15 86
10 28	19 15.77	-19 59.1	1.730	1.726	33.4	19.7	73 E	25* 64*	9 8	18 27.03	-28 12.1	1.018	1.663	34.6	18.1	110 E	17 88
11 7	19 39.00	-19 12.5	1.798	1.706	32.7	19.7	69 E	25* 59*	9 18	18 41.22	-26 49.8	1.073	1.637	36.6	18.2	104 E	18 89
11 17	20 3.23	-18 10.6	1.863	1.689	31.8	19.7	64 E	26* 54*	9 28	18 58.59	-25 23.7	1.131	1.614	37.9	18.3	98 E	20 89
11 27	20 28.19	-16 52.9	1.927	1.674	30.8	19.8	60 E	27* 48*	10 8	19 18.48	-23 50.7	1.191	1.595	38.7	18.4	93 E	21 86*
12 7	20 53.64	-15 19.5	1.989	1.662	29.6	19.8	57 E	28* 43*	10 18	19 40.35	-22 8.5	1.253	1.578	39.1	18.5	88 E	23 81*
12 17	21 19.39	-13 31.0	2.049	1.653	28.3	19.8	53 E	29* 37*	10 28	20 3.73	-20 15.0	1.317	1.566	39.1	18.6	84 E	25 75*
12 27	21 45.31	-11 28.9	2.109	1.647	26.9	19.8	49 E	30* 33*	11 7	20 28.17	-18 9.2	1.382	1.557	38.8	18.7	80 E	27 69*
1 6	22 11.25	-9 14.7	2.168	1.643	25.4	19.8	46 E	30* 28*	11 17	20 53.32	-15 51.0	1.450	1.553	38.3	18.8	77 E	29 64*
1 16	22 37.16	-6 50.7	2.227	1.643	23.9	19.8	43 E	29* 24*	11 27	21 18.93	-13 20.9	1.520	1.553	37.4	18.9	73 E	32* 58*
399774 2005 NB₇									210744 2000 UE₇₅								
12 23	15 33.49	-18 53.6	1.630	0.997	34.4	21.2	35 W	18* 23*	12 23	15 35.19	-15 50.2	3.011	2.281	14.5	21.4	35 W	20* 22*
1 2	16 18.15	-19 28.9	1.663	1.022	33.2	21.2	35 W	17* 24*	1 2	15 54.95	-16 57.8	2.902	2.249	16.6	21.4	41 W	22* 28*
1 12	17 0.75	-19 23.5	1.702	1.060	32.2	21.3	35 W	17* 25*	1 12	16 15.03	-17 57.1	2.785	2.217	18.6	21.3	46 W	22* 34*
1 22	17 40.73	-18 43.0	1.742	1.109	31.4	21.5	36 W	17* 26*	1 22	16 35.38	-18 47.8	2.661	2.184	20.6	21.2	51 W	23* 41*
2 1	18 17.75	-17 34.1	1.783	1.166	30.9	21.6	37 W	17* 28*	2 1	16 55.93	-19 29.2	2.532	2.151	22.4	21.2	56 W	23* 47*
363734 2004 XN₅₀									65776 1995 SW₃								
12 23	15 33.73	-17 48.1	1.618	0.992	34.8	21.3	35 W	19* 23*	12 23	15 34.52	-24 13.9	3.384	2.623	12.0	21.0	34 W	13* 25*
12 28	15 59.75	-19 21.0	1.550	0.916	36.8	21.1	34 W	17* 23*	1 2	15 52.11	-25 19.9	3.270	2.591	14.0	20.9	40 W	14* 31*
1 2	16 28.70	-20 46.4	1.489	0.838	38.5	20.8	32 W	15* 22*	1 12	16 9.88	-26 20.5	3.145	2.558	16.0	20.9	46 W	15* 38*
1 7	17 0.90	-21 58.5	1.438	0.758	39.8	20.6	30 W	12* 20*	1 22	16 27.75	-27 15.5	3.010	2.523	17.8	20.8	52 W	15* 45*
1 12	17 36.53	-22 49.7	1.397	0.676	40.2	20.3	26 W	10* 18*	2 1	16 45.62	-28 4.6	2.868	2.488	19.6	20.8	58 W	15* 51*
1 17	18 15.60	-23 11.2	1.369	0.594	39.2	19.9	22 W	7* 15*	2 11	17 3.36	-28 47.9	2.719	2.453	21.2	20.7	64 W	15* 58*
1 22	18 57.86	-22 52.9	1.354	0.515	35.8	19.5	18 W	3* 11*	2 21	17 20.86	-29 25.7	2.564	2.416	22.7	20.5	70 W	14* 64*
1 27	19 42.77	-21 45.8	1.351	0.444	28.6	18.9	12 W	- 6*	3 2	17 37.94	-29 58.3	2.406	2.379	23.9	20.4	76 W	14* 70*
2 1	20 29.47	-19 43.3	1.354	0.392	16.5	18.3	6 W	- -	3 12	18 2.29	-30 26.6	2.247	2.341	24.9	20.3	83 W	14* 76*
2 3	20 48.34	-18 38.4	1.356	0.379	10.4	18.0	4 W	- -	3 22	18 10.11	-30 51.4	2.087	2.303	25.6	20.1	89 W	14* 82*
2 5	21 7.12	-17 25.1	1.358	0.373	4.1	17.7	2 W	- -	4 1	18 24.72	-31 14.1	1.928	2.263	26.0	19.9	96 W	13* 85*
2 7	21 25.68	-16 4.3	1.358	0.373	4.2	17.7	2 E	- -	4 11	18 37.98	-31 36.0	1.773	2.224	26.0	19.7	103 W	13* 84
2 9	21 43.87	-14 37.2	1.358	0.380	10.5	18.0	4 E	- -	4 21	18 49.54	-31 58.9	1.623	2.184	25.6	19.4	110 W	13* 84
2 11	22 1.59	-13 5.3	1.357	0.393	16.6	18.3	7 E	- -	5 1	18 58.94	-32 24.2	1.480	2.144	24.6	19.1	118 W	13* 84
2 13	22 18.77	-11 29.9	1.357	0.411	22.0	18.6	9 E	2* 1*	5 11	19 5.73	-32 53.3	1.346	2.103	22.9	18.9	126 W	12 83
2 15	22 35.37	-9 52.4	1.356	0.434	26.6	18.8	11 E	4* 2*	5 16	19 7.98	-33 9.4	1.283	2.083	21.8	18.7	130 W	12 83
2 17	22 51.38	-8 13.9	1.357	0.460	30.3	19.1	14 E	6* 4*	5 21	19 9.37	-33 26.5	1.224	2.063	20.5	18.5	134 W	12 83
2 19	23 6.82	-6 35.3	1.359	0.488	33.3	19.3	16 E	8* 5*	5 26	19 9.82	-33 44.4	1.168	2.043	19.0	18.4	139 W	11 82
2 21	23 21.72	-4 57.5	1.363	0.518	35.6	19.5	18 E	10* 6*	5 31	19 9.29	-34 2.5	1.115	2.023	17.3	18.2	144 W	11 82
2 26	23 56.76	-1 0.2	1.381	0.597	39.0	19.9	22 E	14* 9*	6 10	19 5.22	-34 37.5	1.023	1.982	13.4	17.8	153 W	10 81
3 2	0 28.98	+ 2 41.2	1.411	0.679	40.0	20.3	26 E	18* 11*	6 20	18 57.22	-35 4.7	0.950	1.942	9.2	17.4	162 W	10 81
3 7	0 58.74	+ 6 2.5	1.453	0.761	39.6	20.6	29 E	21* 13*	6 30	18 46.12	-35 15.5	0.897	1.903	6.5	17.2	168 W	10 81
3 12	1 26.29	+ 9 1.8	1.505	0.841	38.4	20.8	32 E	23* 14*	7 5	18 39.93	-35 12.3	0.879	1.884	7.0	17.1	167 E	10 81
3 17	1 51.87	+11 39.1	1.566	0.919	36.7	21.1	34 E	25* 15*	7 10	1							

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

19/21	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°	19/21	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°
210744 2000 UE₇₅ (continuation)										20446 1999 JB₈₀ (continuation)									
10 13	21 11.57	-25 32.7	0.970	1.636	34.3	18.8	113 E	19	90	6 5	17 5.73	-18 48.5	1.197	2.210	2.2	16.3	175 W	26	83
10 18	21 19.79	-24 42.6	1.012	1.642	34.9	18.9	110 E	20	89	6 10	16 58.56	-19 38.8	1.177	2.190	2.2	16.2	175 E	25	84
10 23	21 28.45	-23 48.3	1.055	1.648	35.3	19.1	107 E	21	88	6 15	16 51.18	-20 30.7	1.163	2.170	4.8	16.3	170 E	24	85
10 28	21 37.48	-22 50.4	1.101	1.655	35.6	19.2	104 E	22	87	6 20	16 43.81	-21 23.3	1.156	2.150	7.7	16.4	163 E	24	85
11 2	21 46.80	-21 49.1	1.147	1.662	35.8	19.3	102 E	23	86	6 25	16 36.69	-22 16.0	1.156	2.130	10.7	16.5	157 E	23	86
11 7	21 56.35	-20 44.7	1.195	1.670	35.8	19.4	99 E	24	85	6 30	16 30.05	-23 8.4	1.162	2.110	13.5	16.6	151 E	22	87
11 12	22 6.10	-19 37.5	1.245	1.679	35.8	19.5	97 E	25	83*	7 5	16 24.09	-24 0.0	1.174	2.089	16.2	16.7	145 E	21	88
11 17	22 16.00	-18 27.7	1.296	1.689	35.7	19.6	94 E	27	81*	7 10	16 18.95	-24 50.8	1.191	2.069	18.8	16.8	139 E	20	89
11 22	22 26.03	-17 15.7	1.348	1.699	35.5	19.7	92 E	28	78*	7 15	16 14.76	-25 40.6	1.212	2.049	21.1	16.9	134 E	19	90
11 27	22 36.15	-16 1.7	1.401	1.710	35.2	19.7	90 E	29	75*	7 20	16 11.61	-26 29.5	1.237	2.029	23.2	17.0	128 E	19	90
12 7	22 56.54	-13 29.1	1.510	1.733	34.5	19.9	85 E	32	68*	7 30	16 8.60	-28 5.2	1.296	1.988	26.7	17.2	118 E	17*	88
12 17	23 17.06	-10 52.0	1.624	1.757	33.5	20.1	81 E	34	62*	8 9	16 9.99	-29 38.8	1.362	1.948	29.4	17.3	109 E	14*	86
12 27	23 37.62	-8 12.2	1.740	1.784	32.4	20.2	76 E	37	55*	8 19	16 15.59	-31 10.3	1.433	1.908	31.4	17.4	101 E	12*	85
1 6	23 58.16	-5 31.9	1.859	1.812	31.0	20.4	72 E	39*	50*	8 29	16 25.14	-32 39.4	1.505	1.869	32.6	17.5	94 E	10*	83*
1 16	0 18.69	-2 52.7	1.979	1.842	29.6	20.5	67 E	41*	44*	9 8	16 38.34	-34 4.7	1.575	1.830	33.4	17.6	87 E	9*	78*
4276 Clifford										29780 1999 CJ₅₀									
12 23	15 35.22	-8 36.9	2.944	2.255	15.7	19.6	38 W	27*	19*	12 23	15 35.51	-23 19.8	3.280	2.521	12.5	20.7	34 W	14*	24*
1 2	15 52.38	-9 52.9	2.880	2.272	17.4	19.6	44 W	28*	26*	1 2	15 52.34	-24 25.6	3.228	2.551	14.3	20.8	40 W	15*	31*
1 12	16 9.03	-11 0.2	2.804	2.288	19.0	19.6	49 W	29*	33*	1 12	16 8.63	-25 24.5	3.162	2.580	16.0	20.8	46 W	16*	38*
1 22	16 25.07	-11 59.2	2.719	2.304	20.5	19.6	55 W	30*	41*	1 22	16 24.23	-26 17.0	3.084	2.608	17.5	20.8	53 W	16*	45*
2 1	16 40.34	-12 50.5	2.623	2.318	21.9	19.6	61 W	30*	48*	2 1	16 38.97	-27 3.5	2.995	2.635	18.8	20.8	59 W	16*	53*
2 11	16 54.67	-13 35.1	2.519	2.332	23.1	19.5	68 W	30*	56*	2 11	16 52.65	-27 44.8	2.897	2.661	19.9	20.8	66 W	16*	60*
2 21	17 7.89	-14 14.1	2.407	2.345	24.0	19.5	74 W	30*	63*	3 2	17 5.96	-28 22.0	2.790	2.686	20.7	20.8	74 W	16*	68*
3 2	17 19.73	-14 49.1	2.289	2.356	24.6	19.4	82 W	30*	70*	3 2	17 15.97	-28 56.0	2.676	2.710	21.2	20.7	81 W	16*	75*
3 12	17 29.95	-15 21.9	2.167	2.367	24.8	19.3	89 W	29*	77*	3 12	17 25.06	-29 27.7	2.559	2.733	21.3	20.7	89 W	15*	83*
3 22	17 38.24	-15 54.5	2.044	2.377	24.6	19.2	97 W	29*	80	3 22	17 32.07	-29 58.2	2.440	2.755	21.0	20.6	98 W	15*	86
4 1	17 44.23	-16 29.2	1.921	2.386	23.8	19.0	105 W	29*	80	4 1	17 36.66	-30 28.0	2.323	2.776	20.2	20.5	106 W	15	86
4 11	17 47.56	-17 8.4	1.802	2.393	22.5	18.9	114 W	28	81	4 11	17 38.51	-30 57.3	2.211	2.796	18.8	20.3	116 W	14	85
4 21	17 47.83	-17 54.1	1.691	2.400	20.4	18.7	124 W	27	82	4 21	17 37.39	-31 25.3	2.109	2.814	16.9	20.2	126 W	14	85
5 1	17 44.71	-18 47.9	1.592	2.406	17.5	18.4	134 W	26	83	5 1	17 33.12	-31 50.2	2.020	2.832	14.3	20.0	136 W	13	84
5 11	17 38.07	-19 49.9	1.510	2.411	13.7	18.2	145 W	25	84	5 11	17 25.86	-32 9.3	1.950	2.849	11.2	19.8	147 W	13	84
5 21	17 28.10	-20 58.3	1.448	2.414	9.2	17.9	157 W	24	85	5 16	17 21.23	-32 15.6	1.923	2.857	9.5	19.7	152 W	13	84
5 26	17 22.05	-21 33.9	1.427	2.416	6.8	17.8	164 W	23	86	5 21	17 16.04	-32 19.2	1.902	2.864	7.7	19.6	158 W	13	84
5 31	17 15.47	-22 9.6	1.412	2.417	4.2	17.6	170 W	23	86	5 26	17 10.41	-32 19.7	1.888	2.872	6.0	19.5	163 W	13	84
6 5	17 8.53	-22 44.8	1.405	2.418	1.5	17.5	176 W	22	87	5 31	17 4.49	-32 17.0	1.881	2.879	4.4	19.5	167 W	13	84
6 10	17 1.42	-23 19.1	1.404	2.419	1.2	17.4	177 E	22	87	6 5	16 58.44	-32 11.0	1.881	2.886	3.4	19.4	170 W	13	84
6 15	16 54.34	-23 51.9	1.411	2.419	3.8	17.6	171 E	21	88	6 10	16 52.39	-32 1.9	1.888	2.892	3.5	19.4	170 E	13	84
6 20	16 47.47	-24 22.9	1.425	2.419	6.4	17.8	165 E	21	88	6 15	16 46.52	-31 49.9	1.902	2.899	4.7	19.5	166 E	13	84
6 25	16 41.03	-24 52.2	1.445	2.419	8.9	17.9	158 E	20	89	6 20	16 40.96	-31 35.5	1.922	2.905	6.3	19.6	162 E	13	84
6 30	16 35.18	-25 19.7	1.472	2.419	11.3	18.1	152 E	20	89	6 25	16 35.84	-31 19.2	1.950	2.911	8.0	19.7	156 E	14	85
7 5	16 30.04	-25 45.6	1.505	2.418	13.4	18.2	146 E	19	90	7 5	16 31.27	-31 1.6	1.984	2.916	9.7	19.8	151 E	14	85
7 10	16 25.70	-26 10.2	1.543	2.418	15.4	18.3	141 E	19	90	7 10	16 27.34	-30 43.4	2.024	2.921	11.3	20.0	146 E	14	85
7 20	16 19.65	-26 56.4	1.633	2.415	18.8	18.5	130 E	18	89	7 10	16 24.08	-30 25.2	2.070	2.926	12.8	20.1	140 E	15	86
7 30	16 17.23	-27 40.6	1.737	2.412	21.4	18.8	120 E	17*	88	7 20	16 19.70	-29 50.3	2.175	2.936	15.3	20.3	130 E	15	86
8 9	16 18.27	-28 24.2	1.852	2.407	23.2	18.9	111 E	16*	88	7 30	16 18.19	-29 20.1	2.296	2.944	17.3	20.5	120 E	16*	87
8 19	16 22.47	-29 7.8	1.972	2.402	24.3	19.1	102 E	15*	87	8 9	16 19.40	-28 56.1	2.429	2.951	18.7	20.6	111 E	15*	87
8 29	16 29.49	-29 51.4	2.095	2.395	24.9	19.3	94 E	13*	86*	8 19	16 23.05	-28 38.6	2.569	2.957	19.5	20.8	102 E	15*	87
9 8	16 39.00	-30 34.1	2.218	2.388	24.9	19.4	87 E	12*	79*	8 29	16 28.89	-28 27.0	2.713	2.962	19.9	20.9	94 E	15*	87*
9 18	16 50.68	-31 15.1	2.339	2.379	24.6	19.5	80 E	11*	73*	9 8	16 36.62	-28 20.2	2.858	2.965	19.8	21.0	86 E	14*	80*
9 28	17 4.28	-31 53.1	2.456	2.370	23.9	19.5	73 E	10*	66*	9 18	16 45.99	-28 17.0	3.001	2.968	19.4	21.1	78 E	13*	72*
10 8	17 19.56	-32 26.9	2.566	2.359	22.9	19.6	67 E	9*	60*	9 28	16 56.78	-28 15.8	3.139	2.970	18.6	21.2	71 E	13*	65*
10 18	17 36.33	-32 55.2	2.670	2.348	21.7	19.6	61 E	8*	54*	10 8	17 8.77	-28 15.2	3.271	2.971	17.6	21.3	64 E	12*	58*
10 28	17 54.41	-33 16.7	2.764	2.335	20.3	19.7	55 E	7*	49*	10 18	17 21.81	-28 14.1	3.394	2.970	16.3	21.3	57 E	11*	51*
11 7	18 13.60	-33 30.4	2.849	2.322	18.8	19.7	49 E	7*	43*	10 28	17 35.73	-28 11.1	3.507	2.968	14.9	21.3	50 E	11*	44*
11 17	18 33.77	-33 35.2	2.924	2.307	17.1	19.7	43 E	6*	37*	11 7	17 50.38	-28 5.3	3.608	2.966	13.3	21.3	43 E	10*	37*
11 27	18 54.75	-33 30.2	2.988	2.292	15.4	19.6	38 E	5*	32*	11 17	18 5.64	-27 55.7	3.696	2.962	11.5	21.3	37 E	8*	30*
12 7	19 16.37	-33 14.9	3.041	2.276	13.6	19.6	33 E	4*	27*	11 27	18 21.39	-27 41.7	3.769	2.957	9.6	21.3	30 E	7*	23*
12 17	19 38.49	-32 48.7	3.082	2.259	11.7	19.5	28 E	2*	22*										
12 27	20 0.98	-32 11.4	3.111	2.241	10.0	19.5	23 E	—	17*										
1 6	20 23.70	-31 23.2	3.128	2.223	8.3	19.4	19 E	—	13*										
1 16	20 46.54	-30 24.1	3.134	2.203	6.9	19.3	16 E	—	9*										
20446 1999 JB₈₀																			
12 23	15 35.46	-6 49.7	3.454	2.760	13.0	19.6	39 W	28*	18*										
1 2	15 49.90	-7 48.8	3.338	2.733	14.7	19.5	45 W	31*	26*										

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

19/21	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°	19/21	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°		
29780 1999 CJ ₅₀ (continuation)										308242 2005 GO ₂₁ (continuation)											
12	7	18 37.49	-27 22.7	3.827	2.952	7.7	21.2	24 E	5*	17*	9	18	11 41.41	-9 54.9	1.741	0.785	15.2	17.9	12 W	—	—
12	17	18 53.86	-26 58.3	3.870	2.945	5.7	21.1	17 E	2*	11*	9	28	12 23.58	-14 35.7	1.794	0.845	15.1	18.1	13 E	—	1*
12	27	19 10.37	-26 28.4	3.896	2.937	3.7	21.0	11 E	—	5*	10	8	13 4.89	-18 26.0	1.843	0.897	14.3	18.3	13 E	—	2*
1	6	19 26.94	-25 52.7	3.905	2.928	1.9	20.9	6 E	—	—	10	18	13 45.68	-21 28.1	1.888	0.939	13.1	18.4	12 E	—	2*
1	16	19 43.48	-25 11.5	3.897	2.918	1.5	20.9	5 W	—	—	10	28	14 26.10	-23 44.4	1.926	0.971	11.6	18.5	11 E	—	2*
308242 2005 GO ₂₁										482796 2013 QJ ₁₀											
12	23	15 35.66	-32 32.6	0.647	0.570	107.8	18.3	33 W	5*	27*	12	23	15 36.76	-23 38.9	1.062	0.591	66.0	20.8	33 W	13*	24*
12	25	15 36.82	-33 49.9	0.672	0.583	103.0	18.1	35 W	5*	29*	12	28	16 10.56	-26 42.7	1.121	0.569	61.3	20.7	30 W	9*	23*
12	27	15 38.99	-34 59.9	0.698	0.596	98.7	18.1	37 W	4*	31*	1	2	16 45.86	-28 58.4	1.184	0.555	55.5	20.6	28 W	6*	21*
12	29	15 42.06	-36 3.2	0.723	0.609	94.7	18.0	38 W	4*	32*	1	7	17 21.99	-30 22.2	1.251	0.552	49.1	20.5	25 W	3*	19*
12	31	15 45.92	-37 0.3	0.748	0.623	91.1	18.0	39 W	3*	33*	1	12	17 58.04	-30 54.1	1.319	0.558	42.6	20.5	23 W	—	17*
1	2	15 50.45	-37 51.8	0.773	0.637	87.8	18.0	40 W	3*	34*	1	14	18 12.23	-30 53.0	1.346	0.564	40.0	20.5	22 W	—	16*
1	4	15 55.57	-38 38.0	0.797	0.652	84.9	18.0	41 W	2*	35*	1	16	18 26.19	-30 44.8	1.373	0.570	37.5	20.5	21 W	—	15*
1	6	16 1.20	-39 19.4	0.820	0.666	82.1	18.0	42 W	2*	36*	1	18	18 39.88	-30 29.7	1.399	0.579	35.1	20.5	20 W	—	14*
1	8	16 7.26	-39 56.2	0.842	0.680	79.7	18.0	43 W	1*	37*	1	20	18 53.26	-30 8.4	1.425	0.588	32.8	20.5	19 W	—	13*
1	10	16 13.69	-40 28.8	0.864	0.695	77.4	18.0	44 W	—	37*	1	22	19 6.30	-29 41.4	1.451	0.599	30.6	20.5	18 W	—	12*
1	12	16 20.43	-40 57.3	0.884	0.709	75.3	18.0	44 W	—	38*	1	24	19 18.97	-29 9.3	1.476	0.611	28.6	20.5	17 W	—	11*
1	14	16 27.44	-41 22.1	0.904	0.723	73.4	18.0	45 W	—	38*	1	26	19 31.25	-28 32.6	1.501	0.623	26.7	20.6	17 W	—	10*
1	16	16 34.67	-41 43.3	0.922	0.737	71.7	18.1	45 W	—	39*	1	28	19 43.15	-27 52.0	1.525	0.637	24.9	20.6	16 W	—	10*
1	18	16 42.07	-42 1.1	0.940	0.750	70.2	18.1	46 W	—	39*	1	30	19 54.65	-27 7.9	1.548	0.651	23.3	20.6	15 W	—	9*
1	20	16 49.63	-42 15.7	0.956	0.764	68.7	18.1	46 W	—	40*	2	1	20 5.76	-26 20.7	1.572	0.665	21.8	20.7	15 W	—	8*
1	22	16 57.30	-42 27.1	0.972	0.777	67.4	18.2	47 W	—	40*	2	6	20 31.90	-24 12.5	1.627	0.704	18.5	20.7	13 W	—	7*
1	27	17 16.81	-42 43.0	1.007	0.808	64.6	18.2	48 W	—	41*	2	11	20 55.86	-21 54.0	1.680	0.744	16.0	20.9	12 W	—	6*
2	1	17 36.53	-42 41.9	1.035	0.838	62.4	18.3	49 W	—	42*	2	16	21 17.90	-19 29.5	1.731	0.785	14.1	21.0	11 W	—	5*
2	6	17 56.20	-42 25.4	1.058	0.866	60.7	18.4	50 W	—	42*	2	21	21 38.28	-17 2.2	1.778	0.826	12.8	21.1	11 W	—	5*
2	11	18 15.68	-41 54.6	1.076	0.891	59.3	18.4	51 W	—	43*	2	26	21 57.24	-14 34.4	1.822	0.867	11.9	21.2	10 W	—	4*
2	16	18 34.83	-41 10.7	1.088	0.914	58.3	18.5	52 W	—	44*	3	2	22 14.99	-12 7.5	1.864	0.907	11.3	21.3	10 W	—	4*
2	21	18 53.58	-40 14.4	1.096	0.934	57.6	18.5	53 W	—	45*	3	7	22 31.73	-9 42.6	1.903	0.945	11.2	21.5	11 W	—	5*
2	26	19 11.88	-39 6.6	1.099	0.952	57.2	18.6	54 W	—	46*	39572 1993 DQ ₁										
3	2	19 29.72	-37 47.5	1.097	0.968	57.0	18.6	55 W	—	47*	12	23	15 37.34	-26 11.8	2.164	1.441	21.8	20.0	33 W	11*	25*
3	12	20 4.07	-34 36.9	1.083	0.991	57.0	18.6	57 W	1*	49*	12	28	15 55.49	-27 8.8	2.114	1.408	22.9	20.0	34 W	10*	26*
3	22	20 36.95	-30 43.1	1.056	1.005	57.8	18.6	59 W	3*	51*	1	2	16 14.45	-27 59.0	2.065	1.375	24.0	19.9	35 W	10*	27*
4	1	21 8.81	-26 4.4	1.019	1.009	59.0	18.6	60 W	6*	53*	1	7	16 34.23	-28 41.0	2.019	1.342	25.0	19.8	35 W	9*	28*
4	6	21 24.55	-23 26.9	0.998	1.008	59.9	18.6	61 W	7*	54*	1	12	16 54.81	-29 13.6	1.975	1.310	26.0	19.7	36 W	8*	29*
4	11	21 40.30	-20 36.6	0.976	1.003	60.8	18.5	61 W	9*	55*	1	17	17 16.15	-29 35.3	1.934	1.278	27.0	19.7	36 W	8*	30*
4	16	21 56.17	-17 32.8	0.953	0.997	61.9	18.5	61 W	11*	55*	1	22	17 38.16	-29 44.8	1.895	1.248	27.9	19.6	36 W	7*	30*
4	21	22 12.27	-14 15.0	0.931	0.988	63.1	18.5	61 W	12*	55*	1	27	18 0.75	-29 40.9	1.860	1.219	28.7	19.5	37 W	6*	30*
5	1	22 45.72	+6 56.2	0.889	0.962	65.8	18.4	61 W	17*	54*	2	1	18 23.77	-29 22.6	1.828	1.191	29.5	19.5	37 W	6*	30*
5	11	23 21.95	+1 16.7	0.856	0.927	68.9	18.3	59 W	21*	50*	2	6	18 47.08	-28 49.0	1.799	1.164	30.2	19.4	36 W	5*	30*
5	21	0 2.70	+10 7.8	0.838	0.881	72.1	18.3	56 W	25*	44*	2	11	19 10.51	-27 59.9	1.775	1.139	30.8	19.4	36 W	5*	30*
5	26	0 25.36	+14 37.0	0.838	0.855	73.5	18.2	54 W	27*	40*	2	16	19 33.90	-26 55.3	1.755	1.117	31.3	19.3	36 W	5*	30*
5	31	0 49.90	+19 0.1	0.843	0.827	74.8	18.2	52 W	28*	36*	2	21	19 57.11	-25 35.5	1.738	1.096	31.6	19.2	36 W	4*	30*
6	5	1 16.54	+23 9.0	0.855	0.797	75.7	18.2	50 W	29*	32*	2	26	20 19.97	-24 1.4	1.726	1.078	31.9	19.2	35 W	4*	29*
6	10	1 45.48	+26 55.2	0.875	0.764	76.2	18.2	47 W	30*	28*	3	2	20 42.38	-22 14.4	1.717	1.063	32.0	19.2	35 W	4*	29*
6	15	2 16.76	+30 9.7	0.902	0.730	76.2	18.2	44 W	30*	24*	3	7	21 4.26	-20 15.8	1.712	1.051	32.0	19.1	34 W	4*	28*
6	20	2 50.24	+32 44.6	0.936	0.695	75.5	18.1	41 W	29*	21*	3	12	21 25.54	-18 7.4	1.711	1.042	31.9	19.1	34 W	4*	28*
6	25	3 25.54	+34 33.0	0.977	0.660	73.9	18.0	39 W	28*	17*	3	17	21 46.21	-15 51.0	1.714	1.036	31.7	19.1	33 W	4*	27*
6	30	4 2.10	+35 30.5	1.025	0.624	71.5	17.9	36 W	26*	14*	3	22	22 6.25	-13 28.6	1.720	1.034	31.4	19.1	33 W	5*	27*
7	2	4 16.91	+35 38.7	1.046	0.610	70.2	17.9	34 W	25*	13*	3	27	22 25.68	-11 1.9	1.728	1.035	31.1	19.1	32 W	5*	26*
7	4	4 31.77	+35 38.4	1.068	0.596	68.7	17.8	33 W	24*	12*	4	1	22 44.51	-8 32.7	1.740	1.039	30.7	19.1	32 W	5*	26*
7	6	4 46.61	+35 29.6	1.090	0.583	67.1	17.8	32 W	23*	11*	4	6	23 2.77	+6 2.8	1.753	1.047	30.3	19.1	32 W	6*	26*
7	8	5 1.41	+35 12.6	1.114	0.570	65.2	17.7	31 W	22*	11*	4	11	23 20.51	+3 33.5	1.769	1.058	29.9	19.2	32 W	6*	26*
7	10	5 16.11	+34 47.5	1.138	0.558	63.2	17.7	29 W	21*	10*	4	16	23 37.76	+1 6.1	1.786	1.072	29.5	19.2	32 W	7*	26*
7	12	5 30.68	+34 14.5	1.162	0.547	61.0	17.6	28 W	20*	9*	4	21	23 54.57	+1 18.4	1.804	1.088	29.2	19.2	32 W	7*	25*
7	14	5 45.08	+33 33.9	1.187	0.536	58.6	17.5	27 W	19*	8*	5	26	0 10.97	+3 38.9	1.823	1.108	28.8	19.3	32 W	8*	26*
7	16	5 59.30	+32 46.2	1.212	0.527	56.0	17.5	25 W	18*	8*	5	1	0 26.98	+5 54.8	1.843	1.129	28.5	19.3	32 W	9*	26*
7	18	6 13.31	+31 51.7	1.237	0.518	53.3	17.4	24 W	16*	7*	5	11	0 57.98	+10 10.3	1.883	1.179	28.1	19.5	33 W	11*	26*
7	20	6 27.09	+30 50.9	1.262	0.511	50.4	17.3	23 W	15*	7*	5	21	1 27.79	+14 2.1	1.921	1.235	28.0	19.6	35 W	13*	26*
7	22	6 40.63	+29 44.2	1.287	0.505	47.5	17.3	22 W	14*	6*	5	31	1 56.52	+17 28.9	1.956	1.296	28.0	19.8	37 W	16*	27*
7	24	6 53.91	+28 32.3	1.311	0.501	44.4	17.2	20 W	13*	6*	6	10	2 24.23	+20 30.7	1.985	1.360	28.2	19.9	39 W	19*	27*
7	26	7 6.94	+27 15.6	1.335	0.498	41.3	17.1	19 W	11*	5*	6	20	2 50.95	+23 8.5	2.008	1.427	28.5	20.0	42 W	23*	28*
7	28	7 19.70	+25 54.8	1.359	0.497	38.1	17.1	18 W	10*	5*	6	30	3 16.63	+25 23.8	2.022	1.495	28.9	20.2	45 W	27*	28*
7	30	7																			

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

19/21	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°-26°	19/21	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°-26°											
39572 1993 DQ ₁									380008 2013 NT ₆																			
<i>(continuation)</i>									<i>(continuation)</i>																			
9 28	5 56.09	+35 4.1	1.721	2.076	28.7	20.5	96 W	80* 29*	1 6	0 30.47	+ 9 46.2	1.687	1.881	31.4	20.3	85 E	55	45*	12 23	15 37.67	- 6 42.4	2.295	1.645	21.9	20.8	39 W	28*	18*
10 8	6 0.86	+35 42.0	1.653	2.133	27.0	20.4	104 W	81 28	1 16	0 48.01	+12 4.9	1.827	1.919	30.3	20.5	80 E	57*	40*	1 2	15 59.23	- 8 29.4	2.275	1.689	23.2	20.9	43 W	29*	24*
10 13	6 1.74	+36 1.0	1.620	2.161	25.9	20.4	109 W	81 28	1 12	16 19.89	-10 3.9	2.244	1.732	24.6	21.0	47 W	29*	30*	1 22	16 39.62	-11 26.8	2.202	1.774	25.9	21.0	52 W	29*	37*
10 18	6 1.52	+36 19.7	1.588	2.189	24.6	20.3	114 W	81 28	2 1	16 58.33	-12 39.6	2.149	1.814	27.1	21.1	57 W	29*	44*	2 2	17 15.89	-13 44.1	2.084	1.852	28.2	21.1	63 W	29*	51*
10 23	6 0.17	+36 37.9	1.557	2.216	23.2	20.3	119 W	82 27	2 11	17 32.18	-14 42.2	2.010	1.889	29.2	21.1	69 W	28*	58*	3 2	17 46.99	-15 36.4	1.927	1.923	29.8	21.0	75 W	28*	65*
10 28	5 57.64	+36 54.8	1.529	2.243	21.5	20.2	124 W	82 27	3 12	18 0.08	-16 29.4	1.836	1.956	30.2	21.0	82 W	27*	72*	3 22	18 11.19	-17 24.5	1.739	1.987	30.1	20.9	89 W	27*	79*
11 7	5 49.11	+37 22.2	1.482	2.294	17.7	20.1	135 W	82 27	4 1	18 19.93	-18 25.2	1.638	2.016	29.5	20.8	97 W	26*	82	4 11	18 25.87	-19 35.2	1.537	2.043	28.3	20.6	105 W	25*	84
11 17	5 36.32	+37 34.9	1.454	2.344	13.4	19.9	147 W	83 26	4 21	18 28.49	-20 58.2	1.439	2.068	26.3	20.5	114 W	24	85	5 1	18 27.19	-22 36.8	1.347	2.091	23.4	20.3	125 W	22	87
11 27	5 20.46	+37 25.8	1.449	2.393	8.9	19.8	158 W	82 27	5 11	18 21.47	-24 31.5	1.268	2.111	19.6	20.0	136 W	20	89	5 21	18 11.03	-26 38.7	1.206	2.130	14.8	19.8	148 W	18	89
12 2	5 11.97	+37 11.7	1.457	2.416	7.0	19.8	163 W	82 27	5 26	18 4.09	-27 44.4	1.183	2.139	12.1	19.6	154 W	17	88	5 31	17 56.14	-28 49.7	1.167	2.147	9.3	19.5	160 W	16	87
12 7	5 3.45	+36 51.4	1.472	2.439	5.8	19.7	166 W	82 27	6 5	17 47.36	-29 52.7	1.157	2.155	6.7	19.4	166 W	15	86	6 10	17 37.98	-30 51.9	1.154	2.162	4.5	19.3	170 W	14	85
12 12	4 55.18	+36 25.4	1.495	2.461	5.6	19.8	166 E	81 28	6 15	17 28.28	-31 45.8	1.151	2.169	4.0	19.3	171 E	13	84	6 20	17 18.57	-32 33.4	1.171	2.175	5.6	19.4	168 E	12	83
12 17	4 47.41	+35 54.6	1.525	2.483	6.6	19.9	163 E	81 28	6 25	17 9.17	-33 14.2	1.190	2.180	8.1	19.5	162 E	12	83	6 30	17 0.37	-33 48.4	1.215	2.185	10.7	19.7	156 E	11	82
12 22	4 40.34	+35 20.3	1.562	2.505	8.2	20.0	159 E	80 29	7 5	16 52.43	-34 16.4	1.247	2.190	13.2	19.9	150 E	11	82	7 10	16 45.50	-34 39.2	1.285	2.194	15.6	20.0	145 E	10	81
12 27	4 34.14	+34 43.7	1.607	2.526	10.0	20.2	154 E	80 29	7 15	16 39.71	-34 57.6	1.328	2.198	17.7	20.2	139 E	10	81	7 20	16 35.11	-35 12.8	1.375	2.201	19.6	20.3	133 E	10	81
1 1	4 28.88	+34 6.3	1.658	2.547	11.7	20.3	148 E	79 30	8 30	16 29.55	-35 36.8	1.480	2.205	22.7	20.6	123 E	9	80	8 7	16 28.56	-35 57.1	1.596	2.208	24.9	20.8	114 E	9	80
1 6	4 24.62	+33 29.0	1.715	2.567	13.4	20.5	143 E	78 31	8 19	16 31.61	-36 16.8	1.717	2.209	26.3	21.0	105 E	8	80	8 29	16 38.18	-36 37.1	1.842	2.207	27.0	21.2	97 E	7	79*
1 11	4 21.37	+32 52.8	1.778	2.587	15.0	20.6	137 E	78 31	9 8	16 47.73	-36 58.0	1.966	2.204	27.2	21.3	90 E	6	77*	9 18	16 59.83	-37 18.3	2.087	2.198	27.0	21.4	83 E	6	72*
1 16	4 19.11	+32 18.6	1.845	2.606	16.3	20.8	132 E	77 32	9 18	16 59.83	-37 18.3	2.087	2.198	27.0	21.4	83 E	6	72*	10 23	15 37.81	-12 27.1	2.610	1.904	17.7	20.0	36 W	23*	20*
12 23	15 37.56	-23 42.5	2.990	2.232	13.9	21.4	33 W	13* 24*	1 2	15 57.59	-14 35.5	2.583	1.947	19.3	20.1	41 W	24*	27*	1 12	16 16.70	-16 33.7	2.546	1.991	20.8	20.1	46 W	24*	34*
1 2	15 58.71	-25 17.2	2.880	2.194	16.1	21.4	38 W	14* 30*	1 22	16 35.04	-18 22.8	2.499	2.035	22.2	20.2	51 W	23*	41*	2 1	16 52.48	-20 4.3	2.442	2.080	23.5	20.2	57 W	22*	48*
1 12	16 20.58	-26 45.4	2.762	2.156	18.2	21.3	43 W	14* 36*	2 11	17 8.85	-21 40.2	2.377	2.125	24.5	20.3	63 W	21*	55*	2 11	17 37.60	-22 43.6	2.223	2.215	25.8	20.2	77 W	20*	63*
1 22	16 43.20	-28 6.3	2.639	2.117	20.3	21.2	48 W	13* 41*	3 2	17 49.47	-26 16.1	2.137	2.260	25.9	20.2	84 W	18*	78*	3 12	17 23.98	-23 12.5	2.303	2.170	25.3	20.3	70 W	20*	63*
2 1	17 6.53	-29 19.1	2.511	2.078	22.3	21.2	53 W	13* 47*	3 22	17 59.26	-27 52.7	2.049	2.305	25.6	20.1	92 W	17*	85*	4 1	18 6.59	-29 35.6	1.960	2.349	24.8	20.1	100 W	15*	86
2 11	17 30.54	-30 22.9	2.380	2.039	24.3	21.1	58 W	12* 52*	4 11	18 11.04	-31 26.6	1.875	2.393	23.4	20.0	109 W	14*	85	4 21	18 12.16	-33 25.9	1.797	2.437	21.3	19.8	118 W	12	83
2 21	17 55.21	-31 17.4	2.248	2.000	26.1	21.0	63 W	11* 57*	5 1	18 9.53	-35 31.7	1.731	2.480	18.7	19.7	128 W	9	80	5 6	18 6.72	-36 35.5	1.703	2.501	17.2	19.7	133 W	8	79
3 2	18 20.44	-32 1.9	2.114	1.961	27.8	20.8	67 W	10* 61*	5 11	18 2.92	-37 38.8	1.680	2.522	15.6	19.6	138 W	7	78	5 16	17 58.14	-38 40.5	1.662	2.543	13.9	19.5	143 W	6	77
3 12	18 46.17	-32 36.1	1.982	1.923	29.4	20.7	72 W	9* 65*	5 26	17 45.93	-40 34.0	1.644	2.584	10.6	19.4	152 W	4	75	5 31	17 38.76	-41 23.4	1.645	2.604	9.1	19.4	156 W	4	75
3 22	19 12.29	-33 0.0	1.851	1.885	30.9	20.5	76 W	9* 69*	6 5	17 31.13	-42 6.3	1.652	2.624	8.0	19.3	159 W	3	74	6 10	17 23.24	-42 42.3	1.667	2.644	7.5	19.4	160 W	2	73
4 1	19 38.67	-33 13.8	1.723	1.848	32.3	20.4	81 W	8* 72*	6 15	17 15.33	-43 10.8	1.688	2.664	7.6	19.4	160 E	2	73	6 20	17 7.64	-43 32.0	1.716	2.684	8.3	19.5	158 E	1	72
4 6	19 51.91	-33 16.9	1.661	1.830	32.9	20.3	83 W	8* 74*	6 25	17 0.37	-43 46.2	1.750	2.703	9.4	19.6	154 E	1	72	6 30	16 53.74	-43 54.1	1.791	2.722	10.6	19.7	150 E	1	72
4 11	20 5.16	-33 17.7	1.599	1.812	33.4	20.2	85 W	7* 76*	7 5	16 47.87	-43 56.8	1.838	2.741	12.0	19.8	146 E	1	72	7 10	16 42.87	-43 55.2	1.891	2.760	13.3	20.0	142 E	1	72
4 16	20 18.40	-33 16.1	1.539	1.794	34.0	20.1	87 W	7* 77*	7 15	16 38.80	-43 50.2	1.948	2.778	14.5	20.1	137 E	1	72	7 20	16 35.69	-43 42.9	2.010	2.797	15.6	20.2	132 E	1	72
4 21	20 31.61	-33 12.5	1.481	1.777	34.4	20.0	89 W	7* 79*	7 25	16 33.53	-43 34.0	2.076	2.815	16.6	20.3	128 E	1	72	8 4	16 32.31	-43 24.3	2.146	2.833	17.4	20.4	123 E	2*	73
4 26	20 44.74	-33 6.8	1.423	1.760	34.9	19.9	91 W	7* 80*	8 9	16 31.99	-43 14.4	2.218	2.850	18.2	20.5	119 E	2*	73	8 14	16 31.99	-43 14.4	2.218	2.850	18.2	20.5	119 E	2*	73
5 1	20 57.79	-32 59.3	1.367	1.743	35.2	19.8	93 W	7* 82*	8 19	16 32.50	-43 4.7	2.294	2.868	18.7	20.6	115 E	2*	73	8 24	16 33.80	-42 55.3	2.371	2.885	19.2	20.8	110 E	2*	73
5 6	21 10.71	-32 50.1	1.313	1.727	35.6	19.7	95 W	7* 83*	8 24	16 35.83	-42 46.6	2.450	2.902	19.6	20.8	106 E	2*	73	8 29	16 38.55	-42 38.6	2.531	2.919	19.8	20.9	102 E	2*	73
5 11	21 23.48	-32 39.4	1.260	1.712	35.8	19.6	97 W	7* 83*	9 3	16 45.81	-42 25.1	2.695	2.952	19.9	21.1	95 E	1*	73*	9 8	16 45.81	-42 25.1	2.695	2.952	19.9	21.1	95 E	1*	73*
5 16	21 36.07	-32 27.4	1.209	1.696																								

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

19/21	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°	19/20	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°
307457 2002 VE ₆₆ (continuation)										434326 2004 JG ₆ (continuation)									
9 13	16 55.18	-42 14.5	2.860	2.984	19.7	21.2	87 E	1*	71*	4 3	0 36.56	+0 19.9	1.300	0.323	18.6	17.5	6 W	-	-
9 18	17 05.58	-42 10.1	2.942	2.999	19.4	21.3	84 E	1*	69*	4 5	0 52.30	+3 2.1	1.302	0.308	10.5	17.1	3 W	-	-
9 23	17 6.33	-42 6.1	3.024	3.015	19.1	21.4	80 E	1*	67*	4 7	1 8.26	+5 48.9	1.299	0.300	4.9	16.8	1 E	-	-
9 28	17 12.48	-42 2.4	3.104	3.030	18.8	21.4	76 E	1*	64*	4 9	1 24.37	+8 37.2	1.292	0.298	11.5	17.0	3 E	-	-
10 3	17 18.96	-41 58.8	3.184	3.045	18.3	21.5	73 E	-	62*	4 11	1 40.52	+11 23.5	1.280	0.303	20.9	17.4	6 E	-	-
173475 2000 SA ₁										434326 2004 JG ₆ (continuation)									
12 23	15 37.88	-38 0.0	3.686	2.924	10.9	21.4	34 W	-	28*	4 13	1 56.64	+14 4.3	1.263	0.315	30.0	17.7	9 E	3*	-
1 2	15 55.58	-39 16.0	3.603	2.914	12.4	21.4	40 W	1*	34*	4 15	2 12.69	+16 37.2	1.244	0.332	38.0	18.0	12 E	6*	-
1 12	16 13.26	-40 29.2	3.508	2.904	14.0	21.4	45 W	1*	39*	4 17	2 28.67	+19 0.4	1.223	0.353	44.8	18.3	14 E	8*	1*
1 22	16 30.82	-41 39.7	3.401	2.893	15.4	21.4	51 W	1*	45*	4 19	2 44.62	+21 13.1	1.201	0.377	50.5	18.6	17 E	11*	2*
2 1	16 48.09	-42 47.8	3.284	2.880	16.8	21.4	58 W	1*	50*	4 21	3 0.58	+23 15.0	1.180	0.403	55.0	18.8	19 E	13*	3*
2 11	17 4.89	-43 54.0	3.159	2.867	18.0	21.3	64 W	-	55*	4 23	3 16.59	+25 6.0	1.160	0.429	58.7	19.0	21 E	15*	4*
2 21	17 21.02	-44 59.2	3.026	2.853	19.1	21.3	71 W	-	60*	4 25	3 32.68	+26 46.0	1.140	0.456	61.5	19.2	23 E	17*	5*
3 2	17 36.23	-46 4.3	2.888	2.837	19.9	21.2	77 W	-	64*	4 27	3 48.86	+28 15.1	1.123	0.483	63.7	19.3	26 E	19*	6*
3 12	17 50.21	-47 10.4	2.747	2.821	20.5	21.1	84 W	-	66*	4 29	4 5.14	+29 33.4	1.107	0.510	65.4	19.5	27 E	21*	7*
3 22	18 2.64	-48 18.7	2.604	2.804	20.8	20.9	91 W	-	67*	5 1	4 21.50	+30 40.9	1.093	0.536	66.6	19.6	29 E	22*	8*
4 1	18 13.07	-49 30.2	2.462	2.786	20.8	20.8	98 W	-	66	5 6	5 2.48	+32 43.4	1.065	0.599	68.1	19.8	33 E	20*	11*
4 11	18 21.00	-50 45.4	2.324	2.767	20.4	20.7	106 W	-	65	5 11	5 42.87	+33 42.5	1.049	0.657	68.2	20.0	37 E	20*	14*
4 21	18 25.86	-52 4.1	2.192	2.747	19.7	20.5	113 W	-	64	5 16	6 21.66	+33 44.6	1.042	0.710	67.4	20.1	40 E	20*	17*
4 26	18 26.93	-52 44.1	2.130	2.736	19.1	20.4	117 W	-	63	5 21	6 57.99	+32 58.6	1.044	0.757	66.2	20.2	43 E	20*	20*
5 1	18 26.97	-53 24.1	2.070	2.725	18.5	20.3	121 W	-	63	5 26	7 31.33	+31 34.8	1.053	0.799	64.6	20.3	45 E	20*	23*
5 6	18 25.92	-54 3.4	2.013	2.715	17.8	20.2	125 W	-	62	5 31	8 1.50	+29 43.5	1.067	0.837	63.0	20.4	47 E	20*	26*
5 11	18 23.70	-54 41.3	1.959	2.703	17.1	20.1	128 W	-	61	6 5	8 28.61	+27 33.5	1.086	0.869	61.4	20.5	49 E	20*	28*
5 16	18 20.28	-55 16.7	1.909	2.692	16.2	20.0	132 W	-	61	6 10	8 52.95	+25 12.0	1.107	0.897	59.8	20.5	50 E	20*	31*
5 21	18 15.62	-55 48.5	1.864	2.681	15.4	19.9	135 W	-	60	6 15	9 14.87	+22 44.1	1.130	0.920	58.3	20.6	50 E	20*	33*
5 26	18 9.76	-56 15.3	1.823	2.669	14.5	19.9	139 W	-	60	6 20	9 34.74	+20 13.5	1.155	0.939	57.0	20.6	51 E	20*	35*
5 31	18 2.79	-56 35.7	1.787	2.657	13.7	19.8	142 W	-	59	6 25	9 52.89	+17 42.7	1.179	0.954	55.7	20.7	51 E	20*	37*
6 5	17 54.89	-56 48.4	1.756	2.644	13.1	19.7	144 W	-	59	6 30	10 9.62	+15 13.3	1.203	0.964	54.6	20.7	51 E	20*	38*
6 10	17 46.26	-56 52.3	1.731	2.632	12.6	19.6	146 W	-	59	7 5	10 25.15	+12 46.0	1.225	0.971	53.7	20.7	50 E	20*	39*
6 15	17 37.20	-56 46.5	1.711	2.619	12.4	19.6	147 W	-	59	7 10	10 39.72	+10 21.5	1.246	0.973	52.8	20.8	50 E	20*	40*
6 20	17 28.02	-56 30.5	1.697	2.606	12.4	19.6	147 E	-	59	7 15	10 53.50	+7 59.7	1.263	0.970	52.2	20.8	49 E	20*	41*
6 25	17 19.06	-56 4.3	1.689	2.593	12.8	19.6	146 E	-	60	7 20	11 6.64	+5 40.7	1.278	0.964	51.6	20.8	48 E	20*	42*
6 30	17 10.66	-55 28.6	1.687	2.580	13.4	19.6	144 E	-	61	7 25	11 19.28	+3 24.4	1.289	0.954	51.2	20.7	47 E	20*	43*
7 5	17 3.08	-54 44.3	1.690	2.566	14.2	19.6	142 E	-	61	7 30	11 31.50	+1 10.4	1.296	0.939	51.1	20.7	46 E	20*	44*
7 10	16 56.51	-53 53.0	1.699	2.552	15.2	19.6	139 E	-	62	8 4	11 43.40	-1 1.2	1.297	0.920	51.1	20.7	45 E	20*	45*
7 15	16 51.09	-52 56.0	1.713	2.538	16.3	19.7	135 E	-	63	8 9	11 55.05	-3 10.8	1.294	0.896	51.3	20.6	44 E	20*	46*
7 20	16 46.90	-51 54.9	1.731	2.524	17.5	19.7	132 E	-	64	8 14	12 6.50	-5 18.5	1.285	0.868	51.8	20.6	42 E	20*	47*
7 25	16 43.96	-50 51.1	1.754	2.510	18.6	19.8	128 E	-	65	8 19	12 17.81	-7 24.2	1.269	0.836	52.7	20.5	41 E	20*	48*
7 30	16 42.24	-49 46.1	1.781	2.495	19.7	19.8	124 E	-	66	8 29	12 39.97	-11 28.6	1.215	0.756	56.0	20.2	38 E	20*	49*
8 4	16 41.69	-48 41.0	1.812	2.480	20.7	19.9	120 E	-	67	9 8	13 1.04	-15 16.0	1.126	0.656	62.5	20.0	35 E	20*	50*
8 9	16 42.24	-47 36.7	1.845	2.465	21.7	19.9	116 E	-	68	9 18	13 18.49	-18 16.1	0.993	0.535	75.7	19.7	31 E	20*	51*
8 14	16 43.80	-46 33.7	1.882	2.450	22.5	20.0	112 E	-	69	9 20	13 20.94	-18 39.2	0.961	0.508	79.8	19.6	30 E	20*	52*
8 19	16 46.30	-45 32.6	1.920	2.435	23.3	20.0	108 E	-	70	9 22	13 22.78	-18 54.8	0.927	0.482	84.6	19.6	29 E	20*	53*
8 24	16 49.66	-44 33.7	1.961	2.419	23.9	20.1	104 E	-	71	9 24	13 23.81	-19 0.2	0.892	0.455	90.3	19.6	27 E	20*	54*
8 29	16 53.81	-43 37.0	2.003	2.404	24.4	20.1	101 E	1*	72	9 26	13 23.83	-18 52.3	0.856	0.428	97.1	19.7	25 E	20*	55*
9 3	16 58.67	-42 42.6	2.046	2.388	24.8	20.2	97 E	1*	73*	9 28	13 22.56	-18 26.8	0.820	0.401	105.2	19.9	23 E	20*	56*
9 8	17 4.17	-41 50.3	2.089	2.372	25.1	20.2	93 E	2*	74*	9 29	13 21.36	-18 5.9	0.802	0.388	109.8	20.0	21 E	20*	57*
9 13	17 10.26	-40 59.9	2.133	2.355	25.3	20.3	90 E	3*	73*	9 30	13 19.73	-17 38.4	0.784	0.376	114.8	20.2	20 E	20*	58*
9 18	17 16.88	-40 11.3	2.178	2.339	25.4	20.3	86 E	3*	73*	10 1	13 17.66	-17 3.9	0.767	0.363	120.3	20.5	18 E	20*	59*
9 28	17 31.53	-38 38.1	2.266	2.306	25.3	20.4	80 E	5*	69*	10 2	13 15.12	-16 21.4	0.752	0.352	126.3	20.9	16 E	20*	60*
10 8	17 47.76	-37 8.4	2.352	2.272	24.9	20.4	73 E	6*	65*	10 3	13 12.12	-15 30.5	0.737	0.341	132.8	21.4	14 E	20*	61*
10 18	18 5.28	-35 39.7	2.433	2.238	24.2	20.4	67 E	7*	60*	95696 2002 JU ₇₅									
10 28	18 23.85	-34 9.5	2.509	2.203	23.2	20.4	61 E	8*	55*	12 23	15 39.02	-31 32.2	3.707	2.928	10.4	20.1	33 W	6*	26*
11 7	18 43.24	-32 35.8	2.579	2.169	22.0	20.4	55 E	10*	49*	1 2	15 54.22	-32 59.0	3.639	2.942	12.2	20.2	39 W	7*	33*
11 17	19 3.28	-30 56.7	2.641	2.133	20.6	20.4	49 E	11*	43*	1 12	16 9.13	-34 23.5	3.557	2.956	13.8	20.2	46 W	7*	40*
11 27	19 23.80	-29 10.7	2.695	2.098	19.0	20.3	44 E	11*	37*	1 22	16 23.62	-35 46.3	3.463	2.968	15.2	20.2	52 W	7*	46*
12 7	19 44.64	-27 16.4	2.740	2.063	17.3	20.3	39 E	12*	31*	2 1	16 37.51	-37 8.3	3.358	2.979	16.5	20.2	59 W	7*	53*
12 17	20 5.72	-25 13.0	2.776	2.027	15.5	20.2	33 E	12*	25*	2 11	16 50.61	-38 30.1	3.243	2.989	17.6	20.2	66 W	6*	60*
12 27	20 26.93	-22 59.6	2.803	1.992	13.5	20.1	28 E	11*	19*	2 21	17 2.69	-39 52.9	3.121	2.999	18.5	20.1	74 W	5*	65*
1 6	20 48.20	-20 36.1	2.820	1.958	11.5	20.0	23 E	10*	14*	3 2	17 13.46	-41 17.8	2.994	3.007	19.0	20.0	81 W	3*	70*
1 16	21 9.50	-18 2.0	2.829	1.923	9.4	19.9	19 E	8*	9*	3 12	17 22.62	-42 45.6	2.864	3.014	19.2	20.0	89 W	2*	72*
12 23	15 38.53	-15 57.9	1.583	0.954	35.8	20.8	35 W	20*	21*	3 17	17 26.47	-43 31.0	2.799	3.017	19.2	19.9	93 W	1*	72*
1 2	16 10.62	-18 54.8	1.563	0.971	37.1	20.8	37 W	18*	25*	3 22	17 29.77	-44 17.3	2.735	3.020	19.1	19.			

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

19/21	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45° - 26°	19/21	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45° - 26°			
95966 2002 JU75									21374 1997 WS22											
<i>(continuation)</i>									<i>(continuation)</i>											
6	15	16 26.26	-53 48.0	2.128	3.030	10.5	19.0	147 E	62	11	12	7 59.33	+35 26.7	0.694	1.422	39.4	18.9	114 W	80	29
6	20	16 18.69	-53 32.5	2.141	3.029	11.1	19.1	145 E	62	11	17	8 6.90	+38 15.4	0.662	1.422	38.0	18.8	118 W	83	26
6	25	16 11.80	-53 10.7	2.159	3.027	11.9	19.1	142 E	63	11	22	8 13.75	+41 19.9	0.632	1.421	36.5	18.7	121 W	86	23
6	30	16 5.74	-52 43.8	2.184	3.024	12.8	19.2	139 E	63	11	27	8 19.72	+44 40.0	0.606	1.420	35.0	18.5	124 W	90	19
7	5	16 0.61	-52 13.0	2.213	3.022	13.7	19.2	135 E	64	12	2	8 24.57	+48 14.0	0.584	1.419	33.5	18.4	127 W	87	16
7	10	15 56.47	-51 39.4	2.247	3.019	14.6	19.3	132 E	64	12	7	8 27.99	+51 59.3	0.566	1.417	32.2	18.3	130 W	83	12
7	15	15 53.34	-51 4.1	2.286	3.016	15.5	19.3	128 E	65	12	9	8 28.85	+53 31.6	0.559	1.416	31.7	18.2	131 W	81	10
7	20	15 51.22	-50 28.0	2.328	3.013	16.3	19.4	124 E	66	12	13	8 29.52	+56 38.1	0.549	1.414	31.0	18.2	132 W	80	9
7	25	15 50.08	-49 52.0	2.375	3.009	17.1	19.5	120 E	66	12	18	8 29.38	+55 4.7	0.554	1.415	31.3	18.2	132 W	80	7
7	30	15 49.88	-49 16.8	2.424	3.005	17.7	19.5	116 E	67	12	11	8 29.52	+56 38.1	0.549	1.414	31.0	18.2	132 W	78	9
8	4	15 50.57	-48 42.8	2.475	3.001	18.3	19.6	112 E	67	12	15	8 29.24	+58 11.5	0.545	1.413	30.7	18.2	133 W	77	6
8	9	15 52.08	-48 10.5	2.529	2.997	18.8	19.7	108 E	68	12	17	8 28.49	+59 44.3	0.542	1.411	30.6	18.1	133 W	75	4
8	14	15 54.36	-47 40.1	2.585	2.992	19.2	19.7	104 E	68	12	19	8 27.21	+61 16.1	0.539	1.410	30.5	18.1	133 W	74	3
8	19	15 57.36	-47 11.7	2.641	2.988	19.5	19.8	100 E	69	12	21	8 25.36	+62 46.4	0.537	1.409	30.4	18.1	134 W	72	1
8	24	16 1.02	-46 45.4	2.699	2.982	19.7	19.8	96 E	69*	12	23	8 22.86	+64 14.6	0.536	1.407	30.5	18.1	133 W	71	1
8	29	16 5.30	-46 21.2	2.757	2.977	19.8	19.9	92 E	69*	12	25	8 19.65	+65 40.1	0.536	1.406	30.6	18.1	133 W	69	1
9	3	16 10.14	-45 58.9	2.816	2.971	19.8	19.9	89 E	68*	12	27	8 15.65	+67 2.6	0.536	1.404	30.9	18.1	133 W	68	1
9	8	16 15.50	-45 38.4	2.874	2.966	19.8	19.9	85 E	66*	12	29	8 10.80	+68 21.4	0.537	1.403	31.2	18.1	132 W	67	1
9	18	16 27.64	-45 2.2	2.989	2.953	19.5	20.0	78 E	63*	12	31	8 5.03	+69 36.0	0.538	1.401	31.5	18.1	132 W	65	1
9	28	16 41.44	-44 31.2	3.100	2.939	18.9	20.1	71 E	58*	1	2	7 58.27	+70 45.9	0.540	1.399	31.9	18.1	131 W	64	1
10	8	16 56.65	-44 3.5	3.204	2.925	18.0	20.1	65 E	54*	1	4	7 50.48	+71 50.6	0.543	1.398	32.4	18.2	130 W	63	1
10	18	17 13.08	-43 37.4	3.302	2.909	17.0	20.1	59 E	49*	1	6	7 41.64	+72 49.7	0.546	1.396	32.9	18.2	129 W	62	1
10	28	17 30.55	-43 11.3	3.389	2.893	15.8	20.1	52 E	44*	1	8	7 31.76	+73 42.6	0.550	1.394	33.5	18.2	129 W	61	1
11	7	17 48.86	-42 43.7	3.467	2.875	14.5	20.1	46 E	39*	1	10	7 20.92	+74 29.1	0.554	1.392	34.1	18.3	128 E	61	1
11	17	18 7.88	-42 13.2	3.533	2.856	13.0	20.1	41 E	33*	1	12	7 9.26	+75 8.8	0.558	1.390	34.7	18.3	126 E	60	1
11	27	18 27.45	-41 38.7	3.586	2.836	11.5	20.0	35 E	28*	1	14	6 56.97	+75 41.7	0.563	1.388	35.3	18.3	125 E	59	1
12	7	18 47.41	-40 59.3	3.627	2.816	10.0	20.0	30 E	23*	1	16	6 44.31	+76 7.8	0.568	1.385	36.0	18.4	124 E	59	1
12	17	19 7.64	-40 14.3	3.653	2.794	8.6	19.9	25 E	18*	68267 2001 EA16										
12	27	19 28.00	-39 23.4	3.666	2.771	7.3	19.9	21 E	14*	12	23	15 39.62	-33 47.6	2.066	1.349	23.3	20.1	33 W	4*	27*
1	6	19 48.37	-38 26.3	3.665	2.747	6.4	19.8	18 E	9*	12	28	15 58.31	-35 45.4	2.013	1.317	24.6	20.1	34 W	2*	28*
1	16	20 8.66	-37 22.9	3.649	2.723	6.0	19.8	17 E	6*	1	2	16 18.61	-37 38.3	1.961	1.284	26.0	20.0	35 W	1*	29*
12	23	15 39.52	-10 8.5	1.801	1.169	30.1	20.3	37 W	25*	1	7	16 40.70	-39 23.6	1.911	1.251	27.3	19.9	36 W	1*	30*
1	2	16 13.32	-13 42.3	1.768	1.154	31.2	20.3	37 W	23*	1	12	17 4.72	-40 58.1	1.864	1.218	28.5	19.8	36 W	1*	31*
1	12	16 48.51	-17 1.0	1.735	1.142	32.3	20.3	38 W	20*	1	17	17 30.73	-42 17.9	1.821	1.185	29.6	19.8	36 W	1*	32*
1	22	17 25.31	-19 59.7	1.704	1.132	33.5	20.2	39 W	17*	1	22	17 58.68	-43 18.8	1.781	1.152	30.6	19.7	37 W	1*	33*
1	27	17 44.35	-21 19.9	1.689	1.128	34.1	20.2	40 W	16*	2	27	18 28.36	-43 56.2	1.746	1.119	31.5	19.6	36 W	1*	34*
2	1	18 3.83	-22 32.9	1.675	1.124	34.6	20.2	40 W	14*	2	2	18 59.36	-44 6.0	1.715	1.088	32.3	19.5	36 W	1*	35*
2	6	18 23.72	-23 38.0	1.661	1.121	35.2	20.2	41 W	12*	2	6	19 31.10	-43 44.7	1.690	1.057	32.8	19.4	36 W	1*	36*
2	11	18 44.01	-24 34.6	1.648	1.119	35.7	20.2	41 W	11*	2	11	20 2.91	-42 50.4	1.671	1.027	33.2	19.4	35 W	1*	37*
2	16	19 4.66	-25 22.0	1.635	1.117	36.2	20.2	42 W	9*	2	16	20 34.10	-41 22.9	1.657	0.998	33.3	19.3	34 W	1*	38*
2	21	19 25.63	-25 59.5	1.624	1.116	36.7	20.2	42 W	8*	2	21	21 4.08	-39 23.9	1.648	0.972	33.1	19.2	32 W	1*	39*
2	26	19 46.84	-26 26.8	1.613	1.116	37.2	20.2	43 W	6*	2	26	21 32.42	-36 56.3	1.646	0.947	32.6	19.1	31 W	1*	40*
3	2	20 8.21	-26 43.4	1.604	1.117	37.6	20.2	43 W	5*	3	2	21 58.90	-34 4.1	1.648	0.925	31.9	19.1	30 W	1*	41*
3	7	20 29.65	-26 49.3	1.595	1.118	38.0	20.2	44 W	4*	3	7	22 23.46	-30 51.6	1.655	0.906	30.8	19.0	28 W	1*	42*
3	12	20 51.07	-26 44.2	1.587	1.120	38.4	20.2	44 W	3*	3	12	22 46.18	-27 23.3	1.667	0.890	29.5	18.9	26 W	1*	43*
3	17	21 12.40	-26 28.5	1.581	1.123	38.7	20.2	45 W	2*	3	17	23 7.22	-23 43.2	1.682	0.878	27.9	18.9	24 W	1*	44*
3	22	21 33.52	-26 2.5	1.576	1.126	39.0	20.2	45 W	1*	3	22	23 26.80	-19 54.9	1.700	0.869	26.2	18.8	23 W	1*	45*
3	27	21 54.37	-25 26.7	1.571	1.130	39.2	20.2	46 W	38*	3	27	23 45.11	-16 1.7	1.720	0.865	24.3	18.8	21 W	1*	46*
4	1	22 14.85	-24 41.8	1.568	1.135	39.5	20.2	46 W	36*	4	1	0 2.39	-12 6.3	1.742	0.865	22.5	18.8	19 W	1*	47*
4	6	22 34.91	-23 48.7	1.565	1.140	39.6	20.2	47 W	34*	4	6	0 18.82	-8 10.9	1.765	0.869	20.7	18.8	18 W	1*	48*
4	11	22 54.51	-22 48.1	1.564	1.146	39.8	20.2	47 W	32*	4	11	0 34.60	-4 17.4	1.788	0.877	19.2	18.8	17 W	1*	49*
4	16	23 13.62	-21 40.9	1.563	1.152	39.9	20.3	47 W	30*	4	16	0 49.90	-0 27.3	1.812	0.889	17.9	18.8	16 W	1*	50*
4	21	23 32.22	-20 28.2	1.562	1.159	40.0	20.3	48 W	28*	4	21	1 4.88	+3 18.2	1.835	0.905	16.9	18.8	15 W	1*	51*
4	26	23 50.29	-19 11.0	1.562	1.166	40.1	20.3	48 W	26*	4	26	1 19.66	+6 57.9	1.859	0.924	16.4	18.9	15 W	1*	52*
5	1	0 7.84	-17 50.1	1.562	1.174	40.2	20.3	49 W	24*	5	1	1 34.36	+10 31.0	1.881	0.946	16.1	18.9	15 W	1*	53*
5	6	0 24.89	-16 26.3	1.562	1.182	40.2	20.3	49 W	41*	5	6	1 49.09	+13 56.8	1.904	0.970	16.2	19.0			

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

19/21	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45° - 26°	19/21	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45° - 26°		
68267 2001 EA₁₆ (continuation)									97679 2000 GG₂ (continuation)										
h m ° ' " ° ' "									h m ° ' " ° ' "										
10 3	10 22.74	+44 13.5	2.186	1.838	27.1	21.0	57 W	48*	7 5	1 22.44	+45 50.7	1.329	1.364	44.3	19.6	70 W	61*	18*	
10 8	10 35.21	+43 42.7	2.170	1.859	27.3	21.1	59 W	50*	7 10	1 36.11	+45 35.5	1.293	1.363	44.9	19.5	71 W	63*	18*	
10 13	10 47.15	+43 12.8	2.152	1.879	27.6	21.1	61 W	52*	7 15	1 49.43	+45 10.9	1.254	1.364	45.5	19.5	73 W	64*	19	
10 18	10 58.57	+42 44.5	2.132	1.899	27.9	21.1	63 W	54*	7 20	2 2.37	+44 36.1	1.212	1.364	46.0	19.4	75 W	66*	19	
10 23	11 9.47	+42 18.2	2.109	1.917	28.1	21.1	65 W	57*	7 25	2 14.86	+43 50.3	1.168	1.366	46.5	19.4	77 W	69*	20	
10 28	11 19.87	+41 54.5	2.084	1.935	28.3	21.1	67 W	59*	7 30	2 26.88	+42 52.4	1.121	1.368	46.9	19.3	79 W	71*	21	
11 2	11 29.78	+41 33.8	2.057	1.952	28.5	21.1	70 W	62*	8 4	2 38.37	+41 40.9	1.072	1.370	47.2	19.2	82 W	73*	22	
11 7	11 39.19	+41 16.5	2.028	1.969	28.7	21.1	72 W	65*	8 9	2 49.29	+40 14.4	1.022	1.373	47.4	19.1	85 W	75*	24	
11 12	11 48.11	+41 3.1	1.996	1.985	28.8	21.1	75 W	68*	8 14	2 59.57	+38 30.6	0.970	1.376	47.4	19.0	88 W	77*	25	
11 17	11 56.53	+40 54.1	1.963	2.000	28.9	21.0	78 W	71*	8 19	3 9.15	+36 27.1	0.918	1.380	47.2	18.9	91 W	78*	28	
11 22	12 4.42	+40 50.0	1.927	2.014	28.9	21.0	80 W	74*	8 24	3 17.94	+34 0.7	0.865	1.384	46.7	18.8	95 W	78*	30	
11 27	12 11.76	+40 51.0	1.891	2.028	28.9	21.0	83 W	77*	8 29	3 25.87	+31 7.7	0.813	1.389	46.0	18.6	99 W	76*	33	
12 2	12 18.53	+40 57.6	1.852	2.041	28.8	21.0	86 W	80*	9 3	3 32.87	+27 44.1	0.763	1.394	44.9	18.4	103 W	73	36	
12 7	12 24.68	+41 10.1	1.813	2.053	28.7	20.9	89 W	83*	9 8	3 38.84	+23 45.4	0.715	1.400	43.4	18.3	107 W	69	40	
12 12	12 30.17	+41 28.9	1.772	2.064	28.5	20.9	92 W	86*	9 13	3 43.68	+19 7.6	0.671	1.405	41.5	18.1	112 W	64	45	
12 17	12 34.92	+41 54.3	1.731	2.075	28.2	20.8	96 W	87	9 18	3 47.28	+13 47.5	0.632	1.412	39.2	17.9	117 W	59	50	
12 22	12 38.85	+42 26.5	1.690	2.085	27.8	20.8	99 W	87	9 23	3 49.52	+7 45.3	0.600	1.418	36.7	17.7	122 W	53	56	
12 27	12 41.88	+43 5.4	1.649	2.095	27.3	20.7	103 W	88	9 28	3 50.32	+1 6.0	0.576	1.425	34.1	17.6	127 W	46	63	
1	12 43.91	+43 51.1	1.608	2.104	26.7	20.7	106 W	89	9 30	3 50.22	-1 41.9	0.569	1.428	33.2	17.5	129 W	43	66	
1	12 44.80	+44 43.1	1.568	2.112	26.0	20.6	110 W	90	10 2	3 49.88	-4 33.0	0.564	1.431	32.3	17.5	130 W	40	69	
1	12 44.42	+45 41.1	1.530	2.119	25.3	20.5	113 W	89	10 4	3 49.29	-7 26.1	0.561	1.434	31.6	17.5	131 W	38	71	
1	12 42.59	+46 44.0	1.494	2.126	24.4	20.4	117 W	88	10 6	3 48.45	-10 20.1	0.559	1.437	30.9	17.5	132 W	35	74	
434786 2006 PW									97679 2000 GG₂ (continuation)										
12 23	15 39.62	-7 53.3	0.962	0.627	73.1	19.6	38 W	27*	18*	10 8	3 47.35	-13 13.6	0.559	1.440	30.4	17.4	133 W	32	77
12 25	15 46.89	-6 45.9	0.990	0.650	70.2	19.6	38 W	28*	18*	10 10	3 46.01	-16 5.2	0.561	1.443	30.1	17.4	134 W	29	80
12 27	15 54.09	-5 44.9	1.018	0.674	67.5	19.7	39 W	29*	18*	10 12	3 44.41	-18 53.7	0.564	1.446	29.9	17.5	134 W	26	83
12 29	16 1.19	-4 49.6	1.046	0.699	65.1	19.7	40 W	30*	18*	10 14	3 42.57	-21 37.8	0.569	1.450	29.9	17.5	134 W	23	86
12 31	16 8.19	-3 59.0	1.072	0.723	62.9	19.8	41 W	31*	18*	10 16	3 40.49	-24 16.3	0.576	1.453	30.1	17.5	133 W	21	88
1	16 15.05	-3 12.7	1.098	0.748	60.9	19.8	42 W	32*	18*	10 18	3 38.18	-26 48.4	0.585	1.456	30.3	17.6	132 W	18	89
1	16 31.57	-1 31.5	1.159	0.811	56.6	20.0	44 W	34*	19*	10 20	3 35.66	-29 13.2	0.594	1.459	30.7	17.6	132 W	16	87
1	16 47.14	-0 5.7	1.215	0.874	53.2	20.2	45 W	35*	20*	10 22	3 32.94	-31 30.0	0.605	1.463	31.2	17.7	130 W	13	84
1	17 1.78	+1 9.5	1.265	0.936	50.4	20.3	47 W	37*	21*	10 24	3 30.03	-33 38.6	0.618	1.466	31.7	17.7	129 W	11	82
1	17 15.50	+2 17.6	1.310	0.996	48.2	20.5	49 W	38*	23*	10 26	3 26.97	-35 38.5	0.632	1.469	32.3	17.8	128 W	9	80
1	17 28.34	+3 21.3	1.351	1.055	46.3	20.6	51 W	39*	25*	10 28	3 23.77	-37 29.8	0.646	1.473	32.8	17.9	127 W	8	79
2	17 40.35	+4 22.3	1.386	1.112	44.8	20.8	53 W	41*	27*	11 2	3 15.32	-41 30.7	0.687	1.481	34.3	18.1	123 W	3	74
2	17 51.55	+5 21.7	1.416	1.168	43.5	20.9	55 W	42*	29*	11 7	3 6.55	-44 40.9	0.732	1.490	35.6	18.2	119 W	-	71
2	18 2.00	+6 20.4	1.442	1.222	42.5	21.0	57 W	43*	31*	11 12	2 57.88	-47 5.5	0.781	1.499	36.7	18.4	115 E	-	69
2	18 11.72	+7 19.1	1.462	1.274	41.6	21.1	59 W	44*	33*	11 17	2 49.73	-48 50.6	0.831	1.508	37.6	18.6	112 E	-	67
2	18 20.73	+8 18.4	1.479	1.325	40.8	21.2	61 W	45*	35*	11 22	2 42.46	-50 2.2	0.883	1.517	38.2	18.8	108 E	-	66
2	18 29.04	+9 18.6	1.491	1.373	40.2	21.2	64 W	47*	37*	11 27	2 36.34	-50 46.1	0.935	1.526	38.6	18.9	105 E	-	65
3	18 36.64	+10 19.8	1.499	1.421	39.6	21.3	66 W	48*	39*	12 2	2 31.51	-51 7.5	0.987	1.535	38.9	19.1	102 E	-	65
3	18 43.54	+11 22.2	1.503	1.466	39.0	21.4	68 W	49*	41*	12 7	2 28.03	-51 10.4	1.038	1.544	39.0	19.2	99 E	-	65
3	18 49.74	+12 25.8	1.503	1.510	38.5	21.4	71 W	51*	43*	12 12	2 25.93	-50 58.2	1.088	1.553	39.0	19.3	97 E	-	65
3	18 55.22	+13 30.7	1.500	1.553	38.0	21.5	74 W	52*	44*	12 17	2 25.16	-50 33.6	1.137	1.562	38.9	19.4	95 E	-	65
3	18 59.96	+14 36.8	1.493	1.593	37.5	21.5	77 W	54*	45*	12 22	2 25.66	-49 59.0	1.184	1.571	38.7	19.5	92 E	-	66
97679 2000 GG₂									28565 2000 EO₅₈										
12 23	15 39.86	-6 12.1	2.285	1.632	22.0	20.5	38 W	28*	17*	12 23	15 40.57	-17 4.4	2.994	2.245	14.1	19.9	34 W	19*	21*
1	16 6.23	-4 42.2	2.192	1.615	24.4	20.5	43 W	31*	21*	1	16 1.06	-17 55.3	2.888	2.212	16.3	19.9	39 W	20*	27*
1	12 16 33.29	-2 47.4	2.097	1.598	26.8	20.4	47 W	34*	24*	1	12 16 21.89	-18 36.3	2.773	2.179	18.3	19.9	44 W	21*	33*
1	17 1.06	-0 25.8	2.004	1.580	28.9	20.4	51 W	37*	27*	1	12 16 43.01	-19 6.5	2.652	2.146	20.4	19.8	49 W	22*	39*
1	17 29.52	+2 23.6	1.915	1.562	30.8	20.3	54 W	40*	30*	2	1 17 4.33	-19 25.0	2.526	2.112	22.3	19.7	55 W	22*	45*
2	11 17 58.62	+5 40.2	1.834	1.544	32.5	20.2	57 W	43*	32*	2	11 17 25.75	-19 31.2	2.395	2.078	24.2	19.6	60 W	23*	51*
2	18 28.32	+9 21.1	1.763	1.526	34.0	20.2	60 W	45*	33*	2	21 17 47.19	-19 24.7	2.261	2.043	25.9	19.5	65 W	23*	57*
2	18 43.38	+11 19.4	1.731	1.516	34.7	20.1	61 W	47*	33*	3	2 18 8.52	-19 5.3	2.125	2.008	27.6	19.4	70 W	23*	62*
3	18 58.56	+13 21.7	1.703	1.507	35.3	20.1	62 W	48*	33*	3	12 18 29.62	-18 32.9	1.989	1.974	29.0	19.2	75 W	24*	67*
3	19 13.84	+15 27.1	1.678	1.498	35.9	20.1	62 W	49*	33*	3	22 18 50.37	-17 47.7	1.854	1.939	30.4	19.1	80 W	25*	72*
3	19 29.23	+17 34.6	1.655	1.490	36.4	20.0	63 W	50*	33*	4	1 19 10.62	-16 50.5	1.720	1.905	31.5	18.9	85 W	25*	76*
3	19 44.71	+19 43.1	1.636	1.481	36.8	20.0	63 W	51*	32*	4	11 19 30.23	-15 42.0	1.589	1.871	32.4	18.7	89 W	27*	78*
3	20 0.27	+21 51.4	1.620	1.472	37.2	20.0	63 W	51*	31*	4	21 19 49.06	-14 23.3	1.461	1.838	33.0	18.5	95 W	28*	78
3	20 15.90	+23 58.5	1.606	1.464	37.6	20.0	63 W	52*	30*	5	1 20 6.91	-12 56.3	1.339	1.805	33.4	18.3	100 W	30*	77
4	1 20 31.57	+26 3.2	1.595	1.456	37.9	20.0	63 W	53*	30*	5	11 20 23.61	-11 22.8	1.221	1.774	33.4	18.1	105 W	32*	75
4	6 20 47.29	+28 4.5	1.585	1.448	38.2	19.9	63 W	53*	29*	5	21 20 38.92	-9 45.6	1.110	1.743	33.0	17.8	110 W	34*	74
4	11 21 3.04	+30 1.5	1.577	1.440	38.5	19.9	63 W	53*	28*	5	31 20 52.55	-8 8.0	1.007	1.715	32.1	17.5	116 W	36*	72
4	16 21 18.83	+31 53.6	1.571	1.432	38.7	19.9	63 W												

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

19/21		α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°	19/21		α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°	
28565 2000 EO ₅₈										(continuation)												
8	24	21 10.48	+6 34.2	0.565	1.562	10.2	15.4	164 E	38	71	12	27	4 37.28	+17 24.2	1.543	2.467	9.9	18.4	154 E	62	47	
8	29	21 9.25	+7 25.2	0.572	1.559	12.9	15.5	160 E	38	71	1	1	4 33.24	+17 10.6	1.604	2.496	11.9	18.6	148 E	62	47	
9	3	21 8.78	+8 15.7	0.584	1.558	15.7	15.7	155 E	37	72	1	6	4 30.04	+16 59.9	1.672	2.525	13.7	18.8	143 E	62	47	
9	8	21 9.18	+9 4.0	0.599	1.558	18.5	15.8	151 E	36	73	1	11	4 27.67	+16 52.2	1.744	2.553	15.2	19.0	137 E	62	47	
9	13	21 10.53	+9 48.5	0.618	1.558	21.1	15.9	146 E	35	74	1	16	4 26.13	+16 47.3	1.821	2.581	16.6	19.1	132 E	62	47	
9	18	21 12.86	+10 28.0	0.640	1.559	23.5	16.1	142 E	35	74	285339 1999 JR ₆											
9	23	21 16.18	+11 1.4	0.665	1.561	25.6	16.3	138 E	34	75	12	23	15 41.33	-14 29.4	2.007	1.319	24.9	21.3	34 W	21*	20*	
9	28	21 20.47	+11 28.2	0.694	1.564	27.6	16.4	134 E	34	75	1	2	16 2.33	-16 20.4	2.038	1.418	26.0	21.5	39 W	21*	26*	
10	8	21 31.62	+12 0.5	0.758	1.573	30.7	16.7	126 E	33	76	1	12	16 21.82	-17 55.9	2.048	1.510	27.1	21.7	44 W	22*	33*	
10	18	21 45.69	+12 4.6	0.832	1.584	33.1	17.0	120 E	33	76	1	22	16 39.85	-19 18.7	2.038	1.596	28.2	21.8	50 W	22*	40*	
10	28	22 2.06	+11 41.8	0.915	1.599	34.7	17.3	114 E	33	76	2	1	16 56.37	-20 31.5	2.010	1.675	29.3	21.9	56 W	22*	47*	
11	2	22 10.91	+11 21.2	0.959	1.607	35.2	17.4	111 E	34	75	247745 2003 NX ₈											
11	7	22 20.09	+10 54.9	1.005	1.617	35.6	17.5	108 E	34	75	12	23	15 41.43	-9 9.3	2.802	2.096	16.2	21.3	37 W	25*	18*	
11	12	22 29.56	+10 23.5	1.053	1.626	35.9	17.6	105 E	35	74	1	2	16 3.68	-9 23.1	2.696	2.062	18.3	21.3	41 W	28*	23*	
11	17	22 39.27	+9 47.4	1.103	1.637	36.1	17.8	103 E	35	74	1	12	16 26.33	-9 22.6	2.585	2.027	20.4	21.2	46 W	29*	29*	
11	22	22 49.19	+9 6.8	1.154	1.648	36.1	17.9	100 E	36	73*	1	22	16 49.33	-9 6.6	2.471	1.993	22.3	21.1	50 W	31*	34*	
11	27	22 59.25	+8 22.3	1.206	1.660	36.1	18.0	98 E	37	71*	2	1	17 12.58	-8 33.7	2.356	1.959	24.2	21.1	55 W	32*	39*	
12	7	23 19.70	+6 43.5	1.315	1.685	35.7	18.2	93 E	38	67*	2	11	17 35.97	-7 43.2	2.240	1.926	26.0	21.0	59 W	33*	44*	
12	17	23 40.43	+4 54.2	1.429	1.712	35.1	18.4	88 E	40	62*	2	21	17 59.41	-6 34.6	2.125	1.893	27.7	20.9	63 W	34*	48*	
12	27	0 1.33	+2 57.2	1.547	1.741	34.2	18.6	84 E	42	57*	3	2	18 22.76	-5 7.6	2.011	1.862	29.3	20.7	67 W	35*	52*	
1	6	0 22.30	+0 55.6	1.669	1.771	33.1	18.7	79 E	44	51*	3	12	18 45.90	-3 23.0	1.901	1.831	30.8	20.6	71 W	37*	55*	
1	16	0 43.31	+1 8.2	1.793	1.802	31.8	18.9	75 E	46*	47*	3	22	19 8.72	+1 21.7	1.794	1.801	32.2	20.5	74 W	39*	57*	
12	23	15 40.87	+21 22.4	2.585	1.836	16.8	19.2	33 W	15*	23*	4	1	19 31.09	+0 54.6	1.692	1.773	33.4	20.4	78 W	41*	59*	
1	2	16 8.40	+22 21.2	2.458	1.766	19.3	19.1	36 W	15*	27*	4	11	19 52.89	+3 23.6	1.594	1.746	34.5	20.3	81 W	43*	59*	
1	12	16 37.72	+23 3.4	2.330	1.696	21.8	18.9	40 W	16*	31*	4	21	20 14.04	+6 2.3	1.501	1.721	35.5	20.1	84 W	45*	58*	
1	22	17 8.92	+23 24.8	2.204	1.626	24.3	18.8	43 W	16*	35*	5	1	20 34.38	+8 47.2	1.412	1.699	36.3	20.0	88 W	48*	55	
1	27	17 25.23	+23 26.2	2.142	1.592	25.5	18.7	44 W	16*	36*	5	6	20 44.22	+10 10.7	1.369	1.688	36.7	19.9	89 W	49*	54	
2	1	17 42.00	+23 20.6	2.082	1.557	26.8	18.7	45 W	15*	38*	5	11	20 53.82	+11 34.2	1.327	1.678	37.0	19.8	91 W	51*	52	
2	6	17 59.22	+23 7.3	2.023	1.523	28.0	18.6	47 W	15*	39*	5	16	21 3.16	+12 57.1	1.286	1.669	37.3	19.8	92 W	52*	51	
2	11	18 16.87	+22 45.9	1.966	1.490	29.3	18.5	48 W	15*	41*	5	21	21 12.21	+14 18.8	1.246	1.660	37.5	19.7	94 W	54*	50	
2	16	18 34.92	+22 15.6	1.911	1.457	30.5	18.4	48 W	15*	42*	5	26	21 20.94	+15 38.7	1.207	1.652	37.6	19.6	96 W	56*	48	
2	21	18 53.34	+21 36.1	1.859	1.424	31.7	18.4	49 W	15*	42*	5	31	21 29.34	+16 55.9	1.168	1.645	37.7	19.5	98 W	58*	47	
2	26	19 12.09	+20 47.0	1.809	1.393	32.9	18.3	50 W	15*	43*	6	5	21 37.38	+18 9.9	1.131	1.638	37.9	19.5	99 W	60*	46	
3	2	19 31.10	+19 48.0	1.763	1.362	34.0	18.2	50 W	15*	44*	6	10	21 45.03	+19 19.8	1.094	1.633	37.6	19.4	101 W	62*	45	
3	12	20 9.76	+17 20.0	1.680	1.304	36.2	18.1	51 W	15*	44*	6	15	21 52.25	+20 24.8	1.057	1.628	37.4	19.3	103 W	64*	44	
3	22	20 48.90	+14 13.7	1.613	1.252	38.1	18.0	51 W	16*	44*	6	20	21 59.00	+21 24.2	1.022	1.623	37.1	19.2	106 W	66*	43	
4	1	21 28.09	+10 34.2	1.563	1.208	39.7	17.9	51 W	16*	44*	6	25	22 5.22	+22 16.7	0.987	1.620	36.7	19.1	108 W	67*	42	
4	6	21 47.58	+8 34.5	1.544	1.188	40.4	17.8	50 W	16*	44*	6	30	22 10.88	+23 1.3	0.952	1.617	36.1	19.0	110 W	68	41	
4	11	22 6.97	+6 29.9	1.529	1.172	41.0	17.8	50 W	16*	43*	7	5	22 15.95	+23 36.9	0.919	1.615	35.4	18.9	113 W	69	40	
4	16	22 26.22	+4 21.7	1.518	1.158	41.4	17.7	50 W	16*	43*	7	10	22 20.38	+24 2.3	0.886	1.614	34.5	18.8	116 W	69	40	
4	21	22 45.31	+2 11.4	1.510	1.146	41.7	17.7	49 W	17*	42*	7	15	22 24.12	+24 16.1	0.855	1.614	33.4	18.7	119 W	69	40	
4	26	23 4.22	+0 0.6	1.507	1.138	41.9	17.7	49 W	17*	41*	7	20	22 27.12	+24 16.8	0.824	1.615	32.2	18.6	122 W	69	40	
5	1	23 22.92	+2 9.4	1.507	1.132	42.0	17.7	49 W	17*	41*	7	25	22 29.37	+24 2.6	0.796	1.616	30.6	18.5	126 W	69	40	
5	6	23 41.41	+4 17.1	1.509	1.130	41.9	17.7	48 W	18*	40*	7	30	22 30.89	+23 32.1	0.769	1.618	28.9	18.3	130 W	69	40	
5	11	23 59.68	+6 21.5	1.514	1.131	41.8	17.7	48 W	18*	40*	8	4	22 31.69	+22 43.9	0.744	1.621	26.8	18.2	134 W	68	41	
5	16	0 17.73	+8 21.3	1.522	1.134	41.6	17.7	48 W	19*	39*	8	9	22 31.83	+21 36.9	0.722	1.625	24.6	18.1	138 W	67	42	
5	21	0 35.53	+10 15.8	1.531	1.141	41.4	17.7	48 W	20*	38*	8	14	22 31.38	+20 10.3	0.703	1.630	22.1	18.0	143 W	65	44	
5	26	0 53.07	+12 4.1	1.541	1.151	41.1	17.8	48 W	20*	38*	8	19	22 30.45	+18 24.2	0.688	1.635	19.4	17.8	148 W	63	46	
5	31	1 10.34	+13 45.8	1.553	1.164	40.8	17.8	49 W	21*	37*	8	24	22 29.20	+16 19.4	0.677	1.641	16.7	17.7	152 W	61	48	
6	10	1 44.00	+16 47.4	1.577	1.197	40.1	17.9	49 W	23*	37*	8	29	22 27.82	+13 58.5	0.671	1.648	14.1	17.5	157 E	59	50	
6	20	2 16.39	+19 19.2	1.600	1.239	39.4	18.0	51 W	26*	36*	9	3	22 26.49	+11 24.9	0.671	1.655	11.9	17.5	160 E	56	53	
6	30	2 47.32	+21 21.2	1.620	1.290	38.8	18.1	53 W	30*	35*	9	8	22 25.37	+8 42.9	0.675	1.664	10.6	17.5	162 E	54	55	
7	10	3 16.60	+22 55.0	1.635	1.346	38.4	18.1	55 W	34*	35*	9	13	22 24.62	+5 57.6	0.686	1.673	10.6	17.6	162 E	51	58	
7	20	3 44.05	+24 3.0	1.643	1.407	37.9	18.2	58 W	38*	35*	9	18	22 24.39	+3 14.1	0.703	1.682	11.9	17.7	160 E	48	61	
7	30	4 9.46	+24 47.9	1.643	1.472	37.5	18.3	62 W	44*	35*	9	23	22 24.78	+0 37.0	0.725	1.692	13.9	17.8	156 E	46	63	
8	9	4 32.64	+25 12.9	1.634	1.539	37.1	18.4	66 W	49*	36*	9	28	22 25.87	-1 49.7	0.754	1.703	16.3	18.0	152 E	43	66	
8	19	4 53.39	+25 21.1	1.616	1.608	36.6	18.5	71 W	54*	37*	10	3	22 27.69	+4 3.3	0.787	1.714	18.6	18.2	147 E	41	68	
8	29	5 11.46	+25 15.5	1.589	1.677	35.9	18.5	77 W	60*	37*	10	8	22 30.23	-6 2.0	0.825	1.726	20.9	18.4	142 E	39	70	
9	8	5 26.62	+24 58.7	1.554	1.747	34.9	18.5	83 W	65*	38*	10	18	22 37.40	-9 12.8	0.915	1.751	24.7	18.8	133 E	36	73	
9	18	5 38.59	+24 33.5	1.512	1.817	33.6	18.5	90 W	68*	39*</												