

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

20/22	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°	20/22	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°
325766 2010 JX₁₄₀										142030 2002 QG₆ (continuation)									
12 27	21 2.39	-10 55.9	2.343	1.707	21.6	21.1	40E	26*	23*	3 27	0 50.44	+20 59.8	2.547	1.642	11.8	18.8	20E	12*	—
1 6	21 28.11	-9 8.9	2.384	1.694	20.1	21.0	36E	25*	18*	4 6	1 19.34	+23 36.9	2.569	1.646	10.8	18.8	18E	10*	—
1 16	21 53.98	-7 9.8	2.423	1.683	18.4	21.0	33E	23*	14*	4 16	1 49.05	+25 59.8	2.592	1.653	9.8	18.8	16E	8*	—
1 26	22 19.91	-5 0.3	2.460	1.674	16.8	21.0	29E	21*	11*	4 26	2 19.47	+28 5.3	2.616	1.663	8.9	18.8	15E	6*	—
2 5	22 45.87	-2 42.6	2.496	1.669	15.1	20.9	26E	19*	8*	5 6	2 50.47	+29 50.5	2.641	1.676	8.0	18.8	13W	5*	—
2 15	23 11.84	-0 18.9	2.530	1.666	13.4	20.9	23E	16*	6*	5 16	3 21.85	+31 13.3	2.666	1.693	7.3	18.8	12W	5*	—
2 25	23 37.83	+2 8.2	2.562	1.666	11.7	20.9	20E	14*	4*	5 26	3 53.32	+32 12.2	2.691	1.712	7.0	18.8	12W	5*	—
3 7	0 3.84	+4 36.2	2.594	1.669	9.9	20.8	17E	11*	2*	6 5	4 24.62	+32 46.8	2.714	1.734	6.9	18.9	12W	6*	—
3 17	0 29.91	+7 2.6	2.624	1.674	8.1	20.8	14E	8*	—	6 15	4 55.43	+32 57.5	2.734	1.758	7.3	18.9	13W	7*	—
3 27	0 56.05	+9 24.8	2.653	1.683	6.4	20.7	11E	5*	—	6 25	5 25.45	+32 45.1	2.751	1.784	8.1	19.0	14W	8*	—
4 6	1 22.27	+11 40.4	2.680	1.694	4.6	20.7	8E	2*	—	7 5	5 54.45	+32 11.4	2.764	1.813	9.2	19.1	17W	10*	1*
4 16	1 48.60	+13 47.2	2.706	1.708	2.8	20.6	5E	—	—	7 15	6 22.23	+31 18.5	2.771	1.843	10.5	19.2	19W	12*	4*
4 26	2 15.01	+15 43.3	2.729	1.724	1.4	20.5	2E	—	—	7 25	6 48.65	+30 8.7	2.772	1.874	12.0	19.3	23W	15*	6*
5 6	2 41.48	+17 26.9	2.750	1.743	1.5	20.6	3W	—	—	8 4	7 13.63	+28 44.3	2.765	1.907	13.5	19.4	26W	18*	9*
5 16	3 7.96	+18 56.5	2.767	1.763	3.1	20.8	5W	—	—	8 14	7 37.15	+27 7.6	2.751	1.941	15.1	19.5	30W	22*	11*
5 26	3 34.38	+20 11.0	2.781	1.786	4.9	20.9	9W	—	2*	8 24	7 59.18	+25 20.8	2.728	1.976	16.7	19.6	34W	26*	14*
6 5	4 0.65	+21 9.7	2.790	1.810	6.7	21.0	12W	—	5*	9 3	8 19.75	+23 25.8	2.696	2.012	18.3	19.6	39W	31*	17*
6 15	4 26.66	+21 52.2	2.795	1.836	8.5	21.1	15W	2*	8*	9 13	8 38.86	+21 24.4	2.654	2.048	19.8	19.7	44W	35*	20*
6 25	4 52.28	+22 18.4	2.794	1.863	10.2	21.2	19W	5*	11*	9 23	8 56.52	+19 18.2	2.603	2.084	21.2	19.7	49W	40*	23*
7 5	5 17.40	+22 28.7	2.787	1.891	12.0	21.3	23W	8*	14*	10 3	9 12.71	+17 8.6	2.543	2.121	22.5	19.7	54W	44*	27*
7 15	5 41.89	+22 23.6	2.774	1.920	13.7	21.4	27W	12*	16*	10 13	9 27.40	+14 56.7	2.473	2.158	23.6	19.7	60W	48*	31*
7 25	6 5.62	+22 4.1	2.753	1.950	15.4	21.5	31W	17*	19*	10 23	9 40.51	+12 44.0	2.396	2.195	24.5	19.7	66W	51*	35*
214607 2006 RF₂₂										337104 1999 NN₂₂									
12 27	21 3.40	-20 28.6	2.365	1.688	20.6	20.2	37E	17*	26*	11 2	9 51.95	+10 31.3	2.310	2.231	25.2	19.7	73W	53*	40*
1 6	21 31.02	-18 11.5	2.434	1.707	18.7	20.2	34E	17*	22*	11 12	10 1.53	+8 20.0	2.219	2.268	25.5	19.7	80W	53*	45*
1 16	21 57.69	-15 43.8	2.503	1.728	16.8	20.3	30E	17*	19*	11 22	10 9.05	+6 11.2	2.124	2.304	25.4	19.6	88W	51*	51*
1 26	22 23.43	-13 8.2	2.571	1.752	14.8	20.3	27E	15*	15*	12 2	10 14.27	+4 6.3	2.027	2.340	24.8	19.5	96W	49*	57*
2 5	22 48.29	-10 27.6	2.638	1.778	12.8	20.3	24E	13*	12*	12 12	10 16.90	+2 7.2	1.931	2.376	23.7	19.4	104W	47*	62*
2 15	23 12.37	-7 44.4	2.703	1.806	10.8	20.3	20E	11*	9*	1 1	10 13.32	+1 23.5	1.759	2.445	19.6	19.2	124W	44	65
2 25	23 35.73	-5 0.9	2.765	1.836	8.7	20.3	16E	8*	6*	1 11	10 6.88	-2 48.5	1.692	2.479	16.6	19.0	134W	42	67
3 7	23 58.46	-2 19.1	2.823	1.867	6.6	20.3	13E	5*	4*	1 21	9 57.61	-3 54.8	1.645	2.512	13.1	18.8	145W	41	68
3 17	0 20.66	+0 19.4	2.877	1.899	4.6	20.3	9E	1*	1*										
3 27	0 42.39	+2 53.2	2.925	1.933	2.5	20.2	5E	—	—	12 27	21 3.92	+0 32.9	2.167	1.639	25.4	20.1	46E	36*	18*
4 6	1 3.72	+5 20.9	2.967	1.967	0.7	20.2	1E	—	—	1 6	21 28.49	+3 16.5	2.200	1.625	24.4	20.1	43E	36*	13*
4 16	1 24.70	+7 41.7	3.002	2.002	1.8	20.3	4W	—	—	1 16	21 53.82	+6 8.6	2.231	1.615	23.3	20.1	41E	34*	8*
4 26	1 45.36	+9 54.7	3.030	2.037	3.8	20.5	8W	—	2*	1 26	22 19.88	+9 7.4	2.262	1.610	22.3	20.1	38E	32*	5*
5 6	2 5.74	+11 59.1	3.049	2.073	5.8	20.7	12W	—	6*	2 5	22 46.66	+12 10.1	2.295	1.609	21.3	20.1	36E	30*	2*
5 16	2 25.84	+13 54.6	3.060	2.109	7.8	20.8	16W	—	10*	2 15	23 14.20	+15 13.4	2.329	1.613	20.2	20.1	34E	28*	—
5 26	2 45.66	+15 40.8	3.061	2.145	9.7	20.9	21W	3*	14*	2 25	23 42.47	+18 14.0	2.367	1.621	19.1	20.1	32E	26*	—
6 5	3 5.16	+17 17.3	3.052	2.181	11.6	21.0	26W	6*	18*	3 7	0 11.47	+21 7.7	2.408	1.633	18.0	20.1	31E	23*	—
6 15	3 24.31	+18 44.3	3.034	2.217	13.4	21.1	30W	10*	22*	3 17	0 41.18	+23 50.9	2.452	1.649	16.8	20.1	29E	21*	—
6 25	3 43.05	+20 1.7	3.005	2.253	15.1	21.2	35W	15*	25*	3 27	1 11.52	+26 20.0	2.501	1.669	15.5	20.2	27E	19*	—
7 5	4 1.31	+21 9.9	2.966	2.289	16.7	21.3	40W	20*	28*	4 6	1 42.36	+28 31.7	2.552	1.692	14.1	20.2	24E	17*	—
7 15	4 18.98	+22 9.2	2.916	2.324	18.3	21.3	46W	26*	30*	4 16	2 13.57	+30 23.6	2.606	1.719	12.7	20.2	22E	15*	—
7 25	4 35.94	+23 0.2	2.857	2.358	19.6	21.3	51W	33*	32*	4 26	2 44.91	+31 54.0	2.662	1.749	11.3	20.2	20E	13*	—
8 4	4 52.06	+23 43.6	2.787	2.393	20.9	21.3	57W	40*	34*	5 6	3 16.15	+33 1.7	2.717	1.781	9.8	20.3	17E	10*	—
8 14	5 7.19	+24 20.5	2.709	2.426	21.9	21.3	63W	47*	35*	5 16	3 47.04	+33 46.8	2.772	1.816	8.4	20.3	15E	8*	—
8 24	5 21.12	+24 51.9	2.622	2.459	22.7	21.3	70W	53*	36*	5 26	4 17.30	+34 9.8	2.825	1.853	7.2	20.3	13E	5*	—
9 3	5 33.64	+25 19.1	2.528	2.492	23.2	21.3	76W	60*	37*	6 5	4 46.70	+34 11.9	2.873	1.891	6.3	20.4	12W	4*	—
9 13	5 44.50	+25 43.4	2.429	2.524	23.3	21.2	84W	66*	37*	6 15	5 15.03	+33 54.8	2.917	1.931	5.9	20.4	11W	5*	—
9 23	5 53.40	+26 6.2	2.325	2.555	23.1	21.2	91W	70*	38*	6 25	5 42.15	+33 20.4	2.954	1.972	6.3	20.5	12W	6*	—
10 3	6 0.03	+26 29.0	2.221	2.585	22.4	21.1	100W	71	38	7 5	6 7.94	+32 30.6	2.983	2.014	7.2	20.6	14W	8*	—
10 13	6 4.03	+26 52.8	2.119	2.615	21.2	21.0	109W	72	37	7 15	6 32.34	+31 27.7	3.004	2.057	8.5	20.7	17W	11*	2*
10 23	6 5.07	+27 18.0	2.022	2.644	19.4	20.8	118W	72	37	7 25	6 55.33	+30 13.6	3.015	2.101	10.1	20.9	21W	14*	5*
11 2	6 2.91	+27 44.4	1.936	2.671	16.9	20.7	129W	73	36	8 4	7 16.89	+28 50.0	3.016	2.145	11.7	21.0	25W	18*	8*
11 12	5 57.44	+28 10.2	1.865	2.699	13.7	20.5	140W	73	36	8 14	7 37.05	+27 18.8	3.006	2.189	13.4	21.1	30W	22*	11*
11 22	5 48.94	+28 32.7	1.815	2.725	9.9	20.3	152W	74	35	8 24	7 55.79	+25 41.3	2.984	2.233	15.1	21.2	35W	27*	14*
11 27	5 43.74	+28 41.7	1.799	2.738	7.9	20.2	158W	74	35	9 3	8 13.15	+23 59.0	2.950	2.278	16.7	21.2	40W	32*	18*
12 2	5 38.06	+28 48.7	1.790	2.750	5.8	20.1	164W	74	35	9 13	8 29.12	+22 13.2	2.904	2.322	18.2	21.3	46W	37*	21*
12 7	5 32.05	+28 53.3	1.789	2.763	3.8	20.0	169W	74	35	9 23	8 43.64	+20 24.8	2.847	2.366	19.5	21.3	52W	43*	24*
12 12	5 25.89	+28 55.4	1.794	2.775	2.2	19.9	174W	74	35	10 3	8 56.70	+18 35.0	2.779	2.410	20.7	21.4	58W	48*	28*
12 17	5 19.76	+28 55.1	1.808	2.787	2.4	20.0	173E	74	35	10 13	9 8.19	+16 44.8	2.700	2.453	21.6	21.4	65W	52*	33*
12 22	5 13.82	+28 52.5	1.828	2.799	4.1	20.1	168E	74	35	10 23	9 18.00	+14 55.2	2.613	2.496	22.3	21.3	72W	56*	37*
12 27	5 8.23	+28 47.9	1.857	2.810	6.0	20.3	163E	74	35	11 2	9 25.98	+13 7.0	2.518	2.538					

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

20/21	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°	20/21	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°
217807 2000 XK₄₄										144861 2004 LA₁₂									
<i>(continuation)</i>										<i>(continuation)</i>									
3 7	1 10.91	+ 7 42.9	1.755	1.069	30.3	20.8	33 E	25*	15*	8 4	9 29.74	+ 6 50.0	3.791	2.814	4.8	20.9	13 E	—	6*
3 17	1 47.95	+12 37.8	1.772	1.087	30.2	20.8	33 E	25*	14*	8 14	9 43.09	+ 6 18.2	3.882	2.884	3.0	20.9	8 E	—	—
3 27	2 25.92	+17 9.2	1.798	1.113	29.7	20.9	34 E	26*	14*	8 24	9 55.92	+ 5 43.2	3.954	2.952	2.3	21.0	7 W	—	—
4 6	3 4.83	+21 7.5	1.836	1.147	29.0	21.0	34 E	26*	13*	9 3	10 8.23	+ 5 5.9	4.006	3.018	3.4	21.1	10 W	—	4*
4 16	3 44.53	+24 25.7	1.884	1.188	28.0	21.1	34 E	26*	13*	9 13	10 19.98	+ 4 27.5	4.038	3.083	5.1	21.3	16 W	6*	8*
4 26	4 24.65	+26 58.8	1.941	1.233	26.7	21.2	33 E	25*	13*	9 23	10 31.15	+ 3 49.1	4.049	3.145	7.0	21.4	22 W	12*	12*
5 6	5 4.68	+28 45.0	2.007	1.283	25.3	21.3	33 E	24*	14*	86666 2000 FL₁₀									
5 16	5 44.04	+29 45.6	2.079	1.334	23.7	21.4	32 E	23*	14*	12 27	21 4.87	- 8 29.0	1.888	1.320	29.5	20.2	31 E	28*	22*
206924 2004 PP₁₀₂										1 6	21 33.89	- 8 38.5	1.878	1.254	28.7	20.0	38 E	26*	19*
12 27	21 4.08	-14 41.0	2.303	1.655	21.9	21.0	39 E	23*	25*	1 16	22 4.45	- 8 31.6	1.859	1.187	28.0	19.9	34 E	24*	17*
1 6	21 30.57	-12 24.8	2.350	1.651	20.2	21.0	35 E	22*	20*	1 26	22 36.62	- 8 9.1	1.831	1.120	27.5	19.7	32 E	21*	16*
1 16	21 56.84	- 9 57.3	2.397	1.650	18.5	20.9	32 E	21*	16*	2 5	23 10.52	- 7 31.8	1.792	1.055	27.5	19.5	30 E	19*	16*
1 26	22 22.85	- 7 20.5	2.442	1.651	16.8	20.9	29 E	20*	13*	2 15	23 46.30	- 6 40.2	1.745	0.993	28.2	19.3	28 E	17*	16*
2 5	22 48.59	- 4 36.9	2.486	1.655	15.0	20.9	26 E	18*	10*	2 25	0 24.15	- 5 34.8	1.690	0.938	29.7	19.2	28 E	16*	17*
2 15	23 14.10	- 1 48.8	2.529	1.662	13.3	20.9	23 E	16*	7*	3 7	1 4.21	- 4 15.6	1.627	0.892	32.1	19.1	29 E	15*	19*
2 25	23 39.41	+ 1 1.2	2.570	1.671	11.5	20.9	20 E	13*	4*	3 17	1 46.66	- 2 41.7	1.561	0.859	35.5	19.0	30 E	14*	21*
3 7	0 4.56	+ 3 50.6	2.610	1.683	9.7	20.8	17 E	10*	2*	3 27	2 31.54	- 0 52.8	1.493	0.841	39.4	19.0	32 E	14*	24*
3 17	0 29.63	+ 6 37.3	2.649	1.697	7.8	20.8	13 E	7*	—	4 6	3 18.79	+ 1 10.8	1.431	0.841	43.2	19.0	35 E	15*	27*
3 27	0 54.65	+ 9 19.0	2.685	1.713	6.0	20.8	10 E	4*	—	4 16	4 8.18	+ 3 26.2	1.379	0.858	46.4	19.0	38 E	16*	30*
4 6	1 19.67	+11 53.4	2.719	1.732	4.3	20.7	7 E	1*	—	4 21	4 33.53	+ 4 36.0	1.360	0.873	47.6	19.1	40 E	16*	32*
4 16	1 44.74	+14 19.0	2.750	1.752	2.7	20.7	5 E	—	—	4 26	4 59.19	+ 5 45.5	1.346	0.891	48.4	19.1	41 E	17*	33*
4 26	2 9.86	+16 33.9	2.778	1.774	1.9	20.7	3 W	—	—	5 1	5 25.04	+ 6 53.2	1.337	0.913	48.9	19.2	43 E	18*	34*
5 6	2 35.04	+18 36.7	2.802	1.798	2.5	20.8	5 W	—	—	5 6	5 50.94	+ 7 57.3	1.334	0.937	49.0	19.2	45 E	18*	36*
5 16	3 0.26	+20 26.3	2.821	1.823	4.1	20.9	7 W	—	—	5 11	6 16.74	+ 8 56.3	1.338	0.964	48.8	19.3	46 E	19*	37*
5 26	3 25.48	+22 1.7	2.835	1.849	5.8	21.1	11 W	1*	3*	5 16	6 42.26	+ 9 48.6	1.349	0.992	48.3	19.3	47 E	19*	37*
6 5	3 50.62	+23 22.1	2.844	1.876	7.6	21.2	14 W	3*	6*	5 21	7 7.35	+10 33.1	1.365	1.022	47.5	19.4	48 E	20*	38*
6 15	4 15.61	+24 27.5	2.846	1.904	9.4	21.3	18 W	6*	9*	5 26	7 31.85	+11 9.1	1.388	1.054	46.6	19.5	49 E	20*	39*
6 25	4 40.33	+25 17.5	2.842	1.933	11.1	21.4	22 W	9*	12*	6 5	8 18.64	+11 54.6	1.450	1.119	44.2	19.7	50 E	20*	40*
7 5	5 4.68	+25 52.6	2.830	1.962	12.9	21.5	26 W	13*	14*	6 15	9 2.01	+12 6.2	1.531	1.186	41.5	19.8	51 E	20*	40*
144861 2004 LA₁₂										6 25	9 41.76	+11 48.7	1.626	1.253	38.7	20.0	50 E	19*	40*
12 27	21 4.12	-32 53.7	1.087	0.655	63.1	16.9	36 E	6*	30*	6 30	10 0.33	+11 31.0	1.677	1.286	37.3	20.1	50 E	19*	40*
12 29	21 17.63	-33 56.9	1.071	0.666	64.1	16.9	38 E	6*	31*	7 5	10 18.07	+11 8.4	1.730	1.319	35.8	20.2	49 E	18*	40*
12 31	21 31.45	-34 55.8	1.055	0.679	64.9	17.0	39 E	5*	33*	7 10	10 35.06	+10 41.5	1.785	1.351	34.4	20.2	49 E	18*	39*
1 2	21 45.58	-35 49.8	1.040	0.694	65.6	17.0	40 E	4*	34*	7 15	10 51.34	+10 11.0	1.842	1.384	33.0	20.3	48 E	18*	39*
1 4	22 0.02	-36 38.2	1.026	0.710	66.1	17.0	41 E	4*	35*	7 20	11 6.96	+ 9 37.5	1.898	1.415	31.7	20.4	47 E	17*	38*
1 6	22 14.77	-37 20.7	1.013	0.727	66.5	17.1	43 E	4*	37*	7 25	11 21.99	+ 9 1.6	1.956	1.446	30.3	20.5	46 E	17*	37*
1 8	22 29.79	-37 56.7	1.001	0.745	66.7	17.1	44 E	4*	38*	8 4	11 50.49	+ 7 44.5	2.070	1.506	27.6	20.6	44 E	17*	35*
1 10	22 45.06	-38 25.7	0.990	0.765	66.7	17.1	46 E	3*	40*	8 14	12 17.25	+ 6 22.7	2.183	1.564	25.1	20.7	41 E	16*	33*
1 12	23 0.54	-38 47.2	0.981	0.785	66.6	17.2	47 E	3*	41*	8 24	12 42.62	+ 4 59.0	2.292	1.618	22.6	20.8	38 E	16*	30*
1 14	23 16.19	-39 1.1	0.972	0.806	66.4	17.2	49 E	3*	43*	9 3	13 6.90	+ 3 35.4	2.395	1.670	20.2	20.9	35 E	15*	26*
1 16	23 31.93	-39 7.0	0.965	0.828	66.0	17.2	50 E	4*	44*	9 13	13 30.33	+ 2 13.7	2.492	1.719	17.9	21.0	32 E	15*	23*
1 18	23 47.71	-39 4.8	0.959	0.850	65.6	17.3	52 E	4*	46*	9 23	13 53.11	+ 0 55.6	2.581	1.764	15.7	21.0	28 E	15*	19*
1 20	0 3.46	-38 54.5	0.954	0.873	65.0	17.3	54 E	4*	47*	10 3	14 15.41	- 0 17.6	2.662	1.807	13.6	21.1	25 E	14*	15*
1 22	0 19.10	-38 36.1	0.951	0.896	64.3	17.3	55 E	5*	49*	10 13	14 37.34	- 1 24.8	2.732	1.846	11.7	21.1	22 E	13*	10*
1 24	0 34.57	-38 9.8	0.949	0.920	63.6	17.4	57 E	6*	51*	10 23	14 58.99	- 2 24.6	2.793	1.883	10.1	21.2	19 E	12*	5*
1 26	0 49.80	-37 36.0	0.948	0.944	62.7	17.4	58 E	6*	52*	11 2	15 20.44	- 3 16.0	2.842	1.916	8.8	21.2	17 E	11*	—
1 28	1 4.72	-36 55.0	0.949	0.968	61.8	17.4	60 E	7*	54*	11 12	15 41.73	- 3 58.1	2.880	1.947	8.0	21.2	16 E	10*	—
1 30	1 19.29	-36 7.3	0.952	0.992	60.9	17.4	62 E	8*	56*	11 22	16 2.86	- 4 30.0	2.905	1.974	7.9	21.3	16 E	8*	—
2 1	1 33.46	-35 13.5	0.955	1.016	59.9	17.5	63 E	9*	57*	12 2	16 23.84	- 4 50.8	2.919	1.998	8.4	21.3	17 W	8*	—
2 3	1 47.20	-34 14.2	0.961	1.041	58.8	17.5	65 E	10*	59*	12 12	16 44.67	- 4 59.9	2.920	2.020	9.4	21.4	20 W	12*	—
2 5	2 0.49	-33 10.1	0.968	1.065	57.8	17.5	66 E	11*	60*	12 22	17 5.29	- 4 56.7	2.910	2.038	10.8	21.4	23 W	17*	—
2 7	2 13.31	-32 1.9	0.976	1.090	56.7	17.6	67 E	12*	61*	218271 2003 ED₄									
2 9	2 25.66	-30 50.2	0.986	1.114	55.6	17.6	69 E	14*	63*	12 27	21 4.88	-13 9.3	2.716	2.054	17.7	20.4	39 E	24*	24*
2 11	2 37.53	-29 35.7	0.997	1.139	54.6	17.7	70 E	15*	64*	1 6	21 25.60	-12 41.2	2.745	2.009	16.0	20.3	34 E	22*	19*
2 13	2 48.93	-28 19.1	1.010	1.163	53.5	17.7	71 E	16*	65*	1 16	21 47.07	-12 0.4	2.764	1.965	14.1	20.2	29 E	18*	15*
2 15	2 59.88	-27 1.1	1.024	1.188	52.4	17.8	72 E	17*	66*	1 26	22 9.21	-11 7.7	2.774	1.920	12.2	20.1	24 E	15*	11*
2 20	3 25.37	-23 43.1	1.066	1.249	49.8	17.9	75 E	21*	68*	2 5	22 31.98	-10 4.2	2.774	1.877	10.3	19.9	20 E	11*	8*
2 25	3 48.39	-20 27.0	1.117	1.309	47.3	18.0	77 E	24*	69*	2 15	22 55.36	- 8 50.8	2.766	1.834	8.3	19.8			

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

20/22	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°	20/22	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°										
218271 2003 ED₄ (continuation)										368284 2002 NH₃₁ (continuation)																			
9 3	8 20.81	+ 5 31.9	2.331	1.635	21.6	19.7	37 W	18*	27*	6 15	4 26.20	+23 49.7	2.885	1.924	8.0	21.3	15 W	4*	7*	6 25	4 50.86	+24 16.0	2.888	1.957	9.8	21.4	19 W	7*	10*
9 13	8 45.90	+ 4 20.2	2.318	1.667	22.5	19.7	39 W	22*	28*	361586 2007 RB₂₄₀																			
9 23	9 9.78	+ 3 4.4	2.301	1.702	23.5	19.8	43 W	26*	30*	12 27	21 5.80	-22 30.2	2.331	1.659	21.0	21.5	37 E	16*	28*	1 6	21 33.86	-20 11.0	2.385	1.664	19.3	21.5	34 E	16*	24*
10 3	9 32.45	+ 1 46.6	2.277	1.740	24.5	19.8	46 W	29*	32*	1 16	22 1.17	-17 38.6	2.439	1.672	17.6	21.5	31 E	15*	20*	1 26	22 27.74	-14 55.9	2.492	1.682	15.7	21.5	28 E	14*	17*
10 13	9 53.90	+ 0 29.1	2.246	1.779	25.5	19.9	50 W	33*	34*	2 5	22 53.56	-12 5.7	2.544	1.695	13.9	21.5	24 E	13*	14*	2 15	23 18.73	-9 10.9	2.595	1.711	12.0	21.5	21 E	11*	11*
10 23	10 14.09	+ 0 45.7	2.207	1.820	26.4	19.9	55 W	36*	37*	2 25	23 43.30	-6 14.2	2.644	1.728	10.1	21.5	18 E	8*	8*	3 7	0 7.35	+ 3 18.0	2.691	1.748	8.2	21.4	15 E	6*	6*
11 2	10 33.00	+ 1 55.7	2.160	1.863	27.3	19.9	59 W	38*	40*	3 17	0 30.97	+ 0 24.3	2.735	1.769	6.2	21.4	11 E	3*	4*	3 27	0 54.24	+ 2 24.9	2.776	1.793	4.3	21.4	8 E	—	1*
11 12	10 50.55	+ 2 58.6	2.105	1.906	28.0	20.0	65 W	40*	44*	4 6	1 17.22	+ 5 7.8	2.813	1.817	2.5	21.3	5 E	—	—	4 16	1 39.98	+ 7 43.2	2.845	1.843	1.4	21.3	2 E	—	—
11 22	11 6.64	+ 3 51.8	2.041	1.950	28.5	20.0	71 W	41*	48*	4 26	2 2.57	+10 9.7	2.873	1.871	2.3	21.4	4 W	—	—	1 11	11 52.91	+ 4 53.0	1.729	2.130	27.1	19.7	100 W	40	64*
12 2	11 21.14	+ 4 32.9	1.971	1.995	28.8	19.9	77 W	40	53*	1 11	11 58.67	+ 4 14.1	1.646	2.175	25.3	19.6	109 W	41	68	1 21	12 1.52	-3 7.0	1.570	2.220	22.8	19.5	119 W	42	67
12 12	11 33.85	+ 4 59.0	1.893	2.040	28.7	19.9	84 W	40	59*	101429 1998 VF₃₁																			
12 22	11 44.53	+ 5 6.8	1.812	2.085	28.1	19.8	92 W	40	64*	12 27	21 4.92	+ 4 10.3	2.165	1.675	25.9	21.2	48 E	40*	17*	1 6	21 31.09	+ 4 41.5	2.232	1.677	24.2	21.2	44 E	37*	13*
1 1	11 52.91	+ 4 53.0	1.729	2.130	27.1	19.7	100 W	40	64*	1 16	21 57.15	+ 5 23.5	2.296	1.677	22.5	21.2	41 E	34*	10*	1 26	22 23.05	+ 6 14.6	2.357	1.677	20.6	21.2	37 E	31*	7*
1 11	11 58.67	+ 4 14.1	1.646	2.175	25.3	19.6	109 W	41	68	2 5	22 48.77	+ 7 12.8	2.414	1.675	18.7	21.2	33 E	27*	4*	2 15	23 14.36	+ 8 16.2	2.466	1.672	16.7	21.2	29 E	23*	2*
1 21	12 1.52	-3 7.0	1.570	2.220	22.8	19.5	119 W	42	67	2 25	23 39.83	+ 9 22.6	2.512	1.669	14.5	21.1	25 E	19*	1*	2 25	23 39.83	+ 9 22.6	2.512	1.669	14.5	21.1	25 E	19*	1*
										3752 Camillo																			
12 27	21 4.92	+ 4 10.3	2.165	1.675	25.9	21.2	48 E	40*	17*	12 27	21 6.16	-24 2.0	2.174	1.511	23.1	19.0	37 E	14*	28*	1 6	21 30.44	-24 48.9	2.199	1.471	21.2	18.9	33 E	11*	25*
1 6	21 31.09	+ 4 41.5	2.232	1.677	24.2	21.2	44 E	37*	13*	1 16	21 57.15	+ 5 23.5	2.296	1.677	22.5	21.2	41 E	34*	10*	1 26	22 23.05	+ 6 14.6	2.357	1.677	20.6	21.2	37 E	31*	7*
1 16	21 57.15	+ 5 23.5	2.296	1.677	22.5	21.2	41 E	34*	10*	2 5	22 48.77	+ 7 12.8	2.414	1.675	18.7	21.2	33 E	27*	4*	2 15	23 14.36	+ 8 16.2	2.466	1.672	16.7	21.2	29 E	23*	2*
1 26	22 23.05	+ 6 14.6	2.357	1.677	20.6	21.2	37 E	31*	7*	2 25	23 39.83	+ 9 22.6	2.512	1.669	14.5	21.1	25 E	19*	1*	3 7	0 5.22	+10 30.2	2.552	1.664	12.4	21.1	21 E	15*	—
2 5	22 48.77	+ 7 12.8	2.414	1.675	18.7	21.2	33 E	27*	4*	3 17	0 30.61	+11 36.8	2.584	1.658	10.1	21.0	17 E	11*	—	3 27	0 56.04	+12 40.7	2.608	1.652	7.9	20.9	13 E	7*	—
2 15	23 14.36	+ 8 16.2	2.466	1.672	16.7	21.2	29 E	23*	2*	4 6	1 21.58	+13 39.7	2.625	1.644	5.5	20.8	9 E	3*	—	4 16	1 47.28	+14 32.3	2.632	1.636	3.2	20.7	5 E	—	—
2 25	23 39.83	+ 9 22.6	2.512	1.669	14.5	21.1	25 E	19*	1*	4 26	2 13.19	+15 16.4	2.632	1.626	1.1	20.5	2 W	—	—	5 6	2 39.36	+15 50.3	2.623	1.616	1.9	20.6	3 W	—	—
3 7	0 5.22	+10 30.2	2.552	1.664	12.4	21.1	21 E	15*	—	5 16	3 5.81	+16 12.4	2.606	1.605	4.2	20.7	7 W	—	1*	5 26	3 32.56	+16 20.8	2.580	1.594	6.5	20.8	10 W	—	4*
3 17	0 30.61	+11 36.8	2.584	1.658	10.1	21.0	17 E	11*	—	6 5	3 59.60	+16 14.0	2.548	1.582	8.8	20.8	14 W	—	8*	6 15	4 26.92	+15 50.5	2.510	1.569	11.1	20.9	17 W	—	11*
3 27	0 56.04	+12 40.7	2.608	1.652	7.9	20.9	13 E	7*	—	6 25	4 54.48	+15 9.0	2.465	1.556	13.3	20.9	21 W	—	15*	7 5	5 22.25	+14 8.4	2.416	1.542	15.5	20.9	24 W	2*	18*
4 6	1 21.58	+13 39.7	2.625	1.644	5.5	20.8	9 E	3*	—	7 15	5 50.18	+12 47.9	2.363	1.528	17.5	20.9	27 W	4*	20*	7 25	6 18.20	+11 7.0	2.308	1.514	19.5	20.9	30 W	7*	23*
4 16	1 47.28	+14 32.3	2.632	1.636	3.2	20.7	5 E	—	—	8 4	6 46.29	+ 9 6.0	2.252	1.500	21.4	20.9	33 W	10*	25*	8 14	7 14.41	+ 6 45.2	2.195	1.486	23.1	20.9	35 W	12*	28*
4 26	2 13.19	+15 16.4	2.632	1.626	1.1	20.5	2 W	—	—	8 24	7 42.53	+ 4 6.0	2.140	1.472	24.7	20.8	37 W	15*	30*	9 3	8 10.65	+ 1 10.3	2.086	1.459	26.2	20.8	40 W	17*	32*
5 6	2 39.36	+15 50.3	2.623	1.616	1.9	20.6	3 W	—	—	9 13	8 38.80	+ 1 59.6	2.034	1.446	27.5	20.8	42 W	18*	33*	9 23	9 7.01	+ 5 20.3	1.986	1.434	28.8	20.7	43 W	20*	35*
5 16	3 5.81	+16 12.4	2.606	1.605	4.2	20.7	7 W	—	1*	10 3	9 35.35	+ 8 48.2	1.940	1.422	29.9	20.7	45 W	20*	37*	10 13	10 3.90	-12 19.0	1.897	1.411	30.9	20.7	47 W	20*	38*
5 26	3 32.56	+16 20.8	2.580	1.594	6.5	20.8	10 W	—	4*	10 23	10 32.74	-15 48.3	1.857	1.402	31.8	20.6	48 W	20*	40*	11 2	11 1.98	-19 11.5	1.818	1.393	32.7	20.6	49 W	19*	41*
6 5	4 26.92	+15 50.5	2.510	1.569	11.1	20.9	17 W	—	11*	11 12	11 31.72	-22 24.0	1.779	1.386	33.6	20.6	51 W	18*	43*	11 22	12 2.03	-25 21.3	1.740	1.380	34.5	20.5	52 W	17*	45*
6 25	4 54.48	+15 9.0	2.465	1.556	13.3	20.9	21 W	—	15*	12 2	12 32.96	-27 59.2	1.699	1.375	35.5	20.5	54 W	16*	47*	12 7	12 48.66	-29 9.6	1.677	1.374	36.0	20.5	55 W	15*	48*
7 5	5 22.25	+14 8.4	2.416	1.542	15.5	20.9	24 W	2*	18*	12 12	13 4.50	-30 13.6	1.655	1.373	36.5	20.5	56 W	14*	49*	12 17	13 20.47	-31 10.9	1.632	1.372	37.0	20.4	57 W	13*	50*
7 15	5 50.18	+12 47.9	2.363	1.528	17.5	20.9	27 W	4*	20*	12 22	13 36.56	-32 0.8	1.607	1.371	37.5	20.4	58 W	13*	51*	12 27	13 52.75	-32 43.2	1.582	1.371	38.1	20.4	59 W	12*	53*
7 25	6 18.20	+11 7.0	2.308	1.514	19.5	20.9	30 W	7*	23*	1 1	14 9.00	-33 17.5	1.555	1.371	38.6	20.4	61 W	12*	54*	1 6	14 25.28	-33 43.4	1.527	1.372	39.2	20.4	62 W	11*	56*
8 4	6 46.29	+ 9 6.0	2.252	1.500	21.4	20.9	33 W	10*	25*	1 11	14 41.53	-34 0.4	1.498	1.373	39.8	20.3	63 W	11*	57*	1 16	14 57.73	-34 8.3	1.468	1.375	40.3	20.3	65 W	11*	59*
8 14	7 14.41	+ 6 45.2	2.195	1.486	23.1	20.9	35 W	12*	28*	1 21	15 13.81	-34 6.8	1.436	1.377	40.9	20.3	66 W	11*	60*	12 27	21 5.01	-10 7.5	2.292	1.674	22.5	21.0	41 E	27*	23*
8 24	7 42.53	+ 4 6.0	2.140	1.472	24.7	20.8	37 W	15*	30*	1 6	21 31.24	- 8 6.4	2.337	1.666	21.0	21.0	37 E	26*	19*	1 16	21 57.52	- 5 53.9	2.381	1.661	19.4	21.0	34 E	25*	15*
9 3	8 10.65	+ 1 10.3	2.086	1.459																									

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

20/22	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°	20/22	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°
301910 1998 YM₈										93038 2000 RL₁₀₄									
<i>(continuation)</i>										<i>(continuation)</i>									
5 6	0 51.20	+17 33.7	2.733	1.912	14.7	19.7	29 W	15*	18*	12 12	1 32.03	+ 7 43.5	1.460	2.172	22.0	18.4	124 E	53	56
5 16	1 12.84	+21 9.1	2.647	1.873	16.8	19.7	32 W	18*	20*	12 22	1 34.24	+ 6 21.4	1.539	2.138	24.8	18.5	114 E	51	58
5 26	1 35.82	+24 46.9	2.560	1.836	18.8	19.6	36 W	21*	22*	1 1	1 39.48	+ 5 28.2	1.627	2.104	26.9	18.7	105 E	50	58*
6 5	2 0.41	+28 24.6	2.475	1.802	20.7	19.6	39 W	25*	22*	1 11	1 47.46	+ 5 0.5	1.717	2.070	28.2	18.8	96 E	50	56*
6 10	2 13.41	+30 12.4	2.433	1.785	21.6	19.5	40 W	27*	22*	1 21	1 57.84	+ 4 54.0	1.808	2.036	28.9	18.9	89 E	50	53*
6 15	2 26.92	+31 58.8	2.392	1.770	22.5	19.5	42 W	29*	21*	85762 1998 TH₄									
6 20	2 40.99	+33 43.1	2.352	1.755	23.4	19.5	43 W	31*	21*	12 27	21 7.55	-13 46.5	2.253	1.626	22.8	20.5	40 E	24*	25*
6 25	2 55.65	+35 24.8	2.313	1.740	24.2	19.5	45 W	33*	20*	1 6	21 35.50	-11 48.8	2.325	1.646	21.0	20.5	37 E	23*	21*
6 30	3 10.94	+37 2.9	2.275	1.727	24.9	19.4	46 W	35*	19*	1 16	22 2.68	- 9 40.8	2.397	1.669	19.0	20.6	34 E	22*	17*
7 5	3 26.89	+38 36.9	2.238	1.714	25.7	19.4	47 W	37*	18*	1 26	22 29.09	- 7 25.2	2.469	1.694	17.1	20.6	30 E	21*	14*
7 10	3 43.51	+40 5.7	2.203	1.702	26.4	19.4	48 W	39*	17*	2 5	22 54.77	- 5 4.7	2.540	1.721	15.1	20.6	27 E	19*	11*
7 15	4 0.81	+41 28.6	2.169	1.692	27.1	19.3	49 W	41*	16*	2 15	23 19.78	- 2 41.8	2.610	1.749	13.0	20.7	24 E	16*	9*
7 20	4 18.76	+42 44.6	2.137	1.682	27.7	19.3	50 W	43*	15*	2 25	23 44.17	- 0 18.6	2.677	1.779	11.0	20.7	20 E	13*	6*
7 25	4 37.34	+43 52.7	2.106	1.673	28.3	19.3	51 W	44*	14*	3 7	0 8.02	+ 2 2.7	2.740	1.810	8.9	20.7	16 E	10*	4*
7 30	4 56.50	+44 52.3	2.076	1.665	28.9	19.3	52 W	46*	13*	3 17	0 31.41	+ 4 20.6	2.800	1.842	6.8	20.7	13 E	6*	2*
8 4	5 16.15	+45 42.5	2.048	1.658	29.4	19.2	53 W	47*	12*	3 27	0 54.39	+ 6 33.3	2.854	1.875	4.7	20.6	9 E	2*	—
8 9	5 36.19	+46 22.8	2.021	1.652	30.0	19.2	54 W	48*	11*	4 6	1 17.02	+ 8 39.6	2.903	1.908	2.6	20.6	5 E	—	—
8 14	5 56.46	+46 52.7	1.994	1.647	30.4	19.2	55 W	49*	10*	4 16	1 39.35	+10 38.4	2.945	1.942	0.5	20.5	1 E	—	—
8 19	6 16.83	+47 12.1	1.969	1.643	30.9	19.2	56 W	50*	10*	4 26	2 1.39	+12 28.7	2.980	1.976	1.6	20.7	3 W	—	—
8 24	6 37.15	+47 20.8	1.945	1.640	31.3	19.2	57 W	51*	9*	5 6	2 23.18	+14 9.6	3.007	2.010	3.6	20.9	7 W	—	1*
8 29	6 57.24	+47 19.2	1.922	1.639	31.7	19.1	58 W	52*	9*	5 16	2 44.71	+15 40.7	3.025	2.044	5.7	21.0	12 W	—	5*
9 3	7 16.97	+47 7.8	1.899	1.638	32.1	19.1	60 W	53*	8*	5 26	3 5.96	+17 1.3	3.034	2.078	7.7	21.1	16 W	1*	9*
9 8	7 36.19	+46 47.1	1.876	1.639	32.4	19.1	61 W	54*	8*	6 5	3 26.90	+18 11.2	3.034	2.112	9.6	21.3	20 W	3*	13*
9 13	7 54.78	+46 17.9	1.854	1.641	32.7	19.1	62 W	55*	8*	6 15	3 47.50	+19 10.3	3.023	2.145	11.5	21.4	25 W	7*	17*
9 18	8 12.64	+45 41.2	1.832	1.643	33.1	19.1	63 W	57*	8*	6 25	4 7.68	+19 58.4	3.003	2.178	13.3	21.5	30 W	11*	21*
9 23	8 29.71	+44 57.9	1.809	1.647	33.3	19.1	64 W	58*	8*	279823 2000 RD₈									
10 3	9 1.33	+43 15.5	1.763	1.658	33.8	19.0	67 W	61*	9*	12 27	21 7.98	-13 33.4	2.871	2.211	16.6	20.8	40 E	24*	25*
10 13	9 29.44	+41 18.3	1.715	1.674	34.2	19.0	71 W	64*	11*	1 6	21 24.76	-11 27.1	2.915	2.177	14.8	20.7	34 E	23*	18*
10 23	9 54.03	+39 13.5	1.662	1.693	34.5	19.0	74 W	68*	13*	1 16	21 42.01	- 9 13.1	2.947	2.142	12.9	20.7	29 E	20*	13*
11 2	10 15.19	+37 6.6	1.606	1.716	34.6	18.9	79 W	73*	16*	1 26	21 59.66	- 6 51.4	2.967	2.107	11.0	20.6	24 E	17*	7*
11 12	10 32.93	+35 2.7	1.545	1.742	34.4	18.9	84 W	77*	20*	2 5	22 17.70	- 4 21.8	2.976	2.073	9.1	20.5	19 E	13*	3*
11 22	10 47.21	+33 5.2	1.479	1.772	33.9	18.8	90 W	78*	24*	2 15	22 36.13	- 1 44.5	2.975	2.038	7.3	20.3	15 E	9*	—
12 2	10 57.87	+31 16.8	1.411	1.804	32.9	18.7	96 W	76	28*	2 25	22 54.95	+ 1 0.2	2.963	2.003	5.7	20.2	12 E	5*	—
12 12	11 4.58	+29 39.2	1.341	1.839	31.4	18.6	103 W	75	32*	3 7	23 14.23	+ 3 51.7	2.942	1.969	4.7	20.1	9 E	1*	—
12 22	11 6.97	+28 12.0	1.271	1.876	29.1	18.5	112 W	73	35*	3 17	23 34.03	+ 6 49.6	2.912	1.935	4.5	20.1	9 W	2*	—
1 1	11 4.62	+26 53.6	1.207	1.915	25.9	18.3	122 W	72	37	3 27	23 54.42	+ 9 52.8	2.875	1.901	5.4	20.0	10 W	4*	—
1 11	10 57.20	+25 40.1	1.153	1.956	21.8	18.1	132 W	71	38	4 6	0 15.53	+13 0.3	2.832	1.869	6.8	20.0	13 W	6*	1*
1 21	10 44.93	+24 25.0	1.114	1.998	16.7	17.9	144 W	69	40	4 16	0 37.50	+16 10.7	2.784	1.837	8.4	20.0	16 W	8*	4*
12 27	21 7.45	+ 1 19.4	3.520	2.936	14.1	20.7	47 E	37*	18*	4 26	1 0.48	+19 22.1	2.732	1.806	10.2	20.0	18 W	10*	7*
1 6	21 21.29	+ 1 47.2	3.605	2.930	12.6	20.7	41 E	33*	12*	5 6	1 24.63	+22 32.2	2.678	1.777	11.9	20.0	21 W	12*	9*
1 16	21 35.48	+ 2 24.7	3.678	2.922	11.0	20.6	35 E	28*	6*	5 16	1 50.17	+25 38.3	2.622	1.749	13.7	20.0	24 W	15*	11*
1 26	21 49.92	+ 3 10.9	3.736	2.914	9.4	20.6	29 E	23*	1*	5 26	2 17.25	+28 36.8	2.566	1.723	15.4	20.0	27 W	17*	12*
2 5	22 4.55	+ 4 4.9	3.781	2.904	7.8	20.6	24 E	17*	—	5 31	2 31.42	+30 2.0	2.538	1.711	16.2	20.0	28 W	18*	12*
2 15	22 19.30	+ 5 6.0	3.810	2.894	6.4	20.5	19 E	11*	—	6 5	2 46.04	+31 23.7	2.510	1.699	17.0	20.0	29 W	19*	13*
2 25	22 34.12	+ 6 13.0	3.825	2.883	5.2	20.4	15 E	5*	—	6 10	3 1.12	+32 41.5	2.482	1.688	17.8	19.9	30 W	21*	13*
3 7	22 48.96	+ 7 25.2	3.824	2.870	4.7	20.4	14 W	7*	—	6 15	3 16.66	+33 54.7	2.455	1.677	18.5	19.9	32 W	22*	13*
3 17	23 3.79	+ 8 41.6	3.808	2.857	5.1	20.4	15 W	9*	—	6 20	3 32.66	+35 2.6	2.429	1.667	19.2	19.9	33 W	23*	13*
3 27	23 18.59	+10 1.3	3.777	2.843	6.1	20.4	18 W	11*	5*	6 25	3 49.09	+36 4.6	2.403	1.658	20.0	19.9	34 W	25*	13*
4 6	23 33.33	+11 23.3	3.732	2.827	7.6	20.5	22 W	13*	11*	7 5	4 5.94	+37 0.2	2.377	1.649	20.6	19.9	35 W	26*	13*
4 16	23 47.98	+12 47.0	3.672	2.811	9.2	20.5	27 W	15*	16*	7 30	4 23.18	+37 48.7	2.352	1.641	21.3	19.9	36 W	27*	12*
4 26	0 2.51	+14 11.3	3.598	2.794	10.9	20.5	32 W	17*	21*	7 10	4 40.76	+38 29.7	2.327	1.634	22.0	19.9	37 W	29*	12*
5 6	0 16.90	+15 35.5	3.512	2.776	12.7	20.5	37 W	19*	26*	7 15	4 58.61	+39 2.7	2.303	1.627	22.2	19.9	38 W	30*	12*
5 16	0 31.12	+16 58.7	3.414	2.757	14.4	20.5	43 W	22*	30*	7 20	5 16.67	+39 27.3	2.280	1.621	23.2	19.8	39 W	31*	12*
5 26	0 45.11	+18 20.0	3.304	2.737	16.0	20.5	48 W	26*	34*	7 25	5 34.84	+39 43.2	2.257	1.617	23.8	19.8	40 W	33*	11*
6 5	0 58.82	+19 38.6	3.184	2.716	17.6	20.4	54 W	30*	37*	7 30	5 53.05	+39 50.3	2.234	1.612	24.4	19.8	41 W	34*	11*
6 15	1 12.17	+20 53.6	3.055	2.695	19.0	20.3	60 W	35*	39*	8 4	6 11.22	+39 48.6	2.211	1.609	25.0	19.8	42 W	35*	11*
6 25	1 25.05	+22 4.1	2.918	2.672	20.3	20.3	66 W	41*	40*	8 9	6 29.23	+39 38.1	2.189	1.606	25.6	19.8	43 W	37*	11*
7 5	1 37.35	+23 9.2	2.774																

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

20/22	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°	20/21	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°
249772 2000 VF₆₂										425528 2010 OJ									
12 27	21 8.16	-23 37.8	3.257	2.550	13.6	20.9	38 E	15*	28*	12 27	21 8.45	-31 49.7	2.277	1.609	21.7	20.8	37 E	7*	31*
1 6	21 23.31	-21 36.2	3.305	2.518	11.7	20.8	31 E	13*	22*	1 1	21 24.31	-30 53.9	2.291	1.603	21.1	20.8	36 E	8*	29*
1 16	21 38.75	-19 30.1	3.340	2.486	9.7	20.7	25 E	11*	16*	1 6	21 40.05	-29 51.9	2.304	1.598	20.6	20.7	35 E	8*	28*
1 26	21 54.41	-17 19.5	3.360	2.453	7.6	20.6	19 E	8*	11*	1 11	21 55.66	-28 43.8	2.317	1.594	20.0	20.7	34 E	8*	27*
2 5	22 10.23	-15 4.0	3.366	2.419	5.5	20.5	14 E	4*	6*	1 16	22 11.12	-27 30.2	2.330	1.591	19.4	20.7	32 E	8*	26*
2 15	22 26.18	-12 43.6	3.359	2.384	3.3	20.3	8 E	—	—	1 21	22 26.39	-26 11.5	2.344	1.588	18.8	20.7	31 E	8*	25*
2 25	22 42.25	-10 18.3	3.337	2.349	1.1	20.1	3 E	—	—	1 26	22 41.45	-24 48.1	2.358	1.587	18.2	20.7	30 E	8*	23*
3 7	22 58.42	-7 48.1	3.302	2.312	1.6	20.1	4 W	—	—	1 31	22 56.31	-23 20.5	2.372	1.586	17.6	20.7	29 E	8*	22*
3 17	23 14.71	-5 12.8	3.254	2.276	3.8	20.2	9 W	—	3*	2 5	23 10.95	-21 49.3	2.386	1.587	17.1	20.7	28 E	8*	21*
3 27	23 31.14	-2 32.6	3.194	2.239	6.1	20.2	14 W	—	8*	2 10	23 25.38	-20 14.8	2.401	1.588	16.5	20.7	27 E	7*	20*
4 6	23 47.74	+0 12.4	3.123	2.201	8.5	20.3	19 W	2*	13*	2 15	23 39.61	-18 37.7	2.417	1.590	15.8	20.7	26 E	7*	19*
4 16	0 4.56	+3 2.5	3.043	2.163	10.8	20.3	24 W	5*	17*	2 20	23 53.62	-16 58.6	2.433	1.593	15.2	20.7	25 E	6*	19*
4 26	0 21.66	+5 57.5	2.953	2.124	13.1	20.3	29 W	8*	22*	2 25	0 7.43	-15 17.9	2.450	1.597	14.6	20.7	24 E	6*	18*
5 6	0 39.10	+8 57.3	2.856	2.086	15.3	20.2	33 W	11*	26*	3 2	0 21.05	-13 36.2	2.467	1.602	14.0	20.7	23 E	5*	17*
5 16	0 57.00	+12 2.2	2.752	2.047	17.6	20.2	38 W	14*	29*	3 7	0 34.50	-11 53.9	2.485	1.608	13.3	20.7	22 E	4*	16*
5 26	1 15.43	+15 11.8	2.644	2.008	19.7	20.1	42 W	18*	32*	3 12	0 47.77	-10 11.5	2.504	1.614	12.7	20.7	21 E	3*	15*
6 5	1 34.55	+18 26.0	2.532	1.970	21.8	20.0	46 W	23*	33*	3 17	1 0.90	-8 29.5	2.523	1.622	12.0	20.7	20 E	2*	14*
6 15	1 54.51	+21 44.7	2.417	1.932	23.8	20.0	50 W	28*	34*	3 22	1 13.87	-6 48.3	2.542	1.630	11.3	20.7	19 E	1*	13*
6 25	2 15.49	+25 6.9	2.302	1.894	25.8	19.9	54 W	34*	33*	3 27	1 26.71	-5 8.4	2.561	1.639	10.6	20.7	18 E	—	12*
7 5	2 37.72	+28 31.9	2.187	1.857	27.6	19.8	58 W	40*	32*	4 1	1 39.43	+3 30.0	2.581	1.649	10.0	20.7	17 E	—	11*
7 15	3 1.45	+31 58.2	2.075	1.822	29.3	19.7	61 W	46*	30*	4 6	1 52.03	+1 53.6	2.602	1.659	9.3	20.7	16 E	—	9*
7 20	3 13.97	+33 41.1	2.019	1.804	30.2	19.6	63 W	49*	28*	4 11	2 4.54	+0 19.3	2.622	1.670	8.6	20.7	14 E	—	8*
7 25	3 26.99	+35 23.4	1.965	1.787	30.9	19.6	65 W	52*	27*	4 16	2 16.95	+1 12.5	2.642	1.682	8.0	20.7	13 E	—	7*
7 30	3 40.54	+37 4.7	1.912	1.770	31.7	19.5	66 W	55*	26*	4 21	2 29.28	+2 41.5	2.661	1.694	7.4	20.7	12 E	—	6*
8 4	3 54.67	+38 44.6	1.860	1.753	32.4	19.4	68 W	58*	24*	4 26	2 41.52	+4 7.6	2.681	1.707	6.8	20.7	12 E	—	4*
8 9	4 9.43	+40 22.4	1.809	1.737	33.1	19.4	70 W	61*	23*	5 1	2 53.70	+5 30.5	2.700	1.720	6.3	20.7	11 E	—	3*
8 14	4 24.83	+41 57.5	1.760	1.722	33.8	19.3	71 W	63*	21*	5 6	3 5.80	+6 50.2	2.718	1.735	5.9	20.7	10 E	—	1*
8 19	4 40.92	+43 29.1	1.712	1.707	34.4	19.3	73 W	66*	20*	5 11	3 17.85	+8 6.6	2.736	1.749	5.7	20.8	10 E	—	—
8 24	4 57.72	+44 56.6	1.665	1.692	35.0	19.2	74 W	67*	18*	5 16	3 29.83	+9 19.4	2.752	1.764	5.5	20.8	10 W	—	—
8 29	5 15.25	+46 19.2	1.621	1.678	35.6	19.1	75 W	69*	17*	5 21	3 41.74	+10 28.7	2.768	1.779	5.6	20.8	10 W	—	—
9 3	5 33.51	+47 36.0	1.578	1.665	36.1	19.1	77 W	71*	15*	5 26	3 53.60	+11 34.3	2.782	1.795	5.8	20.9	10 W	—	2*
9 8	5 52.44	+48 46.1	1.536	1.652	36.6	19.0	78 W	72*	14*	5 31	4 5.39	+12 36.3	2.795	1.811	6.2	20.9	11 W	—	4*
9 13	6 12.00	+49 48.8	1.496	1.640	37.1	18.9	79 W	73*	13*	6 5	4 17.12	+13 34.7	2.807	1.828	6.7	21.0	12 W	—	5*
9 18	6 32.08	+50 43.4	1.458	1.628	37.5	18.9	81 W	74*	12*	6 10	4 28.78	+14 29.4	2.817	1.845	7.3	21.0	13 W	—	7*
9 23	6 52.59	+51 29.2	1.421	1.618	37.9	18.8	82 W	74*	11*	6 15	4 40.37	+15 20.6	2.826	1.862	8.0	21.1	15 W	—	9*
9 28	7 13.38	+52 6.0	1.385	1.608	38.2	18.8	83 W	75*	10*	6 20	4 51.88	+16 8.2	2.832	1.879	8.7	21.1	16 W	—	10*
10 3	7 34.26	+52 33.5	1.351	1.599	38.5	18.7	84 W	75*	9*	6 25	5 3.31	+16 52.2	2.837	1.896	9.5	21.2	18 W	—	12*
10 8	7 55.03	+52 51.9	1.318	1.591	38.8	18.7	86 W	76*	8*	6 30	5 14.65	+17 33.0	2.840	1.914	10.3	21.2	20 W	—	13*
10 13	8 15.49	+53 1.6	1.286	1.583	39.0	18.6	87 W	77*	8*	7 5	5 25.89	+18 10.4	2.841	1.932	11.2	21.3	22 W	—	15*
10 18	8 35.45	+53 2.9	1.255	1.577	39.2	18.5	88 W	77*	7*	7 10	5 37.04	+18 44.6	2.839	1.950	12.0	21.3	24 W	—	16*
10 23	8 54.74	+52 56.9	1.225	1.571	39.3	18.5	89 W	78*	7*	7 15	5 48.06	+19 15.8	2.835	1.968	12.9	21.4	26 W	—	17*
10 28	9 13.19	+52 44.4	1.195	1.566	39.4	18.4	91 W	79*	7*	7 20	5 58.97	+19 44.1	2.829	1.987	13.8	21.4	28 W	—	18*
11 2	9 30.67	+52 26.6	1.166	1.563	39.4	18.4	92 W	80*	7*	7 25	6 9.74	+20 9.6	2.821	2.005	14.6	21.5	30 W	—	19*
11 7	9 47.04	+52 4.8	1.137	1.560	39.3	18.3	94 W	82*	8*	495615 2015 PQ₂₀₁									
11 12	10 2.22	+51 40.0	1.109	1.558	39.2	18.2	96 W	83*	8*	12 27	21 8.63	-56 50.9	0.399	0.755	113.3	19.5	45 E	—	33*
11 17	10 16.13	+51 13.4	1.081	1.557	39.0	18.2	98 W	84*	9*	12 29	21 13.76	-59 22.1	0.409	0.758	111.3	19.4	46 E	—	33*
11 22	10 28.71	+50 46.0	1.053	1.558	38.7	18.1	99 W	84*	10*	12 31	21 18.37	-61 40.0	0.421	0.761	109.3	19.4	47 E	—	32*
11 27	10 39.91	+50 19.0	1.024	1.559	38.3	18.1	102 W	85	10*	1 2	21 22.41	-63 45.1	0.432	0.764	107.2	19.3	48 E	—	31*
12 2	10 49.64	+49 53.0	0.996	1.561	37.8	18.0	104 W	85	11*	1 4	21 25.82	-65 38.0	0.444	0.768	105.2	19.3	49 E	—	31*
12 7	10 57.84	+49 28.9	0.968	1.564	37.2	17.9	106 W	86	12*	1 6	21 28.56	-67 19.5	0.457	0.773	103.3	19.2	50 E	—	30*
12 12	11 4.41	+49 7.0	0.941	1.568	36.4	17.8	109 W	86	13*	1 8	21 30.60	-68 50.3	0.469	0.777	101.3	19.2	51 E	—	29*
12 17	11 9.27	+48 47.3	0.914	1.573	35.5	17.7	112 W	86	14*	1 10	21 31.91	-70 11.1	0.481	0.782	99.5	19.2	52 E	—	29*
12 22	11 12.33	+48 29.7	0.887	1.579	34.3	17.7	115 W	87	15*	1 12	21 32.48	-71 22.9	0.493	0.788	97.7	19.2	53 E	—	28*
12 27	11 13.47	+48 13.6	0.861	1.586	33.0	17.6	118 W	87	16*	1 14	21 32.29	-72 26.2	0.504	0.794	95.9	19.1	53 E	—	27*
1 1	11 12.57	+47 58.1	0.836	1.594	31.5	17.5	122 W	87	16	1 16	21 31.35	-73 21.7	0.516	0.800	94.3	19.1	54 E	—	27*
1 6	11 9.54	+47 41.5	0.813	1.602	29.8	17.4	126 W	87	16	1 18	21 29.70	-74 10.0	0.527	0.806	92.7	19.1	55 E	—	26*
1 11	11 4.35	+47 21.4	0.792	1.612	27.8	17.3	130 W	88	17	1 20	21 27.36	-74 51.7	0.537	0.813	91.3	19.1	56 E	—	26*
1 16	10 57.07	+46 54.9																	

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

2021	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°	20/22	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°
495615 2015 PQ₂₉₁										495615 2015 PQ₂₉₁									
<i>(continuation)</i>										<i>(continuation)</i>									
3 9	20 5.74	-74 20.6	0.564	1.008	72.2	19.0	75 W	—	35*	10 25	17 17.03	+20 33.7	0.531	0.852	88.9	19.1	59 E	51*	21*
3 11	20 3.68	-74 2.5	0.556	1.015	71.7	19.0	76 W	—	36*	10 27	17 21.23	+19 36.8	0.512	0.844	90.9	19.1	58 E	50*	20*
3 13	20 1.55	-73 43.9	0.547	1.023	71.3	18.9	77 W	—	37*	10 29	17 25.41	+18 32.9	0.494	0.836	93.1	19.1	57 E	50*	20*
3 15	19 59.30	-73 25.1	0.538	1.031	70.9	18.9	78 W	—	37*	10 31	17 29.56	+17 21.1	0.475	0.829	95.4	19.1	56 E	48*	20*
3 17	19 56.89	-73 5.9	0.528	1.039	70.4	18.9	80 W	—	38*	11 2	17 33.68	+16 0.2	0.456	0.821	97.9	19.1	55 E	47*	20*
3 19	19 54.29	-72 46.4	0.518	1.046	69.9	18.8	81 W	—	39*	11 4	17 37.75	+14 28.9	0.437	0.814	100.5	19.1	54 E	46*	20*
3 21	19 51.45	-72 26.4	0.507	1.054	69.5	18.8	82 W	—	40*	11 6	17 41.76	+12 45.5	0.418	0.808	103.4	19.1	52 E	44*	19*
3 23	19 48.34	-72 5.8	0.495	1.061	69.0	18.7	83 W	—	41*	11 8	17 45.68	+10 48.5	0.399	0.801	106.4	19.2	51 E	43*	19*
3 25	19 44.93	-71 44.6	0.483	1.068	68.4	18.7	85 W	—	42*	11 10	17 49.50	+ 8 36.0	0.381	0.795	109.7	19.3	49 E	41*	19*
3 27	19 41.16	-71 22.6	0.471	1.075	67.8	18.6	86 W	—	42*	11 12	17 53.18	+ 6 5.9	0.363	0.789	113.2	19.4	47 E	38*	19*
3 29	19 36.99	-70 59.7	0.458	1.082	67.2	18.5	88 W	—	43*	11 14	17 56.70	+ 3 16.3	0.346	0.784	117.0	19.5	45 E	36*	20*
3 31	19 32.39	-70 35.5	0.445	1.088	66.6	18.5	89 W	—	44*	11 16	18 0.02	+ 0 5.1	0.330	0.778	120.9	19.7	42 E	32*	20*
4 2	19 27.30	-70 9.9	0.431	1.095	65.9	18.4	91 W	—	45*	11 18	18 3.11	+ 3 29.0	0.315	0.773	125.0	19.9	40 E	29*	20*
4 4	19 21.67	-69 42.4	0.417	1.101	65.1	18.3	93 W	—	46*	11 20	18 5.93	+ 7 26.9	0.302	0.769	129.2	20.2	37 E	25*	20*
4 6	19 15.44	-69 12.7	0.403	1.108	64.2	18.2	95 W	—	47*	11 22	18 8.43	+11 48.2	0.291	0.765	133.3	20.5	34 E	21*	20*
4 8	19 8.55	-68 40.2	0.388	1.114	63.3	18.1	96 W	—	47*	11 24	18 10.57	+16 30.9	0.282	0.761	137.2	20.9	32 E	16*	21*
4 10	19 0.97	-68 4.0	0.374	1.120	62.2	18.0	98 W	—	48	11 26	18 12.28	+21 31.0	0.276	0.758	140.5	21.2	29 E	12*	21*
4 12	18 52.63	-67 23.4	0.359	1.125	61.1	17.9	101 W	—	49	249685 1999 YD₄									
4 14	18 43.53	-66 37.2	0.344	1.131	59.8	17.8	103 W	—	49	12 27	21 8.91	+27 1.4	2.722	2.031	17.1	20.2	37 E	12*	30*
4 16	18 33.64	-65 44.1	0.329	1.137	58.3	17.7	106 W	—	50	1	6 21 29.62	-24 18.6	2.755	1.997	15.4	20.1	33 E	12*	24*
4 18	18 22.98	-64 42.4	0.314	1.142	56.6	17.5	108 W	—	51	1	16 21 50.31	-21 27.5	2.780	1.964	13.5	20.1	28 E	11*	19*
4 20	18 11.57	-63 30.4	0.299	1.147	54.8	17.4	111 W	—	52	1	26 22 10.97	-18 28.3	2.798	1.931	11.5	20.0	23 E	9*	15*
4 22	17 59.50	-62 5.7	0.284	1.152	52.7	17.2	114 W	—	54	2	5 22 31.57	-15 21.5	2.808	1.900	9.5	19.9	19 E	7*	10*
4 24	17 46.85	-60 25.9	0.270	1.157	50.3	17.0	118 W	—	56	2	15 22 52.17	-12 7.6	2.811	1.869	7.5	19.7	14 E	4*	6*
4 26	17 33.74	-58 28.1	0.256	1.161	47.5	16.9	122 W	—	58	2	25 23 12.81	- 8 47.4	2.806	1.840	5.4	19.6	10 E	1*	3*
4 28	17 20.33	-56 9.5	0.243	1.166	44.5	16.7	126 W	—	60	3	7 23 33.54	- 5 21.6	2.796	1.812	3.2	19.4	6 E	—	—
4 30	17 6.77	-53 26.9	0.230	1.170	41.0	16.5	130 W	—	63	3	17 23 54.45	+ 1 51.2	2.780	1.786	1.1	19.2	2 E	—	—
5 2	16 53.23	-50 17.5	0.219	1.174	37.0	16.2	135 W	—	66	3	27 0 15.63	+ 1 42.9	2.758	1.761	1.1	19.2	2 W	—	—
5 4	16 39.88	-46 39.1	0.209	1.178	32.6	16.0	141 W	—	69	4	6 0 37.20	+ 5 19.3	2.732	1.739	3.2	19.3	6 W	—	—
5 6	16 26.89	-42 30.8	0.200	1.181	27.7	15.8	147 W	2	73	4	16 0 59.28	+ 8 56.8	2.703	1.720	5.3	19.4	9 W	—	3*
5 8	16 14.39	-37 53.5	0.193	1.185	22.4	15.6	153 W	7	78	4	26 1 22.00	+12 33.6	2.670	1.702	7.4	19.4	13 W	2*	6*
5 10	16 2.52	-32 50.7	0.188	1.188	16.7	15.3	160 W	12	83	5	6 1 45.50	+16 7.9	2.635	1.688	9.4	19.5	16 W	4*	8*
5 12	15 51.35	-27 28.6	0.185	1.191	10.6	15.1	167 W	18	89	5	16 2 9.96	+19 37.4	2.599	1.676	11.4	19.5	19 W	7*	10*
5 14	15 40.96	-21 56.0	0.184	1.194	4.6	14.8	175 W	23	86	5	26 2 35.50	+22 59.5	2.561	1.667	13.3	19.5	22 W	10*	12*
5 16	15 31.37	-16 22.9	0.186	1.197	2.2	14.7	177 W	29	80	6	5 3 2.27	+26 11.5	2.523	1.662	15.0	19.5	25 W	13*	13*
5 17	15 26.88	-13 39.3	0.188	1.198	5.0	14.9	174 E	31	78	6	15 3 30.36	+29 10.1	2.485	1.659	16.7	19.6	28 W	17*	14*
5 18	15 22.60	-10 59.1	0.190	1.200	7.9	15.0	171 E	34	75	6	25 3 59.81	+31 52.1	2.448	1.660	18.3	19.6	31 W	20*	14*
5 19	15 18.51	- 8 23.5	0.193	1.201	10.7	15.2	167 E	37	72	6	30 4 15.04	+33 5.7	2.429	1.662	19.1	19.6	32 W	22*	14*
5 20	15 14.63	- 5 53.0	0.196	1.202	13.5	15.3	164 E	39	70	7	5 4 30.60	+34 14.0	2.411	1.664	19.8	19.6	34 W	24*	14*
5 21	15 10.94	- 3 28.5	0.200	1.203	16.1	15.5	161 E	42	67	7	10 4 46.45	+35 16.6	2.393	1.667	20.5	19.6	35 W	26*	14*
5 22	15 7.44	- 1 10.3	0.205	1.204	18.7	15.6	158 E	44	65	7	15 5 2.57	+36 13.1	2.375	1.671	21.2	19.6	37 W	28*	13*
5 23	15 4.12	+ 1 1.2	0.210	1.205	21.1	15.7	155	46	63	7	20 5 18.91	+37 3.3	2.357	1.676	21.9	19.6	38 W	30*	13*
5 24	15 0.98	+ 3 5.9	0.215	1.206	23.4	15.9	152 E	48	61	7	25 5 35.44	+37 46.9	2.339	1.681	22.5	19.7	39 W	32*	13*
5 25	14 58.02	+ 5 3.7	0.220	1.207	25.6	16.0	149 E	50	59	7	30 5 52.10	+38 23.7	2.321	1.688	23.1	19.7	41 W	33*	12*
5 26	14 55.22	+ 6 54.7	0.226	1.208	27.6	16.1	146 E	52	57	8	4 6 8.85	+38 53.8	2.303	1.695	23.7	19.7	42 W	35*	12*
5 28	14 50.11	+10 17.0	0.239	1.210	31.4	16.3	142 E	55	54	8	9 6 25.60	+39 17.2	2.285	1.702	24.3	19.7	44 W	37*	12*
5 30	14 45.59	+13 14.5	0.253	1.211	34.8	16.6	137 E	58	51	8	14 6 42.30	+39 34.0	2.267	1.710	24.8	19.7	45 W	39*	11*
6 1	14 41.62	+15 49.5	0.267	1.212	37.7	16.8	133 E	61	48	8	19 6 58.87	+39 44.3	2.248	1.719	25.3	19.7	47 W	40*	11*
6 3	14 38.17	+18 4.6	0.283	1.213	40.3	17.0	129 E	63	46	8	24 7 15.27	+39 48.5	2.230	1.729	25.8	19.7	48 W	42*	11*
6 5	14 35.18	+20 1.9	0.299	1.214	42.6	17.1	126 E	65	44	8	29 7 31.42	+39 46.8	2.211	1.739	26.3	19.7	50 W	44*	11*
6 7	14 32.63	+21 43.9	0.315	1.215	44.6	17.3	123 E	67	42	9	3 7 47.28	+39 39.7	2.191	1.750	26.8	19.7	51 W	45*	11*
6 9	14 30.48	+23 12.4	0.331	1.215	46.3	17.5	120 E	68	41	9	13 8 17.91	+39 11.4	2.150	1.773	27.6	19.7	55 W	49*	11*
6 11	14 28.71	+24 29.3	0.348	1.216	47.9	17.6	117 E	69	40	9	23 8 46.82	+38 27.7	2.106	1.798	28.4	19.7	59 W	52*	11*
6 13	14 27.27	+25 36.1	0.365	1.216	49.2	17.8	115 E	71	38	10	3 9 13.81	+37 33.2	2.058	1.825	29.1	19.7	62 W	56*	12*
6 15	14 26.15	+26 34.1	0.382	1.216	50.4	17.9	113 E	72	37	10	13 9 38.71	+36 32.8	2.006	1.854	29.6	19.7	67 W	61*	13*
6 17	14 25.32	+27 24.5	0.400	1.215	51.5	18.0	111 E	72	37	10	23 10 1.41	+35 31.0	1.950	1.884	30.0	19.7	71 W	65*	15*
6 19	14 24.75	+28 8.2	0.417	1.215	52.4	18.2	109 E	73	36	11	2 10 21.86	+34 32.1	1.888	1.915	30.2	19.7	76 W	70*	17*
6 21	14 24.43	+28 46.2	0.434	1.214	53.3	18.3	107 E	74	35	11	12 10 39.92	+33 40.2	1.822	1.947	30.2	19.7	82 W	75*	20*
6 23	14 24.34	+29 19.1	0.451	1.214	54.0	18.4	105 E	74*	35	11	22 10 55.43	+32 58.8	1.753	1.980	29.9	19.6	88 W	77*	23*
6 25	14 24.45	+29 47.6	0.468	1.212	54.7	18.5	103 E	74*	34	12	2 11 8.17	+32 30.9	1.681	2.014	29.2	19.5	94 W	78	26*
6 30	14 25.53	+30 42.7	0.509	1.209	56.0	18.7	99 E	74*	33	12	12 11 17.81	+32 19.2	1.607	2.048	28.1	19.4	102 W	77	29*
7 5	14 27.61	+31 19.5	0.548	1.205	57.1	18.9	96 E	73*	33	12	22 11 23.95	+32 24.4	1						

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

20/22	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°	20/22	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°
88424 2001 QC₆₁										152742 1998 XE₁₂									
<i>(continuation)</i>										<i>(continuation)</i>									
3 27	1 7.92	-7 29.8	2.530	1.587	9.4	18.8	15 E	—	8*	1 11	22 58.12	+3 59.9	0.916	0.911	65.1	21.0	57 E	44*	28*
4 6	1 35.39	-4 48.5	2.525	1.575	9.0	18.8	14 E	—	7*	1 16	23 27.64	+6 39.6	0.967	0.974	60.9	21.1	60 E	47*	28*
4 16	2 3.06	-2 8.3	2.522	1.566	8.8	18.8	14 E	—	5*	1 21	23 54.21	+8 56.3	1.026	1.032	57.1	21.3	62 E	49*	29*
4 26	2 30.90	+0 27.8	2.521	1.561	8.7	18.8	14 E	—	4*	1 26	0 18.18	+10 52.7	1.091	1.086	53.8	21.4	63 E	51*	29*
5 6	2 58.92	+2 57.0	2.521	1.559	8.8	18.8	14 E	—	1*	469696 2005 CO₆₂									
5 16	3 27.08	+5 16.7	2.524	1.561	8.9	18.8	14 W	—	1*	12 27	21 10.67	-11 36.9	2.490	1.869	20.4	20.5	41 E	26*	25*
5 26	3 55.32	+7 24.4	2.528	1.566	9.1	18.8	14 W	—	3*	1 6	21 30.18	-8 43.5	2.523	1.834	18.8	20.4	37 E	26*	19*
6 5	4 23.60	+9 18.3	2.533	1.574	9.5	18.8	15 W	—	6*	1 16	21 50.21	-5 41.1	2.548	1.800	17.2	20.3	33 E	24*	13*
6 15	4 51.82	+10 56.8	2.539	1.586	10.0	18.9	16 W	—	8*	1 26	22 10.77	-2 29.6	2.566	1.769	15.6	20.2	29 E	22*	8*
6 25	5 19.88	+12 19.1	2.544	1.601	10.8	18.9	17 W	—	11*	2 5	22 31.86	+0 50.4	2.577	1.740	14.1	20.2	26 E	19*	3*
7 5	5 47.67	+13 24.9	2.548	1.619	11.7	19.0	19 W	—	13*	2 15	22 53.56	+4 18.2	2.583	1.714	12.8	20.1	23 E	17*	—
7 15	6 15.09	+14 14.3	2.549	1.639	12.7	19.1	21 W	1*	15*	2 25	23 15.96	+7 52.6	2.585	1.691	11.7	20.0	20 E	14*	—
7 25	6 42.02	+14 48.0	2.547	1.662	13.9	19.1	23 W	5*	16*	3 7	23 39.15	+11 31.5	2.584	1.672	10.8	20.0	18 E	11*	—
8 4	7 8.37	+15 7.1	2.541	1.687	15.2	19.2	26 W	10*	18*	3 17	0 3.29	+15 12.9	2.580	1.656	10.2	19.9	17 E	9*	—
8 14	7 34.05	+15 13.3	2.529	1.715	16.6	19.3	29 W	15*	19*	3 27	0 28.52	+18 53.8	2.576	1.644	9.9	19.9	16 E	7*	—
8 24	7 58.97	+15 8.2	2.511	1.744	18.1	19.3	32 W	20*	20*	4 6	0 55.01	+22 30.5	2.573	1.636	9.8	19.9	16 W	6*	—
9 3	8 23.10	+14 53.8	2.486	1.774	19.6	19.4	36 W	24*	21*	4 16	1 22.91	+25 59.1	2.571	1.632	9.9	19.9	16 W	8*	—
9 13	8 46.39	+14 32.5	2.454	1.806	21.1	19.5	40 W	29*	23*	4 26	1 52.35	+29 14.9	2.572	1.633	10.1	19.9	17 W	9*	—
9 23	9 8.78	+14 6.5	2.414	1.838	22.5	19.5	45 W	34*	24*	5 6	2 23.38	+32 12.9	2.575	1.637	10.4	19.9	17 W	10*	—
10 3	9 30.25	+13 38.3	2.366	1.872	23.9	19.6	49 W	39*	26*	5 11	2 39.49	+33 33.9	2.577	1.641	10.5	19.9	17 W	11*	—
10 13	9 50.77	+13 10.4	2.309	1.906	25.1	19.6	54 W	43*	27*	5 16	2 55.97	+34 48.6	2.581	1.645	10.7	19.9	18 W	11*	—
10 23	10 10.26	+12 45.9	2.245	1.941	26.2	19.6	60 W	49*	30*	5 21	3 12.80	+35 56.6	2.585	1.651	10.8	19.9	18 W	12*	—
11 2	10 28.68	+12 27.3	2.174	1.976	27.1	19.6	65 W	52*	32*	5 26	3 29.93	+36 57.3	2.590	1.658	11.0	20.0	18 W	12*	—
11 12	10 45.93	+12 18.1	2.096	2.011	27.8	19.6	71 W	55*	35*	5 31	3 47.31	+37 50.4	2.595	1.666	11.2	20.0	19 W	12*	—
11 22	11 1.86	+12 21.3	2.012	2.046	28.2	19.5	78 W	57*	38*	6 5	4 4.91	+38 35.5	2.601	1.674	11.3	20.0	19 W	13*	—
12 2	11 16.32	+12 40.6	1.924	2.080	28.2	19.5	85 W	58	42*	6 10	4 22.64	+39 12.4	2.608	1.684	11.5	20.0	19 W	13*	—
12 12	11 29.06	+13 19.5	1.834	2.115	27.7	19.4	92 W	58	45*	6 15	4 40.42	+39 41.0	2.614	1.694	11.7	20.0	20 W	14*	—
12 22	11 39.80	+14 21.4	1.744	2.149	26.8	19.3	100 W	59	47*	6 20	4 58.19	+40 1.3	2.621	1.705	12.0	20.1	20 W	14*	—
1 1	11 48.20	+15 49.2	1.658	2.183	25.2	19.2	109 W	61	48*	6 25	5 15.86	+40 13.4	2.628	1.717	12.2	20.1	21 W	15*	—
1 11	11 53.85	+17 44.3	1.579	2.217	23.1	19.0	118 W	63	46	6 30	5 33.36	+40 17.4	2.635	1.730	12.5	20.1	22 W	16*	—
1 21	11 56.40	+20 5.5	1.512	2.249	20.3	18.9	127 W	65	44	7 5	5 50.61	+40 13.7	2.642	1.744	12.8	20.2	22 W	16*	—
306478 1999 SP₃										188452 2004 HE₆₂									
12 27	21 9.56	+0 30.5	2.257	1.739	24.4	18.9	47 E	37*	10*	7 25	6 55.93	+38 50.2	2.662	1.804	14.2	20.3	26 W	20*	—
1 6	21 31.88	+2 54.2	2.281	1.707	23.3	18.9	43 E	36*	14*	8 4	7 25.80	+37 34.4	2.667	1.838	15.2	20.4	28 W	22*	1*
1 16	21 55.25	+5 29.1	2.301	1.677	22.3	18.8	40 E	34*	9*	8 14	7 53.59	+36 1.7	2.666	1.874	16.2	20.5	31 W	25*	3*
1 26	22 19.64	+8 13.8	2.316	1.650	21.4	18.8	38 E	32*	5*	8 24	8 19.28	+34 16.2	2.658	1.911	17.4	20.5	34 W	28*	5*
2 5	22 45.08	+11 6.1	2.330	1.627	20.4	18.7	35 E	29*	2*	9 3	8 42.92	+32 21.6	2.642	1.950	18.6	20.6	38 W	32*	7*
2 15	23 11.63	+14 3.4	2.344	1.609	19.6	18.7	33 E	27*	—	9 13	9 4.60	+30 21.1	2.618	1.990	19.8	20.7	42 W	36*	10*
2 25	23 39.33	+17 2.3	2.358	1.594	18.7	18.6	31 E	24*	—	9 23	9 24.40	+28 17.5	2.584	2.031	21.1	20.7	47 W	40*	12*
3 7	0 8.21	+19 58.4	2.375	1.584	17.8	18.6	29 E	22*	—	10 3	9 42.40	+26 13.1	2.540	2.072	22.2	20.8	52 W	45*	15*
3 17	0 38.30	+22 47.3	2.395	1.579	16.8	18.6	27 E	20*	—	10 13	9 58.64	+24 9.8	2.487	2.115	23.3	20.8	57 W	50*	19*
3 27	1 9.57	+25 24.1	2.419	1.579	15.8	18.6	26 E	18*	—	10 23	10 13.11	+22 9.3	2.423	2.157	24.2	20.8	63 W	55*	23*
4 6	1 41.93	+27 43.9	2.448	1.583	14.7	18.6	24 E	16*	—	11 2	10 25.78	+20 13.1	2.350	2.200	24.9	20.8	69 W	59*	27*
4 16	2 15.19	+29 42.6	2.481	1.592	13.5	18.6	22 E	15*	—	11 12	10 36.54	+18 22.6	2.269	2.243	25.3	20.8	76 W	61*	32*
4 26	2 49.08	+31 16.6	2.517	1.606	12.2	18.6	20 E	13*	—	11 22	10 45.22	+16 38.9	2.182	2.286	25.4	20.8	83 W	62*	38*
5 6	3 23.24	+32 23.5	2.557	1.624	10.7	18.6	17 E	11*	—	12 2	10 51.61	+15 3.2	2.089	2.329	25.0	20.7	91 W	60	43*
5 16	3 57.28	+33 2.2	2.600	1.646	9.3	18.6	15 E	9*	—	12 12	10 55.42	+13 36.4	1.995	2.372	24.1	20.6	100 W	59	48*
5 26	4 30.76	+33 13.1	2.644	1.672	7.8	18.6	13 E	6*	—	12 22	10 56.37	+12 19.5	1.903	2.414	22.6	20.5	109 W	57	51*
6 5	5 3.29	+32 57.3	2.687	1.701	6.4	18.6	11 E	4*	—	1 1	10 54.19	+11 12.9	1.817	2.456	20.4	20.4	120 W	56	53*
6 15	5 34.59	+32 17.2	2.729	1.733	5.3	18.6	9 E	2*	—	1 11	10 48.69	+10 17.1	1.743	2.498	17.4	20.2	131 W	55	54
6 25	6 4.40	+31 15.6	2.769	1.768	4.7	18.7	8 W	2*	—	1 21	10 40.00	+9 31.4	1.686	2.539	13.6	20.0	143 W	55	54
7 5	6 32.61	+29 55.3	2.804	1.806	5.0	18.7	9 W	3*	—	306869 2001 SH₂₈₈									
7 15	6 59.17	+28 19.4	2.834	1.846	6.0	18.9	11 W	5*	—	12 27	21 11.12	-0 21.9	1.608	1.176	37.5	20.3	47 E	36*	20*
7 25	7 24.07	+26 30.6	2.857	1.887	7.4	19.0	14 W	7*	2*	1 1	21 29.37	+2 0.6	1.630	1.200	36.9	20.4	47 E	38*	18*
8 4	7 47.38	+24 31.2	2.873	1.930	9.1	19.1	18 W	10*	5*	1 6	21 47.43	+4 21.2	1.656	1.227	36.2	20.4	47 E	39*	17*
8 14	8 9.17	+22 23.4	2.880	1.974	10.9	19.3	22 W	14*	8*	1 11	22 5.30	+6 38.9	1.686	1.255	35.4	20.5	48 E	40*	15*
8 24	8 29.49	+20 9.0	2.878	2.019	12.7	19.4	26 W	18*	11*	1 16	22 23.00	+8 52.8	1.719	1.285	34.6	20.5	48 E	41*	14*
9 3	8 48.43	+17 49.5	2.866	2.064	14.5	19.5	31 W	22*	15*	1 21	22 40.53	+11 2.3	1.756	1.316	33.7	20.6	48 E	41*	12*
9 13	9 6.04	+15 26.1	2.843	2.110	16.2	19.6	36 W	26*	18*	1 26	22 57.87	+13 6.7	1.796	1.349	32.7	20.7	48 E	41*	11*
9 23	9 22.35	+12 59.9	2.810	2.157	17.8	19.6	41 W	31*	22*	1 31	23 15.02	+15 5.3	1.839	1.382	31.8	20.8	48 E	41*	10*
10 3	9 37.38	+10 31.7	2.767	2.204	19.3	19.7	47 W	35*	26*	2 5	23 32.00	+16 58.0	1.886	1.417	30.8	20.9	47 E	41*	9*
10 13	9 51.10	+8 2.3	2.713	2.250	20.6	19.7	53 W	39*	31*	2 10	23 48.78	+18 44.4	1.936	1.453	29.7	20.9	47 E	41*	8*
10 23	10 3.45	+5 32.6	2.650	2.297	21.7	19.8	59 W	42*	35*	2 15	0 5.39	+20 24.5	1.988	1.489	28.7	21.0	46 E	40*	7*
11 2	10 14.35	+3 3																	

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

20/21	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°	20/22	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°
344076 1998 HJ₃										1065 Amundsenia (continuation)									
12 27	21 11.35	-14 42.8	0.990	0.682	69.3	20.4	40 E	23*	26*	6 25	4 13.76	+27 14.6	3.003	2.153	12.6	16.9	28 W	15*	15*
1 1	21 49.98	-12 13.2	0.968	0.747	68.6	20.5	45 E	27*	29*	7 5	4 35.23	+28 11.6	2.981	2.188	14.3	17.0	32 W	19*	17*
1 6	22 27.37	-9 28.2	0.962	0.815	66.6	20.6	49 E	31*	32*	7 15	4 56.21	+28 57.6	2.950	2.223	15.9	17.0	37 W	24*	20*
1 11	23 2.92	-6 35.9	0.974	0.883	63.7	20.7	54 E	35*	34*	7 25	5 16.58	+29 33.4	2.909	2.257	17.5	17.1	42 W	30*	21*
1 16	23 36.20	-3 44.6	1.001	0.951	60.5	20.9	57 E	38*	36*	8 4	5 36.22	+29 59.9	2.858	2.292	18.9	17.1	47 W	36*	23*
1 21	0 6.97	-1 1.1	1.041	1.019	57.0	21.0	60 E	41*	37*	8 14	5 54.98	+30 18.5	2.798	2.326	20.2	17.2	53 W	42*	25*
1 26	0 35.18	+1 30.2	1.094	1.086	53.7	21.1	63 E	43*	38*	8 24	6 12.69	+30 30.4	2.728	2.359	21.4	17.2	58 W	48*	26*
1 31	1 0.95	+3 47.2	1.156	1.151	50.5	21.3	64 E	46*	38*	9 3	6 29.18	+30 37.2	2.650	2.392	22.3	17.2	64 W	54*	27*
2 5	1 24.47	+5 49.5	1.226	1.216	47.6	21.5	66 E	47*	38*	9 13	6 44.27	+30 40.8	2.563	2.425	23.1	17.2	71 W	61*	29*
163412 2002 RV₂₅										379156 2009 QN₈									
12 27	21 12.60	-35 23.2	2.265	1.615	22.3	21.2	38 E	5*	32*	10 3	7 9.32	+30 45.4	2.371	2.488	23.6	17.1	85 W	72*	31*
1 6	21 38.05	-31 27.4	2.259	1.552	21.0	21.1	34 E	6*	28*	10 13	7 18.74	+30 50.3	2.269	2.519	23.3	17.0	93 W	76*	32*
1 16	22 3.02	-27 13.3	2.248	1.489	19.7	20.9	31 E	7*	24*	10 23	7 25.68	+30 59.2	2.166	2.549	22.5	16.9	101 W	76	33*
1 26	22 27.62	-22 41.0	2.232	1.426	18.2	20.8	27 E	8*	20*	11 2	7 29.80	+31 13.4	2.066	2.578	21.2	16.8	110 W	76	33
2 5	22 51.97	-17 51.1	2.212	1.365	16.7	20.6	23 E	8*	16*	11 12	7 30.72	+31 33.1	1.972	2.607	19.3	16.6	120 W	77	32
2 15	23 16.28	-12 43.9	2.188	1.305	15.1	20.4	20 E	8*	12*	11 22	7 28.22	+31 57.3	1.889	2.634	16.7	16.5	130 W	77	32
2 25	23 40.80	-7 20.6	2.160	1.248	13.4	20.2	17 E	7*	8*	12 2	7 22.21	+32 23.0	1.822	2.662	13.5	16.3	141 W	77	32
3 7	0 5.84	-1 42.6	2.130	1.195	12.0	20.1	14 E	6*	5*	12 7	7 17.96	+32 35.0	1.796	2.675	11.7	16.2	147 W	78	31
3 17	0 31.83	+3 47.2	2.099	1.148	10.9	19.9	13 E	6*	2*	12 12	7 12.98	+32 45.6	1.776	2.688	9.7	16.1	152 W	78	31
3 27	0 59.26	+10 7.8	2.066	1.109	10.6	19.8	12 E	6*	—	12 17	7 7.39	+32 54.0	1.762	2.701	7.8	16.0	158 W	78	31
4 1	1 13.71	+13 9.5	2.050	1.092	10.8	19.7	12 E	6*	—	12 22	7 1.33	+32 59.8	1.756	2.713	5.9	16.0	164 W	78	31
4 6	1 28.79	+16 11.2	2.035	1.078	11.3	19.7	12 E	6*	—	12 27	6 54.96	+33 2.2	1.756	2.726	4.3	15.9	168 W	78	31
4 11	1 44.60	+19 11.9	2.020	1.066	12.0	19.7	13 E	6*	—	1 1	6 48.46	+33 1.1	1.764	2.738	3.6	15.9	170 W	78	31
4 16	2 1.24	+22 10.2	2.006	1.057	12.9	19.7	14 E	7*	—	1 6	6 42.04	+32 56.3	1.780	2.750	4.2	15.9	168 E	78	31
4 21	2 18.84	+25 4.5	1.994	1.051	13.8	19.7	14 E	8*	—	1 11	6 35.89	+32 48.0	1.803	2.762	5.6	16.0	164 E	78	31
4 26	2 37.50	+27 52.9	1.983	1.048	14.9	19.7	16 E	9*	—	1 16	6 30.17	+32 36.5	1.833	2.773	7.4	16.2	159 E	78	31
5 1	2 57.35	+30 33.2	1.974	1.048	15.9	19.7	17 E	9*	—	1 21	6 25.02	+32 22.3	1.870	2.784	9.1	16.3	153 E	77	32
5 6	3 18.46	+33 3.2	1.967	1.051	16.9	19.8	18 E	11*	—	12 27	21 13.45	-12 34.9	2.222	1.624	23.7	20.9	42 E	26*	26*
5 11	3 40.89	+35 20.2	1.963	1.057	17.9	19.8	19 E	12*	—	1 6	21 42.21	-11 4.6	2.295	1.645	21.9	20.9	39 E	25*	22*
5 16	4 4.64	+37 21.6	1.962	1.066	18.7	19.9	20 E	13*	—	1 16	22 10.24	-9 22.0	2.369	1.668	20.0	21.0	35 E	24*	19*
5 21	4 29.61	+39 4.9	1.964	1.078	19.4	19.9	21 E	14*	—	1 26	22 37.51	-7 30.2	2.445	1.695	18.0	21.0	32 E	22*	16*
5 26	4 55.63	+40 27.6	1.969	1.092	20.0	20.0	22 E	15*	—	2 5	23 4.00	-5 32.0	2.521	1.724	16.0	21.1	29 E	20*	13*
5 31	5 22.44	+41 28.1	1.978	1.109	20.4	20.0	22 E	16*	—	2 15	23 29.76	-3 30.2	2.596	1.756	14.0	21.1	25 E	17*	11*
6 5	5 49.69	+42 5.2	1.990	1.128	20.6	20.1	23 E	17*	—	2 25	23 54.83	-1 27.4	2.669	1.790	11.9	21.1	22 E	14*	9*
6 10	6 16.99	+42 18.7	2.006	1.149	20.7	20.1	24 E	17*	—	3 7	0 19.25	+0 34.2	2.740	1.825	9.9	21.1	18 E	10*	7*
6 15	6 43.93	+42 9.4	2.026	1.172	20.6	20.2	24 E	18*	—	3 17	0 43.11	+2 32.7	2.807	1.862	7.8	21.1	15 E	7*	5*
6 20	7 10.12	+41 38.8	2.049	1.196	20.4	20.3	24 E	18*	—	3 27	1 6.45	+4 26.3	2.870	1.900	5.8	21.1	11 E	3*	3*
6 25	7 35.28	+40 48.9	2.075	1.222	20.0	20.3	24 E	18*	—	4 6	1 29.31	+6 13.5	2.927	1.939	3.8	21.1	7 E	—	1*
6 30	7 59.21	+39 42.5	2.105	1.249	19.5	20.4	24 E	18*	1*	4 16	1 51.74	+7 53.3	2.979	1.980	2.2	21.1	4 E	—	—
7 5	8 21.77	+38 22.1	2.137	1.277	18.9	20.4	24 E	18*	2*	4 26	2 13.76	+9 24.4	3.023	2.020	2.0	21.2	4 E	—	—
7 10	8 42.96	+36 50.5	2.172	1.306	18.2	20.5	24 E	17*	3*	5 6	2 35.37	+10 46.2	3.059	2.061	3.4	21.3	7 W	—	—
7 15	9 2.77	+35 10.1	2.209	1.336	17.4	20.6	23 E	17*	4*	5 16	2 56.59	+11 58.1	3.087	2.102	5.2	21.5	11 W	—	5*
7 20	9 21.29	+33 23.2	2.248	1.366	16.6	20.6	23 E	16*	4*	163758 2003 OS₁₃									
7 25	9 38.60	+31 31.8	2.288	1.397	15.7	20.7	22 E	15*	4*	12 27	21 13.50	+19 54.9	1.045	1.014	57.1	19.6	60 E	54*	10*
7 30	9 54.80	+29 37.3	2.329	1.427	14.7	20.7	21 E	14*	4*	1 1	21 25.33	+17 55.6	1.008	0.944	60.4	19.5	57 E	50*	9*
8 4	10 10.01	+27 41.1	2.371	1.459	13.7	20.8	20 E	13*	4*	1 6	21 37.65	+15 41.5	0.968	0.870	64.4	19.3	53 E	47*	9*
8 9	10 24.33	+25 44.2	2.413	1.490	12.7	20.8	19 E	12*	4*	1 11	21 50.32	+13 4.9	0.923	0.794	69.4	19.2	49 E	43*	9*
8 14	10 37.85	+23 47.5	2.455	1.521	11.7	20.9	18 E	11*	3*	1 16	22 3.04	+9 54.4	0.873	0.715	75.8	19.0	45 E	39*	9*
8 19	10 50.67	+21 51.7	2.497	1.553	10.6	20.9	16 E	10*	2*	1 18	22 8.03	+8 25.2	0.853	0.682	78.9	19.0	43 E	37*	9*
8 24	11 2.86	+19 57.2	2.538	1.584	9.6	21.0	15 E	9*	1*	1 20	22 12.89	+6 46.6	0.832	0.649	82.3	18.9	41 E	34*	9*
8 29	11 14.50	+18 4.4	2.578	1.616	8.6	21.0	14 E	8*	—	1 22	22 17.55	+4 57.0	0.811	0.616	86.1	18.9	39 E	32*	9*
9 3	11 25.65	+16 13.5	2.616	1.647	7.7	21.0	13 E	7*	—	1 24	22 21.91	+2 54.8	0.790	0.583	90.4	18.9	36 E	30*	10*
9 8	11 36.37	+14 24.7	2.653	1.677	6.8	21.1	11 E	5*	—	1 26	22 25.84	+0 38.1	0.769	0.549	95.2	18.9	34 E	27*	10*
9 13	11 46.69	+12 38.2	2.688	1.708	6.1	21.1	10 E	4*	—	1 28	22 29.19	-1 54.8	0.749	0.516	100.6	19.0	31 E	24*	10*
9 18	11 56.67	+10 54.1	2.721	1.738	5.6	21.1	10 E	3*	—	1 30	22 31.74	-4 45.3	0.731	0.484	106.6	19.1	28 E	20*	10*
9 23	12 6.34	+9 12.4	2.751	1.768	5.3	21.2	9 E	2*	—	2 1	22 33.23	-7 54.0	0.715	0.452	113.2	19.3	25 E	16*	11*
9 28	12 15.74	+7 33.0	2.779	1.798	5.3	21.2	9 W	1*	—	2 3	22 33.34	-11 19.7	0.703	0.423	120.1	19.6	22 E	12*	11*
10 3	12 24.88	+5 56.0	2.804	1.828	5.5	21.3	10 W	3*	—	2 5	22 31.75	-14 58.4	0.696	0.396	127.0	20.0	19 E		

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

20/21	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°	20/22	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°
163758 2003 OS₁₃										42609 Daubechies									
<i>(continuation)</i>										<i>(continuation)</i>									
2 27	21 21.88	-28 34.2	1.013	0.472	73.7	18.4	27 W	—	19*	12 2	2 46.73	+ 8 58.2	2.062	2.966	9.1	19.4	152 E	54	55
3 1	21 20.86	-27 25.7	1.049	0.504	69.3	18.5	28 W	—	21*	12 12	2 40.27	+ 8 43.1	2.156	2.979	12.2	19.7	140 E	54	55
3 3	21 20.62	-26 13.9	1.083	0.537	65.7	18.5	30 W	—	22*	12 22	2 36.16	+ 8 41.5	2.272	2.992	14.8	19.9	129 E	54	55
3 5	21 20.97	-25 0.6	1.115	0.570	62.6	18.6	31 W	—	24*	1 1	2 34.48	+ 8 52.9	2.404	3.003	16.7	20.1	119 E	54	55
3 7	21 21.77	-23 46.7	1.144	0.604	60.1	18.7	32 W	—	25*	1 11	2 35.17	+ 9 15.7	2.548	3.013	18.0	20.3	109 E	54	55*
3 9	21 22.92	-22 33.2	1.172	0.637	57.9	18.9	33 W	—	27*	1 21	2 38.05	+ 9 48.3	2.698	3.022	18.7	20.4	100 E	55	53*
3 11	21 24.33	-21 20.3	1.197	0.670	56.1	19.0	34 W	1*	28*										
3 13	21 25.93	-20 8.3	1.221	0.703	54.5	19.1	35 W	3*	29*										
3 15	21 27.67	-18 57.5	1.243	0.735	53.1	19.2	36 W	4*	30*										
3 17	21 29.51	-17 47.7	1.263	0.767	52.0	19.2	37 W	5*	31*										
3 22	21 34.36	-14 58.5	1.306	0.844	49.7	19.5	40 W	8*	34*										
3 27	21 39.34	-12 16.0	1.341	0.918	48.1	19.7	43 W	11*	37*										
4 1	21 44.23	-9 39.3	1.367	0.990	46.9	19.8	46 W	14*	40*										
4 6	21 48.92	-7 7.4	1.387	1.057	45.9	20.0	49 W	17*	42*										
4 11	21 53.32	-4 39.5	1.401	1.123	45.1	20.1	53 W	20*	45*										
4 16	21 57.36	-2 14.8	1.409	1.185	44.5	20.2	56 W	23*	47*										
4 26	22 4.11	+ 2 28.0	1.410	1.301	43.3	20.4	63 W	29*	51*										
5 6	22 8.77	+ 7 5.3	1.395	1.408	42.2	20.5	70 W	35*	53*										
5 16	22 10.83	+ 11 39.9	1.369	1.506	40.8	20.6	77 W	42*	52*										
5 26	22 9.70	+ 16 12.0	1.334	1.596	39.2	20.6	85 W	50*	48										
6 5	22 4.71	+ 20 39.4	1.297	1.679	37.1	20.6	92 W	59*	43										
6 15	21 55.05	+ 24 55.3	1.261	1.755	34.7	20.6	100 W	68*	39										
6 25	21 40.09	+ 28 47.2	1.231	1.825	32.0	20.5	108 W	74	35										
7 5	21 19.72	+ 31 57.5	1.214	1.888	29.1	20.5	115 W	77	32										
7 10	21 7.72	+ 33 10.7	1.211	1.918	27.8	20.5	119 W	78	31										
7 15	20 54.81	+ 34 6.0	1.213	1.946	26.5	20.5	121 W	79	30										
7 20	20 41.33	+ 34 41.8	1.219	1.973	25.4	20.5	124 W	80	29										
7 25	20 27.67	+ 34 57.4	1.231	1.998	24.5	20.5	125 W	80	29										
7 30	20 14.24	+ 34 53.2	1.248	2.022	23.9	20.5	126 E	80	29										
8 4	20 1.42	+ 34 30.4	1.271	2.045	23.5	20.6	127 E	80	29										
8 9	19 49.54	+ 33 51.0	1.299	2.067	23.3	20.6	126 E	79	30										
8 14	19 38.88	+ 32 57.6	1.332	2.087	23.4	20.7	125 E	78	31										
8 19	19 29.58	+ 31 53.4	1.370	2.106	23.6	20.8	124 E	77	32										
8 24	19 21.71	+ 30 41.3	1.412	2.124	23.9	20.9	122 E	76	33										
8 29	19 15.28	+ 29 24.0	1.458	2.141	24.3	21.0	119 E	74	35										
9 3	19 10.22	+ 28 3.9	1.508	2.156	24.7	21.1	117 E	73	36										
9 8	19 6.48	+ 26 42.8	1.560	2.171	25.2	21.2	114 E	72	37										
9 13	19 3.97	+ 25 22.5	1.616	2.184	25.5	21.3	111 E	70	39										
9 18	19 2.57	+ 24 4.2	1.673	2.196	25.9	21.4	108 E	69	40										
9 23	19 2.18	+ 22 49.0	1.732	2.207	26.1	21.5	104 E	68	41										
42609 Daubechies										368160 1999 HW₂									
12 27	21 13.80	-16 19.3	2.696	2.050	18.2	19.6	41 E	22*	27*	12 27	21 14.19	- 7 46.2	2.517	1.930	20.6	20.6	44 E	30*	24*
1 6	21 35.78	-14 48.6	2.801	2.085	16.0	19.6	36 E	21*	22*	1 6	21 38.18	- 7 17.4	2.636	1.975	18.4	20.6	39 E	28*	20*
1 16	21 57.15	-13 11.0	2.901	2.120	13.9	19.6	31 E	19*	18*	1 16	22 1.35	- 6 37.0	2.751	2.021	16.1	20.7	35 E	25*	16*
1 26	22 17.93	-11 28.2	2.993	2.154	11.7	19.7	26 E	16*	13*	1 26	22 23.71	- 5 47.5	2.862	2.067	13.7	20.7	30 E	21*	12*
2 5	22 38.14	- 9 41.6	3.078	2.189	9.4	19.7	21 E	12*	9*	2 5	22 45.31	- 4 51.1	2.966	2.114	11.4	20.8	25 E	17*	9*
2 15	22 57.82	- 7 52.6	3.154	2.224	7.2	19.7	16 E	8*	6*	2 15	23 6.20	- 3 49.9	3.062	2.160	9.0	20.8	20 E	13*	6*
2 25	23 16.98	- 6 2.5	3.220	2.259	5.0	19.6	12 E	4*	2*	2 25	23 26.43	- 2 45.7	3.149	2.207	6.6	20.8	15 E	8*	3*
3 7	23 35.68	- 4 12.4	3.276	2.293	2.8	19.6	7 E	—	—	3 7	23 46.04	- 1 40.3	3.226	2.254	4.3	20.8	10 E	3*	—
3 17	23 53.94	- 2 23.5	3.321	2.327	0.9	19.5	2 E	—	—	3 17	0 5.09	- 0 35.1	3.291	2.301	2.0	20.7	5 E	—	—
3 27	0 11.78	- 0 36.7	3.355	2.361	1.8	19.6	4 W	—	—	3 27	0 23.61	+ 0 28.4	3.345	2.348	0.9	20.7	2 E	—	—
4 6	0 29.23	+ 1 7.1	3.376	2.394	3.8	19.8	9 W	—	3*	4 6	0 41.62	+ 1 29.0	3.385	2.394	2.7	20.9	7 W	—	—
4 16	0 46.30	+ 2 47.0	3.386	2.426	5.9	19.9	14 W	—	8*	4 16	0 59.15	+ 2 25.6	3.413	2.440	4.9	21.1	12 W	—	6*
4 26	1 2.98	+ 4 22.3	3.383	2.458	7.9	20.1	20 W	—	14*	4 26	1 16.19	+ 3 17.0	3.426	2.485	7.0	21.3	17 W	—	11*
5 6	1 19.28	+ 5 52.3	3.367	2.490	9.9	20.2	25 W	2*	19*	5 6	1 32.76	+ 4 2.3	3.427	2.529	9.0	21.4	23 W	—	17*
5 16	1 35.17	+ 7 16.4	3.339	2.520	11.7	20.2	30 W	4*	24*										
5 26	1 50.61	+ 8 34.1	3.299	2.550	13.5	20.3	36 W	8*	29*										
6 5	2 5.56	+ 9 44.8	3.247	2.580	15.2	20.4	42 W	11*	34*										
6 15	2 19.95	+ 10 48.1	3.183	2.608	16.7	20.4	48 W	16*	39*										
6 25	2 33.68	+ 11 43.6	3.108	2.636	18.1	20.4	54 W	22*	42*										
7 5	2 46.66	+ 12 31.0	3.024	2.663	19.3	20.4	60 W	28*	45*										
7 15	2 58.72	+ 13 10.1	2.930	2.690	20.3	20.4	66 W	34*	48*										
7 25	3 9.72	+ 13 40.4	2.828	2.715	21.0	20.4	73 W	41*	49*										
8 4	3 19.45	+ 14 2.0	2.719	2.740	21.4	20.3	80 W	48*	50*										
8 14	3 27.69	+ 14 14.5	2.607	2.763	21.5	20.2	88 W	54*	50										
8 24	3 34.16	+ 14 17.9	2.492	2.786	21.2	20.1	96 W	58*	50										
9 3	3 38.63	+ 14 12.1	2.378	2.808	20.3	20.0	105 W	59	50										
9 13	3 40.79	+ 13 57.1	2.269	2.830	19.0	19.9	114 W	59	50										
9 23	3 40.43	+ 13 33.0	2.168	2.850	17.0	19.8	124 W	59	50										
10 3	3 37.45	+ 13 0.5	2.080	2.869	14.5	19.6	134 W	58	51										
10 13	3 31.90	+ 12 20.7	2.011	2.888	11.3	19.4	145 W	57	52										
10 23	3 24.14	+ 11 35.7	1.964	2.905	7.7	19.2	157 W	57	52										
11 2	3 14.80	+ 10 48.8	1.944	2.922	4.0	19.0	168 W	56	53										
11 7	3 9.82	+ 10 25.9	1.945	2.930	2.6	19.0	172 W	55	54										
11 12	3 4.79	+ 10 4.1	1.954	2.938	2.6	19.0	172 E	55	54										
11 17	2 59.86	+ 9 44.0	1.970	2.945	3.8	19.1	168 E	55	54										
11 22	2 55.13	+ 9 26.0	1.993	2.953	5.6	19.2	163 E	54	55										
12 2	2 46.73	+ 8 58.2	2.062	2.966	9.1	19.4	152 E	54	55										
12 12	2 40.27	+ 8 43.1	2.156	2.979	12.2	19.7	140 E	54	55										
12 22	2 36.16	+ 8 41.5	2.272	2.992	14.8	19.9	129 E	54	55										
1 1	2 34.48	+ 8 52.9	2.404	3.003	16.7	20.1	119 E	54	55										
1 11	2 35.17	+ 9 15.7	2.548	3.013	18.0	20.3	109 E	54	55*										
1 21	2 38.05	+ 9 48.3	2.698	3.022	18.7	20.4	100 E	55	53*										
54754 2001 KJ₅₆										368160 1999 HW₂									
12 27	21 13.80	-28 47.9	2.470	1.806	19.8	18.3	38 E	11*	31*	12 27	21 14.19	- 7 46.2	2.517	1.930	20.6	20.6	44 E	30*	24*
1 6	21 39.95	-27 21.6	2.487	1.770	18.5	18.3	35 E	10*	27*	1 6	21 38.18	- 7 17.4	2.636	1.975	18.4	20.6	39 E	28*	20*
1 16	22 6.55	-25 37.4	2.498	1.735	17.2	18.2	31 E	9*	24*	1 16	22 1.35	- 6 37.0	2.751	2.021	16.1	20.7	35 E	25*	16*
1 26	22 33.47	-23 36.1	2.503	1.703	15.9	18.1	28 E	8*	21*	1 26	22 23.71	- 5 47.5	2.862	2.067	13.7	20.7	30 E	21*	12*
2 5	23 0.58	-21 18.9	2.505	1.672	14.8	18.0	26 E	7*	19*	2 5	22 45.31	- 4 51.1	2.966	2.114	11.4	20.8	25 E	17*	9*
2 15	23 27.82	-18 47.1	2.504	1.645	13.8	18.0	23 E	5*	17*	2 15	23 6.20	- 3 49.9	3.062	2.160	9.0	20.8	20 E	13*	6*
2 25																			

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

20/22	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°	20/22	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°
145627 2006 RY₁₀₂										251966 2000 AJ₁									
12 27	15.26	-28 15.7	7.607	6.868	5.1	20.0	39 E	11*	31*	1 6	11 45.19	-30 27.6	1.678	2.014	29.1	19.4	95 W	15	86
1 6	21 21.80	-27 45.3	7.678	6.851	4.2	20.0	31 E	8*	24*	1 11	11 47.20	-32 11.7	1.649	2.032	28.6	19.4	98 W	13	84
1 16	21 28.70	-27 14.5	7.728	6.834	3.2	19.9	23 E	3*	17*	1 16	11 48.40	-33 51.7	1.620	2.051	28.1	19.4	101 W	11	82
1 26	21 35.85	-26 43.6	7.755	6.817	2.3	19.9	16 E	—	10*	1 21	11 48.73	-35 27.1	1.593	2.069	27.4	19.3	104 W	10	81
2 5	21 43.16	-26 13.1	7.760	6.799	1.8	19.8	12 E	—	5*	105140 2000 NL₁₀									
2 15	21 50.55	-25 43.5	7.741	6.782	1.9	19.8	13 W	—	1*	12 27	21 15.75	+ 6 55.1	1.746	1.375	34.2	19.1	52 E	43*	18*
2 25	21 57.92	-25 15.3	7.699	6.765	2.6	19.9	18 W	—	9*	1 6	21 35.91	+ 6 23.5	1.757	1.292	33.4	19.0	46 E	39*	13*
3 7	22 5.19	-24 49.0	7.635	6.747	3.5	19.9	25 W	—	16*	1 16	21 57.30	+ 6 4.2	1.746	1.195	32.8	18.8	41 E	35*	9*
3 17	22 12.28	-24 25.1	7.550	6.730	4.5	19.9	32 W	—	24*	1 26	22 20.11	+ 5 52.9	1.711	1.083	32.4	18.5	36 E	30*	6*
3 27	22 19.10	-24 4.4	7.444	6.712	5.5	19.9	40 W	—	32*	1 31	22 32.15	+ 5 48.3	1.683	1.020	32.3	18.3	34 E	28*	5*
4 6	22 25.59	-23 47.3	7.321	6.695	6.4	19.9	48 W	—	40*	2 5	22 44.69	+ 5 43.1	1.647	0.952	32.4	18.1	31 E	25*	4*
4 16	22 31.65	-23 34.4	7.182	6.677	7.2	19.9	56 W	1*	49*	2 10	22 57.80	+ 5 35.9	1.604	0.879	32.8	17.9	29 E	23*	4*
4 26	22 37.21	-23 26.3	7.030	6.659	7.8	19.9	64 W	3*	57*	2 15	23 11.56	+ 5 24.7	1.551	0.799	33.5	17.7	27 E	20*	3*
5 6	22 42.19	-23 23.6	6.869	6.641	8.3	19.9	73 W	6*	66*	2 20	23 26.03	+ 5 6.5	1.487	0.713	34.8	17.4	24 E	18*	3*
5 16	22 46.49	-23 26.7	6.700	6.623	8.7	19.8	81 W	8*	75*	2 25	23 41.27	+ 4 36.6	1.411	0.617	37.0	17.0	22 E	16*	3*
5 26	22 50.04	-23 36.0	6.528	6.605	8.8	19.8	90 W	11*	84*	2 27	23 47.56	+ 4 19.7	1.376	0.577	38.3	16.8	21 E	15*	3*
6 5	22 52.75	-23 51.6	6.356	6.587	8.8	19.7	99 W	14*	88	3 1	23 53.95	+ 3 59.0	1.338	0.534	40.1	16.7	20 E	14*	4*
6 15	22 54.56	-24 13.5	6.189	6.568	8.5	19.6	108 W	17*	88	3 3	0 0.39	+ 3 33.3	1.297	0.490	42.3	16.5	19 E	13*	4*
6 25	22 55.39	-24 41.4	6.030	6.550	8.0	19.5	117 W	19*	89	3 5	0 6.80	+ 3 1.4	1.253	0.444	45.3	16.3	19 E	12*	4*
7 5	22 55.21	-25 14.5	5.884	6.531	7.3	19.5	126 W	20*	89	3 7	0 13.05	+ 2 21.4	1.204	0.396	49.3	16.0	18 E	11*	5*
7 15	22 54.03	-25 51.8	5.755	6.513	6.3	19.4	135 W	19	90	3 9	0 18.88	+ 1 30.6	1.150	0.346	55.0	15.8	17 E	9*	5*
7 25	22 51.86	-26 31.8	5.646	6.494	5.3	19.3	144 W	18	89	3 11	0 23.77	+ 0 25.5	1.091	0.295	63.3	15.6	15 E	7*	5*
8 4	22 48.82	-27 12.4	5.561	6.476	4.2	19.2	152 W	18	89	3 13	0 26.67	+ 0 58.4	1.025	0.245	76.0	15.5	14 E	5*	5*
8 14	22 45.06	-27 51.7	5.502	6.457	3.3	19.1	159 W	17	88	3 15	0 25.43	+ 2 43.7	0.954	0.200	95.9	15.6	12 E	2*	5*
8 24	22 40.78	-28 27.4	5.472	6.438	2.9	19.0	161 W	17	88	3 17	0 16.61	+ 4 38.4	0.888	0.171	124.5	16.9	8 E	—	2*
9 3	22 36.27	-28 57.5	5.470	6.419	3.3	19.1	159 E	16	87	3 18	0 8.65	+ 5 25.7	0.863	0.167	138.9	18.3	6 E	—	—
9 13	22 31.80	-29 20.3	5.496	6.400	4.3	19.1	152 E	16	87	3 19	23 58.95	+ 5 55.8	0.847	0.172	146.9	19.5	5 E	—	—
9 23	22 27.68	-29 34.8	5.549	6.381	5.4	19.2	143 E	15	86	3 20	23 48.60	+ 6 4.8	0.841	0.184	144.1	19.2	6 W	—	—
10 3	22 24.17	-29 40.5	5.626	6.362	6.5	19.3	134 E	15	86	3 21	23 38.66	+ 5 54.0	0.843	0.202	135.1	18.2	8 W	—	2*
10 13	22 21.50	-29 37.3	5.723	6.343	7.4	19.3	125 E	15	86	3 22	23 29.78	+ 5 27.7	0.851	0.224	125.0	17.4	11 W	—	4*
10 23	22 19.84	-29 25.9	5.837	6.323	8.2	19.4	115 E	16	87	3 23	23 22.16	+ 4 50.8	0.863	0.247	115.8	17.0	13 W	—	7*
11 2	22 19.26	-29 6.9	5.963	6.304	8.7	19.5	106 E	16	87	3 24	23 15.81	+ 4 7.5	0.879	0.272	107.9	16.7	15 W	—	9*
11 12	22 19.80	-28 41.3	6.097	6.285	9.0	19.5	96 E	16	87	3 25	23 10.58	+ 3 20.4	0.896	0.298	101.1	16.6	17 W	2*	11*
11 22	22 21.46	-28 10.1	6.234	6.265	9.1	19.6	87 E	17	81*	3 26	23 6.33	+ 2 31.5	0.914	0.323	95.4	16.6	19 W	4*	12*
12 2	22 24.16	-27 34.2	6.370	6.246	8.9	19.6	78 E	17	71*	3 27	23 2.91	+ 1 42.0	0.932	0.349	90.4	16.6	20 W	5*	14*
12 12	22 27.83	-26 54.4	6.500	6.226	8.5	19.6	70 E	18	62*	3 29	22 58.00	+ 0 3.9	0.969	0.398	82.5	16.6	23 W	8*	16*
12 22	22 32.37	-26 11.5	6.622	6.207	8.0	19.6	61 E	19	53*	3 31	22 55.03	+ 1 30.5	1.005	0.446	76.4	16.7	26 W	10*	18*
1 1	22 37.68	-25 26.3	6.732	6.187	7.3	19.6	53 E	18*	44*	4 2	22 53.42	+ 3 0.6	1.039	0.492	71.6	16.9	28 W	12*	20*
1 11	22 43.64	-24 39.5	6.827	6.167	6.4	19.6	45 E	16*	36*	4 4	22 52.78	+ 4 26.1	1.072	0.536	67.7	17.0	30 W	14*	21*
1 21	22 50.14	-23 51.6	6.906	6.148	5.5	19.6	37 E	13*	29*	4 6	22 52.86	+ 5 47.4	1.102	0.579	64.5	17.1	31 W	16*	22*
251966 2000 AJ₁										251966 2000 AJ₁									
12 27	15.65	+ 5 32.4	2.602	2.125	21.1	20.2	51 E	42*	18*	4 11	22 55.07	+ 8 54.5	1.170	0.677	58.7	17.4	35 W	19*	25*
1 6	21 34.12	+ 6 47.7	2.642	2.087	19.9	20.2	46 E	39*	12*	4 16	22 58.94	+ 11 43.4	1.227	0.767	54.7	17.7	39 W	23*	27*
1 16	21 53.51	+ 8 14.7	2.673	2.050	18.7	20.2	42 E	36*	7*	4 21	23 3.63	+ 14 18.8	1.274	0.849	51.9	17.9	42 W	25*	28*
1 26	22 13.78	+ 9 52.6	2.697	2.013	17.5	20.1	38 E	32*	3*	4 26	23 8.71	+ 16 43.9	1.312	0.925	49.9	18.1	45 W	28*	30*
2 5	22 34.88	+ 11 40.1	2.713	1.976	16.2	20.0	34 E	28*	—	5 1	23 13.92	+ 19 1.3	1.342	0.995	48.3	18.2	48 W	31*	31*
2 15	22 56.83	+ 13 35.8	2.723	1.940	15.0	19.9	31 E	24*	—	5 6	23 19.12	+ 21 12.9	1.365	1.060	47.1	18.4	50 W	33*	32*
2 25	23 19.65	+ 15 38.0	2.727	1.904	13.9	19.9	27 E	20*	—	5 11	23 24.19	+ 23 20.1	1.381	1.119	46.2	18.5	53 W	36*	32*
3 7	23 43.38	+ 17 44.2	2.726	1.870	12.8	19.8	25 E	16*	—	5 16	23 29.03	+ 25 24.0	1.392	1.175	45.4	18.6	56 W	39*	32*
3 17	0 8.08	+ 19 52.3	2.721	1.836	11.7	19.7	22 E	13*	—	5 21	23 33.59	+ 27 25.3	1.396	1.227	44.8	18.7	59 W	42*	32*
3 27	0 33.80	+ 21 59.2	2.712	1.804	10.7	19.6	20 E	10*	—	5 26	23 37.80	+ 29 24.8	1.396	1.275	44.3	18.8	61 W	45*	32*
4 6	1 0.60	+ 24 1.8	2.700	1.773	9.9	19.5	18 E	7*	—	5 31	23 41.60	+ 31 23.0	1.391	1.319	43.8	18.8	64 W	48*	31*
4 16	1 28.52	+ 25 56.7	2.686	1.744	9.1	19.5	16 W	7*	—	6 5	23 44.92	+ 33 20.5	1.381	1.360	43.4	18.8	67 W	51*	30*
4 26	1 57.55	+ 27 40.3	2.671	1.717	8.6	19.4	15 W	7*	—	6 10	23 47.68	+ 35 17.5	1.368	1.398	43.0	18.9	70 W	55*	29*
5 6	2 27.64	+ 29 8.8	2.654	1.692	8.2	19.3	14 W	7*	—	6 15	23 49.77	+ 37 14.3	1.351	1.434	42.7	18.9	73 W	59*	27
5 16	2 58.69	+ 30 18.8	2.637	1.670	8.1	19.3	13 W	7*	—	6 20	23 51.09	+ 39 11.0	1.331	1.466	42.3	18.9	76 W	63*	25
5 26	3 30.49	+ 31 7.0	2.619	1.651	8.2	19.3	14 W	7*	—	6 25	23 51.52	+ 41 7.4	1.308	1.495	41.8	18.9	79 W	67*	23
6 5	4 2.79	+ 31 30.8	2.600	1.634	8.7	19.2													

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

20/22	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°	20/22	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°
105140 2000 NL₁₀										414286 2008 OC₆									
<i>(continuation)</i>										<i>(continuation)</i>									
9 7	20 43.67	+51 35.5	0.951	1.653	33.5	18.2	115 E	83	12	9 23	16 46.03	- 2 15.1	0.852	1.093	60.6	20.6	72 E	37*	56*
9 9	20 37.12	+50 40.3	0.949	1.651	33.6	18.2	115 E	84	13	9 28	17 1.56	- 4 26.8	0.860	1.086	60.7	20.6	71 E	36*	57*
9 11	20 31.02	+49 41.4	0.947	1.648	33.6	18.2	115 E	85	14	10 3	17 17.30	- 6 34.9	0.868	1.079	60.7	20.6	70 E	34*	57*
9 13	20 25.36	+48 39.2	0.947	1.645	33.8	18.2	115 E	86	15	10 8	17 33.28	- 8 38.9	0.875	1.070	60.8	20.6	69 E	33*	57*
9 18	20 13.21	+45 51.8	0.947	1.635	34.2	18.2	114 E	89	18	10 13	17 49.52	-10 38.0	0.882	1.060	61.0	20.6	68 E	31*	57*
9 23	20 3.77	+42 52.3	0.952	1.623	34.9	18.2	112 E	88	21	10 18	18 6.02	-12 31.9	0.888	1.050	61.2	20.6	67 E	30*	56*
9 28	19 56.83	+39 46.0	0.961	1.609	35.8	18.2	110 E	85	24	10 23	18 22.79	-14 20.1	0.894	1.038	61.5	20.6	66 E	28*	56*
10 3	19 52.10	+36 37.8	0.973	1.592	36.8	18.2	108 E	82	27	10 28	18 39.84	-16 2.3	0.899	1.025	61.8	20.6	65 E	27*	55*
10 8	19 49.32	+33 31.4	0.988	1.574	37.9	18.3	105 E	79	30	11 2	18 57.17	-17 38.1	0.902	1.011	62.2	20.6	64 E	26*	55*
10 13	19 48.23	+30 30.0	1.005	1.552	39.0	18.3	102 E	76	33*	11 7	19 14.79	-19 7.4	0.905	0.996	62.6	20.6	63 E	24*	54*
10 18	19 48.60	+27 35.9	1.025	1.529	40.2	18.4	98 E	73	36*	11 12	19 32.68	-20 29.8	0.906	0.981	63.1	20.6	62 E	23*	53*
10 23	19 50.20	+24 50.4	1.045	1.502	41.3	18.4	95 E	70	38*	11 17	19 50.81	-21 45.4	0.905	0.964	63.8	20.6	61 E	22*	52*
10 28	19 52.87	+22 14.2	1.066	1.473	42.4	18.4	91 E	67	39*	11 22	20 9.15	-22 54.1	0.903	0.948	64.5	20.5	60 E	21*	51*
11 2	19 56.48	+19 47.5	1.087	1.442	43.5	18.5	88 E	65*	39*	11 27	20 27.70	-23 55.9	0.898	0.930	65.3	20.5	59 E	20*	50*
11 12	20 6.07	+15 22.5	1.126	1.370	45.4	18.5	80 E	60*	38*	12 2	20 46.41	-24 50.9	0.892	0.912	66.3	20.5	58 E	19*	49*
11 22	20 18.19	+11 31.7	1.157	1.286	47.3	18.4	73 E	55*	36*	12 12	21 24.18	-26 21.2	0.871	0.876	68.6	20.4	56 E	18*	48*
12 2	20 32.29	+ 8 7.9	1.175	1.188	49.3	18.4	66 E	51*	32*	12 22	22 2.04	-27 27.2	0.838	0.840	71.8	20.4	54 E	16*	46*
12 7	20 39.96	+ 6 33.4	1.178	1.133	50.4	18.3	62 E	48*	29*	1 1	22 39.44	-28 11.0	0.792	0.807	75.9	20.3	53 E	15*	45*
12 12	20 47.96	+ 5 1.9	1.176	1.075	51.7	18.2	59 E	46*	27*	1 6	22 57.78	-28 25.3	0.764	0.791	78.4	20.2	52 E	15*	45*
12 17	20 56.25	+ 3 31.5	1.168	1.011	53.1	18.1	55 E	43*	25*	1 11	23 15.71	-28 34.7	0.733	0.778	81.2	20.2	51 E	14*	44*
12 22	21 4.73	+ 1 59.9	1.154	0.943	54.8	18.0	52 E	40*	23*	1 16	23 33.09	-28 39.2	0.699	0.766	84.3	20.2	51 E	14*	44*
12 27	21 13.31	+ 0 23.8	1.133	0.868	57.0	17.8	48	37*	20*	1 21	23 49.76	-28 38.7	0.661	0.756	87.7	20.2	50 E	13*	43*
1 1	21 21.83	+ 1 21.1	1.104	0.788	59.9	17.6	44	34*	18*	422719 2001 AU₁									
1 6	21 29.97	+ 3 21.3	1.066	0.700	63.8	17.4	40	30*	16*	12 27	21 15.87	-10 10.3	2.218	1.644	24.1	21.3	43 E	28*	25*
1 11	21 37.14	+ 5 47.1	1.019	0.603	69.3	17.2	35 E	26*	15*	1 6	21 40.94	- 8 4.5	2.242	1.610	22.9	21.3	40 E	27*	21*
1 13	21 39.49	+ 6 56.0	0.997	0.562	72.2	17.1	33 E	24*	14*	1 16	22 6.66	- 5 45.2	2.261	1.578	21.6	21.2	36 E	26*	17*
1 15	21 41.36	+ 8 13.3	0.973	0.519	75.8	17.0	31 E	22*	13*	1 26	22 32.98	- 3 14.1	2.278	1.550	20.3	21.1	33 E	25*	13*
1 17	21 42.54	+ 9 40.7	0.948	0.474	80.0	16.9	28 E	19*	12*	2 5	22 59.88	- 0 33.1	2.293	1.525	19.0	21.1	30 E	23*	10*
1 19	21 42.74	+11 20.6	0.922	0.427	85.4	16.8	26 E	16*	11*	2 15	23 27.36	+ 2 15.1	2.307	1.503	17.7	21.0	28 E	21*	8*
1 21	21 41.53	+13 15.8	0.894	0.379	92.1	16.7	23 E	13*	10*	2 25	23 55.45	+ 5 7.6	2.321	1.486	16.5	21.0	25 E	19*	6*
12 27	21 15.87	-16 4.8	1.463	0.968	41.8	21.0	41 E	23*	28*	3 7	0 24.17	+ 8 0.6	2.337	1.474	15.2	20.9	23 E	17*	5*
1 6	21 54.21	-15 32.6	1.444	0.934	42.4	20.9	40 E	22*	27*	3 17	0 53.56	+10 50.6	2.354	1.466	13.9	20.9	21 E	15*	4*
1 16	22 33.01	-14 36.0	1.416	0.898	43.5	20.8	39 E	22*	26*	3 27	1 23.63	+13 33.5	2.374	1.463	12.6	20.9	19 E	12*	3*
1 26	23 12.33	-13 15.6	1.376	0.862	45.4	20.7	39 E	22*	26*	4 6	1 54.34	+16 5.2	2.396	1.465	11.3	20.8	17 E	10*	2*
2 5	23 52.22	-11 31.7	1.324	0.827	48.0	20.6	39 E	22*	27*	4 16	2 25.67	+18 21.9	2.421	1.472	9.9	20.8	15 E	8*	1*
2 15	0 32.81	+ 9 23.4	1.260	0.795	51.6	20.5	39 E	22*	28*	4 26	2 57.49	+20 20.2	2.450	1.484	8.5	20.8	13 E	6*	—
2 25	1 14.17	+ 6 49.0	1.185	0.768	56.2	20.4	40 E	22*	29*	5 6	3 29.65	+21 57.3	2.481	1.500	7.0	20.8	11 E	4*	—
3 2	1 35.16	+ 5 21.1	1.144	0.758	58.7	20.4	41 E	23*	30*	5 16	4 1.94	+23 11.3	2.514	1.521	5.5	20.8	8 E	2*	—
3 7	1 56.39	+ 3 45.2	1.100	0.749	61.5	20.4	42 E	23*	31*	5 26	4 34.11	+24 0.8	2.548	1.545	4.0	20.7	6 E	—	—
3 12	2 17.88	+ 2 0.8	1.056	0.743	64.3	20.4	42 E	24*	31*	6 5	5 5.89	+24 25.9	2.584	1.573	2.4	20.7	4 E	—	—
3 17	2 39.66	+ 0 7.0	1.010	0.740	67.3	20.3	43 E	25*	32*	6 15	5 37.04	+24 27.1	2.619	1.604	0.9	20.7	1 E	—	—
3 27	3 24.22	+ 4 10.7	0.919	0.741	73.0	20.3	45 E	27*	33*	6 25	6 7.32	+24 5.9	2.653	1.638	1.1	20.8	2 W	—	—
4 6	4 10.55	+ 9 11.1	0.833	0.753	78.1	20.3	47 E	29*	33*	7 5	6 36.55	+23 24.2	2.686	1.674	2.8	21.0	5 W	—	—
4 16	4 59.42	+14 50.3	0.759	0.774	81.8	20.3	50 E	33*	33*	7 15	7 4.60	+22 24.3	2.714	1.712	4.5	21.1	8 W	—	—
4 21	5 25.08	+17 49.6	0.727	0.787	83.1	20.3	51 E	35*	32*	7 25	7 31.38	+21 8.8	2.739	1.752	6.2	21.3	11 W	2*	3*
4 26	5 51.69	+20 50.9	0.700	0.802	83.8	20.3	52 E	37*	32*	8 4	7 56.86	+19 40.1	2.759	1.793	8.0	21.4	14 W	5*	5*
5 1	6 19.29	+23 49.4	0.678	0.818	84.1	20.3	54 E	39*	31*	276825 2004 PM₁₀₁									
5 6	6 47.90	+26 39.7	0.660	0.835	84.0	20.2	55 E	41*	30*	12 27	21 16.09	-15 22.8	2.284	1.676	22.8	21.1	41 E	23*	27*
5 11	7 17.46	+29 16.1	0.648	0.852	83.4	20.2	57 E	43*	29*	1 6	21 42.04	-12 42.2	2.364	1.699	20.8	21.1	38 E	23*	23*
5 16	7 47.77	+31 33.4	0.640	0.870	82.5	20.2	59 E	45*	28*	1 16	22 7.14	- 9 55.6	2.443	1.725	18.9	21.2	35 E	23*	19*
5 21	8 18.57	+33 27.2	0.636	0.889	81.4	20.2	60 E	47*	28*	1 26	22 31.48	- 7 5.4	2.520	1.751	16.8	21.2	31 E	21*	15*
5 26	8 49.46	+34 54.7	0.635	0.907	80.0	20.2	62 E	49*	27*	2 5	22 55.12	- 4 13.7	2.596	1.780	14.8	21.2	27 E	19*	11*
5 31	9 20.06	+35 54.6	0.638	0.925	78.5	20.2	63 E	50*	27*	2 15	23 18.17	+ 1 22.0	2.669	1.810	12.7	21.3	24 E	17*	8*
6 5	9 49.97	+36 27.1	0.643	0.942	77.0	20.2	65 E	51*	27*	2 25	23 40.72	+ 1 27.9	2.738	1.841	10.7	21.3	20 E	14*	5*
6 10	10 18.86	+36 33.5	0.650	0.959	75.5	20.2	66 E	52*	27*	3 7	0 2.84	+ 4 14.5	2.803	1.872	8.6	21.3	16 E	10*	2*
6 15	10 46.49	+36 16.4	0.659	0.976	74.0	20.2	67 E	53*	27*	3 17	0 24.62	+ 6 56.7	2.863	1.905	6.6	21.3	13 E	7*	—
6 20	11 12.70	+35 38.4	0.669	0.992	72.5	20.2	69 E	54*	28*	3 27	0 46.13	+ 9 33.3	2.917	1.938	4.7	21.3	9 E	3*	—
6 25	11 37.44	+34 42.5	0.679	1.007	71.2	20.3	70 E	54*	29*	4 6	1 7.41	+12 3.4	2.964	1.972	3.1	21.2	6 E	—	—
6 30	12 0.71	+33 31.2	0.690	1.021	69.9	20.3	71 E	54*	30*	4 16	1 28.54	+14 26.1	3.004	2.005	2.4	21.3	5 W	—	—
7 5	12 22.62	+32 6.9	0.701	1.034	68.7	20.3	71 E	54*	32*	4 26	1 49.53	+16 40.8	3.035	2.039	3.3	21.4	7 W	—	—
7 10	12 43.29	+30 31.5	0.712	1.046	67.6	20.3	72 E	54*	33*	190677 2001 BQ₆₁									
7 15	13 2.86	+28 46.8	0.723	1.057	66.6	20.4	73 E	53*	35*	12 27	21 16.70	- 4 46.4	3.589	2.986	13.6	20.9	46 E	33*	23*
7 20	13 21.46	+26 54.5	0.734	1.06															

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

20/22	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45° - 26°	20/22	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45° - 26°
190677 2001 BQ₆₁									5653 Camarillo								
<i>(continuation)</i>									<i>(continuation)</i>								
6 5	1 27.60	+7 1.0	2.879	2.383	19.4	20.2	51 W	16* 43*	3 17	23 39.07	-3 48.0	3.118	2.125	1.4	20.5	3 W	—
6 15	1 45.10	+7 29.7	2.737	2.341	21.3	20.1	57 W	20* 47*	3 27	23 57.48	-1 34.1	3.083	2.098	3.6	20.6	8 W	—
6 25	2 2.77	+7 47.4	2.590	2.299	23.0	20.0	62 W	24* 50*	4 6	0 16.12	+0 42.0	3.037	2.070	5.9	20.7	12 W	—
7 5	2 20.59	+7 52.0	2.440	2.256	24.6	19.8	68 W	29* 52*	4 16	0 35.06	+2 59.5	2.980	2.040	8.1	20.7	17 W	—
7 15	2 38.50	+7 40.9	2.288	2.214	26.0	19.7	73 W	34* 55*	4 26	0 54.34	+5 17.8	2.914	2.008	10.4	20.7	21 W	—
7 25	2 56.42	+7 11.5	2.136	2.172	27.3	19.6	78 W	38* 56*	5 6	1 14.06	+7 36.1	2.838	1.975	12.7	20.7	25 W	—
8 4	3 14.24	+6 20.9	1.986	2.130	28.3	19.4	84 W	42* 58*	5 16	1 34.30	+9 53.7	2.755	1.941	14.9	20.7	30 W	—
8 14	3 31.80	+5 6.0	1.839	2.089	29.0	19.2	89 W	45* 59	5 26	1 55.15	+12 9.7	2.665	1.906	17.1	20.6	34 W	—
8 24	3 48.90	+3 23.6	1.698	2.048	29.5	19.0	95 W	46* 61	6 5	2 16.73	+14 23.2	2.568	1.869	19.3	20.6	38 W	—
9 3	4 5.31	+1 10.9	1.564	2.008	29.6	18.8	100 W	46* 63	6 15	2 39.15	+16 32.9	2.467	1.831	21.5	20.5	41 W	—
9 13	4 20.70	-1 34.4	1.440	1.969	29.5	18.5	106 W	43 66	6 25	3 2.51	+18 37.7	2.363	1.793	23.6	20.4	45 W	—
9 23	4 34.69	-4 52.8	1.326	1.931	29.0	18.3	111 W	40 69	7 5	3 26.97	+20 35.9	2.255	1.753	25.7	20.4	48 W	—
10 3	4 46.86	-8 42.6	1.226	1.894	28.3	18.1	116 W	36 73	7 15	3 52.64	+22 25.9	2.146	1.713	27.8	20.3	52 W	—
10 8	4 52.11	-10 47.8	1.182	1.876	27.9	18.0	118 W	34 75	7 25	4 19.63	+24 5.4	2.036	1.672	29.8	20.2	55 W	—
10 13	4 56.72	-12 58.3	1.141	1.859	27.5	17.9	121 W	32 77	8 4	4 33.66	+24 50.5	1.982	1.652	30.8	20.1	56 W	—
10 18	5 0.63	-15 12.7	1.104	1.842	27.2	17.8	122 W	30 79	8 14	4 48.06	+25 32.0	1.927	1.631	31.8	20.0	58 W	—
10 23	5 3.80	-17 29.2	1.072	1.826	26.8	17.7	124 W	28 81	8 9	5 2.83	+26 9.7	1.873	1.611	32.7	20.0	59 W	—
10 28	5 6.17	-19 45.7	1.043	1.810	26.6	17.6	125 W	25 84	8 19	5 17.98	+26 43.0	1.820	1.590	33.7	19.9	61 W	—
11 2	5 7.69	-22 0.0	1.018	1.795	26.4	17.5	126 W	23 86	8 24	5 33.50	+27 11.6	1.767	1.570	34.7	19.8	62 W	—
11 7	5 8.35	-24 9.3	0.997	1.780	26.4	17.4	127 W	21 88	8 29	5 49.40	+27 35.1	1.715	1.549	35.6	19.8	63 W	—
11 12	5 8.16	-26 11.0	0.980	1.766	26.4	17.4	127 W	19 90	8 29	6 5.66	+27 53.1	1.664	1.529	36.6	19.7	64 W	—
11 17	5 7.18	-28 2.3	0.967	1.753	26.6	17.3	127 W	17 88	9 3	6 22.27	+28 5.1	1.614	1.509	37.5	19.6	66 W	—
11 22	5 5.47	-29 40.9	0.957	1.740	27.0	17.3	127 W	15 86	9 8	6 39.22	+28 10.8	1.566	1.490	38.4	19.6	67 W	—
11 27	5 3.14	-31 4.8	0.950	1.729	27.4	17.3	126 W	14 85	9 13	6 56.45	+28 9.8	1.518	1.470	39.3	19.5	68 W	—
12 2	5 0.34	-32 12.0	0.946	1.717	27.9	17.3	125 W	13 84	9 18	7 13.96	+28 1.6	1.472	1.451	40.2	19.4	69 W	—
12 7	4 57.25	-33 1.1	0.944	1.707	28.4	17.3	124 W	12 83	9 23	7 31.69	+27 46.1	1.427	1.432	41.1	19.4	70 W	—
12 12	4 54.10	-33 31.5	0.945	1.698	29.0	17.3	123 E	11 82	9 28	7 49.62	+27 22.9	1.384	1.414	41.9	19.3	71 W	—
12 17	4 51.10	-33 42.9	0.948	1.689	29.7	17.3	122 E	11 82	10 3	8 7.68	+26 51.8	1.343	1.397	42.8	19.2	71 W	—
12 22	4 48.46	-33 35.8	0.953	1.681	30.3	17.3	120 E	11 82	10 8	8 25.84	+26 12.8	1.303	1.380	43.6	19.2	72 W	—
12 27	4 46.35	-33 10.9	0.960	1.675	30.9	17.4	119 E	12 83	10 13	8 44.02	+25 25.8	1.265	1.364	44.4	19.1	73 W	—
1 1	4 44.92	-32 29.1	0.968	1.669	31.5	17.4	118 E	13 84	10 18	9 2.19	+24 31.0	1.228	1.348	45.2	19.0	74 W	—
1 6	4 44.31	-31 31.6	0.977	1.664	32.1	17.4	116 E	13 84	10 23	9 20.30	+23 28.5	1.194	1.334	46.0	19.0	74 W	—
1 11	4 44.62	-30 20.2	0.989	1.660	32.6	17.4	115 E	15 86	11 2	9 56.15	+21 1.7	1.130	1.307	47.4	18.8	76 W	—
1 16	4 45.88	-28 56.4	1.001	1.657	33.1	17.5	113 E	16 87	11 12	10 31.21	+18 9.2	1.073	1.285	48.6	18.7	77 W	—
1 21	4 48.10	-27 22.0	1.015	1.655	33.5	17.5	112 E	18 89	11 22	11 5.22	+14 55.9	1.023	1.268	49.7	18.6	78 W	—
129989 1999 VS₅									30919 2007 SO								
12 27	21 16.84	-15 59.8	2.128	1.534	25.0	20.4	41 E	23* 28*	12 27	21 17.14	-12 38.2	2.984	2.354	16.4	20.6	42 E	26*
1 1	21 32.04	-14 50.7	2.164	1.546	24.2	20.5	40 E	23* 26*	1 6	21 33.70	-11 9.7	3.016	2.303	14.8	20.5	37 E	24*
1 6	21 46.95	-13 38.5	2.200	1.560	23.2	20.5	39 E	23* 24*	1 16	21 51.00	-9 31.7	3.036	2.251	13.0	20.4	31 E	21*
1 11	22 1.58	-12 23.7	2.237	1.574	22.3	20.5	37 E	23* 23*	1 26	22 2.85	-7 44.4	3.045	2.200	11.2	20.3	26 E	18*
1 16	22 15.94	-11 6.6	2.275	1.589	21.4	20.5	36 E	23* 21*	2 5	22 27.51	-5 48.2	3.042	2.148	9.3	20.2	21 E	14*
1 21	22 30.02	-9 47.9	2.314	1.605	20.4	20.6	35 E	23* 19*	2 15	22 46.68	-3 43.2	3.029	2.096	7.4	20.1	16 E	10*
1 26	22 43.84	-8 27.9	2.353	1.622	19.5	20.6	33 E	22* 18*	2 25	23 6.44	-1 30.2	3.006	2.045	5.5	19.9	11 E	5*
1 31	22 57.39	-7 7.1	2.392	1.640	18.5	20.6	32 E	21* 16*	3 7	23 26.83	+0 50.1	2.974	1.994	3.7	19.7	8 E	1*
2 5	23 10.70	-5 45.8	2.432	1.658	17.5	20.6	30 E	20* 15*	3 17	23 47.91	+3 16.8	2.934	1.944	2.4	19.5	5 E	—
2 10	23 23.78	-4 24.5	2.473	1.676	16.5	20.7	29 E	19* 14*	3 27	0 9.74	+5 48.6	2.888	1.895	2.5	19.5	5 W	—
2 15	23 36.65	-3 3.4	2.513	1.696	15.4	20.7	27 E	18* 12*	4 6	0 32.40	+8 24.1	2.836	1.847	3.8	19.5	7 W	—
2 20	23 49.30	-1 42.9	2.553	1.715	14.4	20.7	26 E	17* 11*	4 16	0 56.02	+11 1.5	2.781	1.801	5.5	19.4	10 W	2*
2 25	0 1.77	+0 23.3	2.593	1.735	13.4	20.7	24 E	16* 10*	4 26	1 20.70	+13 38.5	2.723	1.757	7.3	19.4	13 W	3*
3 2	0 14.05	+0 55.2	2.633	1.756	12.3	20.8	22 E	14* 9*	5 6	1 46.56	+16 12.6	2.665	1.715	9.1	19.4	16 W	4*
3 7	0 26.16	+2 12.4	2.672	1.777	11.3	20.8	21 E	13* 8*	5 16	2 13.72	+18 40.6	2.606	1.676	10.9	19.4	18 W	6*
3 12	0 38.13	+3 28.0	2.710	1.798	10.3	20.8	19 E	11* 7*	5 26	2 42.24	+20 59.0	2.548	1.640	12.6	19.4	21 W	7*
3 17	0 49.94	+4 42.0	2.748	1.820	9.2	20.8	17 E	10* 6*	6 5	3 12.18	+23 3.7	2.493	1.608	14.2	19.3	23 W	9*
3 22	1 1.63	+5 54.0	2.784	1.841	8.1	20.8	15 E	8* 4*	6 10	3 27.67	+23 59.6	2.466	1.593	15.0	19.3	24 W	10*
3 27	1 13.18	+7 4.0	2.820	1.863	7.1	20.8	13 E	6* 3*	6 15	3 43.49	+24 50.6	2.440	1.580	15.8	19.3	25 W	11*
4 1	1 24.62	+8 11.7	2.854	1.886	6.0	20.8	11 E	4* 2*	6 20	3 59.61	+25 36.1	2.416	1.567	16.5	19.3	26 W	13*
4 6	1 35.95	+9 17.2	2.888	1.908	5.0	20.8	10 E	2* 1*	6 25	4 16.02	+26 15.6	2.392	1.556	17.3	19.3	27 W	14*
4 11	1 47.18	+10 20.3	2.919	1.930	3.9	20.8	8 E	1* —	7 5	4 32.67	+26 48.7	2.369	1.546	18.0	19.3	28 W	15*
4 16	1 58.31	+11 21.0	2.949	1.953	2.9	20.8	6 E	— —	7 15	4 49.53	+27 15.1	2.347	1.538	18.7	19.2	29 W	16*
4 21	2 9.35	+12 19.1	2.977	1.975	1.8	20.8	4 E	— —	7 25	5 23.66	+27 46.2	2.306	1.525	20.0	19.2	31 W	19*
4 26	2 20.29	+13 14.5	3.004	1.998	0.8	20.7	2 E	— —	8 4	5 57.94	+27 47.3	2.269	1.517	21.2	19.2	33 W	22*
5 1	2 31.14	+14 7.3	3.028	2.021	0.5	20.7	1 W	— —	8 14	6 31.92	+27 18.4	2.235	1.515	22.4	19.2	35 W	24*
5 6	2 41.91	+14 57.3	3.050	2.043	1.4	20.9	3 W	— —	8 24	7 5.13	+26 20.9	2.204	1.519	23.5	19.2	37 W	27*
5 11	2 52.59	+15 44.7	3.070	2.066	2.4	21.0	5 W	— —	9 3	8 7.76	+23 12.0	2.148	1.543	25.6	19.3	41 W	33*
5 16	3 3.18	+16 29.3	3.088	2.088	3.4	21.1	7 W	— 1*	9 13	8 36.71	+21 8.3	2.121	1.563	26.6	19.3	44 W	35*
5 21	3 13.68	+17 11.0	3.103	2.111	4.4	21.2	9 W	— 3*	9 23	9 3.92	+18 51.0	2.092	1.588	27.5	19.3	47 W	38*
5 26	3 24.08	+17 50.0	3.116	2.133	5.4	21.3											

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

20/22	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°	20/22	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°
309319 2007 SO										363505 2003 UC₂₀									
<i>(continuation)</i>										<i>(continuation)</i>									
11 22	11 10.23	+ 3 46.6	1.848	1.815	31.3	19.5	73 W	48*	43*	5 1	4 57.69	+20 29.8	1.514	0.898	40.0	20.6	35 E	22*	21*
12 2	11 24.90	+ 1 29.0	1.790	1.862	31.3	19.4	78 W	46	49*	5 6	5 16.15	+20 59.6	1.491	0.871	40.9	20.6	34 E	21*	21*
12 12	11 37.44	+ 0 38.9	1.728	1.910	30.9	19.4	85 W	44	55*	5 11	5 34.99	+21 22.5	1.463	0.843	42.1	20.5	34 E	20*	21*
12 22	11 47.64	+ 2 35.2	1.663	1.959	30.1	19.4	92 W	42	62*	5 16	5 54.22	+21 38.2	1.430	0.812	43.6	20.4	34 E	19*	21*
1 1	11 55.20	+ 4 18.1	1.596	2.009	28.8	19.3	100 W	41	67*	5 21	6 13.81	+21 46.4	1.392	0.780	45.5	20.3	33 E	18*	21*
1 11	11 59.79	+ 5 45.1	1.531	2.060	27.0	19.2	108 W	39	70	5 26	6 33.75	+21 46.9	1.348	0.747	47.9	20.2	33 E	17*	21*
1 21	12 1.14	+ 6 53.6	1.470	2.112	24.4	19.1	117 W	38	71	5 31	6 53.98	+21 39.4	1.298	0.712	51.0	20.1	33 E	16*	22*
6411 Tamaga										6585 O'Keefe									
12 27	21 17.31	-14 1.2	3.039	2.400	15.9	18.3	42 E	25*	27*	12 27	21 17.67	-24 37.0	2.740	2.080	17.6	19.1	40 E	15*	31*
1 6	21 34.52	-13 43.4	3.078	2.353	14.2	18.2	36 E	22*	22*	1 6	21 36.73	-22 0.5	2.771	2.037	15.8	19.0	34 E	15*	25*
1 16	21 52.50	-13 15.1	3.105	2.306	12.3	18.1	30 E	18*	17*	1 16	21 56.07	-19 15.9	2.793	1.994	14.0	18.9	29 E	13*	20*
1 26	22 11.17	-12 37.3	3.119	2.258	10.3	18.0	24 E	14*	12*	1 26	22 15.65	-16 23.2	2.805	1.952	12.1	18.8	24 E	12*	15*
2 5	22 30.46	-11 50.8	3.120	2.211	8.3	17.9	19 E	10*	9*	2 5	22 35.44	-13 22.5	2.808	1.910	10.1	18.7	20 E	9*	10*
2 15	22 50.36	-10 56.5	3.109	2.163	6.3	17.7	14 E	5*	6*	2 15	22 55.48	-10 13.8	2.803	1.869	8.0	18.6	15 E	6*	6*
2 25	23 10.83	-9 55.5	3.086	2.117	4.4	17.6	10 E	—	3*	2 25	23 15.79	-6 57.7	2.791	1.829	5.9	18.4	11 E	3*	3*
3 7	23 31.89	-8 48.9	3.053	2.070	3.1	17.4	6 E	—	—	3 7	23 36.45	-3 34.6	2.771	1.790	3.8	18.2	7 E	—	—
3 17	23 53.54	-7 37.8	3.010	2.025	3.1	17.3	6 E	—	—	3 17	23 57.55	-0 5.3	2.745	1.752	1.7	18.0	3 E	—	—
3 27	0 15.82	-6 23.5	2.959	1.980	4.5	17.3	9 W	—	—	3 27	0 19.19	+ 3 29.2	2.713	1.716	0.8	17.9	1 W	—	—
4 6	0 38.77	-5 7.3	2.901	1.936	6.5	17.3	13 W	—	4*	4 6	0 41.51	+ 7 7.6	2.678	1.682	2.7	18.0	5 W	—	—
4 16	1 2.43	-3 50.7	2.837	1.894	8.5	17.3	16 W	—	8*	4 16	1 4.68	+10 48.4	2.639	1.650	4.7	18.0	8 W	—	—
4 26	1 26.84	-2 35.4	2.769	1.854	10.6	17.3	20 W	—	11*	4 26	1 28.86	+14 29.4	2.599	1.622	6.7	18.0	11 W	2*	3*
5 6	1 52.04	-1 22.8	2.699	1.815	12.6	17.3	23 W	—	15*	5 6	1 54.27	+18 8.0	2.557	1.596	8.7	18.0	14 W	4*	5*
5 16	2 18.05	+ 0 14.9	2.628	1.779	14.6	17.3	26 W	—	19*	5 16	2 21.11	+21 40.9	2.516	1.574	10.5	18.1	17 W	7*	7*
5 26	2 44.85	+ 0 46.4	2.558	1.746	16.4	17.2	29 W	—	22*	5 26	2 49.57	+25 4.3	2.477	1.555	12.3	18.1	19 W	9*	8*
6 5	3 12.43	+ 1 39.3	2.491	1.715	18.2	17.2	32 W	—	25*	5 31	3 4.46	+26 40.9	2.458	1.548	13.2	18.1	20 W	10*	9*
6 15	3 40.70	+ 2 22.1	2.427	1.688	19.8	17.2	34 W	—	28*	6 5	3 19.82	+28 13.4	2.439	1.541	14.0	18.1	21 W	12*	9*
6 25	4 9.52	+ 2 53.1	2.367	1.664	21.3	17.1	37 W	—	30*	6 10	3 35.65	+29 41.0	2.422	1.535	14.7	18.1	23 W	13*	9*
7 5	4 38.75	+ 3 11.2	2.312	1.645	22.7	17.1	39 W	—	33*	6 15	3 51.95	+31 3.2	2.405	1.531	15.5	18.1	24 W	14*	9*
7 15	5 8.19	+ 3 15.4	2.263	1.630	23.9	17.1	40 W	5*	34*	6 20	4 8.72	+32 19.1	2.389	1.527	16.2	18.1	25 W	16*	9*
7 25	5 37.59	+ 3 5.6	2.219	1.619	25.0	17.0	42 W	8*	36*	6 25	4 25.91	+33 28.2	2.374	1.525	16.9	18.1	26 W	17*	9*
8 4	6 6.73	+ 2 42.3	2.180	1.613	25.9	17.0	44 W	12*	37*	6 30	4 43.52	+34 29.9	2.360	1.524	17.6	18.1	27 W	19*	9*
8 14	6 35.37	+ 2 6.3	2.144	1.611	26.8	17.0	46 W	16*	38*	7 5	5 1.50	+35 23.6	2.346	1.524	18.2	18.1	28 W	20*	8*
8 24	7 3.30	+ 1 19.5	2.112	1.614	27.6	17.0	48 W	19*	39*	7 10	5 19.77	+36 8.8	2.334	1.525	18.8	18.1	29 W	21*	8*
9 3	7 30.34	+ 0 23.6	2.080	1.622	28.3	17.0	50 W	23*	40*	7 15	5 38.28	+36 45.1	2.323	1.527	19.3	18.1	30 W	23*	8*
9 13	7 56.35	+ 0 39.1	2.049	1.635	29.0	17.0	52 W	26*	42*	7 20	5 56.92	+37 12.3	2.312	1.531	19.9	18.1	31 W	24*	7*
9 23	8 21.19	+ 1 46.2	2.016	1.652	29.7	17.0	55 W	29*	43*	7 25	6 15.63	+37 30.3	2.302	1.535	20.4	18.2	32 W	25*	7*
10 3	8 44.79	+ 2 55.1	1.979	1.673	30.3	17.0	58 W	32*	45*	7 30	6 34.30	+37 39.0	2.293	1.541	20.9	18.2	33 W	26*	7*
10 13	9 7.05	+ 4 3.4	1.939	1.698	31.0	17.0	61 W	34*	47*	8 4	6 52.84	+37 38.7	2.284	1.547	21.4	18.2	34 W	27*	7*
10 23	9 27.88	+ 5 8.3	1.893	1.726	31.5	17.0	65 W	36*	49*	8 9	7 11.17	+37 29.7	2.275	1.555	21.9	18.2	35 W	29*	6*
11 2	9 47.20	+ 6 7.1	1.841	1.758	31.9	17.0	69 W	37*	52*	8 14	7 29.19	+37 12.4	2.267	1.564	22.3	18.2	36 W	30*	6*
11 12	10 4.88	+ 6 56.8	1.782	1.792	32.2	17.0	74 W	38*	55*	8 19	7 46.83	+36 47.3	2.259	1.573	22.8	18.2	37 W	31*	6*
11 22	10 20.75	+ 7 34.1	1.718	1.829	32.1	16.9	80 W	37	60*	8 24	8 4.03	+36 15.0	2.252	1.584	23.2	18.3	38 W	32*	6*
12 2	10 34.63	+ 7 55.3	1.648	1.868	31.8	16.9	86 W	37	64*	9 3	8 36.94	+34 51.8	2.235	1.608	24.0	18.3	40 W	34*	7*
12 7	10 40.74	+ 7 58.5	1.612	1.889	31.4	16.9	90 W	37	66*	9 13	9 7.67	+33 8.3	2.217	1.635	24.9	18.3	43 W	37*	7*
12 12	10 46.25	+ 7 56.0	1.575	1.909	31.0	16.8	94 W	37	69*	9 23	9 36.12	+31 10.3	2.196	1.665	25.7	18.4	46 W	40*	9*
12 17	10 51.12	+ 7 47.2	1.537	1.931	30.4	16.8	98 W	37	70*	10 3	10 2.34	+29 3.1	2.170	1.698	26.6	18.4	49 W	43*	10*
12 22	10 55.31	+ 7 31.4	1.499	1.952	29.6	16.7	102 W	37	71*	10 13	10 26.39	+26 51.2	2.139	1.732	27.4	18.5	53 W	47*	12*
12 27	10 58.79	+ 7 8.0	1.462	1.974	28.6	16.7	106 W	38	71	10 23	10 48.37	+24 38.7	2.102	1.769	28.1	18.5	57 W	51*	15*
1 1	11 1.52	+ 6 36.3	1.425	1.996	27.5	16.6	111 W	38	71	11 2	11 8.37	+22 28.8	2.058	1.808	28.8	18.5	61 W	54*	18*
1 6	11 3.44	+ 5 55.7	1.390	2.019	26.1	16.5	115 W	39	70	11 12	11 26.42	+20 24.3	2.006	1.847	29.4	18.5	66 W	58*	22*
1 11	11 4.55	+ 5 5.5	1.356	2.041	24.5	16.5	121 W	40	69	11 22	11 42.51	+18 27.6	1.948	1.888	29.8	18.5	72 W	60*	27*
1 16	11 4.82	+ 4 5.6	1.326	2.064	22.7	16.4	126 W	41	68	12 2	11 56.57	+16 40.5	1.882	1.930	29.9	18.5	78 W	61*	32*
1 21	11 4.27	+ 2 55.8	1.299	2.087	20.6	16.3	132 W	42	67	12 12	12 8.45	+15 4.8	1.810	1.972	29.8	18.5	84 W	60	38*
363505 2003 UC₂₀										189630 2001 LE₆									
12 27	21 17.38	-15 45.9	1.257	0.834	51.4	20.4	41 E	23*	28*	12 27	21 17.75	- 5 45.1	1.018	0.773	65.0	19.5	45 E	32*	24*
1 1	21 42.76	-13 59.8	1.268	0.863	50.7	20.5	43 E	25*	28*	1 1	21 25.32	- 5 46.4	0.963	0.700	70.5	19.3	42 E	30*	21*
1 6	22 6.79	-12 8.8	1.283	0.890	49.9	20.5	44 E	27*	28*	1 6	21 31.81	- 6 4.3	0.899	0.625	78.1	19.2	38 E	28*	18*
1 11	22 29.60	-10 14.9	1.300	0.915	49.0	20.6	45 E	28*	28*	1 11	21 36.01	- 6 53.2	0.825	0.550	89.0	19.1	34 E	25*	15*
1 16	22 51.30	-8 19.7	1.320	0.938	48.1	20.7	46 E	29*	28*	1 16	21 35.60	- 8 37.9	0.746	0.479	104.8	19.3	28 E	20*	11*
1 21	23 12.00	-6 24.6	1.341	0.959	47.2	20.7	46 E	31*	27*	1 18	21 33.34	- 9 43.4	0.715	0.452	113.0	19.6	25 E	17*	9*
1 26	23 31.83	-4 30.6	1.363	0.978	46.2	20.8	46 E	32*	27*	1 20	21 29.41	-11 6.2	0.685	0.429	122.6	20.1	22 E	14*	7*
1 31	23 50.91	-2 38.5	1.385	0.994	45.3	20.8	46 E	32*	26*	1 22	21 23.52	-12 47.6	0.658	0.408	133.5	20.9	17 E	10*	5*
2 5	0 9.33	+ 0 48.8	1.408	1.008	44.5	20.9	46 E	33*	26*	1 24	21 15.48	-14 47.2	0.636	0.391	145.9	22.4	13 E	5*	3*
2 10	0 27.22</																		

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

20/21	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°	20/22	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°
16960 1998 QS₅₂										173549 2000 XF₄₇ <i>(continuation)</i>									
12 27	21 18.67	-0 27.5	4.265	3.684	11.5	21.0	48 E	37*	22*	5 26	1 48.01	+13 34.4	2.665	1.923	17.5	19.7	35 W	12*	27*
1 6	21 27.04	-0 7.6	4.335	3.646	10.1	20.9	41 E	32*	14*	6 5	2 8.72	+16 38.4	2.573	1.891	19.6	19.6	39 W	16*	29*
1 16	21 36.00	+0 20.6	4.387	3.606	8.6	20.9	33 E	27*	7*	6 15	2 30.29	+19 42.4	2.478	1.860	21.7	19.6	43 W	20*	30*
1 26	21 45.43	+0 56.8	4.418	3.564	7.1	20.8	27 E	21*	1*	6 25	2 52.84	+22 45.3	2.381	1.831	23.6	19.5	46 W	26*	31*
2 5	21 55.23	+1 40.3	4.428	3.521	5.6	20.7	20 E	14*	—	7 5	3 16.56	+25 45.8	2.284	1.803	25.5	19.4	50 W	31*	30*
2 15	22 5.31	+2 30.6	4.417	3.475	4.4	20.6	16 E	7*	—	7 15	3 41.60	+28 42.0	2.187	1.776	27.3	19.4	53 W	37*	29*
2 25	22 15.58	+3 27.3	4.383	3.428	3.8	20.5	13 W	6*	—	7 20	3 54.66	+30 7.9	2.139	1.764	28.1	19.3	55 W	40*	29*
3 7	22 25.97	+4 29.8	4.328	3.378	4.3	20.5	15 W	9*	—	7 25	4 8.11	+31 31.9	2.092	1.752	29.0	19.3	57 W	43*	28*
3 17	22 36.42	+5 37.7	4.252	3.326	5.6	20.5	19 W	11*	7*	7 30	4 21.96	+32 53.6	2.045	1.740	29.7	19.2	58 W	46*	27*
3 27	22 46.86	+6 50.6	4.155	3.272	7.2	20.5	24 W	14*	13*	8 4	4 36.24	+34 12.7	1.998	1.729	30.5	19.2	60 W	49*	26*
4 6	22 57.23	+8 8.1	4.039	3.215	9.0	20.5	30 W	17*	20*	8 8	4 50.93	+35 28.8	1.953	1.718	31.2	19.2	62 W	51*	25*
4 16	23 7.49	+9 29.8	3.905	3.157	10.9	20.4	37 W	19*	26*	8 14	5 6.05	+36 41.6	1.908	1.708	31.9	19.1	63 W	54*	24*
4 26	23 17.57	+10 55.5	3.754	3.095	12.8	20.4	43 W	23*	32*	8 19	5 21.58	+37 50.5	1.864	1.699	32.6	19.1	65 W	56*	23*
5 6	23 27.39	+12 24.9	3.588	3.032	14.7	20.3	50 W	26*	37*	8 24	5 37.52	+38 55.2	1.821	1.690	33.2	19.0	66 W	59*	22*
5 16	23 36.90	+13 57.9	3.409	2.966	16.4	20.2	56 W	30*	41*	8 29	5 53.85	+39 55.3	1.779	1.682	33.8	19.0	68 W	61*	21*
5 26	23 45.99	+15 34.3	3.218	2.897	18.1	20.1	63 W	34*	44*	9 3	6 10.54	+40 50.4	1.738	1.675	34.3	18.9	69 W	63*	20*
6 5	23 54.56	+17 14.1	3.018	2.825	19.6	19.9	69 W	40*	45*	9 8	6 27.54	+41 40.2	1.698	1.668	34.8	18.9	71 W	65*	19*
6 15	0 2.45	+18 57.4	2.810	2.750	21.0	19.8	76 W	46*	45*	9 13	6 44.79	+42 24.5	1.660	1.662	35.3	18.9	72 W	66*	18*
6 25	0 9.47	+20 43.9	2.597	2.672	22.2	19.6	83 W	52*	43	9 18	7 2.22	+43 3.0	1.622	1.656	35.7	18.8	74 W	68*	17*
7 5	0 15.39	+22 34.0	2.381	2.591	23.1	19.3	90 W	59*	41	9 23	7 19.76	+43 35.7	1.585	1.652	36.0	18.8	76 W	70*	16*
7 15	0 19.84	+24 27.3	2.165	2.506	23.7	19.1	97 W	66*	40	9 28	7 37.34	+44 2.5	1.549	1.648	36.4	18.7	77 W	71*	16*
7 25	0 22.37	+26 23.4	1.951	2.418	24.0	18.8	105 W	71*	38	10 3	7 54.85	+44 23.7	1.514	1.645	36.6	18.7	79 W	73*	15*
7 30	0 22.73	+27 22.3	1.846	2.373	23.9	18.6	109 W	72*	37	10 8	8 12.19	+44 39.5	1.480	1.642	36.9	18.6	80 W	74*	15*
8 4	0 22.36	+28 21.5	1.742	2.326	23.8	18.5	112 W	73	36	10 13	8 29.27	+44 50.2	1.447	1.641	37.0	18.6	82 W	76*	14*
8 9	0 21.14	+29 20.5	1.641	2.279	23.5	18.3	116 W	74	35	10 18	8 45.99	+44 56.5	1.415	1.640	37.2	18.5	84 W	77*	14*
8 14	0 18.95	+30 18.8	1.541	2.230	23.1	18.1	120 W	75	34	10 23	9 2.27	+44 58.7	1.383	1.640	37.2	18.5	86 W	79*	14*
8 19	0 15.63	+31 15.7	1.445	2.180	22.6	17.9	124 W	76	33	10 28	9 18.02	+44 57.7	1.352	1.641	37.2	18.4	87 W	81*	14*
8 24	0 11.05	+32 10.2	1.352	2.130	22.0	17.7	128 W	77	32	11 2	9 33.15	+44 54.2	1.322	1.643	37.2	18.4	89 W	83*	14*
8 29	0 5.02	+33 0.9	1.263	2.077	21.2	17.4	132 W	78	31	11 7	9 47.59	+44 48.9	1.292	1.645	37.0	18.3	91 W	85*	14*
9 3	23 57.37	+33 45.8	1.178	2.024	20.5	17.2	135 W	79	30	11 12	10 1.25	+44 42.8	1.262	1.648	36.8	18.3	93 W	87*	14*
9 8	23 47.93	+34 22.4	1.098	1.970	19.8	17.0	139 W	79	30	11 17	10 14.08	+44 36.5	1.233	1.652	36.6	18.2	95 W	89*	15*
9 13	23 36.62	+34 47.4	1.023	1.914	19.2	16.7	141 W	80	29	11 22	10 26.02	+44 30.8	1.204	1.657	36.2	18.2	98 W	90	15*
9 18	23 23.42	+34 57.2	0.954	1.856	19.1	16.5	143 E	80	29	11 27	10 37.00	+44 26.5	1.175	1.662	35.8	18.1	100 W	89	16*
9 23	23 8.41	+34 47.8	0.891	1.798	19.6	16.3	143 E	80	29	12 2	10 46.94	+44 24.4	1.147	1.668	35.2	18.1	103 W	89	17*
9 28	22 51.85	+34 15.1	0.834	1.737	20.8	16.1	142 E	79	30	12 7	10 55.76	+44 24.9	1.120	1.675	34.6	18.0	105 W	89	17*
10 3	22 34.13	+33 15.4	0.785	1.675	23.0	16.0	139 E	78	31	12 12	11 3.37	+44 28.5	1.093	1.683	33.8	17.9	108 W	89	18*
10 8	22 15.84	+31 46.7	0.743	1.611	26.1	15.9	135 E	77	32	12 17	11 9.70	+44 35.3	1.067	1.691	32.9	17.9	111 W	90	18*
10 13	21 57.60	+29 49.0	0.707	1.546	29.9	15.8	129 E	75	34	12 22	11 14.66	+44 45.5	1.041	1.700	31.9	17.8	114 W	90	19*
10 18	21 40.01	+27 24.9	0.677	1.478	34.5	15.7	123 E	72	37	12 27	11 18.13	+44 58.7	1.017	1.709	30.7	17.7	117 W	90	19*
10 23	21 23.51	+24 38.4	0.654	1.409	39.5	15.7	116 E	70	39	1 1	11 20.01	+45 14.6	0.994	1.719	29.4	17.6	121 W	90	19*
10 28	21 8.37	+21 34.6	0.635	1.337	44.9	15.7	108 E	67	42	1 6	11 20.19	+45 32.0	0.973	1.730	28.0	17.6	124 W	89	18
11 1	20 54.68	+18 18.4	0.619	1.263	50.6	15.6	101 E	63	45*	1 11	11 18.59	+45 49.5	0.954	1.741	26.5	17.5	128 W	89	18
11 7	20 42.35	+14 53.9	0.606	1.186	56.6	15.6	93 E	60	46*	1 16	11 15.20	+46 5.1	0.938	1.753	24.8	17.4	132 W	89	18
11 12	20 31.09	+11 23.4	0.594	1.107	63.0	15.6	85 E	56	45*	1 21	11 10.04	+46 16.5	0.925	1.765	23.2	17.4	135 W	89	18
11 17	20 20.45	+7 46.9	0.582	1.025	69.9	15.6	77 E	52*	43*										
11 22	20 9.79	+4 1.7	0.569	0.939	77.5	15.6	68 E	47*	39*										
11 27	19 58.29	+0 2.4	0.556	0.851	86.4	15.7	59 E	42*	34*										
12 2	19 44.81	-4 18.4	0.543	0.759	97.1	15.9	50 E	35*	28*										
12 7	19 27.80	-9 8.8	0.533	0.664	110.3	16.2	39 E	27*	21*										
12 12	19 5.40	-14 31.7	0.531	0.567	127.4	17.2	27 E	17*	13*										
12 14	18 54.58	-16 47.4	0.535	0.528	135.7	17.9	22 E	12*	10*										
12 16	18 42.67	-19 3.5	0.542	0.490	144.9	19.0	17 E	8*	6*										
12 18	18 29.85	-21 16.2	0.555	0.452	155.1	20.8	11 E	3*	3*										
12 20	18 16.46	-23 20.7	0.574	0.416	166.3	25.1	6 E	—	—										
331963 2004 XK₃₅										20137 1996 PX₈									
12 27	21 19.14	+9 57.0	1.504	1.226	40.6	20.5	54 E	46*	17*	12 27	21 20.98	-16 8.5	2.456	1.849	20.9	19.6	42 E	23*	29*
1 6	21 59.39	+12 30.0	1.547	1.266	39.4	20.6	55 E	47*	15*	1 6	21 44.06	-14 34.9	2.491	1.817	19.4	19.6	38 E	22*	24*
1 16	22 39.33	+14 49.8	1.606	1.311	37.7	20.7	55 E	48*	14*	1 16	22 7.63	-12 48.4	2.520	1.786	17.7	19.5	34 E	20*	20*
1 26	23 18.42	+16 53.4	1.680	1.360	35.9	20.9	54 E	48*	13*	1 26	22 31.59	-10 50.1	2.544	1.756	16.1	19.4	30 E	18*	16*
2 5	23 56.21	+18 38.7	1.769	1.412	33.8	21.0	53 E	46*	13*	2 5	22 55.90	-8 41.4	2.562	1.729	14.4	19.3	26 E	16*	13*
2 15	0 32.44	+20 5.9	1.870	1.466	31.6	21.1	51 E	45*	13*	2 15	23 20.56	-6 23.7	2.575	1.703	12.7	19.3	22 E	13*	10*
2 25	1 6.96																		

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

20/22	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°	20/22	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°
20137 1996 PX₈										187026 2005 EK₇₀									
<i>(continuation)</i>										<i>(continuation)</i>									
12 12	11 16.39	+ 3 32.9	1.905	2.164	27.1	19.6	91 W	49	55*	8 14	11 46.93	-24 58.5	1.037	0.883	63.1	19.3	51 E	—	39*
12 22	11 24.58	+ 3 0.0	1.814	2.199	26.2	19.5	99 W	48	59*	8 19	12 7.42	-26 42.7	1.003	0.873	64.9	19.3	51 E	—	40*
1 1	11 30.28	+ 2 44.9	1.724	2.235	24.7	19.4	108 W	48	61*	8 24	12 29.40	-28 13.9	0.968	0.863	66.7	19.3	52 E	—	40*
1 11	11 33.17	+ 2 50.3	1.639	2.270	22.6	19.2	118 W	48	61	8 29	12 52.96	-29 28.3	0.933	0.855	68.6	19.2	52 E	—	41*
1 21	11 33.02	+ 3 17.8	1.563	2.304	19.6	19.1	128 W	48	61	9 3	13 18.11	-30 21.6	0.898	0.848	70.5	19.2	52 E	—	41*
163899 2003 SD₂₂₀										187026 2005 EK₇₀									
12 27	21 21.08	+ 9 13.4	1.291	0.910	49.5	20.1	45 E	29*	26*	9 8	13 44.73	-30 49.2	0.864	0.841	72.4	19.1	53 E	—	43*
1 1	21 42.80	+ 7 25.8	1.299	0.925	49.0	20.1	45 E	31*	26*	9 13	14 12.55	-30 46.6	0.831	0.836	74.2	19.1	53 E	—	44*
1 6	22 3.89	+ 5 37.0	1.308	0.939	48.6	20.2	46 E	32*	25*	9 18	14 41.17	-30 9.7	0.801	0.833	75.9	19.1	53 E	—	45*
1 11	22 24.40	+ 3 48.0	1.318	0.952	48.1	20.2	46 E	33*	24*	9 23	15 10.05	-28 56.1	0.773	0.830	77.4	19.0	54 E	—	3* 47*
1 16	22 44.42	+ 1 59.6	1.330	0.963	47.6	20.2	46 E	34*	23*	9 28	15 38.64	-27 5.2	0.748	0.830	78.7	19.0	54 E	—	6* 48*
1 26	23 23.19	+ 1 32.3	1.353	0.981	46.6	20.3	46 E	36*	22*	10 3	16 6.39	-24 38.6	0.727	0.830	79.7	19.0	55 E	—	11* 49*
2 5	0 0.68	+ 4 54.1	1.377	0.994	45.7	20.3	46 E	36*	21*	10 8	16 32.88	-21 40.3	0.710	0.832	80.4	19.0	55 E	—	15* 49*
2 15	0 37.37	+ 8 2.3	1.399	1.000	44.9	20.3	46 E	37*	21*	10 13	16 57.81	-18 15.9	0.697	0.836	80.7	18.9	56 E	—	24* 47*
2 25	1 13.65	+ 10 54.3	1.417	1.000	44.3	20.4	45 E	36*	20*	10 18	17 21.04	-14 32.1	0.687	0.841	80.7	18.9	56 E	—	29* 45*
3 7	1 49.86	+ 13 27.2	1.430	0.994	43.9	20.4	44 E	35*	20*	10 23	17 42.56	-10 35.8	0.681	0.847	80.5	18.9	57 E	—	24* 47*
3 17	2 26.32	+ 15 38.8	1.436	0.982	43.8	20.3	43 E	34*	20*	10 28	18 2.48	-6 33.4	0.678	0.854	80.0	18.9	58 E	—	33* 43*
3 27	3 3.24	+ 17 26.5	1.434	0.963	43.9	20.3	42 E	33*	21*	11 2	18 20.98	-2 30.7	0.677	0.862	79.3	18.9	59 E	—	37* 40*
4 6	3 40.78	+ 18 47.6	1.423	0.939	44.5	20.2	41 E	31*	22*	11 7	18 38.28	+ 1 28.3	0.678	0.871	78.4	18.9	59 E	—	41* 36*
4 16	4 19.04	+ 19 39.6	1.400	0.910	45.6	20.2	40 E	29*	23*	11 12	18 54.59	+ 5 20.7	0.680	0.881	77.5	18.9	60 E	—	45* 33*
4 26	4 58.02	+ 20 0.1	1.366	0.876	47.4	20.1	40 E	27*	24*	11 17	19 10.14	+ 9 4.6	0.683	0.892	76.5	18.9	61 E	—	49* 29*
5 6	5 37.63	+ 19 47.0	1.319	0.838	49.9	20.0	39 E	24*	25*	11 22	19 25.15	+ 12 38.9	0.685	0.903	75.5	18.9	62 E	—	52* 25*
5 16	6 17.74	+ 18 59.9	1.257	0.798	53.5	19.9	39 E	21*	27*	11 27	19 39.86	+ 16 3.5	0.687	0.915	74.6	18.9	63 E	—	54* 21*
5 26	6 58.10	+ 17 39.7	1.181	0.757	58.2	19.8	39 E	19*	28*	12 2	19 54.51	+ 19 18.6	0.688	0.926	73.6	18.9	64 E	—	57* 18*
6 5	7 38.38	+ 15 50.8	1.089	0.719	64.5	19.7	40 E	16*	30*	12 7	20 9.32	+ 22 24.7	0.688	0.938	72.7	18.9	65 E	—	59* 14*
6 15	8 18.16	+ 13 42.5	0.983	0.686	72.5	19.6	40 E	13*	32*	12 12	20 24.52	+ 25 22.6	0.687	0.950	71.9	18.9	67 E	—	60* 11*
6 20	8 37.69	+ 12 35.6	0.926	0.674	77.1	19.6	40 E	12*	32*	12 17	20 40.33	+ 28 12.9	0.684	0.962	71.1	18.9	68 E	—	62* 8*
6 25	8 56.84	+ 11 30.5	0.866	0.663	82.2	19.6	40 E	11*	33*	12 22	20 56.99	+ 30 55.7	0.680	0.974	70.4	18.9	69 E	—	63* 5*
6 30	9 15.52	+ 10 30.4	0.804	0.656	87.7	19.6	40 E	10*	33*	12 27	21 14.76	+ 33 31.2	0.675	0.986	69.8	18.9	70 E	—	63* 3*
7 5	9 33.62	+ 9 39.1	0.741	0.653	93.5	19.6	40 E	10*	33*	1 1	21 33.93	+ 35 58.8	0.670	0.997	69.2	18.9	71 E	—	64* 1*
7 10	9 51.03	+ 9 0.9	0.678	0.653	99.6	19.7	39 E	9*	32*	1 6	21 54.76	+ 38 17.8	0.663	1.007	68.6	18.8	73 E	—	65* —
7 15	10 7.60	+ 8 40.4	0.617	0.657	105.9	19.9	38 E	9*	32*	1 11	22 17.51	+ 40 26.5	0.657	1.018	68.0	18.8	74 E	—	65* —
7 20	10 23.19	+ 8 42.7	0.557	0.664	112.4	20.1	37 E	9*	30*	1 16	22 42.38	+ 42 22.3	0.650	1.028	67.5	18.8	75 E	—	66* —
7 25	10 37.66	+ 9 13.0	0.500	0.675	118.9	20.3	36 E	9*	28*	1 21	23 9.50	+ 44 1.6	0.644	1.037	67.0	18.8	76 E	—	66* —
7 30	10 50.86	+ 10 16.4	0.448	0.688	125.5	20.6	33 E	10*	26*	136618 1994 CN₂									
8 4	11 2.67	+ 11 57.3	0.399	0.703	131.9	21.0	31 E	11*	23*	12 27	21 22.99	-16 21.3	1.416	0.960	43.9	19.1	43 E	—	23* 29*
12 27	21 22.66	+ 14 26.3	0.948	0.934	63.0	19.3	58 E	51*	15*	1 1	21 45.99	-14 30.3	1.410	0.969	44.2	19.1	43 E	—	25* 29*
1 1	21 40.19	+ 17 24.3	0.945	0.946	62.7	19.3	59 E	52*	13*	1 6	22 8.67	-12 30.5	1.408	0.981	44.3	19.1	44 E	—	26* 29*
1 6	21 58.26	+ 20 15.8	0.941	0.958	62.3	19.3	60 E	53*	11*	1 11	22 31.01	-10 23.7	1.410	0.995	44.2	19.1	45 E	—	28* 28*
1 11	22 17.04	+ 22 59.9	0.938	0.970	62.0	19.3	61 E	55*	9*	1 16	22 52.95	-8 11.7	1.415	1.012	44.0	19.2	46 E	—	30* 28*
1 16	22 36.68	+ 25 35.9	0.934	0.982	61.7	19.3	62 E	56*	7*	1 21	23 14.49	-5 56.3	1.425	1.031	43.7	19.2	46 E	—	31* 28*
1 21	22 57.31	+ 28 2.6	0.931	0.993	61.4	19.3	62 E	56*	6*	1 26	23 35.60	-3 39.6	1.439	1.052	43.2	19.3	47 E	—	33* 27*
1 26	23 19.01	+ 30 18.5	0.929	1.004	61.1	19.3	63 E	57*	6*	1 31	23 56.29	-1 23.1	1.457	1.075	42.5	19.3	48 E	—	34* 27*
1 31	23 41.86	+ 32 21.7	0.927	1.014	60.8	19.3	64 E	58*	6*	2 5	0 16.56	+ 0 51.5	1.479	1.100	41.8	19.4	48 E	—	35* 27*
2 5	0 5.88	+ 34 10.4	0.927	1.024	60.5	19.3	65 E	58*	6*	2 10	0 36.44	+ 3 2.8	1.505	1.125	41.0	19.5	48 E	—	36* 26*
2 10	0 31.03	+ 35 42.5	0.928	1.034	60.1	19.4	65 E	59*	6*	2 15	0 55.93	+ 5 9.7	1.535	1.152	40.0	19.5	49 E	—	37* 26*
2 15	0 57.18	+ 36 56.1	0.930	1.042	59.8	19.4	66 E	59*	7*	2 20	1 15.05	+ 7 11.1	1.568	1.180	39.1	19.6	49 E	—	38* 26*
2 20	1 24.12	+ 37 49.7	0.935	1.051	59.4	19.4	66 E	60*	8*	2 25	1 33.81	+ 9 6.1	1.604	1.208	38.0	19.7	49 E	—	38* 25*
2 25	1 51.56	+ 38 21.9	0.941	1.058	59.0	19.4	66 E	60*	10*	3 7	2 10.30	+ 12 35.2	1.686	1.266	35.8	19.8	48 E	—	38* 25*
3 2	2 19.15	+ 38 32.1	0.949	1.065	58.6	19.4	67 E	60*	11*	3 17	2 45.55	+ 15 34.3	1.778	1.325	33.6	20.0	47 E	—	37* 24*
3 7	2 46.55	+ 38 20.7	0.959	1.071	58.2	19.5	67 E	60*	13*	3 27	3 19.60	+ 18 2.8	1.876	1.384	31.2	20.1	46 E	—	36* 23*
3 12	3 13.43	+ 37 48.6	0.971	1.076	57.8	19.5	66 E	60*	15*	4 6	3 52.52	+ 20 1.4	1.980	1.442	28.9	20.2	44 E	—	34* 23*
3 17	3 39.50	+ 36 57.7	0.985	1.080	57.4	19.5	66 E	60*	17*	4 16	4 24.36	+ 21 31.8	2.088	1.499	26.6	20.4	42 E	—	31* 22*
3 22	4 5.55	+ 35 50.0	1.001	1.084	56.9	19.5	66 E	59*	19*	4 26	4 55.10	+ 22 36.0	2.196	1.555	24.2	20.5	39 E	—	28* 22*
3 27	4 28.42	+ 34 27.8	1.018	1.086	56.5	19.6	65 E	58*	21*	5 6	5 24.77	+ 23 16.2	2.303	1.608	21.9	20.6	37 E	—	24* 21*
4 1	4 51.05	+ 32 53.4	1.036	1.088	56.0	19.6	65 E	57*	24*	5 16	5 53.37	+ 23 34.8	2.408	1.660	19.6	20.7	33 E	—	20* 20*
4 6	5 12.44	+ 31 9.2	1.056	1.089	55.6	19.6	64 E	55*	26*	5 26	6 20.90	+ 23 34.1	2.509	1.710	17.3	20.8	30 E	—	16* 18*
4 11	5 32.65	+ 29 17.2	1.076	1.089	55.1	19.7	63 E	53*	28*	6 5	6 47.38	+ 23 16.1	2.605	1.757	15.0	20.8	27 E	—	12* 16*
4 16	5 51.75	+ 27 19.3	1.096	1.089	54.7	19.7	62 E	50*	30*	6 15	7 12.84	+ 22 43.0	2.694	1.803	12.7	20.9	23 E	—	8* 14*
4 21	6 9.82	+ 25 16.8	1.116	1.087	54.2	19.7	61 E	47*	32*	6 25	7 37.31	+ 21 56.6	2.776	1.845	10.4	20.9	19 E	—	5* 11*
4 26	6 26.95	+ 23 11.0	1.136	1.085	53.8	19.7	60 E	44*	34*	7 5	8 0.84	+ 20 58.6	2.848	1.886	8.1	20.9	15 E	—	2* 8*
5 1	6 43.26	+ 21 2.8	1.15																

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

20/21	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°	20/22	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°
94396 2001 SN₂₁₃										111245 2001 XE₃									
<i>(continuation)</i>										<i>(continuation)</i>									
3 27	0 35.40	+ 0 20.9	3.139	2.144	1.8	20.8	4 E	—	—	3 7	23 1.55	-25 28.0	4.224	3.311	5.9	20.7	20 W	—	5*
4 6	0 54.44	+ 2 26.4	3.170	2.173	1.9	20.8	4 W	—	—	3 17	23 15.13	-24 5.4	4.177	3.291	7.0	20.7	24 W	—	11*
4 16	1 13.19	+ 4 27.0	3.191	2.202	3.6	21.0	8 W	—	2*	3 27	23 28.55	-22 45.4	4.113	3.271	8.4	20.7	29 W	—	17*
4 26	1 31.65	+ 6 21.8	3.202	2.230	5.6	21.1	12 W	—	6*	4 6	23 41.75	-21 28.5	4.035	3.250	9.8	20.7	34 W	—	23*
5 6	1 49.86	+ 8 10.2	3.201	2.258	7.6	21.2	17 W	—	11*	4 16	23 54.72	-20 15.5	3.942	3.228	11.3	20.7	39 W	—	29*
5 16	2 7.79	+ 9 51.9	3.190	2.285	9.6	21.3	22 W	—	16*	4 26	0 7.38	-19 7.2	3.837	3.205	12.8	20.7	45 W	—	36*
5 26	2 25.44	+11 26.2	3.168	2.312	11.5	21.4	27 W	3*	21*	5 6	0 19.69	-18 4.4	3.720	3.182	14.2	20.7	51 W	—	43*
6 5	2 42.78	+12 52.9	3.134	2.338	13.3	21.5	32 W	7*	25*	5 16	0 31.59	-17 7.9	3.592	3.157	15.6	20.6	57 W	—	50*
362483 2010 SE₃₄										189552 2000 RL₇₇									
12 27	21 23.62	-18 5.4	2.461	1.855	20.9	21.2	42 E	22*	30*	9 28	1 13.09	-19 29.7	1.804	2.743	9.0	18.6	155 W	26	83
1 6	21 47.49	-15 45.7	2.555	1.884	18.8	21.3	38 E	21*	25*	10 3	1 7.41	-19 42.9	1.784	2.725	8.9	18.5	155 W	25	84
1 16	22 10.55	-13 20.7	2.647	1.914	16.7	21.3	34 E	20*	21*	10 8	1 1.48	-19 50.3	1.772	2.707	9.2	18.5	154 W	25	84
1 26	22 32.87	-10 52.3	2.736	1.945	14.6	21.4	30 E	19*	16*	10 13	0 55.45	-19 51.0	1.765	2.689	10.0	18.5	152 E	25	84
2 5	22 54.49	- 8 22.0	2.819	1.977	12.5	21.4	26 E	16*	13*	10 18	0 49.49	-19 44.7	1.766	2.670	11.1	18.6	149 E	25	84
2 15	23 15.52	- 5 51.4	2.898	2.009	10.3	21.4	21 E	13*	9*	10 23	0 43.73	-19 31.0	1.773	2.651	12.4	18.6	145 E	25	84
2 25	23 36.00	- 3 21.6	2.969	2.042	8.1	21.4	17 E	9*	6*	10 28	0 38.32	-19 10.1	1.786	2.632	13.8	18.7	141 E	26	83
3 7	23 56.01	- 0 53.9	3.034	2.075	5.9	21.4	12 E	5*	2*	11 2	0 33.38	-18 42.2	1.804	2.613	15.2	18.7	136 E	26	83
3 17	0 15.62	+ 1 30.7	3.090	2.109	3.7	21.3	8 E	1*	—	11 12	0 25.33	-17 27.0	1.857	2.574	17.9	18.8	127 E	28	81
3 27	0 34.86	+ 3 51.5	3.137	2.142	1.5	21.2	3 E	—	—	11 22	0 20.09	-15 50.2	1.926	2.535	20.3	19.0	117 E	29	80
4 6	0 53.77	+ 6 7.5	3.176	2.175	0.7	21.2	1 W	—	—	12 2	0 17.81	-13 56.6	2.006	2.495	22.1	19.1	108 E	31	78
4 16	1 12.41	+ 8 18.3	3.204	2.209	2.8	21.4	6 W	—	—	12 12	0 18.40	-11 50.5	2.095	2.455	23.3	19.2	99 E	33	75*
189552 2000 RL₇₇										86829 2000 GR₁₄₆									
12 27	21 24.91	- 3 14.9	2.243	1.748	24.8	20.9	48 E	35*	24*	12 27	21 26.38	-25 50.4	2.112	1.521	25.3	19.6	41 E	15*	33*
1 6	21 48.08	- 3 23.3	2.255	1.680	23.7	20.8	43 E	32*	20*	1 6	21 49.37	-23 35.0	2.097	1.440	24.3	19.4	37 E	14*	28*
1 16	22 12.56	- 3 16.9	2.260	1.614	22.4	20.7	39 E	29*	17*	1 16	22 13.50	-21 0.7	2.067	1.355	23.4	19.2	33 E	14*	24*
1 26	22 38.31	- 2 56.9	2.257	1.549	21.1	20.6	34 E	26*	14*	1 26	22 38.85	-18 5.1	2.022	1.265	22.7	19.0	30 E	13*	21*
2 5	23 5.30	- 2 24.7	2.248	1.486	19.7	20.4	31 E	22*	12*	2 5	23 5.56	-14 45.3	1.963	1.171	22.3	18.8	27 E	13*	18*
2 15	23 33.56	- 1 42.2	2.233	1.426	18.4	20.3	27 E	19*	11*	2 15	23 33.90	-10 58.0	1.891	1.074	22.5	18.5	25 E	12*	15*
2 25	0 3.11	+ 0 51.2	2.213	1.370	17.1	20.1	24 E	16*	11*	2 25	0 4.21	- 6 39.5	1.807	0.974	23.3	18.2	23 E	12*	13*
3 7	0 33.99	+ 0 6.0	2.189	1.320	16.2	20.0	22 E	13*	10*	3 7	0 37.00	- 1 46.4	1.711	0.875	25.2	17.9	22 E	12*	12*
3 17	1 6.24	+ 1 7.1	2.164	1.276	15.5	19.9	20 E	10*	11*	3 17	1 13.00	+ 3 43.9	1.605	0.780	28.8	17.7	22 E	13*	11*
3 27	1 39.87	+ 2 9.3	2.138	1.240	15.4	19.8	19 E	7*	11*	3 27	1 53.07	+ 9 49.8	1.489	0.699	34.8	17.4	24 E	15*	11*
4 6	2 14.85	+ 3 9.8	2.114	1.213	15.6	19.7	19 E	5*	12*	4 1	2 14.96	+13 3.6	1.427	0.666	38.8	17.3	25 E	17*	11*
4 16	2 51.09	+ 4 5.9	2.094	1.196	16.3	19.7	19 E	3*	13*	4 6	2 38.28	+16 21.6	1.363	0.642	43.5	17.3	26 E	18*	11*
4 26	3 28.42	+ 4 54.3	2.081	1.190	17.1	19.7	20 E	—	14*	4 11	3 2.00	+19 40.4	1.299	0.626	48.7	17.3	28 E	20*	11*
5 6	4 6.52	+ 5 32.2	2.077	1.195	17.9	19.7	21 E	—	15*	4 16	3 29.88	+22 55.1	1.234	0.621	54.0	17.3	30 E	22*	12*
5 16	4 45.05	+ 5 57.3	2.085	1.211	18.5	19.8	22 E	—	16*	4 21	3 58.51	+26 0.2	1.171	0.628	59.1	17.4	32 E	25*	12*
5 26	5 23.52	+ 6 7.4	2.104	1.238	18.7	19.8	23 E	—	17*	4 26	4 29.29	+28 49.0	1.110	0.644	63.6	17.4	35 E	27*	13*
6 5	6 1.46	+ 6 1.8	2.137	1.273	18.6	19.9	24 E	—	17*	4 28	4 42.24	+29 50.4	1.087	0.654	65.2	17.5	36 E	28*	14*
6 15	6 38.42	+ 5 40.6	2.183	1.316	18.0	20.0	24 E	—	16*	4 30	4 55.57	+30 47.5	1.066	0.664	66.6	17.5	37 E	29*	14*
6 25	7 14.02	+ 5 4.8	2.240	1.367	17.1	20.1	23 E	—	15*	5 2	5 9.28	+31 39.9	1.045	0.676	67.8	17.5	38 E	30*	15*
7 5	7 47.99	+ 4 16.3	2.308	1.422	15.8	20.2	22 E	—	14*	5 4	5 23.36	+32 27.1	1.025	0.689	68.9	17.6	40 E	31*	15*
7 15	8 20.21	+ 3 17.2	2.384	1.481	14.3	20.3	21 E	—	12*	5 6	5 37.81	+33 8.5	1.006	0.704	69.8	17.6	41 E	33*	16*
7 25	8 50.61	+ 2 9.8	2.465	1.544	12.6	20.5	19 E	—	9*	5 8	5 52.60	+33 43.7	0.989	0.719	70.4	17.6	42 E	34*	16*
8 4	9 19.25	+ 0 56.4	2.549	1.609	10.8	20.5	17 E	—	6*	5 10	6 7.71	+34 12.1	0.973	0.735	70.9	17.7	43 E	35*	17*
8 14	9 46.23	- 0 21.0	2.633	1.676	9.1	20.6	15 E	—	3*	5 12	6 23.08	+34 33.4	0.959	0.751	71.2	17.7	45 E	36*	18*
8 24	10 11.66	+ 1 40.8	2.714	1.743	7.4	20.7	13 E	—	—	5 14	6 38.67	+34 47.3	0.946	0.769	71.4	17.7	46 E	37*	19*
9 3	10 35.69	- 3 1.2	2.791	1.811	6.2	20.8	11 W	—	1*	5 16	6 54.42	+34 53.3	0.934	0.787	71.4	17.7	47 E	38*	20*
9 13	10 58.44	- 4 21.1	2.860	1.879	5.5	20.9	10 W	—	3*	5 18	7 10.26	+34 51.4	0.925	0.805	71.2	17.8	49 E	39*	21*
9 23	11 20.04	+ 5 39.1	2.920	1.947	5.8	21.0	11 W	—	5*	5 20	7 26.10	+34 41.5	0.916	0.824	70.9	17.8	50 E	39*	22*
10 3	11 40.59	+ 6 54.3	2.970	2.014	6.9	21.2	14 W	2*	8*	5 22	7 41.88	+34 23.6	0.910	0.843	70.4	17.8	52 E	40*	23*
10 13	12 0.17	- 8 5.8	3.008	2.081	8.5	21.4	18 W	6*	10*	5 24	7 57.51	+33 57.8	0.905	0.862	69.9	17.8	53 E	41*	24*
234382 2001 QC₆₇										111245 2001 XE₃									
12 27	21 26.01	-16 25.7	2.226	1.654	24.1	20.9	43 E	23*	30*	5 26	8 12.93	+33 24.6	0.902	0.881	69.2	17.8	54 E	41*	26*
1 6	21 52.55	-13 52.3	2.297	1.668	22.3	20.9	40 E	24*	26*	5 28	8 28.06	+32 44.3	0.900	0.901	68.5	17.9	56 E	42*	27*
1 16	22 18.42	-11 10.6	2.368	1.684	20.4	20.9	37 E	23*	22*	5 30	8 42.84	+31 57.3	0.901	0.921	67.6	17.9	57 E	42*	28*
1 26	22 43.63	- 8 23.4	2.438	1.703	18.5	20.9	33 E	22*	18*	6 1	8 57.23	+31 4.4	0.903	0.941	66.7	17.9	58 E	43*	30*
2 5	23 8.24	- 5 32.9	2.507	1.723	16.5	21.0	30 E	20*	14*	6 3	9 11.19	+30 6.1	0.906	0.961	65.7	17.9	60 E	43*	31*
2 15	23 32.35	- 2 41.5	2.575	1.746	14.6	21.0	26 E	18*	11*	6 5									

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

20/22	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°	20/22	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°
86829 2000 GR₁₄₆										523799 2017 DO₃₆									
<i>(continuation)</i>										<i>(continuation)</i>									
6 11	10 2.27	+25 33.2	0.936	1.041	61.6	18.0	64 E	43*	37*	2 25	2 5.74	-32 11.9	1.547	1.259	39.7	20.7	54 E	6*	48*
6 13	10 13.82	+24 18.5	0.947	1.061	60.5	18.1	65 E	42*	38*	3 2	2 26.74	-29 36.2	1.555	1.281	39.4	20.8	55 E	8*	49*
6 15	10 24.90	+23 2.3	0.959	1.080	59.4	18.1	66 E	42*	40*	3 7	2 46.91	-26 52.4	1.569	1.304	39.1	20.8	56 E	10*	50*
6 20	10 50.63	+19 49.3	0.996	1.129	56.7	18.2	68 E	40*	43*	3 12	3 6.27	-24 3.2	1.587	1.327	38.6	20.9	56 E	12*	50*
6 25	11 13.80	+16 37.5	1.041	1.178	54.1	18.3	70 E	39*	46*	3 17	3 24.84	-21 11.6	1.612	1.351	38.0	20.9	57 E	13*	51*
6 30	11 34.74	+13 31.6	1.091	1.225	51.7	18.4	71 E	37*	49*	3 22	3 42.65	-18 20.2	1.641	1.375	37.3	21.0	57 E	15*	51*
7 5	11 53.81	+10 34.3	1.147	1.271	49.4	18.6	72 E	34*	52*	3 27	3 59.75	-15 31.5	1.676	1.400	36.5	21.0	57 E	16*	50*
7 10	12 11.30	+7 47.1	1.208	1.317	47.3	18.7	72 E	32*	54*	4 1	4 16.19	-12 47.5	1.717	1.425	35.6	21.1	56 E	17*	50*
7 15	12 27.49	+5 10.5	1.273	1.361	45.3	18.8	72 E	30*	56*	4 6	4 32.01	-10 9.7	1.762	1.451	34.6	21.2	55 E	18*	49*
7 25	12 56.78	+0 28.3	1.411	1.446	41.6	19.1	71 E	27*	59*	4 11	4 47.28	-7 39.5	1.811	1.476	33.6	21.2	55 E	18*	48*
8 4	13 23.06	-3 36.1	1.559	1.526	38.4	19.3	69 E	24*	60*	4 16	5 2.03	-5 17.7	1.864	1.502	32.5	21.3	53 E	18*	46*
8 14	13 47.30	-7 8.4	1.712	1.602	35.4	19.5	66 E	21*	59*	4 21	5 16.32	-3 5.0	1.921	1.528	31.3	21.4	52 E	18*	45*
8 19	13 58.87	-8 44.0	1.789	1.638	34.0	19.6	65 E	20*	58*	4 26	5 30.17	-1 1.4	1.980	1.553	30.1	21.4	51 E	17*	43*
8 24	14 10.14	-10 13.4	1.867	1.673	32.6	19.7	63 E	18*	56*	5261 Eureka									
8 29	14 21.18	-11 37.1	1.945	1.708	31.2	19.8	61 E	17*	55*	12 27	21 27.49	+0 21.7	1.835	1.428	32.1	19.6	51 E	39*	23*
9 3	14 32.03	-12 55.4	2.022	1.741	29.9	19.9	59 E	16*	53*	1 6	21 57.47	+1 56.6	1.887	1.431	30.7	19.6	48 E	38*	20*
9 13	14 53.32	-15 17.7	2.175	1.803	27.3	20.1	55 E	15*	49*	1 16	22 27.42	+3 39.3	1.940	1.435	29.3	19.6	46 E	37*	17*
9 23	15 14.20	-17 22.7	2.324	1.862	24.7	20.2	51 E	13*	45*	1 26	22 57.26	+5 27.3	1.994	1.440	27.8	19.6	43 E	35*	15*
10 3	15 34.83	-19 12.2	2.466	1.916	22.2	20.3	46 E	11*	40*	2 5	23 27.00	+7 17.8	2.049	1.445	26.2	19.6	40 E	33*	13*
10 13	15 55.35	-20 47.6	2.600	1.967	19.6	20.4	41 E	10*	35*	2 15	23 56.63	+9 8.3	2.104	1.451	24.5	19.7	38 E	31*	11*
10 23	16 15.79	-22 9.9	2.725	2.014	17.1	20.5	37 E	9*	30*	2 25	0 26.19	+10 56.1	2.157	1.458	22.8	19.7	35 E	28*	10*
11 2	16 36.20	-23 19.8	2.838	2.057	14.5	20.5	31 E	7*	25*	3 7	0 55.67	+12 38.6	2.210	1.465	21.0	19.7	32 E	25*	9*
11 12	16 56.60	-24 18.0	2.939	2.096	12.0	20.6	26 E	5*	20*	3 17	1 25.14	+14 13.6	2.262	1.473	19.1	19.7	29 E	22*	9*
11 22	17 16.96	-25 4.9	3.027	2.132	9.5	20.6	21 E	3*	14*	3 27	1 54.59	+15 38.8	2.310	1.481	17.3	19.7	26 E	19*	8*
12 2	17 37.28	-25 41.0	3.099	2.164	6.9	20.5	15 E	1*	9*	4 6	2 24.03	+16 52.4	2.356	1.490	15.4	19.7	23 E	16*	8*
12 12	17 57.51	-26 6.9	3.156	2.193	4.4	20.5	10 E	—	4*	4 16	2 53.48	+17 52.7	2.398	1.498	13.4	19.7	20 E	13*	7*
12 22	18 17.60	-26 23.0	3.197	2.218	2.2	20.4	5 E	—	—	4 26	3 22.90	+18 38.1	2.437	1.507	11.5	19.6	17 E	9*	6*
1 1	18 37.52	-26 30.0	3.220	2.240	1.7	20.4	4 W	—	—	5 6	3 52.25	+19 7.5	2.471	1.516	9.7	19.6	15 E	6*	6*
1 11	18 57.20	-26 28.5	3.227	2.259	3.7	20.6	8 W	—	2*	5 16	4 21.48	+19 20.1	2.500	1.525	7.9	19.6	12 E	2*	4*
1 21	19 16.59	-26 19.3	3.216	2.274	6.0	20.7	14 W	—	8*	5 26	4 50.51	+19 15.2	2.524	1.534	6.2	19.5	9 E	—	3*
136923 1998 JH₂										6 5	5 19.28	+18 52.5	2.544	1.543	4.9	19.5	7 E	—	1*
12 27	21 26.66	-19 14.3	1.723	1.202	33.7	19.2	43 E	21*	31*	6 15	5 47.72	+18 12.0	2.558	1.552	4.0	19.5	6 E	—	—
1 1	21 45.80	-17 28.8	1.737	1.210	33.3	19.2	42 E	22*	30*	6 25	6 15.74	+17 14.0	2.567	1.560	4.0	19.5	6 E	—	—
1 6	22 4.56	-15 37.1	1.753	1.219	32.8	19.2	42 E	23*	29*	7 5	6 43.30	+15 59.0	2.571	1.568	4.8	19.5	7 W	—	—
1 11	22 22.92	-13 40.5	1.772	1.231	32.3	19.3	42 E	24*	28*	7 15	7 10.36	+14 27.9	2.569	1.576	6.1	19.6	10 W	—	3*
1 16	22 40.88	-11 40.3	1.794	1.245	31.7	19.3	42 E	25*	27*	7 25	7 36.90	+12 41.7	2.563	1.583	7.6	19.7	12 W	—	6*
1 21	22 58.43	-9 37.5	1.819	1.261	31.0	19.3	41 E	26*	26*	8 4	8 2.91	+10 41.4	2.551	1.589	9.2	19.8	14 W	—	8*
1 26	23 15.59	-7 33.5	1.847	1.278	30.3	19.4	41 E	27*	25*	8 14	8 28.42	+8 28.4	2.535	1.596	10.8	19.8	17 W	1*	11*
1 31	23 32.37	-5 29.1	1.877	1.297	29.6	19.4	41 E	28*	24*	8 24	8 53.45	+6 4.1	2.514	1.601	12.4	19.9	20 W	4*	13*
2 5	23 48.79	-3 25.4	1.910	1.317	28.8	19.5	40 E	28*	23*	9 3	9 18.07	+3 30.0	2.489	1.606	14.0	19.9	23 W	7*	16*
2 10	0 4.89	+1 23.2	1.945	1.339	27.9	19.5	39 E	28*	22*	9 13	9 42.33	+0 47.7	2.459	1.611	15.6	19.9	26 W	10*	18*
2 15	0 20.68	+0 36.7	1.983	1.361	27.0	19.6	39 E	28*	21*	9 23	10 6.31	-2 1.2	2.425	1.614	17.2	20.0	28 W	12*	20*
2 25	0 51.44	+4 27.3	2.064	1.410	25.2	19.7	37 E	28*	19*	10 3	10 30.09	-4 54.9	2.386	1.617	18.8	20.0	31 W	15*	23*
3 7	1 21.24	+8 2.2	2.152	1.462	23.2	19.8	35 E	27*	17*	10 13	10 53.76	-7 51.8	2.343	1.620	20.3	20.0	34 W	17*	25*
3 17	1 50.26	+11 18.9	2.246	1.516	21.1	19.9	33 E	25*	15*	10 23	11 17.42	-10 49.8	2.295	1.621	21.9	20.0	37 W	19*	28*
3 27	2 18.60	+14 15.7	2.342	1.572	19.0	20.0	31 E	23*	14*	11 2	11 41.16	-13 47.2	2.244	1.622	23.4	20.0	40 W	20*	30*
4 6	2 46.36	+16 52.0	2.441	1.629	16.9	20.1	28 E	20*	12*	11 12	12 5.08	-16 41.8	2.187	1.622	24.9	20.0	44 W	21*	34*
4 16	3 13.60	+19 7.6	2.539	1.687	14.7	20.2	25 E	17*	10*	11 22	12 29.26	-19 31.7	2.126	1.622	26.4	20.0	47 W	21*	37*
4 26	3 40.35	+21 2.9	2.636	1.744	12.5	20.3	22 E	14*	9*	12 2	12 53.79	-22 14.5	2.061	1.620	27.9	20.0	50 W	20*	41*
5 6	4 6.59	+22 38.6	2.729	1.802	10.3	20.3	19 E	10*	7*	12 12	13 18.73	-24 48.3	1.991	1.618	29.4	19.9	54 W	19*	45*
5 16	4 32.32	+23 55.5	2.817	1.860	8.1	20.4	15 E	7*	4*	12 22	13 44.10	-27 10.4	1.917	1.615	30.9	19.9	57 W	17*	49*
5 26	4 57.50	+24 54.7	2.899	1.916	6.0	20.4	11 E	4*	2*	12 27	13 56.97	-28 16.4	1.879	1.614	31.6	19.9	59 W	16*	52*
6 5	5 22.07	+25 37.4	2.973	1.972	3.9	20.4	8 E	1*	—	1 1	14 9.94	-29 18.7	1.839	1.612	32.3	19.8	61 W	15*	54*
6 15	5 46.00	+26 4.9	3.039	2.027	2.0	20.4	4 E	—	—	1 6	14 23.01	-30 16.9	1.798	1.610	33.0	19.8	63 W	15*	56*
6 25	6 9.21	+26 18.6	3.095	2.081	1.5	20.4	3 W	—	—	1 11	14 36.17	-31 10.7	1.756	1.608	33.6	19.8	65 W	14*	58*
7 5	6 31.69	+26 19.9	3.140	2.134	3.1	20.6	7 W	—	—	1 16	14 49.40	-31 59.9	1.714	1.606	34.3	19.7	67 W	13*	61*
7 15	6 53.37	+26 10.3	3.174	2.185	5.1	20.8	11 W	4*	1*	1 21	15 2.70	-32 44.2	1.670	1.603	34.9	19.7	69 W	12*	63*
7 25	7 14.23	+25 51.2	3.196	2.235	7.1	21.0	16 W	8*	4*	162385 2000 BM₁₉									
8 4	7 34.23	+25 24.2	3.205	2.284	9.0	21.1	21 W	13*	7*	12 27	21 27.61	-16 48.9	0.615	0.684	98.2	20.2	44 E	23*	31*
8 14	7 53.34	+24 50.7	3.200	2.331	10.9	21.2	26 W	18*	10*	1 6	22 28.73	-9 10.5	0.543	0.758	96.8	20.0	50 E	31*	32*
8 24	8 11.54	+24 12.4	3.183	2.377	12.7	21.3	31 W	23*	12*	1 16	23 27.93	+0 22.0	0.506	0.823	92.3	19.9	57 E	40*	32*
9 3	8 28.79	+23 30.7	3.151	2.421	14.5	21.4	37 W	29*	15*	1 26	0 24.57	+8 23.0	0.498	0.880	86.6	19.7	63 E	49*	31*
9 13	8 45.06	+22 47.2	3.106	2.464	16.1	21.5	43 W	35*	18*	1 31	0 51.69	+12 22.5	0.503	0.904	83.7	19			

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

20/21	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°	20/22	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°
162385 2000 BM₁₉										317643 2003 FH₁									
<i>(continuation)</i>										<i>(continuation)</i>									
5 11	7 10.83	+29 53.7	0.699	0.842	81.3	20.2	56 E	42*	28*	6 30	12 20.69	-4 15.7	1.268	1.601	39.4	21.3	88 E	29*	68
5 16	7 21.45	+29 5.3	0.681	0.812	84.8	20.2	53 E	39*	28*	7 5	12 28.44	-5 37.9	1.332	1.616	38.9	21.4	86 E	27*	70*
5 21	7 30.40	+28 12.5	0.660	0.779	89.0	20.2	50 E	36*	28*	4435 Holt									
5 26	7 37.15	+27 16.3	0.634	0.744	94.3	20.2	47 E	32*	27*	12 27	21 27.78	-12 18.3	2.795	2.212	18.3	18.3	45 E	27*	29*
5 31	7 40.98	+26 17.5	0.605	0.708	100.9	20.3	43 E	27*	26*	1 6	21 43.84	-10 10.9	2.842	2.172	16.7	18.2	39 E	26*	22*
6 5	7 40.93	+25 16.9	0.573	0.670	109.1	20.5	39 E	22*	24*	1 16	22 0.52	-7 55.9	2.878	2.133	14.9	18.2	34 E	24*	16*
6 10	7 35.79	+24 15.1	0.542	0.632	119.6	21.0	33 E	17*	21*	1 26	22 17.77	-5 33.2	2.902	2.093	13.1	18.1	29 E	21*	11*
317643 2003 FH₁										317643 2003 FH₁									
12 27	21 27.66	-16 27.1	0.903	0.705	74.2	19.8	44 E	23*	30*	2 5	22 35.54	-3 2.7	2.916	2.053	11.2	18.0	24 E	17*	6*
1 1	21 43.30	-13 4.2	0.845	0.685	79.2	19.8	43 E	26*	28*	2 15	22 53.86	-0 24.6	2.918	2.013	9.4	17.9	19 E	13*	2*
1 6	21 57.97	-9 22.1	0.784	0.671	84.6	19.8	43 E	28*	25*	2 25	23 12.73	+2 20.6	2.910	1.973	7.6	17.7	15 E	9*	—
1 11	22 11.50	-5 21.1	0.723	0.664	90.2	19.8	42 E	30*	22*	3 7	23 32.20	+5 12.6	2.893	1.933	6.1	17.6	12 E	5*	—
1 16	22 23.75	-1 1.6	0.662	0.665	95.7	19.8	42 E	33*	18*	3 17	23 52.36	+8 10.5	2.867	1.894	5.1	17.5	10 E	2*	—
1 26	22 44.21	+8 32.1	0.547	0.687	105.3	20.0	42 E	36*	10*	3 27	0 13.30	+11 13.3	2.835	1.856	4.9	17.4	9 W	2*	—
2 5	22 59.96	+19 23.8	0.446	0.733	111.1	20.0	44 E	37*	1*	4 6	0 35.15	+14 19.6	2.796	1.819	5.5	17.4	10 W	4*	—
2 15	23 13.68	+31 58.8	0.363	0.796	111.3	19.8	49 E	38*	—	4 16	0 58.07	+17 27.8	2.753	1.783	6.7	17.4	12 W	6*	—
2 17	23 16.60	+34 46.5	0.349	0.810	110.6	19.7	50 E	39*	—	4 26	1 22.23	+20 35.5	2.706	1.748	8.1	17.3	14 W	8*	2*
2 19	23 19.73	+37 40.8	0.335	0.824	109.6	19.6	52 E	39*	—	5 6	1 47.83	+23 40.0	2.657	1.715	9.7	17.3	17 W	9*	4*
2 21	23 23.14	+40 42.5	0.322	0.839	108.4	19.4	54 E	39*	—	5 16	2 15.06	+26 37.9	2.607	1.684	11.3	17.3	19 W	11*	6*
2 23	23 26.97	+43 51.9	0.310	0.854	106.9	19.3	56 E	40*	—	5 21	2 29.34	+28 3.0	2.582	1.669	12.1	17.3	20 W	12*	6*
2 25	23 31.35	+47 9.4	0.299	0.869	105.2	19.2	58 E	40*	—	5 26	2 44.08	+29 24.8	2.558	1.655	12.8	17.3	21 W	13*	7*
2 27	23 36.53	+50 35.6	0.288	0.884	103.2	19.0	60 E	41*	—	5 31	2 59.31	+30 42.7	2.533	1.642	13.6	17.3	22 W	14*	7*
3 1	23 42.80	+54 10.2	0.279	0.899	101.0	18.9	63 E	42*	—	6 5	3 15.03	+31 56.0	2.510	1.629	14.3	17.3	23 W	15*	8*
3 3	23 50.64	+57 53.3	0.270	0.914	98.6	18.7	66 E	43*	—	6 10	3 31.24	+33 4.1	2.486	1.617	15.0	17.3	24 W	16*	8*
3 5	0 0.78	+61 43.8	0.262	0.930	95.9	18.6	69 E	44*	—	6 15	3 47.92	+34 6.2	2.464	1.606	15.7	17.2	25 W	17*	8*
3 7	0 14.47	+65 39.9	0.256	0.945	93.0	18.4	72 E	45*	—	6 20	4 06.06	+35 1.7	2.442	1.596	16.4	17.2	26 W	18*	8*
3 8	0 23.26	+67 39.1	0.253	0.953	91.5	18.4	74 E	46*	—	6 25	4 22.61	+35 49.9	2.420	1.586	17.0	17.2	27 W	19*	8*
3 9	0 33.87	+69 38.2	0.251	0.961	90.0	18.3	75 E	47*	—	6 30	4 40.53	+36 30.3	2.400	1.578	17.7	17.2	28 W	20*	8*
3 10	0 46.88	+71 36.3	0.248	0.968	88.4	18.2	77 E	47*	—	7 5	4 58.76	+37 2.2	2.380	1.570	18.3	17.2	29 W	21*	8*
3 11	1 0.09	+73 31.9	0.246	0.976	86.8	18.2	79 E	48*	—	7 10	5 17.24	+37 25.4	2.361	1.563	18.9	17.2	30 W	22*	8*
3 12	1 23.64	+75 22.9	0.245	0.984	85.1	18.1	81 E	49*	—	7 15	5 35.86	+37 39.3	2.343	1.557	19.4	17.2	31 W	24*	8*
3 13	1 50.07	+77 6.4	0.244	0.992	83.5	18.0	82 E	50*	—	7 20	5 54.54	+37 43.9	2.325	1.552	20.0	17.2	31 W	25*	7*
3 14	2 24.27	+78 37.9	0.243	0.999	81.8	18.0	84 E	51*	—	7 25	6 13.19	+37 39.1	2.309	1.548	20.5	17.2	32 W	26*	7*
3 15	3 7.96	+79 50.8	0.242	1.007	80.1	17.9	86 E	52*	—	7 30	6 31.71	+37 24.9	2.293	1.546	21.0	17.2	33 W	27*	7*
3 16	4 1.19	+80 37.1	0.242	1.015	78.4	17.9	88 E	53*	—	8 4	6 50.02	+37 1.5	2.277	1.544	21.6	17.2	34 W	28*	7*
3 17	5 0.32	+80 49.7	0.242	1.022	76.7	17.8	90 E	54*	—	8 9	7 8.04	+36 29.4	2.262	1.543	22.1	17.2	35 W	29*	8*
3 18	5 58.31	+80 26.0	0.242	1.030	75.0	17.8	91 E	55*	—	8 14	7 25.68	+35 49.0	2.247	1.543	22.6	17.2	36 W	29*	8*
3 19	6 48.83	+79 30.4	0.243	1.038	73.3	17.8	93 E	55*	—	8 24	7 59.62	+34 5.1	2.217	1.547	23.6	17.2	38 W	32*	8*
3 20	7 29.54	+78 10.8	0.244	1.045	71.7	17.7	95 E	57*	—	9 3	8 31.53	+31 54.9	2.188	1.555	24.6	17.2	40 W	34*	9*
3 21	8 1.23	+76 34.9	0.246	1.053	70.0	17.7	97 E	58*	—	9 13	9 1.28	+29 23.6	2.157	1.566	25.6	17.2	42 W	36*	11*
3 22	8 25.77	+74 48.4	0.248	1.060	68.4	17.7	98 E	60*	—	9 23	9 28.83	+26 36.1	2.124	1.582	26.6	17.2	45 W	39*	13*
3 23	8 44.97	+72 55.6	0.250	1.068	66.9	17.7	100 E	62*	—	10 3	9 54.29	+23 37.1	2.088	1.601	27.7	17.3	48 W	41*	15*
3 24	9 0.24	+70 59.1	0.252	1.075	65.4	17.7	101 E	64*	—	10 13	10 17.78	+20 30.4	2.048	1.623	28.7	17.3	51 W	44*	18*
3 25	9 12.60	+69 0.9	0.255	1.083	63.9	17.7	103 E	66*	—	10 23	10 39.40	+17 19.4	2.003	1.648	29.6	17.3	55 W	47*	21*
3 26	9 22.78	+67 2.1	0.258	1.090	62.5	17.7	104 E	68*	—	11 2	10 59.27	+14 6.4	1.952	1.677	30.5	17.3	59 W	49*	25*
3 27	9 31.30	+65 3.8	0.262	1.098	61.1	17.7	106 E	70*	—	11 12	11 17.42	+10 53.6	1.896	1.707	31.3	17.3	64 W	51*	30*
3 28	9 38.54	+63 6.7	0.266	1.105	59.8	17.7	107 E	72*	—	11 22	11 33.85	+7 42.6	1.835	1.740	31.9	17.3	69 W	51*	36*
3 29	9 44.78	+61 11.3	0.270	1.112	58.5	17.7	108 E	74*	3	12 2	11 48.52	+4 34.4	1.767	1.774	32.3	17.2	74 W	49*	42*
3 30	9 50.21	+59 17.9	0.275	1.120	57.3	17.7	109 E	76*	5	12 12	12 1.26	+1 30.0	1.696	1.810	32.4	17.2	80 W	46*	49*
3 31	9 55.00	+57 26.8	0.279	1.127	56.2	17.7	110 E	78*	7	12 22	12 11.85	+1 30.0	1.620	1.847	32.1	17.1	87 W	43*	57*
4 1	9 59.27	+55 38.3	0.285	1.134	55.1	17.8	111 E	79*	8	1 1	12 20.00	-4 24.8	1.543	1.885	31.4	17.1	94 W	41*	65*
4 2	10 3.09	+53 52.4	0.290	1.141	54.1	17.8	112 E	81*	10	1 11	12 25.29	-7 13.4	1.465	1.924	30.0	17.0	102 W	38*	71*
4 3	10 6.56	+52 9.4	0.296	1.149	53.2	17.8	113 E	83*	12	1 21	12 27.29	-9 53.9	1.391	1.963	28.0	16.8	110 W	35*	74*
4 4	10 9.73	+50 29.2	0.301	1.156	52.3	17.8	114 E	85*	14	155341 2006 SA₂₁₈									
4 5	10 12.64	+48 51.9	0.308	1.163	51.4	17.9	115 E	86*	15	12 27	21 27.98	-20 47.7	1.837	1.297	30.9	21.4	43 E	19*	32*
4 6	10 15.34	+47 17.6	0.314	1.170	50.6	17.9	115 E	88*	17	1 6	22 0.04	-19 25.0	1.844	1.264	30.2	21.3	40 E	19*	29*
4 8	10 20.20	+44 17.4	0.328	1.184	49.2	18.0	116 E	89*	20	1 16	22 32.65	-17 37.1	1.846	1.233	29.5	21.3	38 E	19*	27*
4 10	10 24.52	+41 28.5	0.342	1.198	48.0	18.1	117 E	86*	23	1 26	23 5.74	-15 25.3	1.844	1.205	29.1	21.2	37 E	19*	26*
4 12	10 28.43	+38 50.2	0.357	1.211	47.0	18.2	118 E	84*	25	2 5	23 39.22	-12 51.6	1.839	1.180	28.8	21.1	35 E	19*	24*
4 14	10 32.03	+36 22.2	0.373	1.225	46.1	18.3	118 E	81*	28	2 15	0 13.13	-9 58.5	1.833	1.158	28.7	21.1	34 E	18*	24*
4 16	10 35.40	+34 3.6	0.390	1.238	45.4	18.4	119 E	79*	30	2 25	0 47.47	-6 49.3	1.827	1.141	28.6	21.1	34 E	18*	23*
4 18	10 38.58	+31 53.8	0.407	1.251	44.8	18.5	119 E	77*	32	3 7	1 22.27	-3 28.7	1.822	1.129	28.7	21.0	33 E	18*	23*
4 20	10 41.62	+29 52.2	0.425	1.264	44.3	18.6	119 E	75*	34	3 17	1 57.61	-0 1.6	1.821	1.122	28.7	21.0	33 E	18*	2

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

20/22	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°	20/22	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°		
241673 2000 QG₇₀										153474 2001 RK₄₃											
<i>(continuation)</i>																					
2	5	22 47.33	-15 42.2	2.926	2.049	10.6	20.3	22 E	9*	14*	12	27	21 28.52	-21 34.3	2.152	1.575	25.0	20.0	43 E	19*	32*
2	15	23 8.79	-14 27.7	2.919	2.005	8.9	20.1	18 E	5*	11*	1	1	21 43.39	-20 11.4	2.197	1.596	24.0	20.0	41 E	19*	30*
2	25	23 30.86	-13 5.6	2.901	1.961	7.4	20.0	15 E	1*	9*	1	6	21 57.80	-18 46.3	2.244	1.617	22.9	20.1	40 E	20*	29*
3	7	23 53.55	-11 36.9	2.875	1.918	6.4	19.9	12 E	—	6*	1	11	22 11.78	-17 19.4	2.291	1.638	21.9	20.1	38 E	20*	27*
3	17	0 16.88	-10 2.6	2.841	1.876	6.0	19.8	11 E	—	5*	1	16	22 25.36	-15 51.3	2.338	1.660	20.8	20.2	37 E	20*	25*
3	27	0 40.86	-8 24.1	2.801	1.835	6.4	19.7	12 E	—	3*	1	26	22 51.39	-12 53.1	2.434	1.705	18.7	20.2	34 E	19*	21*
4	6	1 5.52	-6 42.8	2.756	1.796	7.3	19.7	13 E	—	1*	2	5	23 16.09	-9 55.1	2.530	1.750	16.5	20.3	30 E	18*	18*
4	16	1 30.92	-5 0.1	2.709	1.759	8.5	19.7	15 W	—	2*	2	15	23 39.67	-6 59.4	2.624	1.797	14.3	20.4	27 E	16*	15*
4	26	1 57.05	-3 17.9	2.660	1.724	9.9	19.7	17 W	—	5*	2	25	0 2.31	-4 7.9	2.714	1.843	12.1	20.4	23 E	13*	12*
5	6	2 23.92	-1 38.0	2.611	1.692	11.4	19.6	19 W	—	8*	3	7	0 24.13	-1 22.2	2.801	1.890	9.8	20.5	19 E	10*	9*
5	16	2 51.54	0 2.4	2.563	1.663	12.8	19.6	21 W	—	11*	3	17	0 45.78	+1 16.8	2.881	1.937	7.6	20.5	15 E	6*	6*
5	26	3 19.83	+1 26.7	2.518	1.637	14.1	19.6	23 W	—	14*	3	27	1 5.91	+3 48.3	2.955	1.984	5.4	20.5	11 E	2*	3*
6	5	3 48.72	+2 47.3	2.477	1.615	15.4	19.6	25 W	—	17*	4	6	1 26.04	+6 11.7	3.021	2.030	3.3	20.5	7 E	—	—
6	15	4 18.11	+3 57.5	2.440	1.596	16.5	19.5	27 W	—	19*	4	16	1 45.78	+8 26.6	3.078	2.076	1.4	20.4	3 E	—	—
6	25	4 47.82	+4 55.5	2.407	1.582	17.5	19.5	28 W	—	21*	4	26	2 5.14	+10 32.7	3.124	2.121	1.7	20.5	4 W	—	—
7	5	5 17.68	+5 40.3	2.378	1.572	18.4	19.5	29 W	—	23*	5	6	2 24.18	+12 29.7	3.161	2.165	3.6	20.7	8 W	—	2*
7	15	5 47.50	+6 11.0	2.354	1.567	19.3	19.5	31 W	—	25*	5	16	2 42.90	+14 17.6	3.186	2.209	5.7	20.9	12 W	—	6*
7	25	6 17.06	+6 27.7	2.333	1.566	20.1	19.5	32 W	4*	26*	5	26	3 1.30	+15 56.4	3.199	2.252	7.7	21.0	17 W	1*	11*
8	4	6 46.17	+6 30.8	2.314	1.571	20.9	19.5	33 W	8*	27*	6	5	3 19.35	+17 26.3	3.200	2.293	9.7	21.2	22 W	4*	15*
8	14	7 14.67	+6 21.3	2.295	1.579	21.7	19.5	35 W	12*	28*	6	15	3 37.03	+18 47.3	3.188	2.334	11.6	21.3	27 W	8*	19*
8	24	7 42.40	+6 0.9	2.277	1.593	22.5	19.6	37 W	16*	29*	6	25	3 54.28	+19 59.8	3.164	2.373	13.4	21.4	33 W	13*	23*
9	3	8 9.26	+5 31.4	2.257	1.610	23.4	19.6	39 W	20*	29*	7	5	4 11.02	+21 4.2	3.127	2.412	15.1	21.4	38 W	19*	26*
9	13	8 35.17	+4 54.8	2.233	1.631	24.4	19.6	42 W	24*	30*	7	15	4 27.18	+22 1.0	3.078	2.449	16.7	21.5	44 W	25*	29*
9	23	9 0.05	+4 13.7	2.206	1.657	25.4	19.7	45 W	28*	31*	59836 1999 RN₄₄										
10	3	9 23.88	+3 30.3	2.173	1.685	26.4	19.7	48 W	32*	33*	12	27	21 28.97	-10 6.4	2.214	1.688	24.8	19.8	46 E	29*	28*
10	13	9 46.62	+2 47.4	2.134	1.717	27.4	19.7	52 W	35*	34*	1	6	21 55.96	-8 41.2	2.292	1.704	23.0	19.9	43 E	29*	24*
10	23	10 8.21	+2 7.5	2.088	1.751	28.3	19.8	57 W	39*	37*	1	16	22 22.48	-7 5.0	2.370	1.722	21.1	19.9	39 E	27*	21*
11	2	10 28.63	+1 33.5	2.034	1.787	29.2	19.8	61 W	42*	39*	1	26	22 48.47	-5 20.3	2.447	1.743	19.2	19.9	36 E	25*	18*
11	12	10 47.79	+1 8.2	1.974	1.826	29.9	19.8	67 W	44*	42*	2	5	23 13.93	-3 29.7	2.524	1.766	17.2	20.0	32 E	23*	15*
11	22	11 5.57	+0 55.1	1.907	1.866	30.3	19.8	73 W	45*	46*	2	15	23 38.87	-1 35.7	2.598	1.791	15.2	20.0	28 E	20*	12*
12	2	11 21.86	+0 57.4	1.835	1.908	30.5	19.7	79 W	46	50*	2	25	0 3.34	+0 19.6	2.670	1.818	13.1	20.0	25 E	17*	10*
12	12	11 36.43	+1 18.9	1.758	1.951	30.2	19.7	86 W	46	54*	3	7	0 27.35	+2 13.8	2.739	1.846	11.0	20.0	21 E	13*	8*
12	22	11 49.05	+2 3.5	1.678	1.994	29.5	19.6	93 W	47	57*	3	17	0 50.98	+4 5.4	2.804	1.875	8.9	20.0	17 E	9*	6*
1	1	11 59.41	+3 15.0	1.599	2.039	28.2	19.5	102 W	48	60*	3	27	1 14.24	+5 52.4	2.864	1.906	6.9	20.0	13 E	5*	4*
1	11	12 7.17	+4 56.8	1.522	2.084	26.2	19.4	111 W	50	59	4	6	1 37.18	+7 33.5	2.918	1.938	4.9	20.0	9 E	1*	2*
1	21	12 11.98	+7 10.6	1.454	2.129	23.5	19.3	120 W	52	57	4	16	1 59.82	+9 7.3	2.966	1.970	3.0	19.9	6 E	—	—
306464 1999 RO₄₄																					
12	27	21 28.40	-8 11.7	2.562	2.019	20.8	19.6	47 E	31*	27*	4	26	22 22.18	+10 32.8	3.007	2.003	1.8	19.9	4 E	—	—
1	6	21 50.91	-7 41.5	2.690	2.065	18.5	19.7	42 E	29*	23*	5	6	2 44.25	+11 48.9	3.040	2.037	2.5	20.0	5 W	—	—
1	16	22 12.71	-7 0.4	2.813	2.111	16.3	19.7	37 E	26*	19*	5	16	3 6.03	+12 55.1	3.065	2.071	4.2	20.2	9 W	—	2*
1	26	22 33.83	-6 10.7	2.930	2.158	14.0	19.8	32 E	22*	15*	5	26	3 27.48	+13 50.7	3.082	2.105	6.0	20.3	13 W	—	7*
2	5	22 54.29	-5 14.7	3.040	2.205	11.6	19.8	27 E	18*	11*	6	5	3 48.57	+14 35.4	3.089	2.139	7.9	20.5	17 W	—	11*
2	15	23 14.15	-4 14.1	3.140	2.251	9.3	19.9	22 E	14*	8*	6	15	4 9.25	+15 8.8	3.088	2.173	9.8	20.6	21 W	—	15*
2	25	23 33.44	-3 10.8	3.231	2.298	7.0	19.9	16 E	9*	5*	6	25	4 29.46	+15 30.9	3.076	2.208	11.6	20.7	26 W	4*	19*
3	7	23 52.20	-2 6.5	3.310	2.344	4.7	19.9	11 E	4*	2*	7	5	4 49.12	+15 41.8	3.054	2.241	13.4	20.8	31 W	8*	23*
3	17	0 10.48	-1 2.4	3.377	2.390	2.5	19.8	6 E	—	—	7	15	5 8.16	+15 41.7	3.022	2.275	15.1	20.8	36 W	14*	27*
3	27	0 28.28	0 0.1	3.432	2.436	1.2	19.8	3 E	—	—	7	25	5 26.47	+15 31.0	2.981	2.308	16.7	20.9	41 W	19*	30*
4	6	0 45.63	+0 59.3	3.473	2.481	2.6	20.0	6 W	—	—	8	4	5 43.97	+15 10.1	2.929	2.341	18.2	20.9	46 W	25*	33*
4	16	1 2.55	+1 54.8	3.500	2.525	4.6	20.1	12 W	—	5*	8	14	6 0.55	+14 39.7	2.867	2.374	19.5	20.9	52 W	31*	36*
4	26	1 19.03	+2 45.2	3.513	2.569	6.6	20.3	17 W	—	11*	8	24	6 16.07	+14 0.6	2.796	2.405	20.7	21.0	57 W	37*	39*
5	6	1 35.06	+3 29.6	3.512	2.612	8.6	20.4	23 W	—	17*	9	3	6 30.41	+13 13.5	2.716	2.437	21.7	21.0	63 W	42*	42*
5	16	1 50.63	+4 7.1	3.498	2.655	10.5	20.5	29 W	—	23*	9	13	6 43.40	+12 19.4	2.628	2.467	22.5	20.9	70 W	47*	45*
5	26	2 5.67	+4 36.8	3.469	2.697	12.3	20.6	35 W	2*	29*	9	23	6 54.88	+11 19.6	2.534	2.497	23.0	20.9	76 W	51*	48*
6	5	2 20.16	+4 57.9	3.428	2.738	14.0	20.7	41 W	6*	34*	10	3	7 4.63	+10 15.3	2.434	2.527	23.2	20.8	84 W	54*	51*
6	15	2 34.02	+5 9.7	3.374	2.778	15.5	20.7	47 W	10*	40*	10	13	7 12.43	+9 8.1	2.332	2.555	23.0	20.8	91 W	54*	53*
6	25	2 47.16	+5 11.2	3.308	2.818	16.8	20.7	53 W	15*	45*	10	23	7 18.02	+7 59.9	2.229	2.583	22.3	20.7	99 W	53	56*
7	5	2 59.47	+5 2.0	3.231	2.857	17.9	20.8	60 W	20*	50*	11	2	7 21.17	+6 52.8	2.128	2.610	21.2	20.6	108 W	52	57
7	15	3 10.83	+4 41.1	3.146	2.894	18.8	20.8	66 W	26*	54*	11	12	7 21.61	+5 49.7	2.033	2.636	19.5	20.4	117 W	51	58
7	25	3 21.07	+4 8.0	3.053	2.931	19.4	20.7	74 W	32*	57*	11	22	7 19.24	+4 53.8	1.949	2.662	17.3	20.3	127 W	50	59
8	4	3 30.04	+3 22.2	2.954	2.968	19.7	20.7	81 W	38*	60*	12	2	7 14.07	+4 8.5	1.880	2.686	14.5	20.1	137 W	49	60
8	14	3 37.53	+2 23.3	2.852	3.003	19.7	20.7	89 W	42*	62*	12	12	7 6.38	+3 37.6	1.831	2.710	11.4	20.0	147 W	49	60
8	24	3 43.33	+1 11.3	2.750	3.037	19.3	20.6														

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

20/22	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°	20/22	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°
189054 2000 SW₂₇₈										137230 1999 RG₂₂									
<i>(continuation)</i>										<i>(continuation)</i>									
4 16	1 47.79	+7 37.6	3.019	2.019	1.9	19.4	4 E	—	—	11 22	11 15.68	+25 22.0	1.682	1.805	32.7	19.2	81 W	69*	26*
4 26	2 7.73	+10 8.8	3.063	2.060	1.7	19.4	4 W	—	—	12 2	11 30.68	+23 43.4	1.610	1.834	32.5	19.1	86 W	69*	31*
5 6	2 27.41	+12 30.2	3.099	2.101	3.4	19.6	7 W	—	1*	12 12	11 42.99	+22 15.6	1.535	1.863	31.9	19.0	93 W	67	35*
5 16	2 46.84	+14 41.6	3.125	2.143	5.3	19.8	11 W	—	5*	12 22	11 52.32	+21 0.5	1.459	1.894	30.8	18.9	100 W	66	40*
5 26	3 6.02	+16 42.9	3.142	2.185	7.3	19.9	16 W	—	10*	1 1	11 58.31	+19 58.9	1.382	1.927	29.1	18.8	108 W	65	43*
6 5	3 24.93	+18 34.5	3.148	2.228	9.3	20.0	21 W	4*	14*	1 11	12 0.46	+19 11.2	1.309	1.960	26.6	18.6	117 W	64	45
6 15	3 43.55	+20 16.4	3.143	2.270	11.1	20.2	26 W	8*	17*	1 21	11 58.37	+18 35.4	1.243	1.993	23.3	18.5	127 W	64	45
6 25	4 1.80	+21 49.3	3.128	2.312	13.0	20.3	31 W	13*	21*	275533 1998 MR₁₇									
7 5	4 19.62	+23 13.6	3.101	2.354	14.7	20.3	36 W	19*	23*	12 27	21 31.09	-2 35.4	2.385	1.905	23.2	20.0	50 E	37*	25*
7 15	4 36.94	+24 30.0	3.063	2.396	16.3	20.4	41 W	25*	26*	1 6	21 53.77	-0 33.2	2.513	1.962	21.1	20.1	46 E	36*	20*
7 25	4 53.63	+25 39.6	3.014	2.437	17.7	20.5	47 W	31*	28*	1 16	22 15.66	+1 30.6	2.640	2.018	19.0	20.2	42 E	34*	15*
8 4	5 9.59	+26 43.4	2.954	2.478	19.1	20.5	53 W	38*	29*	1 26	22 36.85	+3 35.1	2.764	2.075	16.9	20.3	38 E	31*	11*
8 14	5 24.65	+27 42.6	2.884	2.518	20.2	20.5	59 W	46*	30*	2 5	22 57.38	+5 39.4	2.884	2.132	14.8	20.4	33 E	27*	7*
8 24	5 38.63	+28 38.7	2.805	2.558	21.1	20.5	66 W	53*	31*	2 15	23 17.34	+7 42.8	2.997	2.188	12.7	20.4	29 E	23*	3*
9 3	5 51.35	+29 33.3	2.718	2.598	21.7	20.5	72 W	60*	32*	2 25	23 36.76	+9 44.6	3.104	2.245	10.7	20.5	25 E	19*	—
9 13	6 2.55	+30 28.1	2.624	2.636	22.1	20.5	80 W	67*	32*	3 7	23 55.71	+11 44.1	3.203	2.301	8.7	20.5	21 E	14*	—
9 23	6 11.94	+31 24.9	2.526	2.674	22.0	20.4	87 W	74*	32*	3 17	0 14.24	+13 40.7	3.292	2.356	6.9	20.6	17 E	10*	—
10 3	6 19.23	+32 25.2	2.426	2.712	21.6	20.3	96 W	77*	31*	3 27	0 32.35	+15 33.8	3.371	2.411	5.5	20.6	13 E	5*	—
10 13	6 24.02	+33 30.2	2.326	2.748	20.6	20.2	104 W	79	30	4 6	0 50.09	+17 23.0	3.439	2.465	4.6	20.6	11 W	4*	—
10 23	6 25.95	+34 40.3	2.233	2.784	19.1	20.1	114 W	80	29	4 16	1 7.47	+19 7.9	3.494	2.519	4.5	20.7	11 W	5*	—
11 2	6 24.68	+35 54.4	2.148	2.819	17.1	20.0	123 W	81	28	4 26	1 24.47	+20 48.2	3.537	2.572	5.4	20.8	14 W	7*	1*
11 12	6 19.97	+37 9.5	2.078	2.853	14.5	19.9	134 W	82	27	5 6	1 41.10	+22 23.5	3.567	2.623	6.7	21.0	18 W	10*	6*
11 17	6 16.33	+37 46.0	2.049	2.870	13.1	19.8	139 W	83	26	5 16	1 57.34	+23 53.7	3.582	2.674	8.2	21.1	22 W	12*	11*
11 22	6 11.88	+38 20.7	2.027	2.887	11.5	19.7	144 W	83	26	5 26	2 13.14	+25 18.7	3.584	2.724	9.8	21.2	27 W	15*	15*
11 27	6 6.69	+38 52.7	2.010	2.903	10.0	19.7	149 W	84	25	6 5	2 28.44	+26 38.4	3.572	2.774	11.4	21.3	33 W	19*	19*
12 2	6 0.86	+39 21.4	2.000	2.919	8.4	19.6	154 W	84	25	6 15	2 43.18	+27 52.8	3.546	2.822	12.9	21.4	38 W	23*	22*
12 7	5 54.53	+39 45.7	1.996	2.936	7.1	19.6	159 W	85	24	6 25	2 57.26	+29 2.0	3.507	2.869	14.3	21.4	44 W	29*	25*
12 12	5 47.87	+40 5.3	2.000	2.951	6.0	19.5	162 W	85	24	7 5	3 10.58	+30 6.2	3.454	2.915	15.6	21.5	51 W	35*	27*
12 17	5 41.07	+40 19.6	2.012	2.967	5.6	19.5	163 W	85	24	257610 1999 RM₂₁₅									
12 22	5 34.33	+40 28.6	2.031	2.982	5.8	19.6	162 E	85	24	12 27	21 31.78	-8 8.8	2.161	1.663	25.9	20.0	48 E	31*	28*
12 27	5 27.82	+40 32.5	2.057	2.998	6.7	19.7	159 E	86	23	1 6	21 57.89	-5 50.5	2.234	1.677	24.2	20.0	44 E	31*	24*
1 1	5 21.72	+40 31.6	2.091	3.013	7.8	19.8	155 E	86	23	1 16	22 23.66	-3 25.3	2.308	1.694	22.4	20.0	41 E	31*	19*
1 6	5 16.18	+40 26.5	2.132	3.027	9.2	19.9	151 E	85	24	1 26	22 49.07	-0 55.5	2.382	1.713	20.6	20.1	38 E	29*	16*
1 11	5 11.32	+40 18.0	2.179	3.042	10.5	20.0	146 E	85	24	2 5	23 14.13	+1 36.6	2.456	1.735	18.8	20.1	34 E	27*	13*
1 16	5 7.23	+40 6.8	2.232	3.056	11.8	20.1	141 E	85	24	2 15	23 38.88	+4 8.8	2.529	1.759	16.9	20.1	31 E	24*	10*
1 21	5 3.94	+39 53.8	2.290	3.070	13.0	20.2	135 E	85	24	2 25	0 3.34	+6 39.1	2.601	1.785	14.9	20.2	28 E	21*	7*
137230 1999 RG₂₂										3 7	0 27.56	+9 5.5	2.671	1.813	13.0	20.2	24 E	18*	5*
12 27	21 30.56	-21 9.2	2.816	2.204	17.8	20.3	43 E	19*	33*	3 17	0 51.59	+11 26.4	2.739	1.842	11.0	20.2	21 E	15*	3*
1 6	21 47.63	-18 41.2	2.865	2.169	16.0	20.2	38 E	19*	26*	3 27	1 15.46	+13 40.2	2.803	1.873	9.0	20.2	17 E	11*	1*
1 16	22 5.06	-16 7.4	2.903	2.134	14.2	20.2	32 E	17*	20*	4 6	1 39.18	+15 45.5	2.863	1.904	7.1	20.2	14 E	8*	—
1 26	22 22.79	-13 27.6	2.931	2.099	12.2	20.1	27 E	15*	15*	4 16	2 2.79	+17 41.3	2.918	1.937	5.2	20.2	10 E	4*	—
2 5	22 40.80	-10 41.8	2.948	2.064	10.2	20.0	22 E	12*	10*	4 26	2 26.28	+19 26.6	2.967	1.971	3.4	20.2	7 E	1*	—
2 15	22 59.09	-7 50.1	2.955	2.030	8.1	19.9	17 E	9*	6*	5 6	2 49.63	+21 0.5	3.009	2.005	2.3	20.2	5 W	—	—
2 25	23 17.67	-4 52.9	2.953	1.996	5.9	19.7	12 E	5*	2*	5 16	3 12.82	+22 22.7	3.044	2.040	2.7	20.2	5 W	—	—
3 7	23 36.57	-1 50.5	2.941	1.962	3.8	19.6	8 E	1*	—	5 26	3 35.80	+23 32.7	3.071	2.075	4.1	20.4	8 W	1*	—
3 17	23 55.86	+1 16.6	2.921	1.929	1.9	19.4	4 E	—	—	6 5	3 58.52	+24 30.3	3.090	2.110	5.9	20.5	12 W	3*	4*
3 27	0 15.60	+4 27.7	2.893	1.897	1.4	19.3	3 W	—	—	6 15	4 20.90	+25 15.6	3.099	2.145	7.8	20.7	17 W	6*	7*
4 6	0 35.89	+7 42.1	2.858	1.865	3.2	19.4	6 W	—	—	6 25	4 42.84	+25 48.8	3.098	2.180	9.6	20.8	21 W	9*	11*
4 16	0 56.85	+10 58.7	2.817	1.836	5.3	19.4	10 W	1*	2*	7 5	5 4.28	+26 10.3	3.088	2.215	11.4	20.9	26 W	13*	14*
4 26	1 18.60	+14 16.1	2.771	1.807	7.4	19.4	13 W	4*	6*	7 15	5 25.11	+26 20.8	3.067	2.250	13.2	21.0	30 W	18*	17*
5 6	1 41.29	+17 33.0	2.721	1.780	9.5	19.5	17 W	6*	8*	7 25	5 45.21	+26 20.8	3.035	2.284	14.9	21.0	35 W	23*	19*
5 16	2 5.09	+20 47.2	2.669	1.755	11.5	19.5	20 W	9*	11*	8 4	6 4.50	+26 11.5	2.993	2.319	16.6	21.1	41 W	28*	22*
5 26	2 30.15	+23 56.4	2.614	1.732	13.4	19.5	23 W	12*	13*	8 14	6 22.86	+25 53.8	2.939	2.352	18.1	21.1	46 W	34*	24*
6 5	2 56.66	+26 57.6	2.559	1.711	15.3	19.5	26 W	15*	14*	8 24	6 40.17	+25 29.0	2.875	2.385	19.4	21.2	52 W	40*	27*
6 15	3 24.75	+29 47.6	2.504	1.693	17.1	19.4	29 W	18*	14*	9 3	6 56.31	+24 58.2	2.802	2.418	20.7	21.2	58 W	46*	29*
6 20	3 39.41	+31 7.2	2.476	1.685	18.0	19.4	31 W	20*	15*	9 13	7 11.14	+24 22.9	2.718	2.450	21.7	21.2	64 W	52*	31*
6 25	3 54.50	+32 22.5	2.449	1.678	18.8	19.4	32 W	21*	15*	9 23	7 24.49	+23 44.5	2.626	2.481	22.4	21.1	71 W	58*	33*
6 30	4 10.01	+33 32.9	2.423	1.671	19.6	19.4	33 W	23*	14*	10 3	7 36.20	+23 4.7	2.527	2.512	22.9	21.1	78 W	63*	36*
7 5	4 25.94	+34 38.1	2.396	1.665	20.4	19.4	35 W	25*	14*	10 13	7 46.04	+22 25.1	2.423	2.542	23.0	21.0	85 W	66*	38*
7 10	4 42.27	+35 37.4	2.370	1.660	21.1	19.4	36 W	27*	14*	10 23	7 53.77	+21 47.3	2.315	2.571	22.7	21.0	93 W	67	40*
7 15	4 58.96	+36 30.4	2.345	1.655	21.8	19.4	37 W	29*	14*	11 2	7 59.13	+21 13.0	2.207	2.599	21.9	20.9	102 W	66	42*
7 20	5 15.97	+37 16.6	2.320	1.652	22.5	19.4	39 W	30*	13*	11 12	8 1.80	+20 43.7	2.101	2.627	20.6	20.7	111 W	66	43
7 25	5 33.25	+37 55.7	2.296	1.649	23.2	19.4	40 W	32*	13*	11 22	8 1.57	+20 20.4	2.003	2.654	18.5	2			

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

20/22	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°-26°	20/22	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°-26°	
7267 Victormeen (continuation)									152771 1999 RB₃₄ (continuation)									
2 15	22 36.06	-15 58.6	3.953	2.988	3.5	19.5	11 E	5*	11 17	4 46.10	-12 30.6	2.282	3.131	10.9	20.3	143 W	32	77
2 25	22 49.25	-14 10.4	3.951	2.969	2.2	19.4	6 E	—	11 22	4 41.58	-13 1.8	2.288	3.145	10.5	20.3	145 W	32	77
3 7	23 2.42	-12 21.1	3.932	2.950	2.4	19.4	7 W	—	12 2	4 32.24	-13 44.4	2.321	3.174	10.4	20.3	144 W	31	78
3 17	23 15.54	-10 30.9	3.896	2.930	4.0	19.5	12 W	5*	12 12	4 23.21	-13 59.4	2.379	3.203	11.2	20.4	141 E	31	78
3 27	23 28.57	-8 40.2	3.844	2.909	5.9	19.5	18 W	11*	12 22	4 15.30	-13 47.8	2.460	3.230	12.5	20.5	135 E	31	78
4 6	23 41.46	-6 49.2	3.777	2.886	7.9	19.5	23 W	17*	1 1	4 9.08	-13 13.2	2.563	3.256	13.9	20.7	127 E	32	77
4 16	23 54.21	-4 58.2	3.694	2.863	9.9	19.6	29 W	23*	1 11	4 4.91	-12 20.3	2.684	3.282	15.1	20.9	120 E	33	76
4 26	0 6.75	-3 7.5	3.597	2.839	11.9	19.6	36 W	30*	1 21	4 2.92	-11 14.3	2.818	3.306	16.1	21.0	111 E	34	75
5 6	0 19.05	-1 17.2	3.487	2.814	13.8	19.5	42 W	36*	52768 1998 OR₂									
5 16	0 31.06	+0 32.5	3.365	2.788	15.6	19.5	48 W	41*	12 27	21 33.69	-18 27.2	3.245	2.636	15.2	21.3	44 E	22*	32*
5 26	0 42.72	+2 21.3	3.232	2.761	17.3	19.5	54 W	46*	1 6	21 48.80	-17 1.0	3.395	2.692	13.1	21.4	38 E	20*	26*
6 5	0 53.96	+4 9.2	3.090	2.732	18.8	19.4	60 W	51*	1 16	22 3.65	-15 33.3	3.532	2.746	10.9	21.4	32 E	18*	20*
6 15	1 4.68	+5 56.2	2.940	2.704	20.2	19.3	67 W	54*	1 26	22 18.21	-14 4.6	3.654	2.799	8.7	21.4	26 E	14*	14*
6 25	1 14.73	+7 42.3	2.784	2.674	21.3	19.2	73 W	55*	2 5	22 32.46	-12 35.4	3.762	2.850	6.5	21.4	19 E	9*	9*
7 5	1 23.99	+9 27.5	2.623	2.643	22.3	19.1	80 W	54*	2 15	22 46.38	-11 6.2	3.853	2.899	4.4	21.4	13 E	4*	5*
7 15	1 32.22	+11 12.0	2.459	2.611	22.9	18.9	87 W	53	2 25	22 59.97	-9 37.7	3.927	2.947	2.3	21.4	7 E	—	—
7 25	1 39.18	+12 56.0	2.295	2.578	23.1	18.8	94 W	53*	3 7	23 13.19	-8 10.3	3.984	2.993	1.0	21.3	3 E	—	—
8 4	1 44.56	+14 39.6	2.132	2.545	23.0	18.6	102 W	59*	415715 1999 AU₂₃									
8 14	1 47.94	+16 22.7	1.974	2.511	22.3	18.3	110 W	61	12 27	21 34.45	+1 28.7	1.781	1.419	33.4	21.4	53 E	41*	24*
8 24	1 48.89	+18 4.7	1.824	2.476	21.0	18.1	119 W	63	1 6	22 1.39	+4 4.0	1.788	1.381	33.1	21.4	50 E	41*	20*
9 3	1 46.93	+19 44.5	1.685	2.440	19.0	17.8	128 W	65	1 16	22 29.96	+6 50.8	1.793	1.348	32.8	21.3	48 E	40*	16*
9 13	1 41.61	+21 19.1	1.560	2.403	16.3	17.5	138 W	66	1 26	23 0.20	+9 46.0	1.796	1.321	32.5	21.2	46 E	39*	13*
9 23	1 32.73	+22 44.2	1.455	2.366	13.0	17.2	148 W	68	2 5	23 32.14	+12 44.9	1.802	1.299	32.2	21.2	45 E	38*	11*
9 28	1 27.00	+23 21.5	1.411	2.347	11.3	17.1	153 W	68	2 15	0 5.84	+15 41.7	1.810	1.285	31.8	21.2	43 E	37*	10*
10 3	1 20.50	+23 54.2	1.373	2.328	9.6	17.0	157 W	69	2 25	0 41.24	+18 29.7	1.825	1.277	31.3	21.2	42 E	36*	9*
10 8	1 13.35	+24 21.5	1.342	2.309	8.2	16.8	161 W	69	3 7	1 18.19	+21 1.4	1.846	1.277	30.7	21.2	41 E	35*	10*
10 13	1 5.75	+24 43.0	1.317	2.290	7.4	16.7	163 E	70	3 17	1 56.41	+23 9.9	1.875	1.285	29.9	21.2	40 E	34*	10*
10 18	0 57.91	+24 58.4	1.300	2.270	7.5	16.7	163 E	70	3 27	2 35.48	+24 49.4	1.913	1.299	28.9	21.2	39 E	33*	11*
10 23	0 50.06	+25 7.8	1.289	2.251	8.6	16.7	160 E	70	4 6	3 14.83	+25 55.8	1.961	1.320	27.7	21.3	38 E	31*	12*
10 28	0 42.44	+25 11.8	1.286	2.231	10.3	16.7	156 E	70	4 16	3 53.87	+26 27.9	2.017	1.348	26.2	21.4	36 E	29*	14*
11 2	0 35.29	+25 11.0	1.288	2.212	12.4	16.8	151 E	70	4 26	4 32.00	+26 26.2	2.080	1.381	24.6	21.4	35 E	26*	15*
11 7	0 28.82	+25 6.6	1.297	2.192	14.5	16.9	146 E	70	351016 2003 QM₇₈									
11 12	0 23.21	+24 59.8	1.311	2.172	16.7	17.0	141 E	70	12 27	21 34.58	-21 42.0	2.627	2.037	19.6	21.2	44 E	10*	34*
11 17	0 18.56	+24 52.2	1.331	2.152	18.7	17.0	136 E	70	1 6	21 52.59	-18 38.6	2.668	1.997	17.9	21.2	39 E	19*	27*
11 22	0 14.96	+24 44.8	1.354	2.132	20.6	17.1	130 E	70	1 16	22 10.93	-15 29.0	2.701	1.958	16.1	21.1	34 E	19*	22*
11 27	0 12.43	+24 38.8	1.381	2.112	22.4	17.2	125 E	70	1 26	22 29.57	-12 12.8	2.725	1.921	14.3	21.0	29 E	17*	16*
12 2	0 10.98	+24 35.0	1.411	2.092	24.0	17.3	121 E	70	2 5	22 48.48	-8 50.4	2.742	1.885	12.3	20.9	24 E	15*	11*
12 12	0 11.26	+24 37.1	1.478	2.052	26.6	17.4	111 E	70	2 15	23 7.72	-5 21.7	2.751	1.851	10.3	20.8	20 E	12*	7*
12 22	0 15.46	+24 54.7	1.549	2.012	28.5	17.5	103 E	70	2 25	23 27.33	-1 47.4	2.753	1.819	8.4	20.7	16 E	9*	3*
1 1	0 23.16	+25 28.8	1.622	1.972	29.8	17.6	95 E	70	3 7	23 47.36	+1 52.0	2.749	1.790	6.6	20.6	12 E	6*	—
1 11	0 34.00	+26 19.1	1.694	1.933	30.6	17.7	88 E	71	3 17	0 7.93	+5 35.6	2.739	1.763	5.0	20.4	9 E	3*	—
1 21	0 47.64	+27 23.8	1.762	1.894	31.0	17.7	82 E	71	3 27	0 29.15	+9 22.3	2.725	1.739	4.0	20.3	7 E	—	—
12 27	21 33.52	-7 19.4	2.339	1.837	23.5	19.6	48 E	32*	4 6	0 51.16	+13 10.3	2.706	1.718	4.1	20.3	7 W	—	—
1 6	21 58.78	-6 51.2	2.453	1.875	21.4	19.7	44 E	31*	4 16	1 14.13	+16 58.0	2.685	1.700	5.2	20.3	9 W	3*	—
1 16	22 23.23	-6 10.4	2.566	1.915	19.1	19.7	40 E	28*	4 26	1 38.24	+20 42.9	2.662	1.686	6.6	20.4	11 W	5*	—
1 26	22 46.88	-5 19.8	2.676	1.956	16.9	19.8	35 E	25*	5 6	2 3.67	+24 22.0	2.639	1.676	8.2	20.4	14 W	7*	—
2 5	23 9.77	-4 21.8	2.782	1.998	14.6	19.8	31 E	21*	5 16	2 30.63	+27 51.9	2.615	1.670	9.8	20.4	16 W	10*	2*
2 15	23 31.96	-3 18.9	2.882	2.041	12.3	19.9	26 E	17*	5 26	2 59.25	+31 8.6	2.593	1.668	11.4	20.5	19 W	12*	3*
2 25	23 53.50	-2 13.0	2.976	2.085	10.0	19.9	21 E	13*	5 31	3 14.23	+32 40.7	2.582	1.668	12.1	20.5	20 W	13*	4*
3 7	0 14.44	-1 6.2	3.060	2.129	7.7	19.9	17 E	8*	6 5	3 29.66	+34 7.7	2.572	1.669	12.8	20.5	21 W	14*	—
3 17	0 34.85	+0 0.1	3.136	2.174	5.5	19.9	12 E	4*	6 10	3 45.54	+35 29.3	2.563	1.672	13.5	20.5	23 W	16*	4*
3 27	0 54.76	+1 4.1	3.202	2.218	3.6	19.9	8 E	—	6 15	4 1.85	+36 44.7	2.553	1.675	14.2	20.6	24 W	17*	4*
4 6	1 14.20	+2 4.5	3.257	2.263	2.5	19.9	6 E	—	6 20	4 18.57	+37 53.5	2.545	1.679	14.8	20.6	25 W	18*	4*
4 16	1 33.21	+3 0.3	3.300	2.308	3.1	20.0	7 W	—	6 25	4 35.67	+38 55.2	2.536	1.684	15.4	20.6	26 W	19*	4*
4 26	1 51.80	+3 50.2	3.332	2.352	4.7	20.2	11 W	—	6 30	4 53.09	+39 49.3	2.529	1.691	16.0	20.6	27 W	21*	4*
5 6	2 9.96	+4 33.3	3.351	2.396	6.5	20.3	16 W	—	7 5	5 10.78	+40 35.6	2.522	1.698	16.6	20.6	28 W	22*	4*
5 16	2 27.69	+5 8.6	3.359	2.440	8.4	20.4	21 W	—	7 15	5 28.67	+41 13.7	2.515	1.706	17.1	20.7	30 W	23*	4*
5 26	2 44.95	+5 35.5	3.354	2.483	10.3	20.6	26 W	—	7 20	6 4.72	+42 5.0	2.502	1.725	18.1	20.7	32 W	26*	3*
6 5	3 1.72	+5 53.1	3.337	2.526	12.1	20.7	31 W	—	7 25	6 22.69	+42 18.3	2.496	1.735	18.6	20.7	33 W	27*	3*
6 15	3 17.94	+6 0.9	3.308	2.568	13.7	20.7	37 W	3*	7 30	6 40.53	+42 23.6	2.490	1.747	19.1	20.8	34 W	28*	3*
6 25	3 33.53	+5 58.3	3.267	2.610	15.2	20.8	42 W	7*	8 4	6 58.13	+42 21.2	2.484	1.759	19.5	20.8	35 W	29*	3*
7 5	3 48.42	+5 44.7	3.216	2.651	16.6	20.8	48 W	12*	8 9	7 15.44	+42 11.7	2.478	1.772	20.0	20.8	37 W	31*	3*
7 15	4 2.50	+5 19.8	3.154	2.691	17.9	20.9	54 W	18*	8 14	7 32.36	+41 55.4	2.471	1.785	20.5	20.8	38 W	32*	3*
7 25	4 15.64	+4 43.2	3.084	2.731	18.9	20.9	61 W	24*	8 19	7 48.84	+41 33.0	2.463	1.799	20.9	20.9	39 W	33*	3*
8 4	4 27.72	+3 54.6	3.005	2.770	19.7	20.9	67 W	30*	8 24	8 4.84	+41 5.0	2.456	1.814	21.3	20.9	41 W	35*	3*
8 14	4 38.57	+2 54.0	2.919	2.808	20.3	20.9	74 W	35*	8 29	8 20.32	+40 32.2	2.447						

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

20/22	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°	20/22	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°
351016 2003 QM₇₈ (continuation)										1508 Kemi (continuation)									
10 23	10 33.95	+32 5.6	2.263	2.030	26.1	21.1	64 W	58*	13*	10 3	0 52.08	+3 30.0	1.386	2.385	1.7	14.8	176 W	49	60
10 28	10 42.84	+31 19.9	2.236	2.050	26.4	21.1	66 W	60*	14*	10 13	0 36.84	+4 17.5	1.348	2.338	4.0	14.9	171 E	49	60
11 2	10 51.21	+30 36.2	2.206	2.071	26.6	21.1	69 W	63*	16*	10 23	0 21.78	+5 9.7	1.340	2.290	9.6	15.1	157 E	50	59
11 7	10 59.05	+29 54.6	2.176	2.091	26.8	21.1	72 W	65*	18*	11 2	0 8.48	+6 8.2	1.359	2.243	14.8	15.2	145 E	51	58
11 12	11 6.34	+29 15.6	2.143	2.112	26.9	21.1	75 W	68*	20*	11 12	23 58.23	+7 14.3	1.401	2.195	19.4	15.4	133 E	52	57
11 17	11 13.07	+28 39.5	2.109	2.133	27.0	21.1	78 W	70*	22*	11 22	23 51.69	+8 29.4	1.460	2.148	23.1	15.6	122 E	53	56
11 22	11 19.23	+28 6.3	2.073	2.154	26.9	21.1	81 W	71*	24*	12 2	23 49.02	+9 54.3	1.530	2.101	25.9	15.7	111 E	55	54
11 27	11 24.80	+27 36.5	2.035	2.175	26.8	21.0	84 W	72*	26*	12 12	23 50.04	+11 29.8	1.607	2.055	27.9	15.8	102 E	57	51*
12 2	11 29.75	+27 10.1	1.997	2.196	26.7	21.0	88 W	72*	28*	12 22	23 54.43	+13 16.1	1.686	2.010	29.2	15.9	94 E	58	46*
12 7	11 34.03	+26 47.5	1.958	2.218	26.4	21.0	92 W	72*	30*	1 1	0 1.80	+15 13.0	1.763	1.965	30.0	16.0	86 E	60	39*
12 12	11 37.62	+26 28.7	1.918	2.239	26.0	20.9	96 W	71	32*	1 11	0 11.87	+17 20.2	1.837	1.922	30.2	16.0	80 E	62*	33*
12 17	11 40.47	+26 13.8	1.878	2.260	25.4	20.9	100 W	71	34*	1 21	0 24.38	+19 36.9	1.905	1.880	30.1	16.1	74 E	62*	27*
12 22	11 42.55	+26 2.7	1.838	2.282	24.8	20.9	104 W	71	36*	310458 2000 QA₁₈₀									
12 27	11 43.81	+25 55.5	1.799	2.303	23.9	20.8	108 W	71	37*	12 27	21 37.25	-20 25.6	2.945	2.352	17.1	21.0	45 E	20*	34*
1 1	11 44.19	+25 51.9	1.761	2.325	23.0	20.8	113 W	71	38*	1 6	21 52.59	-18 8.6	3.002	2.319	15.4	21.0	39 E	20*	27*
1 6	11 43.66	+25 51.6	1.724	2.346	21.8	20.7	117 W	71	38	1 16	22 8.38	-15 46.8	3.047	2.285	13.5	20.9	33 E	18*	21*
1 11	11 42.18	+25 54.3	1.690	2.367	20.5	20.6	122 W	71	38	1 26	22 24.55	-13 20.1	3.080	2.250	11.6	20.8	27 E	15*	16*
1 16	11 39.74	+25 59.2	1.659	2.389	19.1	20.6	127 W	71	38	2 5	22 41.03	-10 48.3	3.101	2.215	9.5	20.7	22 E	12*	11*
1 21	11 36.34	+26 5.5	1.631	2.410	17.5	20.5	133 W	71	38	2 15	22 57.82	-8 11.5	3.109	2.179	7.3	20.6	16 E	8*	6*
501956 2014 YC₁₀										2 25	23 14.91	-5 29.7	3.106	2.143	5.1	20.4	11 E	4*	2*
12 27	21 35.05	+4 14.0	2.084	1.707	27.9	21.2	54 E	43*	23*	3 7	23 32.31	-2 43.0	3.091	2.107	2.9	20.3	6 E	—	—
1 6	21 58.52	+6 10.5	2.126	1.685	26.8	21.2	51 E	42*	18*	3 17	23 50.06	+0 8.2	3.065	2.071	0.9	20.1	2 E	—	—
1 16	22 22.95	+8 16.3	2.165	1.665	25.8	21.2	47 E	40*	14*	3 27	0 8.21	+3 3.8	3.029	2.034	1.8	20.1	4 W	—	—
1 26	22 48.28	+10 29.6	2.201	1.647	24.7	21.1	44 E	38*	10*	4 6	0 26.84	+6 3.2	2.983	1.998	4.0	20.1	8 W	—	1*
2 5	23 14.49	+12 47.9	2.236	1.632	23.5	21.1	41 E	35*	7*	4 16	0 46.02	+9 6.1	2.930	1.961	6.3	20.2	12 W	2*	5*
2 15	23 41.58	+15 8.4	2.270	1.620	22.4	21.1	39 E	33*	5*	4 26	1 5.88	+12 11.6	2.869	1.926	8.6	20.2	17 W	4*	9*
2 25	0 9.53	+17 27.8	2.305	1.611	21.1	21.1	36 E	30*	3*	5 6	1 26.54	+15 19.1	2.802	1.890	10.8	20.2	21 W	7*	13*
3 7	0 38.31	+19 42.5	2.340	1.605	19.8	21.1	33 E	27*	2*	5 16	1 48.15	+18 27.4	2.730	1.856	13.0	20.2	24 W	10*	15*
3 17	1 7.90	+21 49.0	2.376	1.602	18.4	21.1	31 E	24*	1*	5 26	2 10.90	+21 34.9	2.654	1.822	15.1	20.2	28 W	13*	18*
3 27	1 38.22	+23 43.7	2.414	1.603	17.0	21.0	28 E	22*	1*	6 5	2 34.97	+24 39.9	2.576	1.789	17.2	20.1	31 W	17*	19*
4 6	2 9.15	+25 23.2	2.453	1.606	15.4	21.0	25 E	19*	—	6 15	3 0.57	+27 39.8	2.497	1.758	19.1	20.1	35 W	20*	20*
4 16	2 40.56	+26 44.9	2.493	1.613	13.8	21.0	23 E	17*	—	6 20	3 14.01	+29 6.9	2.457	1.743	20.1	20.1	36 W	22*	20*
4 26	3 12.23	+27 46.5	2.533	1.623	12.1	21.0	20 E	14*	—	6 25	3 27.91	+30 31.5	2.418	1.728	21.0	20.0	38 W	25*	20*
5 6	3 43.94	+28 26.3	2.574	1.636	10.4	21.0	17 E	11*	—	6 30	3 42.29	+31 53.2	2.379	1.714	22.0	20.0	39 W	27*	20*
5 16	4 15.43	+28 43.7	2.614	1.651	8.5	21.0	14 E	8*	—	7 5	3 57.17	+33 11.4	2.340	1.701	22.9	20.0	41 W	29*	19*
5 26	4 46.44	+28 38.6	2.653	1.670	6.7	20.9	11 E	5*	—	7 10	4 12.57	+34 25.5	2.302	1.687	23.7	20.0	42 W	31*	19*
6 5	5 16.74	+28 11.7	2.689	1.690	4.8	20.9	8 E	2*	—	7 15	4 28.48	+35 35.0	2.264	1.675	24.6	19.9	43 W	33*	18*
6 15	5 46.13	+27 24.4	2.723	1.713	3.0	20.8	5 E	—	—	7 20	4 44.89	+36 39.1	2.227	1.663	25.4	19.9	45 W	35*	18*
6 25	6 14.47	+26 18.0	2.753	1.738	1.7	20.8	3 W	—	—	7 25	5 1.81	+37 37.3	2.190	1.652	26.2	19.9	46 W	37*	17*
7 5	6 41.64	+24 54.7	2.778	1.765	2.3	20.9	4 W	—	—	7 30	5 19.19	+38 28.9	2.155	1.641	26.9	19.9	47 W	39*	16*
7 15	7 7.62	+23 16.1	2.798	1.793	4.0	21.1	7 W	—	—	8 4	5 37.01	+39 13.4	2.120	1.631	27.6	19.8	48 W	41*	16*
7 25	7 32.36	+21 24.4	2.811	1.823	5.9	21.2	11 W	2*	3*	8 9	5 55.20	+39 50.3	2.087	1.622	28.3	19.8	49 W	42*	15*
8 4	7 55.91	+19 21.2	2.819	1.853	7.8	21.3	14 W	5*	6*	8 14	6 13.69	+40 19.0	2.054	1.613	29.0	19.8	51 W	44*	14*
8 14	8 18.28	+17 8.2	2.818	1.885	9.8	21.5	18 W	8*	9*	8 19	6 32.40	+40 39.3	2.022	1.605	29.7	19.7	52 W	45*	14*
338445 2003 ET₄₇										8 24	6 51.23	+40 50.8	1.991	1.598	30.3	19.7	53 W	47*	13*
12 27	21 35.62	-12 38.8	2.678	2.127	19.7	21.5	47 E	28*	31*	8 29	7 10.10	+40 53.5	1.961	1.592	30.9	19.7	54 W	48*	12*
1 6	21 53.48	-10 0.7	2.813	2.177	17.4	21.6	42 E	27*	24*	9 3	7 28.89	+40 47.4	1.932	1.587	31.4	19.7	55 W	49*	12*
1 16	22 10.83	-7 25.2	2.942	2.227	15.2	21.6	36 E	25*	18*	9 8	7 47.51	+40 32.7	1.903	1.583	31.9	19.7	56 W	50*	12*
1 26	22 27.70	-4 51.9	3.062	2.277	12.9	21.7	31 E	23*	13*	9 13	8 5.85	+40 9.8	1.875	1.579	32.5	19.6	57 W	51*	12*
2 5	22 44.13	-2 20.7	3.172	2.327	10.7	21.7	26 E	19*	8*	9 18	8 23.82	+39 39.0	1.848	1.576	32.9	19.6	59 W	53*	11*
1508 Kemi										9 23	8 41.36	+39 1.1	1.821	1.575	33.4	19.6	60 W	54*	12*
12 27	21 35.98	-33 43.7	4.120	3.468	11.2	18.5	43 E	8*	37*	9 28	8 58.40	+38 16.5	1.794	1.574	33.8	19.6	61 W	55*	12*
1 6	21 47.59	-32 2.0	4.179	3.440	9.8	18.4	37 E	7*	30*	10 3	9 14.90	+37 26.0	1.768	1.574	34.2	19.5	62 W	56*	12*
1 16	21 59.62	-30 19.9	4.224	3.411	8.4	18.4	30 E	4*	24*	10 13	9 46.09	+35 30.3	1.715	1.577	35.0	19.5	65 W	59*	13*
1 26	22 11.95	-28 37.5	4.252	3.381	7.0	18.3	25 E	1*	19*	10 23	10 14.76	+33 19.9	1.662	1.583	35.6	19.5	68 W	62*	15*
2 5	22 24.48	-26 55.0	4.263	3.351	5.7	18.2	20 E	—	13*	11 2	10 40.88	+31 0.5	1.607	1.593	36.1	19.4	71 W	65*	17*
2 15	22 37.14	-25 12.5	4.257	3.319	4.7	18.2	16 E	—	9*	11 12	11 4.41	+28 37.1	1.550	1.606	36.5	19.4	75 W	67*	20*
2 25	22 49.84	-23 30.1	4.234	3.287	4.4	18.1	15 E	—	4*	11 22	11 25.37	+26 14.2	1.489	1.623	36.7	19.3	79 W	69*	24*
3 7	23 2.54	-21 48.2	4.193	3.254	5.0	18.1	17 W	—	3*	12 2	11 43.72	+23 55.0	1.425	1.642	36.6	19.2	84 W	69*	23*
3 17	23 15.19	-20 7.0	4.136	3.220	6.1	18.1	20 W	—	9*	12 12	11 59.31	+21 42.5	1.358	1.664	36.3	19.1	89 W	67	34*
3 27	23 27.72	-18 27.0	4.062	3.185	7.6	18.1	25 W	—	15*	12 22	12 11.94	+19 38.7	1.288	1.689	35.5	19.0	95 W	65	39*
4 6	23 40.12	-16 48.4	3.973	3.150	9.2	18.1	30 W	—	22*	1 1	12 21.26	+17 44.6	1.216	1.716	34.1	18.9	102 W	63	44*
4 16	23 52.32	-15 11.6	3.869	3.114	10.9	18.1	36 W	—	29*	1 11	12 26.79	+16 0.8	1.145	1.745	32.0	18.8	110 W	61	48*
4 26	0 4.27	-13 36.9</																	

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

20/21	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°	20/22	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°
363024 1998 OK₁										337214 2000 BV									
<i>(continuation)</i>										<i>(continuation)</i>									
1 14	22 45.33	- 9 2.3	0.102	0.915	129.8	19.8	46 E	29*	28*	5 26	3 56.51	+37 2.9	2.509	1.562	10.5	20.2	16 W	9*	—
1 15	22 51.37	- 5 24.7	0.096	0.922	128.2	19.6	47 E	33*	27*	5 31	4 15.24	+37 49.0	2.513	1.566	10.5	20.2	16 W	9*	—
1 16	22 57.99	- 1 20.0	0.090	0.928	126.2	19.3	50 E	36*	26*	6 5	4 34.22	+38 25.6	2.518	1.571	10.5	20.3	16 W	9*	—
1 17	23 5.29	+ 3 13.7	0.085	0.934	123.5	18.9	52 E	41*	25*	6 10	4 53.35	+38 52.5	2.524	1.577	10.5	20.3	16 W	9*	—
1 18	23 13.37	+ 8 16.9	0.081	0.940	120.2	18.6	56 E	46*	23*	6 15	5 12.53	+39 9.5	2.532	1.584	10.5	20.3	16 W	9*	—
1 19	23 22.40	+13 48.2	0.078	0.947	116.4	18.2	60 E	51*	21*	6 20	5 31.64	+39 16.6	2.540	1.592	10.5	20.3	17 W	10*	—
1 20	23 32.54	+19 43.0	0.075	0.953	111.9	17.9	64 E	56*	19*	6 25	5 50.59	+39 14.0	2.549	1.602	10.5	20.3	17 W	10*	—
1 21	23 44.01	+25 53.9	0.074	0.960	107.0	17.5	69 E	62*	16*	6 30	6 9.27	+39 2.0	2.558	1.612	10.5	20.3	17 W	10*	—
1 22	23 57.03	+32 10.4	0.073	0.966	101.8	17.3	74 E	68*	13*	7 5	6 27.61	+38 41.1	2.569	1.624	10.5	20.4	17 W	10*	—
1 23	0 11.90	+38 20.2	0.074	0.973	96.5	17.0	79 E	73*	11*	7 10	6 45.52	+38 11.9	2.579	1.636	10.6	20.4	17 W	11*	—
1 24	0 28.92	+44 11.3	0.075	0.980	91.2	16.9	84 E	77*	8*	7 15	7 2.94	+37 35.0	2.590	1.650	10.7	20.4	18 W	11*	—
1 25	0 48.39	+49 33.2	0.078	0.987	86.2	16.8	89 E	79*	6*	7 20	7 19.83	+36 51.0	2.600	1.664	10.9	20.5	18 W	12*	—
1 26	1 10.59	+54 18.2	0.081	0.993	81.5	16.7	94 E	79*	3*	7 25	7 36.14	+36 0.8	2.611	1.679	11.1	20.5	19 W	12*	—
1 27	1 35.67	+58 21.6	0.086	1.000	77.2	16.7	98 E	76*	2*	7 30	7 51.87	+35 4.9	2.621	1.696	11.4	20.5	19 W	13*	—
1 28	2 3.57	+61 41.7	0.090	1.007	73.3	16.7	102 E	73	—	8 4	8 7.01	+34 4.2	2.630	1.712	11.7	20.6	20 W	14*	—
1 29	2 33.86	+64 18.8	0.096	1.014	69.9	16.7	105 E	71	—	8 9	8 21.56	+32 59.3	2.639	1.730	12.1	20.6	21 W	15*	—
1 30	3 5.75	+66 15.3	0.101	1.021	66.8	16.7	108 E	69	—	8 14	8 35.53	+31 50.8	2.646	1.748	12.5	20.7	22 W	16*	—
1 31	3 38.12	+67 35.2	0.108	1.027	64.1	16.8	110 E	67	—	8 19	8 48.93	+30 39.3	2.653	1.767	13.0	20.7	23 W	17*	—
2 1	4 9.75	+68 23.7	0.114	1.034	61.6	16.9	113 E	67	—	8 24	9 1.78	+29 25.4	2.658	1.786	13.5	20.8	24 W	18*	—
2 2	4 39.58	+68 46.5	0.121	1.041	59.5	16.9	114 E	66	—	8 29	9 14.11	+28 9.5	2.662	1.806	14.1	20.8	26 W	20*	1*
2 3	5 6.87	+68 49.4	0.128	1.048	57.6	17.0	116 E	66	—	9 3	9 25.94	+26 52.0	2.664	1.827	14.7	20.9	27 W	21*	2*
2 4	5 31.30	+68 37.5	0.135	1.055	55.9	17.1	118 E	66	—	9 8	9 37.30	+25 33.5	2.664	1.848	15.3	20.9	29 W	23*	4*
2 5	5 52.85	+68 15.2	0.143	1.062	54.3	17.2	119 E	67	—	9 13	9 48.19	+24 14.2	2.662	1.869	16.0	21.0	31 W	25*	5*
2 6	6 11.71	+67 45.6	0.150	1.069	53.0	17.3	120 E	67	—	9 18	9 58.65	+22 54.4	2.659	1.891	16.6	21.0	33 W	27*	6*
2 7	6 28.15	+67 11.4	0.158	1.076	51.7	17.4	121 E	68	—	9 23	10 8.69	+21 34.4	2.653	1.913	17.3	21.0	35 W	28*	8*
2 8	6 42.49	+66 34.4	0.166	1.083	50.6	17.4	122 E	68	—	9 28	10 18.33	+20 14.4	2.644	1.935	18.0	21.1	37 W	30*	10*
2 9	6 55.03	+65 55.7	0.174	1.090	49.6	17.5	123 E	69	—	10 3	10 27.59	+18 54.7	2.634	1.958	18.7	21.1	39 W	32*	11*
2 10	7 6.04	+65 16.4	0.182	1.097	48.7	17.6	123 E	70	—	10 8	10 36.48	+17 35.5	2.620	1.981	19.4	21.2	41 W	35*	13*
2 11	7 15.76	+64 36.9	0.190	1.104	47.9	17.7	124 W	70	—	10 13	10 45.00	+16 16.8	2.605	2.004	20.1	21.2	44 W	37*	15*
2 12	7 24.39	+63 57.7	0.198	1.111	47.1	17.8	124 E	71	—	10 18	10 53.16	+14 59.0	2.586	2.027	20.7	21.2	46 W	39*	17*
2 13	7 32.09	+63 19.1	0.206	1.118	46.4	17.9	125 E	72	1	10 23	11 0.96	+13 42.0	2.565	2.051	21.4	21.2	49 W	41*	19*
2 14	7 39.01	+62 41.2	0.215	1.125	45.8	18.0	125 E	72	1	10 28	11 8.42	+12 26.1	2.542	2.074	22.0	21.3	51 W	43*	22*
2 15	7 45.26	+62 4.1	0.223	1.132	45.2	18.0	126 E	73	2	11 2	11 15.53	+11 11.2	2.516	2.098	22.6	21.3	54 W	45*	24*
2 16	7 50.93	+61 27.8	0.232	1.139	44.6	18.1	126 E	74	3	11 7	11 22.28	+ 9 57.6	2.487	2.121	23.1	21.3	57 W	46*	27*
2 17	7 56.11	+60 52.4	0.240	1.146	44.1	18.2	126 E	74	3	11 12	11 28.66	+ 8 45.2	2.456	2.145	23.6	21.3	60 W	47*	29*
2 18	8 0.86	+60 17.8	0.249	1.153	43.7	18.3	126 E	75	4	11 17	11 34.66	+ 7 34.3	2.422	2.169	24.1	21.3	63 W	48*	32*
2 19	8 5.24	+59 44.1	0.258	1.160	43.3	18.4	126 E	75	4	11 22	11 40.26	+ 6 24.8	2.387	2.193	24.4	21.3	67 W	49*	35*
2 20	8 9.30	+59 11.2	0.267	1.167	42.9	18.4	127 E	76	5	11 27	11 45.46	+ 5 16.8	2.349	2.217	24.7	21.3	70 W	49*	39*
2 21	8 13.08	+58 39.0	0.276	1.174	42.5	18.5	127 E	76	5	12 2	11 50.23	+ 4 10.4	2.309	2.241	25.0	21.3	74 W	49*	42*
2 22	8 16.61	+58 7.6	0.284	1.181	42.2	18.6	127 E	77	6	12 7	11 54.54	+ 3 5.7	2.267	2.264	25.1	21.3	77 W	48*	46*
2 23	8 19.92	+57 36.8	0.293	1.188	41.9	18.6	127 E	77	6	12 12	11 58.35	+ 2 2.7	2.224	2.288	25.2	21.3	81 W	47	50*
2 24	8 23.04	+57 6.7	0.303	1.195	41.6	18.7	127 E	78	7	12 17	12 1.65	+ 1 1.6	2.180	2.312	25.1	21.3	85 W	46	53*
2 25	8 26.00	+56 37.2	0.312	1.202	41.4	18.8	127 E	78	7	12 22	12 4.39	+ 0 2.5	2.135	2.335	24.9	21.2	89 W	45	57*
2 27	8 31.46	+55 39.9	0.330	1.216	40.9	18.9	126 E	79	8	12 27	12 6.55	+ 0 54.6	2.089	2.359	24.6	21.2	93 W	44	61*
3 1	8 36.45	+54 44.7	0.349	1.229	40.6	19.1	126 E	80	9	1 1	12 8.07	+ 1 49.6	2.043	2.383	24.1	21.2	98 W	43	64*
3 3	8 41.04	+53 51.2	0.368	1.243	40.3	19.2	126 E	81	10	1 6	12 9.92	+ 2 42.2	1.998	2.406	23.5	21.1	102 W	42	66*
3 5	8 45.33	+52 59.2	0.387	1.257	40.0	19.3	125 E	82	11	1 11	12 8.06	+ 3 32.2	1.953	2.429	22.8	21.1	107 W	41	68
3 7	8 49.36	+52 8.7	0.406	1.270	39.8	19.4	125 E	83	12	1 16	12 8.45	+ 4 19.5	1.910	2.452	21.9	21.0	112 W	41	68
3 9	8 53.20	+51 19.3	0.426	1.283	39.6	19.6	125 E	84	13	1 21	12 7.08	+ 5 3.9	1.869	2.475	20.8	21.0	117 W	40	69
3 11	8 56.88	+50 31.0	0.446	1.297	39.4	19.7	124 E	84	13										
3 13	9 0.43	+49 43.6	0.466	1.310	39.3	19.8	123 E	85	14										
3 15	9 3.88	+48 57.1	0.487	1.323	39.2	19.9	123 E	86	15										
3 17	9 7.24	+48 11.4	0.508	1.336	39.1	20.0	122 E	87	16										
3 22	9 15.40	+46 20.2	0.561	1.367	39.0	20.3	120 E	89	18										
3 27	9 23.32	+44 32.7	0.615	1.398	38.9	20.5	118 E	90	19										
4 1	9 31.09	+42 48.5	0.671	1.429	38.9	20.8	116 E	88	21										
4 6	9 38.77	+41 6.9	0.729	1.458	38.8	21.0	114 E	86	23										
4 11	9 46.43	+39 27.6	0.788	1.487	38.7	21.2	112 E	84	25										
4 16	9 54.09	+37 50.3	0.848	1.515	38.7	21.4	109 E	83	26										
12 27	21 38.70	-10 22.5	2.452	1.940	22.2	21.1	48 E	30*	31*	2 17	1 42.48	+12 46.1	0.407	0.861	95.7	17.0	60 E	48*	30*
1 6	21 56.13	- 7 34.5	2.490	1.896	20.8	21.0	43 E	30*	24*	2 19	1 58.51	+13 31.1	0.394	0.876	94.6	17.0	62 E	50*	31*
1 16	22 14.35	- 4 37.9	2.520	1.853	19.3	20.9	38 E	28*	18*	2 21	2 15.41	+14 13.3	0.382	0.891	93.2	16.9	64 E	51*	32*
1 26	22 33.35	- 1 32.6	2.540	1.811	17.7	20.8	34 E	26*	13*	2 23	2 33.16	+14 52.0	0.372	0.907	91.5	16.8	66 E	52*	34*
2 5	22 53.12	+ 1 41.2	2.553	1.771	16.2	20.8	30 E	24*	8*	2 25	2 51.70	+15 26.1	0.364	0.923	89.6	16.7	69 E	54*	35*
2 15	23 13.74	+ 5 3.0	2.559	1.734	14.8	20.7	27 E	21*</											

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

20/22	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°	20/21	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°
86039 1999 NC₄₃ (continuation)										363080 2000 QY₁₂₉ (continuation)									
4 1	7 43.51	+11 10.7	0.521	1.236	51.6	16.8	104 E	56	53	2 25	0 6.51	- 6 53.6	2.898	2.029	11.2	20.6	23 E	12*	14*
4 6	8 7.47	+ 9 53.9	0.577	1.281	48.8	17.1	106 E	55	54	3 7	0 28.39	- 5 8.0	2.982	2.074	9.2	20.7	20 E	8*	11*
4 11	8 28.25	+ 8 42.8	0.637	1.327	46.6	17.3	106 E	54	55	3 17	0 49.67	- 3 25.1	3.060	2.121	7.4	20.7	16 E	4*	9*
4 16	8 46.53	+ 7 37.1	0.701	1.372	44.8	17.5	106 E	53*	56	3 27	1 10.41	- 1 46.4	3.131	2.168	5.8	20.7	13 E	—	7*
4 21	9 2.87	+ 6 36.1	0.769	1.416	43.2	17.8	105 E	51*	57	4 6	1 30.63	- 0 13.0	3.194	2.216	4.6	20.7	10 E	—	4*
4 26	9 17.67	+ 5 38.8	0.839	1.459	42.0	18.0	104 E	50*	58	4 16	1 50.38	+ 1 13.8	3.248	2.264	4.2	20.8	9 E	—	1*
5 6	9 43.86	+ 3 53.0	0.988	1.544	39.8	18.4	101 E	47*	60	4 26	2 9.66	+ 2 33.2	3.293	2.313	4.7	20.9	11 W	—	—
5 16	10 6.90	+ 2 14.5	1.145	1.626	38.0	18.8	98 E	43*	62	5 6	2 28.48	+ 3 44.5	3.328	2.362	5.9	21.0	14 W	—	5*
5 26	10 27.87	+ 0 39.7	1.308	1.705	36.4	19.1	94 E	39*	63	5 16	2 46.84	+ 4 47.0	3.353	2.410	7.4	21.2	18 W	—	10*
6 5	10 47.40	- 0 53.0	1.476	1.781	34.7	19.4	89 E	34*	65	5 26	3 4.70	+ 5 40.2	3.367	2.459	9.0	21.3	22 W	—	15*
6 15	11 5.93	- 2 25.1	1.647	1.853	33.1	19.7	85 E	29*	66*	6 5	3 22.04	+ 6 23.8	3.369	2.508	10.6	21.4	27 W	—	21*
6 25	11 23.75	- 3 57.0	1.819	1.923	31.4	20.0	80 E	24*	67*	177255 2003 WC₂₅									
7 5	11 41.05	- 5 28.9	1.992	1.989	29.6	20.2	75 E	20*	65*	12 27	21 39.85	-12 3.0	1.589	1.181	38.1	19.5	48 E	29*	32*
7 15	11 57.98	- 7 0.8	2.163	2.052	27.7	20.4	70 E	16*	63*	1 1	21 57.75	- 9 52.0	1.598	1.185	37.9	19.5	48 E	30*	30*
7 25	12 14.66	- 8 32.6	2.332	2.112	25.8	20.5	65 E	13*	58*	1 6	22 15.51	- 7 37.3	1.609	1.191	37.5	19.5	47 E	32*	28*
8 4	12 31.14	-10 3.8	2.495	2.169	23.8	20.7	60 E	10*	54*	1 11	22 33.13	- 5 19.9	1.623	1.199	37.1	19.5	47 E	33*	27*
8 14	12 47.53	-11 34.2	2.653	2.224	21.8	20.8	55 E	8*	49*	1 16	22 50.61	- 3 1.1	1.640	1.211	36.6	19.6	47 E	34*	25*
8 24	13 3.85	-13 3.4	2.803	2.275	19.7	20.9	49 E	6*	43*	1 21	23 7.95	- 0 41.9	1.660	1.224	36.1	19.6	47 E	35*	24*
9 3	13 20.15	-14 30.8	2.944	2.324	17.5	21.0	44 E	4*	38*	1 26	23 25.17	+ 1 36.6	1.683	1.239	35.4	19.7	47 E	36*	23*
9 13	13 36.47	-15 56.2	3.075	2.370	15.3	21.1	38 E	3*	32*	1 31	23 42.25	+ 3 53.1	1.708	1.257	34.8	19.7	47 E	37*	21*
9 23	13 52.83	-17 19.0	3.194	2.413	13.0	21.1	33 E	1*	27*	2 5	23 59.23	+ 6 6.8	1.737	1.276	34.0	19.7	46 E	37*	20*
10 3	14 9.24	-18 38.8	3.300	2.454	10.8	21.1	27 E	—	21*	2 10	0 16.10	+ 8 16.8	1.769	1.297	33.3	19.8	46 E	38*	19*
10 13	14 25.72	-19 55.1	3.392	2.492	8.5	21.1	22 E	—	15*	2 15	0 32.88	+10 22.3	1.803	1.320	32.4	19.9	46 E	38*	18*
10 23	14 42.26	-21 7.5	3.469	2.527	6.2	21.1	16 E	—	10*	2 25	1 6.17	+14 17.4	1.880	1.369	30.6	20.0	45 E	37*	17*
11 2	14 58.84	-22 15.5	3.530	2.561	4.0	21.0	10 E	—	4*	3 7	1 39.11	+17 47.7	1.967	1.422	28.7	20.1	44 E	37*	16*
11 12	15 15.44	-23 18.8	3.574	2.591	2.3	21.0	6 E	—	—	3 17	2 11.69	+20 50.9	2.062	1.479	26.7	20.2	42 E	35*	14*
11 22	15 32.03	-24 17.1	3.600	2.619	2.2	21.0	6 W	—	—	3 27	2 43.85	+23 26.1	2.163	1.539	24.6	20.4	40 E	33*	14*
12 2	15 48.55	-25 10.2	3.608	2.645	3.9	21.2	11 W	—	4*	4 6	3 15.50	+25 33.1	2.270	1.600	22.5	20.5	38 E	31*	13*
12 12	16 4.96	-25 57.8	3.599	2.669	6.0	21.3	16 W	2*	10*	4 16	3 46.54	+27 13.0	2.379	1.662	20.3	20.6	35 E	28*	12*
12 22	16 21.15	-26 39.8	3.571	2.690	8.1	21.4	23 W	5*	15*	4 26	4 16.85	+28 27.3	2.490	1.725	18.2	20.7	32 E	25*	11*
1 1	16 37.06	-27 16.5	3.526	2.709	10.2	21.5	29 W	8*	22*	5 6	4 46.30	+29 17.8	2.600	1.788	16.0	20.8	29 E	22*	10*
307286 2002 PA₉₆										5 16	5 14.81	+29 46.8	2.707	1.851	13.8	20.9	26 E	18*	9*
12 27	21 39.52	- 2 59.4	2.249	1.809	25.2	19.4	52 E	37*	28*	5 26	5 42.28	+29 56.4	2.811	1.914	11.6	21.0	22 E	14*	7*
1 6	22 0.23	- 0 12.6	2.291	1.781	24.0	19.4	48 E	37*	22*	6 5	6 8.65	+29 48.9	2.910	1.976	9.5	21.0	19 E	11*	5*
1 16	22 21.82	+ 2 43.0	2.329	1.757	22.8	19.3	44 E	35*	16*	6 15	6 33.89	+29 26.7	3.001	2.037	7.4	21.1	15 E	7*	3*
1 26	22 44.26	+ 5 46.0	2.364	1.737	21.6	19.3	41 E	34*	12*	6 25	6 57.98	+28 51.7	3.085	2.097	5.4	21.1	11 E	4*	—
2 5	23 7.53	+ 8 54.8	2.396	1.722	20.4	19.3	38 E	31*	8*	7 5	7 20.94	+28 5.9	3.159	2.155	3.6	21.1	8 E	2*	—
2 15	23 31.70	+12 7.2	2.428	1.712	19.2	19.3	35 E	29*	4*	7 15	7 42.78	+27 11.2	3.222	2.213	2.6	21.1	6 E	—	—
2 25	23 56.77	+15 20.4	2.459	1.706	18.0	19.2	32 E	26*	2*	7 25	8 3.53	+26 9.2	3.274	2.270	3.2	21.3	7 W	1*	—
3 7	0 22.79	+18 31.1	2.492	1.705	16.9	19.2	30 E	24*	—	8 4	8 23.23	+25 1.5	3.313	2.325	4.7	21.4	11 W	5*	—
3 17	0 49.82	+21 35.9	2.526	1.709	15.7	19.2	28 E	21*	—	209949 2006 FH₁₂									
3 27	1 17.86	+24 31.1	2.562	1.719	14.6	19.2	26 E	19*	—	12 27	21 40.90	-12 22.2	2.109	1.625	26.7	21.0	48 E	28*	32*
4 6	1 46.89	+27 12.8	2.601	1.733	13.4	19.2	24 E	17*	—	1 6	22 7.64	-10 15.5	2.168	1.623	25.2	21.0	45 E	28*	28*
4 16	2 16.85	+29 37.6	2.643	1.751	12.3	19.3	22 E	15*	—	1 16	22 34.25	- 7 58.0	2.226	1.624	23.6	21.0	41 E	28*	24*
4 26	2 47.58	+31 42.2	2.687	1.774	11.1	19.3	20 E	13*	—	1 26	23 0.68	- 5 32.1	2.284	1.629	22.0	21.0	38 E	27*	20*
5 6	3 18.87	+33 24.3	2.733	1.801	10.0	19.3	18 E	11*	—	2 5	23 26.92	- 3 0.6	2.341	1.636	20.3	21.0	35 E	25*	18*
5 16	3 50.46	+34 42.2	2.780	1.831	8.9	19.3	16 E	9*	—	2 15	23 52.97	- 0 26.2	2.399	1.647	18.5	21.0	32 E	23*	15*
5 26	4 21.98	+35 35.4	2.827	1.865	7.9	19.4	15 E	7*	—	2 25	0 18.87	+ 2 8.5	2.456	1.660	16.7	21.0	29 E	21*	13*
6 5	4 53.11	+36 4.1	2.874	1.903	7.2	19.4	14 E	5*	—	3 7	0 44.63	+ 4 40.8	2.513	1.675	14.9	21.1	26 E	18*	11*
6 15	5 23.49	+36 9.6	2.918	1.942	6.8	19.5	13 W	6*	—	3 17	1 10.31	+ 7 8.4	2.568	1.693	13.1	21.1	23 E	15*	9*
6 25	5 52.83	+35 53.9	2.960	1.985	6.8	19.6	13 W	7*	—	3 27	1 35.92	+ 9 29.1	2.622	1.714	11.2	21.1	19 E	12*	7*
7 5	6 20.90	+35 19.3	2.996	2.029	7.3	19.7	15 W	9*	—	4 6	2 1.50	+11 40.8	2.674	1.736	9.3	21.1	16 E	9*	5*
7 15	6 47.55	+34 28.7	3.027	2.075	8.2	19.8	17 W	11*	—	4 16	2 27.05	+13 41.9	2.724	1.760	7.4	21.0	13 E	5*	4*
7 25	7 12.67	+33 24.6	3.050	2.123	9.3	19.9	20 W	14*	—	4 26	2 52.57	+15 30.8	2.770	1.786	5.4	21.0	10 E	2*	2*
8 4	7 36.23	+32 9.8	3.066	2.172	10.7	20.0	23 W	17*	3*	5 6	3 18.01	+17 6.5	2.813	1.814	3.5	21.0	6 E	—	—
8 14	7 58.23	+30 46.8	3.072	2.222	12.1	20.1	27 W	21*	5*	5 16	3 43.37	+18 28.2	2.851	1.842	1.7	20.9	3 E	—	—
8 24	8 18.68	+29 17.9	3.068	2.273	13.6	20.2	32 W	25*	8*	5 26	4 8.55	+19 35.0	2.884	1.872	0.9	20.9	2 W	—	—
9 3	8 37.62	+27 45.1	3.053	2.324	15.0	20.3	37 W	30*	11*	6 5	4 33.49	+20 27.0	2.912	1.902	2.5	21.1	5 W	—	—
9 13	8 55.07	+26 10.2	3.027	2.376	16.4	20.4	42 W	35*	14*	6 15	4 58.11	+21 3.9	2.932	1.933	4.4	21.3	8 W	—	2*
9 23	9 11.03	+24 35.0	2.990	2.429	17.8	20.4	48 W	41*	17*	6 25	5 22.31	+21 26.2	2.946	1.965	6.3	21.4	12 W	—	6*
10 3	9 25.51	+23 1.0	2.941	2.481	18.9	20.5	54 W	46*	20*	419022 2009 QF₃₁									
10 13	9 38.45	+21 29.5	2.881	2.534	19.9	20.5	60 W	51*	24*	12 27	21 41.01	+47 1.4	1.163	1.432	43.0	21.2	83 E	73*	—
10 23	9 49.79	+20 2.1	2.811	2.587	20.7	20.5	67 W	56*	28*	1 1	21 52.81	+47 37.5	1.169	1.422	43.2	21.2	82 E	71*	—
11 2	9 59.42	+18 40.0	2.733	2.639	21.2	20.5	74 W	60*											

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

20/22	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°	20/22	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°																					
419022 2009 QF₃₁										2055 Dvořák																														
<i>(continuation)</i>										<i>(continuation)</i>																														
3 22	4 10.79	+50 6.5	1.192	1.292	47.1	21.1	72 E	64*	8*	8 24	2 23.68	+33 26.5	2.535	2.966	19.2	18.3	105 W	78	31	9 3	2 22.55	+34 55.2	2.422	2.977	18.1	18.1	114 W	80	29											
3 27	4 37.34	+48 9.2	1.205	1.288	47.0	21.1	71 E	64*	11*	9 13	2 18.55	+36 13.5	2.319	2.987	16.5	18.0	123 W	81	28	9 23	2 11.58	+37 16.7	2.231	2.995	14.5	17.8	132 W	82	27											
4 1	5 2.16	+45 57.0	1.222	1.284	46.9	21.2	70 E	64*	13*	9 28	2 7.03	+37 40.9	2.194	2.999	13.3	17.8	136 W	83	26	10 3	2 1.86	+37 59.4	2.162	3.003	12.2	17.7	141 W	83	26											
4 6	5 25.24	+43 32.9	1.242	1.280	46.7	21.2	69 E	63*	16*	10 8	1 56.15	+38 11.4	2.135	3.007	11.1	17.6	145 W	83	26	10 13	1 50.02	+38 16.6	2.115	3.010	10.1	17.6	148 W	83	26											
4 11	5 46.64	+40 59.7	1.264	1.277	46.4	21.2	67 E	61*	19*	10 18	1 43.64	+38 14.8	2.102	3.013	9.2	17.5	151 W	83	26	10 23	1 37.15	+38 6.0	2.095	3.016	8.6	17.5	153 E	83	26											
4 16	6 6.48	+38 20.0	1.289	1.275	46.1	21.2	66 E	59*	22*	10 28	1 30.74	+37 50.5	2.095	3.018	8.4	17.5	154 E	83	26	11 2	1 24.55	+37 29.0	2.102	3.020	8.5	17.5	153 E	82	27											
4 21	6 24.92	+35 36.1	1.316	1.274	45.6	21.3	65 E	56*	25*	11 7	1 18.75	+37 2.2	2.115	3.022	9.1	17.5	151 E	82	27	11 12	1 13.47	+36 31.2	2.136	3.024	9.9	17.6	148 E	82	27											
4 26	6 42.09	+32 50.0	1.344	1.273	45.1	21.3	64 E	53*	27*	11 17	1 8.82	+35 57.2	2.163	3.026	10.8	17.7	145 E	81	28	11 22	1 4.86	+35 21.5	2.196	3.027	11.9	17.7	141 E	80	29											
5 1	6 58.15	+30 3.2	1.375	1.273	44.5	21.3	62 E	49*	30*	11 27	1 1.66	+34 45.0	2.235	3.028	13.0	17.8	136 E	80	29	12 2	0 59.22	+34 8.8	2.279	3.028	14.0	17.9	132 E	79	30											
5 6	7 13.25	+27 16.7	1.407	1.273	43.9	21.4	61 E	46*	32*	12 7	0 57.56	+33 33.9	2.328	3.029	15.0	18.0	127 E	79	30	12 12	0 56.66	+33 1.1	2.381	3.029	15.9	18.1	123 E	78	31											
5 11	7 27.53	+24 31.6	1.440	1.274	43.2	21.4	60 E	42*	34*	12 22	0 57.04	+32 3.9	2.496	3.029	17.3	18.2	114 E	77	32*	1 1	1 0.05	+31 20.2	2.622	3.028	18.3	18.3	105 E	76	31*											
5 16	7 41.11	+21 48.3	1.474	1.276	42.4	21.4	58 E	38*	36*	1 11	1 5.37	+30 51.1	2.754	3.025	18.8	18.5	96 E	76	29*	1 21	1 12.67	+30 36.6	2.887	3.022	19.0	18.6	88 E	75*	26*											
5 21	7 54.09	+19 7.4	1.508	1.278	41.6	21.5	57 E	34*	38*	93768 2000 W/W₂₂																														
5 26	8 6.56	+16 28.9	1.542	1.281	40.8	21.5	56 E	30*	40*	12 27	21 42.14	-35 3.7	3.411	2.795	14.3	19.9	44 E	7*	38*	1	6	21 58.56	-33 17.7	3.514	2.818	12.7	19.9	39 E	6*	33*										
145857 1999 EY₂										1 16	22 14.85	-31 31.0	3.604	2.839	11.1	19.9	34 E	5*	28*	1 16	22 14.85	-31 31.0	3.604	2.839	11.1	19.9	34 E	5*	28*	2 5	22 58.48	-11 58.7	2.887	2.043	12.0	20.2	26 E	14*	15*	
12 27	21 41.91	-16 3.4	2.769	2.219	18.9	20.5	47 E	25*	33*	2 15	23 19.29	-10 35.0	2.889	1.999	10.2	20.1	21 E	10*	12*	2 15	23 19.29	-10 35.0	2.889	1.999	10.2	20.1	21 E	10*	12*	2 25	23 40.72	-9 4.2	2.881	1.955	8.5	19.9	17 E	6*	9*	
1 6	21 59.94	-15 17.4	2.816	2.175	17.3	20.4	41 E	23*	28*	3 7	0 2.76	-7 27.6	2.864	1.912	6.9	19.8	13 E	2*	7*	3 7	0 2.76	-7 27.6	2.864	1.912	6.9	19.8	13 E	2*	7*	3 17	0 25.45	-5 46.3	2.839	1.870	5.6	19.7	11 E	—	5*	—
1 16	22 18.76	-14 20.7	2.851	2.131	15.6	20.4	36 E	20*	23*	4 6	1 12.91	-4 1.7	2.806	1.828	5.0	19.6	9 E	—	3*	4 6	1 12.91	-4 1.7	2.806	1.828	5.0	19.6	9 E	—	3*	4 16	1 37.77	-0 28.8	2.727	1.749	6.0	19.5	11 E	—	—	
1 26	22 38.29	-13 14.2	2.875	2.087	13.9	20.3	30 E	17*	19*	4 26	2 3.43	+1 16.0	2.682	1.713	7.3	19.4	12 W	—	2*	4 26	2 3.43	+1 16.0	2.682	1.713	7.3	19.4	12 W	—	2*	5 6	2 29.93	+2 56.9	2.635	1.678	8.7	19.4	15 W	—	5*	
2 5	22 58.48	-11 58.7	2.887	2.043	12.0	20.2	26 E	14*	15*	5 16	2 57.28	+4 32.0	2.589	1.646	10.1	19.4	17 W	—	8*	5 16	2 57.28	+4 32.0	2.589	1.646	10.1	19.4	17 W	—	8*	5 26	3 25.46	+5 58.9	2.544	1.617	11.6	19.4	19 W	—	11*	
2 15	23 19.29	-10 35.0	2.889	1.999	10.2	20.1	21 E	10*	12*	6 5	3 54.40	+7 15.5	2.501	1.591	12.9	19.4	21 W	—	13*	6 5	3 54.40	+7 15.5	2.501	1.591	12.9	19.4	21 W	—	13*	6 15	4 24.04	+8 19.6	2.461	1.569	14.2	19.3	22 W	—	16*	
2 25	23 40.72	-9 4.2	2.881	1.955	8.5	19.9	17 E	6*	9*	6 25	4 54.20	+9 9.3	2.424	1.551	15.4	19.3	24 W	—	18*	6 25	4 54.20	+9 9.3	2.424	1.551	15.4	19.3	24 W	—	18*	7 5	5 24.73	+9 43.4	2.391	1.537	16.5	19.3	25 W	—	19*	
3 7	0 2.76	-7 27.6	2.864	1.912	6.9	19.8	13 E	2*	7*	7 15	5 55.43	+10 1.1	2.362	1.528	17.6	19.3	27 W	—	21*	7 15	5 55.43	+10 1.1	2.362	1.528	17.6	19.3	27 W	—	21*	7 25	6 26.06	+10 2.0	2.337	1.523	18.5	19.3	28 W	—	22*	
3 17	0 25.45	-5 46.3	2.839	1.870	5.6	19.7	11 E	—	5*	8 4	6 56.42	+9 46.9	2.314	1.523	19.5	19.3	30 W	—	23*	8 4	6 56.42	+9 46.9	2.314	1.523	19.5	19.3	30 W	—	23*	8 14	7 26.30	+9 16.9	2.294	1.527	20.4	19.3	32 W	—	24*	
3 27	0 48.82	-4 1.7	2.806	1.828	5.0	19.6	9 E	—	3*	8 24	7 55.53	+8 33.6	2.274	1.536	21.3	19.4	34 W	—	24*	8 24	7 55.53	+8 33.6	2.274	1.536	21.3	19.4	34 W	—	24*	9 3	8 23.98	+7 39.3	2.255	1.550	22.3	19.4	36 W	—	25*	
4 6	1 12.91	-2 15.3	2.769	1.788	5.2	19.5	9 E	—	1*	9 13	8 51.54	+6 36.4	2.234	1.568	23.3	19.4	38 W	—	26*	9 13	8 51.54	+6 36.4	2.234	1.568	23.3	19.4	38 W	—	26*	9 23	9 18.14	+5 27.4	2.210	1.590	24.3	19.5	41 W	—	27*	
4 16	1 37.77	-0 28.8	2.727	1.749	6.0	19.5	11 E	—	—	10 3	9 43.75	+4 15.1	2.184	1.616	25.3	19.5	44 W	—	28*	10 3	9 43.75	+4 15.1	2.184	1.616	25.3	19.5	44 W	—	28*	10 13	10 8.34	+3 2.0	2.152	1.645	26.4	19.5	47 W	—	30*	
4 26	2 3.43	+1 16.0	2.682	1.713	7.3	19.4	12 W	—	2*	10 13	10 8.34	+3 2.0	2.152	1.645	26.4	19.5	47 W	—	30*	10 13	10 8.34	+3 2.0	2.152	1.645	26.4	19.5	47 W	—	30*	10 23	10 31.87	+1 51.0	2.115	1.676	27.4	19.6	51 W	—	33*	
5 6	2 29.93	+2 56.9	2.635	1.678	8.7	19.4	15 W	—	5*	11 2	11 15.67	-0 14.8	2.023	1.747	29.3	19.6	60 W	—	41*	11 2	11 15.67	-0 14.8	2.023	1.747	29.3	19.6	60 W	—	41*	11 12	11 5.67	-0 14.8	2.023	1.747	29.3	19.6	60 W	—	41*	
5 16	2 57.28	+4 32.0	2.589	1.646	10.1	19.4	17 W	—	8*	11 22	11 35.82	-1 4.2	1.967	1.786	30.0	19.6	65 W	—	42*	11 22	11 35.82	-1 4.2	1.967	1.786	30.0	19.6	65 W	—	42*	12 2	11 54.68	-1 41.0	1.905	1.826	30.5	19.6	70 W	—	43*	
5 26	3 25.46	+5 58.9	2.544	1.617	11.6	19.4	19 W	—	11*	12 12	12 12.11	-2 2.3	1.837	1.867	30.8	19.6	76 W	—	43*	12 12	12 12.11	-2 2.3	1.837	1.867	30.8	19.6	76 W	—	43*	12 22	12 27.91	-2 5.2	1.765	1.910	30.7	19.6	83 W	—	43*	
6 5	3 54.40	+7 15.5	2.501	1.591	12.9	19.4	21 W	—	13*	1 1	12 41.85	+1 46.8	1.689	1.953	30.2	19.5	90 W	—	43*	1 1	12 41.85	+1 46.8	1.689	1.953	30.2	19.5	90 W	—	43*	1 11	12 53.61	-1 4.0	1.612	1.997	29.2	19.4	98 W	—	44*	
6 15	4 24.04	+8 19.6	2.461	1.569	14.2	19.3	22 W	—	16*	1 11	12 53.61	-1 4.0	1.612	1.997	29.2	19.4	98 W	—	44*	1 11	12 53.61	-1 4.0	1.612	1.997	29.2	19.4	98 W	—	44*	1 21	13 2.86	+0 5.7	1.536	2.041	27.6	19.3	10			

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

20/22	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°	20/22	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°
20446 1999 JB₈₀										37152 2000 VV₅₆									
<i>(continuation)</i>										<i>(continuation)</i>									
1 31	23 29.00	-19 35.3	2.202	1.531	22.6	17.6	37 E	15*	28*	10 23	4 35.61	+28 1.9	2.013	2.830	13.7	18.1	138 W	73	36
2 5	23 43.20	-17 41.5	2.224	1.534	22.0	17.6	36 E	15*	27*	11 2	4 27.61	+28 15.7	1.949	2.847	10.3	17.9	149 W	73	36
2 10	23 57.18	-15 46.0	2.247	1.538	21.3	17.6	34 E	15*	26*	11 7	4 22.68	+28 18.7	1.926	2.855	8.4	17.8	155 W	73	36
2 15	0 10.94	-13 49.4	2.270	1.544	20.6	17.6	33 E	15*	25*	11 12	4 17.26	+28 18.8	1.909	2.863	6.5	17.7	161 W	73	36
2 20	0 24.51	-11 52.2	2.295	1.550	19.8	17.7	32 E	15*	23*	11 17	4 11.50	+28 15.9	1.900	2.871	4.6	17.6	166 W	73	36
2 25	0 37.88	-9 55.1	2.321	1.558	19.1	17.7	31 E	14*	22*	11 22	4 5.54	+28 10.0	1.898	2.878	3.0	17.5	171 W	73	36
3 7	1 4.14	-6 3.1	2.375	1.575	17.5	17.7	28 E	13*	20*	11 27	3 59.54	+28 1.4	1.904	2.885	2.5	17.5	173 E	73	36
3 17	1 29.87	-2 17.1	2.432	1.596	15.8	17.7	26 E	12*	18*	12 2	3 53.66	+27 50.2	1.917	2.892	3.6	17.6	169 E	73	36
3 27	1 55.17	+1 19.7	2.491	1.621	14.0	17.7	23 E	9*	15*	12 7	3 48.05	+27 37.1	1.938	2.899	5.3	17.7	164 E	73	36
4 6	2 20.16	+4 44.7	2.551	1.648	12.1	17.7	20 E	7*	13*	12 12	3 42.87	+27 22.7	1.967	2.905	7.1	17.8	159 E	72	37
4 16	2 44.92	+7 56.1	2.611	1.678	10.1	17.8	17 E	4*	10*	12 17	3 38.21	+27 7.6	2.002	2.912	8.9	17.9	153 E	72	37
4 26	3 9.52	+10 52.4	2.669	1.710	8.1	17.8	14 E	1*	7*	12 22	3 34.18	+26 52.4	2.044	2.918	10.6	18.0	147 E	72	37
5 6	3 33.99	+13 32.7	2.726	1.744	6.1	17.8	11 E	-	4*	12 27	3 30.82	+26 37.8	2.092	2.923	12.2	18.2	141 E	72	37
5 16	3 58.37	+15 56.4	2.778	1.780	4.1	17.7	7 E	-	1*	1 1	3 28.18	+26 24.2	2.145	2.929	13.6	18.3	136 E	71	38
5 26	4 22.64	+18 3.4	2.826	1.817	2.3	17.7	4 E	-	-	1 6	3 26.27	+26 12.2	2.203	2.934	14.9	18.4	130 E	71	38
6 5	4 46.77	+19 53.8	2.868	1.855	1.6	17.7	3 W	-	-	1 11	3 25.11	+26 1.9	2.265	2.939	16.0	18.5	125 E	71	38
6 15	5 10.74	+21 28.0	2.903	1.894	2.9	17.9	5 W	-	-	1 16	3 24.66	+25 53.7	2.331	2.944	16.9	18.6	120 E	71	38
6 25	5 34.48	+22 46.7	2.930	1.934	4.9	18.1	9 W	-	2*	1 21	3 24.90	+25 47.7	2.400	2.949	17.7	18.7	115 E	71	38
7 5	5 57.91	+23 50.9	2.949	1.974	6.9	18.2	13 W	3*	5*	306769 2001 BX₂									
7 15	6 20.98	+24 41.5	2.959	2.014	8.8	18.4	18 W	8*	8*	12 27	21 43.24	-18 43.8	1.841	1.367	31.5	19.6	47 E	23*	35*
7 25	6 43.60	+25 20.1	2.959	2.055	10.8	18.5	22 W	13*	10*	1 1	21 58.81	-16 54.4	1.855	1.362	31.0	19.6	46 E	24*	33*
8 4	7 5.69	+25 48.0	2.949	2.095	12.7	18.6	27 W	18*	12*	1 6	22 14.27	-15 0.7	1.870	1.359	30.6	19.6	45 E	25*	31*
8 14	7 27.17	+26 6.9	2.928	2.136	14.5	18.7	32 W	23*	14*	1 11	22 29.61	-13 3.1	1.886	1.357	30.1	19.6	44 E	26*	29*
8 24	7 47.97	+26 18.7	2.897	2.176	16.2	18.8	37 W	29*	15*	1 16	22 44.83	-11 2.4	1.903	1.356	29.9	19.6	43 E	26*	27*
9 3	8 8.02	+26 25.4	2.855	2.215	17.8	18.8	42 W	35*	17*	1 21	22 59.93	-8 59.3	1.921	1.358	28.9	19.7	42 E	27*	26*
9 13	8 27.24	+26 29.2	2.803	2.255	19.3	18.9	48 W	40*	18*	1 26	23 14.91	-6 54.3	1.940	1.361	28.4	19.7	41 E	27*	24*
9 23	8 45.55	+26 32.3	2.741	2.293	20.6	18.9	54 W	46*	20*	1 31	23 29.80	-4 48.4	1.962	1.365	27.7	19.7	40 E	28*	23*
10 3	9 2.87	+26 37.3	2.670	2.331	21.8	18.9	60 W	52*	22*	2 5	23 44.59	-2 42.1	1.984	1.372	27.1	19.7	39 E	28*	21*
10 13	9 19.08	+26 46.7	2.590	2.369	22.7	18.9	66 W	58*	23*	2 10	23 59.32	-0 36.0	2.008	1.379	26.4	19.7	38 E	28*	20*
10 23	9 34.06	+27 3.5	2.503	2.405	23.3	18.9	73 W	64*	25*	2 15	0 13.99	+1 29.0	2.034	1.388	25.7	19.7	38 E	28*	19*
11 2	9 47.65	+27 30.5	2.410	2.441	23.6	18.9	80 W	69*	27*	2 25	0 43.20	+5 33.8	2.089	1.411	24.2	19.8	36 E	27*	16*
11 12	9 59.63	+28 10.8	2.313	2.476	23.5	18.8	87 W	73*	29*	3 7	1 12.33	+9 27.5	2.151	1.439	22.7	19.8	34 E	26*	14*
11 22	10 9.76	+29 7.0	2.216	2.510	23.1	18.7	95 W	74	31*	3 17	1 41.48	+13 6.4	2.217	1.471	21.0	19.9	32 E	25*	13*
12 2	10 17.72	+30 21.6	2.121	2.544	22.1	18.6	104 W	75	32*	3 27	2 10.71	+16 27.3	2.287	1.507	19.3	20.0	30 E	23*	11*
12 12	10 23.13	+31 55.7	2.031	2.576	20.7	18.5	113 W	77	32*	4 6	2 40.04	+19 27.5	2.361	1.547	17.5	20.0	28 E	21*	10*
12 22	10 25.60	+33 48.6	1.951	2.607	18.7	18.4	122 W	79	30	4 16	3 9.46	+22 5.4	2.437	1.590	15.7	20.1	25 E	18*	8*
12 27	10 25.62	+34 51.1	1.917	2.623	17.6	18.3	126 W	80	29	4 26	3 38.91	+24 19.9	2.515	1.635	13.9	20.2	23 E	16*	7*
1 1	10 24.76	+35 56.7	1.886	2.638	16.3	18.3	131 W	81	28	5 6	4 8.27	+26 10.6	2.592	1.682	12.0	20.2	20 E	13*	5*
1 6	10 23.00	+37 4.4	1.860	2.653	15.1	18.2	136 W	82	27	5 16	4 37.45	+27 37.6	2.668	1.730	10.1	20.3	18 E	11*	3*
1 11	10 20.34	+38 12.8	1.840	2.668	13.8	18.1	140 W	83	26	5 26	5 6.26	+28 41.8	2.741	1.780	8.3	20.3	15 E	8*	3*
1 16	10 16.80	+39 20.4	1.825	2.682	12.5	18.1	144 W	84	25	6 5	5 34.55	+29 24.1	2.811	1.830	6.5	20.4	12 E	5*	-
1 21	10 12.43	+40 25.6	1.817	2.696	11.4	18.1	147 W	85	24	6 15	6 2.19	+29 46.4	2.876	1.880	4.9	20.4	9 E	3*	-
483506 2002 XU₆₆										6 25	6 29.02	+29 50.2	2.935	1.931	3.8	20.4	7 E	1*	-
12 27	21 42.70	+8 23.5	1.482	1.273	41.0	21.4	58 E	48*	22*	7 5	6 54.93	+29 37.8	2.987	1.981	3.5	20.5	7 W	-	-
1 6	22 18.10	+11 26.9	1.497	1.278	40.6	21.4	58 E	49*	19*	7 15	7 19.86	+29 11.2	3.031	2.031	4.3	20.6	9 W	2*	-
1 16	22 55.10	+14 27.8	1.522	1.293	39.9	21.4	57 E	50*	17*	7 25	7 43.73	+28 32.7	3.065	2.081	5.7	20.8	12 W	6*	-
1 26	23 33.35	+17 18.7	1.560	1.316	38.9	21.5	57 E	50*	16*	8 4	8 6.53	+27 44.2	3.091	2.130	7.3	20.9	15 W	9*	-
2 5	0 12.33	+19 52.3	1.611	1.348	37.6	21.6	57 E	50*	15*	8 14	8 28.26	+26 47.9	3.105	2.178	9.0	21.1	20 W	14*	2*
37152 2000 VV₅₆										8 24	8 48.89	+25 45.7	3.108	2.226	10.8	21.2	24 W	18*	4*
12 27	21 42.87	-17 24.3	2.498	1.961	21.5	18.0	47 E	24*	34*	9 3	9 8.46	+24 39.6	3.100	2.273	12.5	21.3	29 W	23*	7*
1 6	22 4.73	-15 7.1	2.608	1.996	19.4	18.1	42 E	24*	29*	9 13	9 26.97	+23 31.3	3.079	2.318	14.2	21.4	34 W	28*	10*
1 16	22 25.92	-12 46.8	2.715	2.030	17.3	18.1	38 E	23*	24*	9 23	9 44.41	+22 22.7	3.046	2.363	15.8	21.4	40 W	33*	12*
1 26	22 46.48	-10 24.7	2.817	2.065	15.1	18.2	33 E	21*	19*	363300 2002 LF₄₀									
2 5	23 6.47	-8 2.2	2.913	2.100	13.0	18.2	29 E	18*	15*	12 27	21 44.35	-19 15.2	2.284	1.762	24.0	21.4	47 E	22*	35*
2 15	23 25.97	-5 40.1	3.001	2.135	10.8	18.2	24 E	15*	11*	1 6	22 10.31	-17 15.4	2.373	1.786	22.1	21.5	43 E	22*	31*
2 25	23 45.02	-3 19.5	3.082	2.170	8.5	18.2	19 E	11*	8*	1 16	22 35.50	-15 6.3	2.462	1.813	20.2	21.6	39 E	22*	27*
3 7	0 3.67	-1 1.3	3.153	2.204	6.3	18.2	14 E	7*	4*	1 26	22 59.92	-12 50.8	2.549	1.841	18.2	21.6	36 E	20*	23*
3 17	0 21.98	+1 13.8	3.215	2.239	4.1	18.2	9 E	2*	1*	2 5	23 23.62	-10 31.3	2.633	1.870	16.2	21.6	32 E	19*	20*
3 27	0 39.98	+3 25.1	3.267	2.273	1.9	18.1	4 E	-	-	277958 2006 SP₁₃₄									
4 6	0 57.69	+5 32.0	3.307	2.307	0.4	18.0	1 W	-	-	12 27	21 44.93	-19 28.4	2.466	1.931	21.8	21.1	47 E	22*	35*
4 16	1 15.14	+7 34.0	3.336	2.340	2.5	18.2	6 W	-	-	1 6	22 5.15	-17 12.6	2.644	2.022	19.0	21.3	42 E	22*	30*
4 26	1 32.34	+9 30.5	3.353	2.373	4.6	18.4	11 W	-	5*	1 16	22 23.92	-15 1.4	2.815	2.110	16.2	21.4	37 E	20*	24*
5 6	1 49.29	+11 21.2	3.358	2.405	6.6	18.5	16 W	-	10*	1 26	22 41.53	-12 54.7	2.974	2.194	13.5	21.6	31 E	18*	19*
5 16	2 5.98	+13 5.8	3.351	2.436	8.6	18.7	21 W	3*	15*										

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

20/22	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°	20/22	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°
190543 2000 RM₈₀										105175 2000 OO₂₂									
<i>(continuation)</i>										<i>(continuation)</i>									
4 16	2 27.19	+18 50.8	2.800	1.850	8.2	21.4	15 E	9*	1*	11 22	10 46.02	+ 7 16.1	2.174	2.217	26.0	20.2	79 W	52*	45*
4 26	2 52.35	+20 42.0	2.860	1.886	6.3	21.4	12 E	6*	—	12 2	10 56.88	+ 6 20.5	2.078	2.248	26.0	20.1	87 W	51	50*
5 6	3 17.42	+22 18.9	2.916	1.924	4.4	21.4	8 E	2*	—	12 12	11 5.78	+ 5 37.1	1.980	2.279	25.5	20.0	95 W	51	54*
5 16	3 42.34	+23 41.2	2.967	1.962	2.8	21.4	5 E	—	—	12 22	11 12.45	+ 5 8.5	1.881	2.310	24.5	19.9	103 W	50	58*
5 26	4 7.02	+24 48.6	3.012	2.002	1.9	21.4	4 W	—	—	1 1	11 16.58	+ 4 57.1	1.785	2.340	22.9	19.8	112 W	50	59
106239 2000 UM₄₆										18195 2000 QG₁₁₆									
12 27	21 45.31	-11 28.9	2.109	1.647	26.9	19.8	49 E	30*	33*	12 27	21 45.91	-14 25.9	2.261	1.769	24.6	20.1	48 E	27*	34*
1 6	22 11.25	- 9 14.7	2.168	1.643	25.4	19.8	46 E	30*	28*	1 6	22 9.42	-12 25.2	2.311	1.748	23.1	20.0	44 E	27*	29*
1 16	22 37.16	- 6 50.7	2.227	1.643	23.9	19.8	43 E	29*	24*	1 26	22 33.26	-10 13.2	2.357	1.730	21.6	20.0	40 E	26*	25*
2 5	23 28.74	- 1 42.6	2.342	1.651	20.6	19.9	36 E	26*	17*	1 16	22 57.35	+ 7 51.6	2.400	1.713	20.0	20.0	37 E	24*	21*
2 15	23 54.41	+ 0 56.3	2.400	1.659	18.9	19.9	33 E	24*	15*	2 5	23 21.67	+ 5 22.2	2.439	1.699	18.4	19.9	33 E	22*	17*
2 25	0 20.01	+ 3 35.1	2.456	1.670	17.1	19.9	30 E	22*	12*	2 15	23 46.21	- 2 46.9	2.475	1.687	16.8	19.9	30 E	20*	15*
3 7	0 45.58	+ 6 11.0	2.512	1.684	15.3	19.9	27 E	19*	10*	2 25	0 10.98	+ 0 8.2	2.508	1.678	15.1	19.9	26 E	18*	12*
3 17	1 11.16	+ 8 41.9	2.567	1.701	13.4	19.9	23 E	16*	8*	3 7	0 36.00	+ 2 31.7	2.539	1.671	13.4	19.8	23 E	15*	10*
3 27	1 36.77	+11 5.5	2.621	1.720	11.6	19.9	20 E	13*	7*	3 17	1 1.32	+ 5 10.4	2.569	1.667	11.7	19.8	20 E	12*	8*
4 6	2 2.42	+13 19.7	2.673	1.740	9.7	19.9	17 E	10*	5*	3 27	1 26.97	+ 7 45.2	2.596	1.666	10.0	19.7	17 E	9*	6*
4 16	2 28.13	+15 22.9	2.722	1.763	7.8	19.9	14 E	7*	3*	4 6	1 52.96	+10 13.8	2.622	1.667	8.2	19.7	14 E	6*	4*
4 26	2 53.87	+17 13.5	2.768	1.788	5.8	19.8	10 E	3*	1*	4 16	2 19.33	+12 33.6	2.647	1.672	6.5	19.6	11 E	3*	2*
5 6	3 19.61	+18 50.3	2.811	1.815	3.9	19.8	7 E	—	—	4 26	2 46.05	+14 42.5	2.669	1.679	4.8	19.6	8 E	—	1*
5 16	3 45.31	+20 12.5	2.850	1.842	2.0	19.7	4 E	—	—	5 6	3 13.10	+16 38.4	2.691	1.689	3.1	19.5	5 E	—	—
5 26	4 10.87	+21 19.4	2.884	1.871	0.1	19.6	0 W	—	—	5 16	3 40.44	+18 19.3	2.710	1.701	1.4	19.4	2 E	—	—
6 5	4 36.22	+22 10.8	2.913	1.901	1.9	19.8	4 W	—	—	5 26	4 7.97	+19 44.0	2.728	1.715	0.9	19.4	2 W	—	—
6 15	5 1.27	+22 46.7	2.935	1.932	3.9	20.0	7 W	—	1*	6 5	4 35.58	+20 51.3	2.743	1.732	2.4	19.6	4 W	—	—
6 25	5 25.90	+23 7.5	2.950	1.963	5.8	20.2	11 W	1*	4*	6 15	5 3.15	+21 40.6	2.755	1.751	4.1	19.7	7 W	—	1*
7 5	5 50.01	+23 13.8	2.958	1.995	7.7	20.3	15 W	4*	7*	6 25	5 30.51	+22 11.7	2.763	1.772	5.9	19.8	10 W	—	4*
7 15	6 13.51	+23 6.4	2.958	2.027	9.6	20.4	19 W	8*	10*	7 5	5 57.53	+22 25.0	2.767	1.795	7.6	19.9	14 W	2*	6*
7 25	6 36.28	+22 46.4	2.950	2.060	11.4	20.5	24 W	12*	13*	7 15	6 24.05	+22 21.3	2.767	1.819	9.4	20.0	17 W	5*	8*
8 4	6 58.27	+22 15.0	2.932	2.093	13.2	20.6	28 W	17*	15*	7 25	6 49.92	+22 1.6	2.762	1.845	11.1	20.1	20 W	9*	11*
8 14	7 19.39	+21 33.6	2.905	2.125	14.9	20.7	33 W	22*	18*	8 4	7 15.04	+21 27.5	2.751	1.871	12.8	20.2	24 W	13*	13*
8 24	7 39.56	+20 43.6	2.869	2.158	16.6	20.7	38 W	27*	20*	8 14	7 39.32	+20 40.4	2.733	1.899	14.5	20.3	28 W	18*	15*
9 3	7 58.73	+19 46.6	2.823	2.190	18.2	20.8	43 W	32*	23*	8 24	8 2.66	+19 42.4	2.708	1.928	16.2	20.4	32 W	22*	17*
9 13	8 16.84	+18 44.0	2.766	2.222	19.7	20.8	48 W	37*	25*	9 3	8 25.01	+18 35.2	2.676	1.957	17.8	20.4	36 W	26*	19*
9 23	8 33.81	+17 37.5	2.701	2.254	21.0	20.9	54 W	42*	28*	9 13	8 46.34	+17 20.9	2.637	1.987	19.3	20.5	41 W	31*	21*
10 3	8 49.56	+16 28.9	2.626	2.285	22.1	20.9	59 W	47*	31*	9 23	9 6.60	+16 1.5	2.589	2.018	20.8	20.5	46 W	36*	23*
10 13	9 4.00	+15 19.8	2.542	2.316	23.1	20.8	66 W	52*	34*	10 3	9 25.75	+14 38.9	2.533	2.048	22.2	20.5	51 W	40*	26*
10 23	9 16.99	+14 12.2	2.450	2.346	23.8	20.8	72 W	55*	38*	10 13	9 43.76	+13 15.1	2.469	2.079	23.4	20.6	56 W	44*	29*
11 2	9 28.39	+13 7.8	2.352	2.376	24.2	20.8	79 W	57*	42*	10 23	10 0.54	+11 52.3	2.397	2.110	24.5	20.6	61 W	48*	32*
11 12	9 37.99	+12 9.0	2.249	2.405	24.3	20.7	87 W	57*	46*	11 2	10 16.04	+10 32.3	2.317	2.141	25.3	20.5	67 W	51*	36*
11 22	9 45.56	+11 17.8	2.143	2.434	23.9	20.6	95 W	56	49*	11 12	10 30.12	+ 9 17.4	2.230	2.172	25.9	20.5	74 W	53*	40*
12 2	9 50.85	+10 36.5	2.038	2.462	22.9	20.5	103 W	56	52*	11 22	10 42.64	+ 8 9.7	2.138	2.203	26.3	20.5	81 W	53*	45*
12 12	9 53.55	+10 7.6	1.936	2.489	21.4	20.4	113 W	55	54	12 2	10 53.40	+ 7 11.6	2.042	2.233	26.2	20.4	88 W	52	49*
12 22	9 53.43	+ 9 53.0	1.841	2.515	19.2	20.2	123 W	55	54	12 12	11 2.14	+ 6 25.5	1.943	2.263	25.7	20.3	96 W	51	54*
1 1	9 50.35	+ 9 54.2	1.759	2.540	16.2	20.0	134 W	55	54	12 22	11 8.59	+ 5 54.0	1.844	2.293	24.6	20.2	104 W	51	57*
1 11	9 44.35	+10 11.4	1.694	2.565	12.6	19.8	145 W	55	54	1 1	11 12.44	+ 5 39.3	1.749	2.322	22.9	20.0	113 W	51	58
1 21	9 35.84	+10 43.0	1.652	2.589	8.3	19.6	158 W	56	53	1 11	11 13.39	+ 5 43.8	1.661	2.350	20.5	19.9	123 W	51	58
105175 2000 OO₂₂										247743 2003 MX₇									
12 27	21 45.69	-14 50.6	2.248	1.754	24.7	19.7	48 E	26*	34*	12 27	21 46.69	+ 4 40.6	1.937	1.624	30.5	19.8	57 E	45*	25*
1 6	22 9.58	-12 54.0	2.296	1.733	23.3	19.7	44 E	26*	29*	1 6	22 10.29	+ 7 44.8	2.010	1.638	29.0	19.9	54 E	45*	20*
1 16	22 33.81	-10 45.4	2.340	1.713	21.8	19.7	40 E	25*	25*	1 16	22 34.34	+10 49.6	2.083	1.655	27.6	19.9	51 E	44*	15*
1 26	22 58.29	- 8 26.7	2.381	1.696	20.3	19.6	37 E	24*	21*	1 26	22 58.85	+13 53.7	2.156	1.675	26.1	20.0	49 E	42*	11*
2 5	23 23.00	- 5 59.6	2.419	1.681	18.7	19.6	33 E	22*	18*	2 5	23 23.82	+16 55.3	2.229	1.697	24.6	20.0	46 E	40*	7*
2 15	23 47.93	- 3 26.3	2.453	1.669	17.1	19.6	30 E	20*	15*	2 15	23 49.30	+19 52.4	2.302	1.722	23.2	20.1	43 E	37*	4*
2 25	0 13.09	+ 0 49.1	2.486	1.659	15.4	19.5	26 E	17*	13*	2 25	0 15.31	+22 42.8	2.376	1.748	21.7	20.1	41 E	34*	2*
3 7	0 38.49	+ 1 49.5	2.517	1.653	13.7	19.5	23 E	15*	11*	3 7	0 41.86	+25 24.4	2.450	1.777	20.1	20.2	38 E	31*	—
3 17	1 4.18	+ 4 27.0	2.546	1.649	12.1	19.4	20 E	12*	9*	3 17	1 8.95	+27 54.9	2.523	1.807	18.6	20.2	35 E	29*	—
3 27	1 30.16	+ 7 0.7	2.573	1.648	10.4	19.4	17 E	9*	7*	3 27	1 36.57	+30 12.5	2.596	1.838	17.1	20.3	33 E	26*	—
4 6	1 56.48	+ 9 28.0	2.600	1.650	8.7	19.4	14 E	6*	5*	4 6	2 4.64	+32 15.1	2.669	1.871	15.5	20.3	30 E	23*	—
4 16	2 23.13	+11 46.6	2.626	1.655	7.0	19.3	12 E	3*	4*	4 16	2 33.11	+34 1.4	2.739	1.904	14.0	20.4	2		

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

20/22	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°	20/22	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°
247743 2003 MX₇ (continuation)										347813 2002 NP₁ (continuation)									
11 2	9 41.64	+23 39.4	2.548	2.565	22.4	21.2	80 W	66*	31*	1 1	19 17.05	-26 56.8	2.416	1.450	5.6	20.9	8 E	—	2*
11 12	9 48.89	+22 35.3	2.435	2.592	22.4	21.1	88 W	68*	35*	1 6	19 32.37	-25 57.6	2.419	1.447	4.6	20.8	7 E	—	1*
11 22	9 53.90	+21 38.4	2.318	2.618	22.0	21.0	96 W	67	39*	1 11	19 47.45	-24 52.9	2.420	1.444	3.6	20.8	5 E	—	—
12 2	9 56.39	+20 49.6	2.203	2.643	21.1	20.9	106 W	66	42*	1 16	20 2.29	-23 43.1	2.420	1.440	2.7	20.7	4 E	—	—
12 12	9 56.03	+20 9.6	2.092	2.667	19.5	20.7	115 W	65	44	1 21	20 16.90	-22 28.4	2.418	1.436	1.9	20.6	3 E	—	—
12 22	9 52.59	+19 38.1	1.990	2.691	17.2	20.6	126 W	65	44	88938 2001 TR₃₃									
1 1	9 45.95	+19 14.0	1.904	2.713	14.1	20.4	138 W	64	45	12 27	21 48.28	-8 45.9	2.090	1.658	27.4	20.7	51 E	32*	32*
1 11	9 36.28	+18 55.0	1.838	2.734	10.4	20.2	150 W	64	45	1 6	22 13.81	-6 27.5	2.161	1.665	25.9	20.8	48 E	32*	27*
1 21	9 24.16	+18 37.8	1.800	2.755	6.1	20.0	163 W	64	45	1 16	22 39.18	-4 1.7	2.232	1.674	24.2	20.8	44 E	32*	23*
347813 2002 NP₁										1 26	23 4.36	-1 30.8	2.302	1.685	22.5	20.8	41 E	31*	19*
12 27	21 47.10	+0 57.2	1.451	1.199	42.2	20.5	55 E	41*	27*	2 5	23 29.37	+1 2.8	2.372	1.699	20.7	20.8	37 E	29*	16*
1 6	22 15.48	+4 13.9	1.462	1.174	42.1	20.5	53 E	42*	23*	2 15	23 54.23	+3 37.1	2.441	1.715	18.8	20.9	34 E	26*	13*
1 16	22 45.15	+7 37.1	1.467	1.149	42.0	20.5	51 E	43*	19*	2 25	0 18.97	+6 9.7	2.508	1.733	17.0	20.9	31 E	24*	11*
1 26	23 16.38	+11 3.5	1.467	1.126	42.1	20.4	50 E	43*	16*	3 7	0 46.83	+8 38.5	2.574	1.752	15.0	20.9	27 E	20*	9*
2 5	23 49.43	+14 28.3	1.463	1.104	42.4	20.4	49 E	42*	14*	3 17	1 8.26	+11 1.7	2.637	1.774	13.1	20.9	24 E	17*	7*
2 10	0 6.75	+16 8.3	1.460	1.094	42.5	20.4	49 E	42*	13*	3 27	1 32.88	+13 17.4	2.698	1.797	11.2	20.9	20 E	14*	5*
2 15	0 24.64	+17 45.5	1.457	1.085	42.7	20.3	48 E	42*	13*	4 6	1 57.50	+15 24.0	2.755	1.821	9.2	20.9	17 E	10*	3*
2 20	0 43.13	+19 18.9	1.453	1.076	42.9	20.3	48 E	42*	12*	4 16	2 22.15	+17 20.3	2.808	1.846	7.2	20.9	13 E	7*	1*
2 25	1 2.23	+20 47.2	1.449	1.068	43.1	20.3	47 E	41*	12*	4 26	2 46.81	+19 4.9	2.857	1.873	5.2	20.9	10 E	4*	—
3 2	1 21.94	+22 9.4	1.446	1.062	43.3	20.3	47 E	41*	13*	5 6	3 11.46	+20 36.8	2.900	1.900	3.3	20.8	6 E	—	—
3 7	1 42.27	+23 24.1	1.442	1.056	43.5	20.3	47 E	41*	13*	5 16	3 36.06	+21 55.4	2.937	1.928	1.6	20.8	3 E	—	—
3 12	2 3.20	+24 30.2	1.440	1.051	43.7	20.3	47 E	41*	13*	5 26	4 0.55	+23 0.2	2.968	1.957	1.6	20.8	3 W	—	—
3 17	2 24.67	+25 26.5	1.437	1.047	43.8	20.3	47 E	40*	14*	6 5	4 24.85	+23 50.9	2.991	1.986	3.2	21.0	6 W	—	—
3 22	2 46.61	+26 11.9	1.436	1.044	43.9	20.3	47 E	40*	15*	6 15	4 48.88	+24 27.4	3.007	2.015	5.1	21.1	10 W	1*	2*
3 27	3 8.94	+26 45.3	1.436	1.042	44.0	20.3	47 E	40*	16*	6 25	5 12.53	+24 50.1	3.014	2.044	7.0	21.3	14 W	4*	6*
4 1	3 31.53	+27 6.1	1.437	1.042	44.1	20.3	46 E	39*	17*	7 5	5 35.72	+24 59.4	3.013	2.074	8.9	21.4	18 W	7*	9*
4 6	3 54.29	+27 13.7	1.439	1.042	44.1	20.3	46 E	39*	18*	7 15	5 58.35	+24 56.0	3.002	2.103	10.8	21.5	23 W	11*	12*
4 11	4 17.08	+27 8.0	1.442	1.044	44.0	20.3	46 E	38*	20*	165139 2000 NJ₁₀									
4 16	4 39.77	+26 49.1	1.447	1.047	43.9	20.3	46 E	37*	21*	12 27	21 48.61	-13 29.8	2.032	1.579	28.2	20.4	49 E	28*	34*
4 21	5 2.23	+26 17.2	1.453	1.051	43.8	20.3	46 E	36*	23*	1 6	22 16.67	-11 10.3	2.103	1.594	26.6	20.4	46 E	28*	30*
4 26	5 24.36	+25 33.0	1.460	1.056	43.6	20.3	46 E	35*	24*	1 16	22 44.14	-8 41.3	2.177	1.611	24.8	20.5	43 E	28*	26*
5 1	5 46.07	+24 37.3	1.469	1.062	43.3	20.3	46 E	33*	26*	1 26	23 11.01	-6 6.0	2.251	1.631	23.0	20.5	40 E	28*	23*
5 6	6 7.28	+23 31.0	1.479	1.068	43.0	20.4	46 E	32*	27*	2 5	23 37.30	+3 27.7	2.327	1.655	21.2	20.6	37 E	26*	20*
5 11	6 27.97	+22 15.2	1.490	1.076	42.7	20.4	46 E	30*	29*	2 15	0 3.07	+0 48.9	2.404	1.680	19.3	20.6	34 E	24*	17*
5 16	6 48.09	+20 51.0	1.502	1.085	42.3	20.4	46 E	28*	30*	2 25	0 28.39	+1 47.7	2.480	1.708	17.3	20.6	31 E	22*	15*
5 21	7 6.65	+19 19.4	1.516	1.094	41.9	20.4	46 E	26*	32*	3 7	0 53.31	+4 19.7	2.555	1.738	15.4	20.7	28 E	19*	13*
5 26	7 26.64	+17 41.7	1.530	1.104	41.4	20.5	46 E	24*	33*	3 17	1 17.90	+6 45.4	2.629	1.770	13.3	20.7	24 E	16*	11*
5 31	7 45.09	+15 58.7	1.546	1.115	40.9	20.5	46 E	21*	34*	3 27	1 42.22	+9 3.0	2.701	1.803	11.3	20.7	21 E	13*	9*
6 5	8 3.03	+14 11.4	1.563	1.126	40.4	20.5	46 E	19*	36*	4 6	2 6.29	+11 11.1	2.769	1.837	9.3	20.7	17 E	9*	7*
6 10	8 20.51	+12 20.7	1.580	1.137	39.8	20.6	46 E	17*	37*	4 16	2 30.17	+13 8.5	2.833	1.872	7.2	20.8	14 E	5*	4*
6 15	8 37.55	+10 27.4	1.599	1.149	39.3	20.6	46 E	14*	37*	4 26	2 53.84	+14 54.3	2.891	1.908	5.2	20.7	10 E	2*	2*
6 20	8 54.21	+8 32.1	1.618	1.161	38.7	20.6	46 E	12*	38*	5 6	3 17.30	+16 27.9	2.944	1.944	3.2	20.7	6 E	—	—
6 25	9 10.51	+6 35.5	1.638	1.174	38.1	20.6	45 E	10*	38*	5 16	3 40.55	+17 48.9	2.991	1.981	1.3	20.6	3 E	—	—
6 30	9 26.52	+4 38.2	1.658	1.187	37.4	20.7	45 E	8*	39*	5 26	4 3.54	+18 56.9	3.029	2.018	1.4	20.7	3 W	—	—
7 5	9 42.26	+2 40.7	1.680	1.199	36.8	20.7	45 E	6*	39*	6 5	4 26.22	+19 51.9	3.060	2.055	3.2	20.9	7 W	—	1*
7 10	9 57.80	+0 43.4	1.701	1.212	36.2	20.7	45 E	4*	39*	6 15	4 48.54	+20 34.2	3.082	2.092	5.2	21.1	11 W	—	4*
7 15	10 13.16	+1 13.3	1.724	1.225	35.5	20.8	44 E	3*	38*	6 25	5 10.42	+21 4.0	3.094	2.129	7.1	21.2	15 W	1*	8*
7 20	10 28.38	+3 9.0	1.747	1.238	34.8	20.8	44 E	2*	38*	7 5	5 31.80	+21 22.0	3.096	2.165	9.0	21.3	20 W	5*	12*
7 25	10 43.49	+5 3.3	1.770	1.251	34.1	20.8	44 E	—	38*	7 15	5 52.61	+21 28.7	3.088	2.202	10.9	21.4	24 W	10*	15*
7 30	10 58.53	+6 55.8	1.793	1.263	33.4	20.9	43 E	—	37*	89137 2001 UD₁₇									
8 4	11 13.54	+8 46.3	1.818	1.276	32.7	20.9	43 E	—	36*	12 27	21 48.97	-8 56.5	2.464	1.999	22.5	20.8	51 E	32*	32*
8 8	11 28.54	+10 34.5	1.842	1.288	32.0	20.9	42 E	—	35*	1 6	22 10.24	-7 25.7	2.579	2.029	20.5	20.9	46 E	31*	27*
8 14	11 43.56	+12 20.1	1.867	1.300	31.3	21.0	42 E	—	35*	1 16	22 31.14	-5 48.7	2.688	2.059	18.5	21.0	42 E	29*	22*
8 19	11 58.63	+14 2.8	1.892	1.312	30.5	21.0	41 E	—	34*	1 26	22 51.66	-4 6.8	2.792	2.089	16.4	21.0	37 E	27*	18*
8 24	12 13.76	+15 42.1	1.917	1.323	29.8	21.0	41 E	—	33*	2 5	23 11.84	-2 21.6	2.890	2.119	14.3	21.0	32 E	23*	14*
8 29	12 28.98	+17 18.0	1.942	1.334	29.0	21.0	40 E	—	32*	2 15	23 31.68	-0 34.4	2.980	2.149	12.1	21.1	27 E	19*	10*
9 3	12 44.31	+18 50.0	1.968	1.345	28.2	21.1	39 E	—	31*	2 25	23 51.23	+1 13.5	3.062	2.178	9.9	21.1	22 E	15*	7*
9 8	12 59.77	+20 18.0	1.994	1.355	27.4	21.1	38 E	—	30*	3 7	0 10.50	+3 1.0	3.135	2.208	7.7	21.1	17 E	11*	4*
9 13	13 15.36	+21 41.5	2.019	1.365	26.6	21.1	37 E	—	29*	3 17	0 29.53	+4 46.9	3.198	2.236	5.5	21.0	12 E	6*	1*
9 18	13 31.10	+23 0.5	2.045	1.374	25.8	21.1	37 E	—	28*	3 27	0 48.34	+6 30.3	3.250	2.265	3.3	21.0	7 E	1*	—
9 23	13 47.00	+24 14.4	2.070	1.383	25.0	21.1	36 E	—	28*	4 6	1 6.94	+8 10.1	3.292	2.292	1.1	20.9	3 E	—	—
9 28	14 3.05	+25 23.1	2.095	1.392	24.1	21.2	35 E	—	27*	4 16	1 25.35	+9 45.5	3.322	2.320	1.2	20.9	3 W	—	—
10 3	14 19.26	+26 26.3	2.120	1.399	23.3	21.2	34 E	—	26*	4 26	1 43.58	+11 15.8	3.340	2.346	3.3	21.1	8 W	—	2*
10 8	14 35.63	+27 23.8	2.144	1.407	22.4	21.2	32 E</												

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

20/22	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°	20/21	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°
101058 1998 RN₃										210012 2006 KT₁									
<i>(continuation)</i>																			
4 16	1 19.64	+17 6.0	2.686	1.698	4.8	19.1	8 W	2*	—	12 27	21 50.17	-17 54.3	1.694	1.274	35.2	19.7	48 E	24*	36*
4 26	1 45.44	+20 27.8	2.641	1.658	5.9	19.1	10 W	4*	—	1 1	22 9.18	-16 36.0	1.721	1.291	34.5	19.8	48 E	25*	35*
5 6	2 13.06	+23 44.6	2.597	1.621	7.2	19.0	12 W	5*	—	1 6	22 27.72	-15 12.4	1.751	1.310	33.7	19.8	48 E	26*	34*
5 11	2 27.62	+25 19.7	2.575	1.605	7.9	19.0	13 W	6*	—	1 11	22 45.78	-13 44.4	1.784	1.330	32.9	19.9	47 E	26*	33*
5 16	2 42.71	+26 51.6	2.555	1.590	8.6	19.0	14 W	7*	—	1 16	23 3.35	-12 13.1	1.820	1.351	32.0	19.9	47 E	27*	32*
5 21	2 58.33	+28 19.6	2.535	1.576	9.2	19.0	14 W	8*	1*	1 21	23 20.44	-10 39.6	1.859	1.374	31.1	20.0	46 E	28*	31*
5 26	3 14.50	+29 43.0	2.517	1.563	9.9	19.0	15 W	9*	1*	1 26	23 37.04	-9 4.9	1.899	1.398	30.1	20.0	45 E	28*	30*
5 31	3 31.22	+31 0.8	2.499	1.552	10.5	19.0	16 W	10*	1*	1 31	23 53.19	-7 29.7	1.942	1.423	29.2	20.1	45 E	28*	29*
6 5	3 48.48	+32 12.3	2.484	1.542	11.1	19.0	17 W	10*	2*	2 5	0 8.91	-5 54.7	1.988	1.449	28.2	20.1	44 E	28*	28*
6 10	4 6.25	+33 16.7	2.469	1.534	11.7	19.0	18 W	11*	2*	2 10	0 24.22	-4 20.7	2.035	1.476	27.1	20.2	43 E	28*	27*
6 15	4 24.49	+34 13.1	2.456	1.528	12.2	19.0	19 W	12*	2*	2 15	0 39.15	-2 48.2	2.084	1.504	26.1	20.3	42 E	28*	26*
6 20	4 43.13	+35 0.9	2.445	1.523	12.7	19.0	19 W	13*	2*	2 25	1 7.98	+0 10.4	2.185	1.560	24.0	20.4	40 E	27*	25*
6 25	5 2.10	+35 39.4	2.435	1.519	13.2	19.0	20 W	13*	2*	3 7	1 35.57	+2 58.0	2.292	1.619	21.8	20.5	37 E	25*	23*
6 30	5 21.31	+36 8.1	2.427	1.518	13.6	19.0	21 W	14*	2*	3 17	2 2.12	+5 32.7	2.401	1.679	19.7	20.6	35 E	23*	21*
7 5	5 40.67	+36 26.8	2.420	1.518	14.1	19.0	21 W	15*	2*	3 27	2 27.78	+7 53.3	2.510	1.740	17.5	20.7	32 E	20*	19*
7 10	6 0.07	+36 35.3	2.415	1.519	14.5	19.0	22 W	16*	1*	4 6	2 52.65	+9 59.1	2.619	1.800	15.2	20.8	28 E	16*	17*
7 15	6 19.39	+36 33.6	2.411	1.523	14.8	19.1	23 W	16*	1*	4 16	3 16.83	+11 49.9	2.725	1.861	13.0	20.9	25 E	13*	15*
7 20	6 38.52	+36 21.9	2.408	1.528	15.2	19.1	23 W	17*	1*	4 26	3 40.38	+13 25.8	2.826	1.922	10.9	21.0	21 E	9*	13*
7 25	6 57.35	+36 0.7	2.407	1.534	15.6	19.1	24 W	18*	1*	5 6	4 3.33	+14 46.9	2.922	1.982	8.7	21.0	17 E	4*	10*
7 30	7 15.81	+35 30.4	2.406	1.542	15.9	19.1	25 W	19*	2*	5 16	4 25.71	+15 53.9	3.011	2.041	6.6	21.0	13 E	—	7*
8 4	7 33.81	+34 51.7	2.406	1.552	16.3	19.1	25 W	19*	2*	5 26	4 47.52	+16 47.3	3.091	2.099	4.6	21.1	10 E	—	4*
8 9	7 51.30	+34 5.3	2.407	1.563	16.6	19.2	26 W	20*	2*	6 5	5 8.74	+17 27.8	3.162	2.157	3.0	21.1	6 E	—	—
8 14	8 8.22	+33 12.0	2.409	1.575	17.0	19.2	27 W	21*	2*	6 15	5 29.36	+17 56.2	3.222	2.213	2.5	21.1	5 W	—	—
8 24	8 40.27	+31 8.1	2.412	1.605	17.8	19.3	29 W	23*	3*	6 25	5 49.34	+18 13.4	3.271	2.268	3.5	21.3	8 W	—	2*
9 3	9 9.89	+28 46.3	2.415	1.639	18.6	19.3	31 W	25*	4*	7 5	6 8.67	+18 20.2	3.307	2.322	5.2	21.5	12 W	—	6*
9 13	9 37.13	+26 12.4	2.416	1.677	19.5	19.4	34 W	28*	6*	315194 2007 PO₃₇									
9 23	10 2.12	+23 31.6	2.412	1.720	20.5	19.5	37 W	31*	8*	12 27	21 50.64	-9 15.3	2.067	1.643	27.9	21.3	51 E	32*	33*
10 3	10 25.04	+20 47.8	2.404	1.765	21.6	19.6	40 W	34*	11*	1 6	22 15.66	-6 45.0	2.126	1.638	26.4	21.3	48 E	32*	28*
10 13	10 46.05	+18 4.3	2.389	1.814	22.6	19.7	44 W	38*	14*	1 16	22 40.80	-4 6.7	2.185	1.636	24.9	21.3	45 E	32*	24*
10 23	11 5.28	+15 23.9	2.366	1.865	23.6	19.7	49 W	41*	17*	1 26	23 6.02	+1 22.3	2.242	1.636	23.4	21.3	41 E	31*	20*
11 2	11 22.81	+12 48.2	2.335	1.918	24.6	19.8	54 W	45*	22*	2 5	23 31.32	+1 25.6	2.299	1.640	21.8	21.3	38 E	29*	16*
11 12	11 38.69	+10 19.0	2.295	1.973	25.4	19.8	59 W	48*	26*	2 15	23 56.73	+4 14.7	2.355	1.646	20.1	21.3	35 E	27*	14*
11 22	11 52.88	+7 57.5	2.246	2.029	26.1	19.9	65 W	50*	32*	2 25	0 22.26	+7 2.4	2.411	1.655	18.4	21.4	32 E	25*	11*
12 2	12 5.32	+5 44.5	2.189	2.086	26.5	19.9	71 W	50*	38*	3 7	0 47.95	+9 46.3	2.466	1.667	16.7	21.4	29 E	22*	9*
12 12	12 15.87	+3 41.0	2.125	2.144	26.7	19.9	78 W	49	45*	3 17	1 13.84	+12 23.9	2.521	1.681	14.9	21.4	26 E	19*	7*
12 22	12 24.33	+1 47.6	2.054	2.202	26.4	19.9	85 W	47	53*	3 27	1 39.94	+14 52.9	2.574	1.697	13.1	21.4	23 E	16*	5*
1 1	12 30.47	+0 5.0	1.980	2.260	25.7	19.8	93 W	45	60*	4 6	2 6.27	+17 11.1	2.626	1.716	11.3	21.4	20 E	13*	4*
1 11	12 33.98	+1 25.7	1.904	2.319	24.5	19.8	102 W	44	65*	4 16	2 32.83	+19 16.8	2.676	1.737	9.5	21.4	17 E	10*	2*
1 21	12 34.60	-2 43.8	1.832	2.377	22.6	19.7	112 W	42	67	4 26	2 59.57	+21 8.4	2.723	1.760	7.6	21.3	13 E	7*	—
239875 2000 KQ₇₈										5 6	3 26.44	+22 44.3	2.768	1.784	5.8	21.3	10 E	4*	—
12 27	21 49.54	-9 22.5	2.193	1.751	25.9	20.9	51 E	32*	33*	5 16	3 53.37	+24 3.9	2.809	1.810	4.0	21.3	7 E	1*	—
1 6	22 14.48	-7 30.2	2.286	1.773	24.1	21.0	47 E	32*	28*	5 26	4 20.24	+25 6.3	2.845	1.837	2.5	21.3	5 E	—	—
1 16	22 38.94	-5 30.8	2.378	1.797	22.1	21.0	44 E	31*	24*	6 5	4 46.93	+25 51.4	2.877	1.866	1.9	21.3	4 W	—	—
1 26	23 2.90	-3 26.4	2.469	1.823	20.2	21.1	40 E	29*	20*	6 15	5 13.32	+26 19.4	2.904	1.895	2.9	21.4	5 W	—	—
2 5	23 26.40	-1 19.2	2.558	1.849	18.1	21.1	36 E	26*	17*	498144 2007 TR₇₃									
2 15	23 49.49	+0 49.0	2.644	1.877	16.1	21.1	32 E	23*	14*	12 27	21 51.20	-6 19.2	1.933	1.548	30.3	21.4	53 E	35*	32*
2 25	0 12.20	+2 56.5	2.726	1.906	14.0	21.2	28 E	20*	11*	1 6	22 18.34	-3 14.7	2.019	1.578	28.5	21.5	50 E	36*	27*
3 7	0 34.58	+5 1.6	2.803	1.935	11.8	21.2	24 E	16*	8*	1 16	22 44.79	-0 9.8	2.108	1.611	26.6	21.6	47 E	36*	23*
3 17	0 56.69	+7 2.9	2.875	1.965	9.7	21.2	19 E	12*	6*	1 26	23 10.63	+2 53.0	2.200	1.647	24.7	21.6	44 E	35*	19*
3 27	1 18.56	+8 59.1	2.941	1.996	7.6	21.2	15 E	8*	4*	2 5	23 35.94	+5 51.9	2.294	1.684	22.7	21.7	41 E	34*	15*
4 6	1 40.23	+10 48.9	3.000	2.027	5.4	21.2	11 E	4*	1*	137199 1999 KX₄									
4 16	2 1.72	+12 31.6	3.051	2.058	3.3	21.1	7 E	—	—	12 27	21 51.40	-24 54.2	2.379	1.856	22.9	21.2	47 E	17*	38*
4 26	2 23.03	+14 6.1	3.094	2.089	1.2	21.0	2 E	—	—	1 6	22 13.33	-23 0.0	2.467	1.866	20.9	21.2	43 E	17*	33*
5 6	2 44.18	+15 31.7	3.128	2.120	1.0	21.1	2 W	—	—	1 16	22 34.91	-20 58.9	2.547	1.874	18.9	21.3	38 E	16*	29*
5 16	3 5.15	+16 47.9	3.152	2.151	3.1	21.3	7 W	—	—	1 26	22 56.17	-18 52.1	2.617	1.880	16.9	21.3	34 E	15*	25*
5 26	3 25.90	+17 54.1	3.167	2.181	5.1	21.4	11 W	—	5*	2 5	23 17.17	-16 41.1	2.678	1.883	14.9	21.2	29 E	13*	21*
496436 2014 LZ₂₆										2 15	23 37.96	-14 26.7	2.729	1.884	13.0	21.2	25 E	10*	18*
12 27	21 49.64	-6 57.1	1.913	1.521	30.7	20.9	52 E	34*	32*	2 25	23 58.61	-12 10.3	2.769	1.882	11.1	21.2	21 E	6*	14*
1 6	22 18.64	-4 18.8	2.007	1.561	28.7	21.0	50 E	35*	28*	3 7	0								

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

20/22	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°	20/22	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°
137199 1999 KX₄										5349 Paulharris									
<i>(continuation)</i>																			
9 23	8 44.05	+15 22.2	1.707	1.322	35.9	20.1	51 W	39*	28*	12 27	21 52.21	-22 46.1	3.039	2.487	17.0	18.3	48 E	19*	38*
10 3	9 19.51	+14 21.1	1.625	1.279	38.0	20.0	52 W	41*	27*	1 6	22 5.74	-20 21.2	3.084	2.434	15.5	18.2	41 E	19*	31*
10 13	9 56.43	+12 59.9	1.549	1.236	40.0	19.9	53 W	42*	26*	1 16	22 19.95	-17 51.7	3.116	2.380	13.8	18.1	35 E	17*	24*
10 23	10 34.78	+11 18.6	1.481	1.195	42.0	19.8	53 W	43*	26*	1 26	22 34.75	-15 17.2	3.136	2.327	11.9	18.0	29 E	15*	19*
11 2	11 14.51	+9 17.9	1.423	1.156	43.8	19.7	54 W	43*	25*	2 5	22 50.07	-12 37.4	3.143	2.272	9.9	17.9	23 E	12*	13*
11 12	11 55.41	+7 0.2	1.376	1.121	45.3	19.6	54 W	43*	25*	2 15	23 5.87	-9 51.8	3.137	2.218	7.9	17.8	18 E	8*	8*
11 22	12 37.23	+4 29.4	1.341	1.090	46.6	19.5	53 W	42*	25*	2 25	23 22.14	-7 0.4	3.119	2.163	5.7	17.6	13 E	4*	4*
11 27	12 58.39	+3 10.5	1.328	1.076	47.0	19.5	53 W	41*	25*	3 7	23 38.89	-4 2.9	3.089	2.109	3.5	17.4	7 E	—	—
12 2	13 19.64	+1 50.5	1.318	1.064	47.4	19.4	53 W	40*	25*	3 17	23 56.17	-0 59.1	3.048	2.055	1.2	17.2	2 E	—	—
12 7	13 40.93	+0 30.1	1.312	1.054	47.7	19.4	52 W	40*	26*	3 27	0 14.03	+2 10.9	2.997	2.001	1.1	17.1	2 W	—	—
12 12	14 2.21	+0 49.7	1.308	1.046	47.9	19.4	52 W	39*	26*	4 6	0 32.56	+5 27.0	2.938	1.947	3.5	17.1	7 W	—	—
12 17	14 23.42	-2 8.0	1.307	1.039	47.9	19.4	52 W	38*	27*	4 16	0 51.89	+8 49.1	2.870	1.895	5.8	17.1	11 W	1*	4*
12 22	14 44.53	-3 24.2	1.308	1.034	47.9	19.4	51 W	37*	28*	4 26	1 12.18	+12 16.5	2.797	1.844	8.1	17.1	15 W	3*	8*
12 27	15 5.48	+4 37.4	1.312	1.031	47.8	19.4	51 W	36*	28*	5 6	1 33.62	+15 48.5	2.720	1.794	10.4	17.1	19 W	6*	11*
1 1	15 26.23	-5 46.9	1.317	1.031	47.6	19.4	51 W	34*	29*	5 16	1 56.46	+19 23.8	2.640	1.747	12.7	17.1	22 W	9*	13*
1 6	15 46.75	-6 52.0	1.324	1.032	47.3	19.4	51 W	33*	31*	5 26	2 20.97	+23 0.2	2.559	1.702	14.9	17.0	26 W	12*	15*
1 11	16 6.99	-7 52.4	1.333	1.035	47.0	19.4	50 W	32*	32*	6 5	2 47.51	+26 34.5	2.479	1.659	17.0	17.0	28 W	16*	16*
1 16	16 26.92	-8 47.6	1.342	1.041	46.7	19.4	50 W	31*	33*	6 10	3 1.65	+28 19.7	2.440	1.639	18.0	16.9	30 W	18*	16*
1 21	16 46.52	-9 37.5	1.351	1.048	46.3	19.4	50 W	30*	34*	6 15	3 16.42	+30 2.6	2.402	1.620	18.9	16.9	31 W	19*	16*
165222 2000 SA₄₅																			
12 27	21 51.72	-2 43.1	2.530	2.114	22.2	20.7	54 E	38*	30*	6 20	3 31.88	+31 42.6	2.365	1.602	19.9	16.9	32 W	21*	15*
1 6	22 11.33	-1 17.4	2.658	2.151	20.3	20.8	49 E	37*	24*	6 25	3 48.05	+33 18.6	2.329	1.585	20.8	16.9	34 W	23*	15*
1 16	22 30.68	+0 13.8	2.780	2.188	18.3	20.9	44 E	35*	19*	6 30	4 4.97	+34 49.7	2.295	1.569	21.6	16.8	35 W	25*	14*
1 26	22 49.75	+1 49.2	2.897	2.225	16.3	20.9	39	31*	15*	7 5	4 22.66	+36 15.0	2.262	1.554	22.4	16.8	36 W	27*	14*
2 5	23 8.54	+3 27.8	3.006	2.261	14.2	21.0	34 E	27*	10*	7 10	4 41.12	+37 33.3	2.231	1.541	23.2	16.8	37 W	28*	13*
2 15	23 27.08	+5 8.4	3.107	2.296	12.1	21.0	29 E	23*	7*	7 15	5 0.33	+38 43.5	2.202	1.528	23.9	16.8	38 W	30*	12*
2 25	23 45.38	+6 50.1	3.198	2.331	10.0	21.0	24 E	18*	3*	7 20	5 20.22	+39 44.4	2.176	1.517	24.6	16.7	38 W	31*	11*
3 7	0 3.43	+8 31.8	3.279	2.366	8.0	21.0	19 E	13*	—	7 25	5 40.74	+40 35.0	2.151	1.508	25.2	16.7	39 W	32*	10*
3 17	0 21.28	+10 12.6	3.349	2.399	6.0	21.0	15 E	8*	—	7 30	6 1.76	+41 14.3	2.128	1.500	25.8	16.7	40 W	33*	9*
3 27	0 38.93	+11 51.7	3.408	2.432	4.2	21.0	10 E	3*	—	8 4	6 23.17	+41 41.7	2.107	1.493	26.3	16.7	41 W	34*	8*
4 6	0 56.37	+13 28.3	3.454	2.464	2.9	20.9	7 W	—	—	8 9	6 44.79	+41 56.7	2.089	1.488	26.8	16.7	41 W	35*	7*
4 16	1 13.62	+15 1.7	3.487	2.495	3.0	21.0	7 W	1*	—	8 14	7 6.44	+41 59.1	2.072	1.484	27.2	16.7	42 W	36*	6*
4 26	1 30.68	+16 31.2	3.507	2.525	4.3	21.1	11 W	3*	2*	8 19	7 27.95	+41 48.9	2.057	1.482	27.6	16.7	43 W	37*	6*
5 6	1 47.52	+17 56.1	3.513	2.555	6.0	21.2	15 W	5*	7*	8 24	7 49.14	+41 26.6	2.044	1.482	27.9	16.6	43 W	37*	5*
5 16	2 4.12	+19 16.2	3.506	2.584	7.9	21.3	20 W	8*	12*	8 29	8 9.87	+40 52.9	2.033	1.483	28.2	16.6	44 W	38*	5*
5 26	2 20.46	+20 30.9	3.486	2.611	9.7	21.4	26 W	11*	16*	9 3	8 30.00	+40 8.6	2.022	1.486	28.5	16.6	45 W	38*	4*
176616 2002 GS₆₅																			
12 27	21 51.73	-17 10.3	2.093	1.627	27.1	19.6	49 E	25*	36*	9 8	8 49.43	+39 14.8	2.013	1.490	28.8	16.7	45 W	39*	4*
1 6	22 18.54	-14 21.5	2.165	1.639	25.5	19.6	46 E	26*	32*	9 13	9 8.09	+38 12.7	2.005	1.496	29.0	16.7	46 W	40*	4*
1 16	22 44.69	-11 24.9	2.239	1.655	23.7	19.7	43 E	26*	28*	9 18	9 25.92	+37 3.5	1.997	1.503	29.3	16.7	47 W	41*	4*
1 26	23 10.22	-8 23.7	2.313	1.673	21.9	19.7	39 E	26*	24*	9 23	9 42.92	+35 48.3	1.990	1.512	29.5	16.7	48 W	41*	5*
2 5	23 35.17	-5 20.6	2.388	1.695	20.1	19.7	36 E	24*	20*	9 28	9 59.09	+34 28.4	1.983	1.522	29.7	16.7	49 W	42*	5*
2 15	23 59.64	-2 18.2	2.463	1.718	18.2	19.8	33 E	23*	17*	10 3	10 14.45	+33 4.8	1.975	1.533	29.9	16.7	50 W	43*	6*
2 25	0 23.69	+0 41.2	2.537	1.744	16.2	19.8	29 E	20*	14*	10 13	10 42.80	+30 10.4	1.959	1.560	30.3	16.7	52 W	46*	7*
3 7	0 47.41	+3 35.5	2.610	1.772	14.2	19.8	26 E	18*	12*	10 23	11 8.21	+27 12.0	1.940	1.592	30.8	16.8	55 W	49*	10*
3 17	1 10.89	+6 23.1	2.681	1.802	12.2	19.9	22 E	14*	9*	11 2	11 30.98	+24 14.6	1.916	1.628	31.2	16.8	58 W	52*	13*
3 27	1 34.16	+9 2.5	2.748	1.833	10.1	19.9	19 E	11*	7*	11 12	11 51.31	+21 22.4	1.885	1.668	31.6	16.8	62 W	55*	17*
4 6	1 57.29	+11 32.2	2.813	1.865	8.1	19.9	15 E	8*	4*	11 22	12 9.33	+18 37.9	1.847	1.711	31.9	16.9	66 W	57*	22*
4 16	2 20.33	+13 51.3	2.872	1.899	6.0	19.9	11 E	4*	2*	12 2	12 25.11	+16 3.0	1.801	1.757	32.1	16.9	71 W	59*	28*
4 26	2 43.27	+15 50.0	2.926	1.933	4.0	19.8	8 E	1*	—	12 12	12 38.61	+13 39.2	1.748	1.805	32.1	16.9	77 W	58*	34*
5 6	3 6.14	+17 54.6	2.974	1.968	1.9	19.8	4 E	—	—	12 22	12 49.69	+11 27.1	1.688	1.855	31.8	16.8	83 W	56	41*
5 16	3 28.92	+19 37.8	3.015	2.004	0.4	19.7	1 W	—	—	1 1	12 58.13	+9 27.0	1.623	1.906	31.1	16.8	91 W	54	48*
5 26	3 51.56	+21 8.1	3.048	2.040	2.2	19.9	5 W	—	—	1 11	13 3.59	+7 39.0	1.554	1.959	29.8	16.7	99 W	53	54*
6 5	4 14.04	+22 25.6	3.073	2.076	4.2	20.1	9 W	—	—	1 21	13 5.69	+6 2.7	1.485	2.012	27.8	16.6	107 W	51	58*
6 15	4 36.30	+23 30.5	3.089	2.112	6.2	20.3	13 W	2*	5*	74998 1999 TV₂₇₆									
6 25	4 58.24	+24 23.0	3.096	2.149	8.2	20.4	17 W	6*	9*	12 27	21 52.43	-11 20.8	3.563	3.041	14.6	21.2	51 E	30*	34*
7 5	5 19.81	+25 3.7	3.093	2.185	10.1	20.5	22 W	10*	12*	1 6	22 4.61	-10 16.4	3.681	3.051	12.9	21.2	44 E	28*	27*
7 15	5 40.90	+25 33.3	3.079	2.220	11.9	20.6	27 W	15*	15*	1 16	22 17.17	-9 7.3	3.787	3.060	11.2	21.2	37 E	25*	20*
7 25	6 1.42	+25 52.8	3.055	2.256	13.7	20.7	32 W	20*	17*	1 26	22 29.98	-7 53.8	3.877	3.068	9.3	21.2	30 E	21*	15*
8 4	6 21.28	+26 3.1	3.020	2.291	15.4	20.7	37 W	25*	19*	2 5	22 42.97	-6 36.8	3.953	3.075	7.4	21.2	24 E	16*	9*
8 14	6 40.36	+26 5.7	2.975	2.326	17.0	20.8	42 W	31*	21*	2 15	22 56.08	-5 16.8	4.012	3.081	5.4	21.1	17 E	10*	4*
8 24	6 58.57	+26 1.8	2.918	2.360	18.5	20.8	48 W	37*	23*	2 25	23 9.24	-3 54.4	4.054	3.086	3.4	21.0	11 E	4*	—
9 3	7 15.79	+25 53.0	2.852	2.393	19.8	20.9	53 W	43*	25*	3 7	23 22.39	-2 30.4	4.079	3.091	1.4	20.9	4 E	—	—
9 13	7 31.89	+25 41.1	2.775	2.426	21.0	20.9	60 W	50*	27*	3 17	23 35.50	-1 5.3	4.087	3.094	0.9	20.9	3 W	—	—

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

20/22	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°	20/22	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°
74998 1999 TV₂₇₆										20826 2000 UV₁₃									
<i>(continuation)</i>																			
9 23	1 59.53	+15 10.5	2.086	2.976	10.7	19.8	147 W	60	49	12 27	21 52.74	-18 22.3	3.768	3.208	13.4	20.1	49 E	24*	37*
10 3	1 52.12	+14 35.5	2.007	2.960	7.2	19.6	158 W	60	49	1 6	22 2.84	-16 49.4	3.923	3.253	11.6	20.1	41 E	22*	29*
10 13	1 43.13	+13 48.4	1.956	2.944	3.3	19.3	170 W	59	50	1 16	22 13.17	-15 17.0	4.063	3.296	9.7	20.2	34 E	19*	22*
10 18	1 38.30	+13 21.4	1.941	2.935	1.4	19.2	176 W	58	51	1 26	22 23.62	-13 45.1	4.185	3.337	7.7	20.2	27 E	15*	16*
10 23	1 33.41	+12 52.9	1.933	2.926	1.5	19.2	176 E	58	51	2 5	22 34.10	-12 13.8	4.289	3.377	5.7	20.2	20 E	10*	10*
10 28	1 28.58	+12 23.7	1.933	2.917	3.3	19.3	170 E	57	52	2 15	22 44.54	-10 43.1	4.373	3.416	3.6	20.1	13 E	4*	4*
11 2	1 23.93	+11 54.3	1.941	2.908	5.4	19.4	164 E	57	52	2 25	22 54.86	-9 13.2	4.437	3.453	1.6	20.0	6 E	—	—
11 7	1 19.58	+11 25.7	1.956	2.898	7.4	19.5	158 E	56	53	3 7	23 4.99	-7 44.4	4.480	3.489	0.7	20.0	3 W	—	—
11 12	1 15.64	+10 58.7	1.977	2.889	9.3	19.6	152 E	56	53	3 17	23 14.88	-6 17.0	4.502	3.523	2.6	20.2	9 W	—	3*
11 22	1 9.28	+10 11.9	2.039	2.868	12.7	19.8	140 E	55	54	3 27	23 24.46	-4 51.1	4.502	3.556	4.5	20.3	16 W	—	10*
12 2	1 5.30	+9 37.8	2.122	2.847	15.6	20.0	129 E	55	54	4 6	23 33.66	-3 27.2	4.483	3.588	6.4	20.4	24 W	5*	18*
12 12	1 3.88	+9 18.6	2.221	2.825	17.9	20.1	118 E	54	55	4 16	23 42.43	-2 5.5	4.443	3.618	8.2	20.5	31 W	5*	25*
12 22	1 4.97	+9 14.9	2.331	2.802	19.4	20.3	108 E	54	55*	4 26	23 50.66	-0 46.4	4.384	3.646	9.8	20.6	38 W	8*	32*
1 1	1 8.39	+9 25.9	2.447	2.779	20.5	20.4	99 E	54	55*	5 6	23 58.29	+0 29.6	4.308	3.674	11.3	20.6	46 W	12*	39*
1 11	1 13.93	+9 50.1	2.566	2.754	20.9	20.5	90 E	55	48*	5 16	0 5.21	+1 42.3	4.216	3.700	12.6	20.6	53 W	16*	46*
1 21	1 21.34	+10 25.8	2.684	2.728	20.9	20.6	82 E	55*	43*	5 26	0 11.30	+2 51.0	4.109	3.725	13.8	20.6	61 W	21*	51*
130216 2000 AC₂₃₈										402139 2004 QN₃									
12 27	21 52.49	+5 49.9	1.873	1.601	31.7	18.8	59 E	46*	26*	12 27	21 53.15	-12 31.0	1.921	1.506	30.1	21.2	51 E	29*	35*
1 6	22 21.20	+7 19.2	1.945	1.616	30.3	18.9	56 E	46*	22*	1 6	22 22.26	-10 32.9	1.971	1.502	29.4	21.2	48 E	29*	31*
1 16	22 49.88	+8 53.8	2.022	1.633	28.8	19.0	53 E	44*	19*	1 16	22 51.31	-8 21.2	2.023	1.502	27.7	21.2	45 E	29*	28*
1 26	23 18.39	+10 31.4	2.102	1.654	27.2	19.0	50 E	43*	17*	1 26	23 20.18	-5 59.0	2.076	1.506	26.2	21.3	43 E	29*	25*
2 5	23 46.63	+12 9.3	2.187	1.678	25.5	19.1	47 E	40*	15*	2 5	23 48.83	-3 29.9	2.131	1.514	24.7	21.3	40 E	28*	23*
2 15	0 14.55	+13 45.3	2.274	1.704	23.6	19.2	44 E	37*	13*	2 15	0 17.27	-0 57.3	2.188	1.527	23.2	21.3	37 E	26*	21*
2 25	0 42.12	+15 17.3	2.363	1.733	21.7	19.2	40 E	34*	11*	2 25	0 45.48	+1 35.3	2.247	1.543	21.5	21.3	35 E	25*	19*
3 7	1 9.29	+16 43.4	2.453	1.764	19.7	19.3	37 E	31*	10*	3 7	1 13.48	+4 4.6	2.308	1.562	19.9	21.4	32 E	22*	17*
3 17	1 36.08	+18 2.0	2.543	1.796	17.7	19.3	33 E	27*	9*	3 17	1 41.31	+6 27.6	2.370	1.585	18.1	21.4	30 E	20*	16*
3 27	2 2.46	+19 11.9	2.631	1.830	15.6	19.4	30 E	23*	8*	3 27	2 8.97	+8 41.8	2.433	1.610	16.4	21.4	27 E	17*	15*
4 6	2 28.42	+20 11.9	2.716	1.865	13.4	19.4	26 E	19*	7*	4 6	2 36.46	+10 44.6	2.497	1.638	14.6	21.5	24 E	14*	13*
4 16	2 53.95	+21 1.3	2.797	1.901	11.2	19.4	22 E	15*	6*	154020 2002 CA₁₀									
4 26	3 19.02	+21 39.5	2.873	1.938	9.0	19.4	18 E	11*	4*	12 27	21 53.58	-27 19.0	0.644	0.723	91.9	20.7	47 E	15*	39*
5 6	3 43.61	+22 6.1	2.943	1.976	6.8	19.4	13 E	6*	2*	12 29	22 8.17	-26 53.4	0.622	0.739	92.2	20.7	49 E	16*	41*
5 16	4 7.67	+22 20.8	3.006	2.014	4.6	19.4	9 E	2*	—	12 31	22 23.12	-26 21.1	0.601	0.755	92.2	20.7	50 E	17*	42*
5 26	4 31.17	+22 23.8	3.060	2.053	2.4	19.4	5 E	—	—	1 2	22 38.43	-25 41.4	0.583	0.772	92.0	20.6	52 E	17*	43*
6 5	4 54.06	+22 15.0	3.106	2.091	0.3	19.2	1 E	—	—	1 4	22 54.07	-24 54.0	0.565	0.790	91.5	20.6	53 E	19*	45*
6 15	5 16.30	+21 54.9	3.142	2.130	2.0	19.5	4 W	—	—	1 6	23 10.01	-23 58.4	0.549	0.808	90.8	20.5	55 E	20*	46*
6 25	5 37.84	+21 23.7	3.167	2.168	4.1	19.7	9 W	—	2*	1 11	23 50.87	-21 2.0	0.518	0.855	87.9	20.4	60 E	23*	50*
7 5	5 58.64	+20 41.8	3.182	2.206	6.2	19.8	14 W	1*	7*	1 16	0 32.31	-17 14.4	0.499	0.904	83.7	20.3	66 E	27*	54*
7 15	6 18.66	+19 50.0	3.186	2.244	8.2	19.9	18 W	4*	11*	1 21	1 13.05	-12 47.2	0.493	0.954	78.6	20.2	72 E	32*	57*
7 25	6 37.84	+18 48.7	3.178	2.282	10.2	20.1	23 W	9*	15*	1 26	1 51.86	-8 0.3	0.501	1.005	73.2	20.2	78 E	37	59*
8 4	6 56.16	+17 38.5	3.159	2.319	12.1	20.2	29 W	14*	19*	1 28	2 6.64	-6 5.1	0.508	1.025	71.0	20.2	80 E	39	59*
8 14	7 13.56	+16 20.2	3.127	2.355	13.9	20.2	34 W	19*	22*	1 30	2 20.92	-4 11.6	0.516	1.045	68.9	20.2	82 E	41	59*
8 24	7 29.99	+14 54.4	3.085	2.391	15.6	20.3	39 W	24*	26*	2 1	2 34.69	-2 21.0	0.527	1.065	66.8	20.2	84 E	43	59*
9 3	7 45.39	+13 21.8	3.031	2.426	17.1	20.3	45 W	30*	29*	2 3	2 47.94	-0 34.2	0.539	1.085	64.8	20.2	85 E	44	58*
9 13	7 59.70	+11 43.1	2.966	2.461	18.5	20.4	51 W	35*	33*	2 5	3 0.66	+1 8.1	0.554	1.106	62.9	20.3	87 E	46	57*
9 23	8 12.82	+9 59.1	2.890	2.495	19.8	20.4	57 W	40*	37*	2 10	3 30.22	+5 1.5	0.596	1.155	58.7	20.4	90 E	50	56*
10 3	8 24.65	+8 10.6	2.806	2.528	20.8	20.4	64 W	44*	41*	2 15	3 56.80	+8 21.0	0.646	1.204	55.0	20.6	93 E	53	54*
10 13	8 35.04	+6 18.3	2.714	2.560	21.6	20.4	71 W	47*	46*	2 20	4 20.74	+11 8.0	0.704	1.252	52.0	20.7	94 E	56	51*
10 23	8 43.84	+4 23.5	2.615	2.592	22.0	20.3	78 W	48*	51*	2 25	4 42.41	+13 25.9	0.767	1.299	49.4	20.9	95 E	58	50*
11 2	8 50.85	+2 27.3	2.512	2.622	22.2	20.3	85 W	47	56*	3 2	5 2.17	+15 18.9	0.835	1.346	47.2	21.1	95 E	60	48*
11 12	8 55.84	+0 31.4	2.407	2.652	21.9	20.2	93 W	46	61*	3 7	5 20.33	+16 50.8	0.906	1.391	45.4	21.3	94 E	62*	47*
11 22	8 58.58	+1 22.2	2.303	2.681	21.2	20.1	101 W	44	65*										
12 2	8 58.84	+3 10.7	2.204	2.709	20.0	20.0	110 W	42	67										
12 12	8 56.43	+4 50.3	2.114	2.736	18.3	19.9	119 W	40	69										
12 22	8 51.34	+6 16.7	2.037	2.762	16.1	19.7	129 W	39	70										
1 1	8 43.76	+7 25.1	1.979	2.787	13.7	19.6	138 W	38	71										
1 11	8 34.17	+8 10.8	1.942	2.811	11.3	19.5	146 W	37	72										
1 21	8 23.41	+8 30.8	1.931	2.834	9.6	19.4	151 W	36	73										
468826 2012 TL₇₈																			
12 27	21 52.66	+1 27.9	1.960	1.638	30.1	20.3	57 E	42*	28*										
1 6	22 19.69	+3 33.8	2.035	1.653	28.6	20.4	54 E	42*	24*										
1 16	22 46.68	+5 44.3	2.113	1.673	27.1	20.5	51 E	41*	20*										
1 26	23 13.57	+7 56.9	2.195	1.696	25.4	20.5	48 E	40*	17*										
2 5	23 40.28	+10 9.0	2.279	1.723	23.7	20.6	45 E	38*	14*										
2 15	0 6.80	+12 18.5	2.366	1.752	21.9	20.6	41 E	35*	12*										
2 25	0 33.11	+14 23.1	2.455	1.784	20.0	20.7	38 E	32*	10*										
3 7	0 59.18	+16 21.0	2.544	1.818	18.1	20.8	35 E	29*	8*										
3 17	1 25.04	+18 10.5	2.633	1.854	16.1	20.8	31 E	25*	7*										
3 27	1 50.65	+19 50.4	2.720	1.892	14.1	20.9	28 E	21*	5*										
4 6	2 15.99	+21 19.4	2.805	1.932	12.1	20.9	24 E	18*	4*										
4 16	2 41.04	+22 37.0	2.886	1.973	10.0	20.9	20 E	14*	2*										
4 26	3 5.77	+23 42.4	2.962	2.014	7.9	20.9	16 E	10*	—										
5 6	3 30.13	+24 35.3	3.032	2.057	5.9	20.9	12 E	6*	—										
5 16	3 54.06	+25 15.8	3.095	2.100	3.9	20.9	8 E	2*	—										
5 26	4 17.51	+25 43																	