

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

2020	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°-26°	20/21	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°-26°		
106538 2000 WK₆₃									459462 2013 AY₅₂										
4 11	0 1.21	+10 55.5	0.473	0.577	145.0	21.0	19 W	9*	10*	4 11	0 11.77	- 4 15.4	1.576	0.733	29.2	21.5	21 W	-	15*
4 13	23 52.05	+10 24.0	0.493	0.583	137.3	20.0	23 W	11*	14*	4 16	0 39.38	- 2 12.0	1.583	0.712	27.2	21.4	19 W	-	12*
4 15	23 44.52	+ 9 54.0	0.515	0.591	130.0	19.3	27 W	13*	18*	4 21	1 7.03	- 0 2.2	1.595	0.699	24.8	21.3	17 W	-	10*
4 17	23 38.53	+ 9 26.6	0.538	0.602	123.2	18.8	30 W	14*	21*	4 26	1 34.60	+ 2 11.5	1.612	0.692	22.1	21.2	15 W	-	8*
4 19	23 33.95	+ 9 2.2	0.563	0.615	116.9	18.5	33 W	16*	24*	5 1	2 1.95	+ 4 26.5	1.634	0.692	19.4	21.1	13 W	-	6*
4 21	23 30.60	+ 8 41.3	0.588	0.630	111.0	18.3	36 W	17*	27*	5 6	2 28.97	+ 6 39.8	1.659	0.699	16.6	21.1	11 W	-	4*
4 26	23 26.52	+ 8 3.0	0.652	0.675	98.6	18.0	42 W	19*	32*	5 11	2 55.57	+ 8 48.6	1.687	0.714	14.1	21.1	10 W	-	2*
5 1	23 26.69	+ 7 41.6	0.712	0.729	88.7	17.9	46 W	21*	37*	5 16	3 21.67	+10 50.3	1.719	0.735	11.9	21.1	9 W	-	-
5 6	23 29.37	+ 7 32.4	0.768	0.787	80.9	17.9	50 W	22*	40*	5 21	3 47.19	+12 43.0	1.752	0.761	10.1	21.2	8 W	-	-
5 11	23 33.40	+ 7 31.1	0.817	0.849	74.6	18.0	54 W	24*	43*	5 26	4 12.10	+14 25.1	1.788	0.791	8.6	21.2	7 E	-	-
5 16	23 38.05	+ 7 34.4	0.859	0.913	69.5	18.1	58 W	25*	46*	5 31	4 36.34	+15 55.4	1.826	0.824	7.5	21.3	6 E	-	-
5 21	23 42.85	+ 7 39.8	0.895	0.978	65.2	18.2	61 W	27*	49*	6 5	4 59.90	+17 13.6	1.865	0.861	6.6	21.4	6 E	-	-
5 26	23 47.46	+ 7 45.5	0.925	1.044	61.6	18.3	65 W	29*	51*	297418 2000 SP₄₃									
5 31	23 51.69	+ 7 49.9	0.948	1.109	58.4	18.4	69 W	31*	53*	4 11	0 15.31	- 4 50.4	0.675	0.440	126.8	21.3	21 W	-	14*
6 5	23 55.38	+ 7 52.1	0.967	1.173	55.6	18.5	73 W	33*	54*	4 13	0 13.06	- 5 15.4	0.710	0.447	118.2	20.7	23 W	-	17*
6 10	23 58.44	+ 7 51.0	0.980	1.237	53.0	18.6	77 W	35*	56*	4 15	0 12.18	- 5 24.6	0.748	0.457	110.4	20.4	25 W	-	19*
6 15	0 0.75	+ 7 45.9	0.989	1.300	50.5	18.6	81 W	37*	56*	4 17	0 12.51	- 5 20.3	0.786	0.470	103.2	20.1	27 W	-	21*
6 20	0 2.23	+ 7 36.0	0.993	1.362	48.0	18.7	85 W	40*	56	4 19	0 13.87	- 5 5.0	0.825	0.484	96.8	20.0	29 W	-	22*
6 25	0 2.81	+ 7 20.4	0.995	1.423	45.6	18.7	90 W	43*	57	4 21	0 16.08	- 4 40.9	0.863	0.499	91.0	19.9	30 W	-	24*
6 30	0 2.41	+ 6 58.5	0.994	1.483	43.1	18.7	95 W	45*	57	4 23	0 18.99	- 4 10.0	0.900	0.516	85.9	19.9	31 W	-	25*
7 10	23 58.52	+ 5 53.5	0.988	1.600	37.7	18.7	106 W	49*	58	4 25	0 22.44	- 3 33.8	0.937	0.534	81.3	19.8	32 W	-	26*
7 20	23 50.28	+ 4 17.1	0.982	1.712	31.6	18.7	118 W	49*	60	4 27	0 26.33	- 2 53.6	0.972	0.553	77.2	19.8	32 W	-	26*
7 30	23 37.85	+ 2 9.0	0.984	1.820	24.8	18.6	131 W	47	62	4 29	0 30.56	- 2 10.5	1.006	0.573	73.6	19.9	33 W	-	27*
8 4	23 30.31	+ 0 54.7	0.991	1.873	21.2	18.6	138 W	46	63	5 1	0 35.05	- 1 25.2	1.038	0.592	70.4	19.9	34 W	-	28*
8 9	23 22.10	- 0 24.7	1.002	1.925	17.4	18.5	145 W	45	64	5 6	0 47.04	+ 0 33.4	1.112	0.643	63.7	20.0	35 W	-	29*
8 14	23 13.41	- 1 47.3	1.020	1.975	13.6	18.5	153 W	43	66	5 11	0 59.66	+ 2 34.8	1.177	0.693	58.8	20.2	36 W	-	30*
8 19	23 4.51	- 3 11.1	1.044	2.025	9.8	18.5	160 W	42	67	5 16	1 12.57	+ 4 35.5	1.233	0.742	55.0	20.3	37 W	-	31*
8 24	22 55.64	+ 4 33.7	1.075	2.074	6.1	18.4	167 W	40	69	5 21	1 25.59	+ 6 33.5	1.282	0.788	52.2	20.4	38 W	-	31*
8 29	22 47.05	+ 5 53.0	1.114	2.122	2.6	18.3	175 W	39	70	5 31	1 51.62	+10 17.8	1.356	0.875	48.4	20.7	40 W	-	33*
9 3	22 38.98	- 7 7.1	1.161	2.169	1.1	18.4	178 E	38	71	6 10	2 17.56	+13 44.7	1.405	0.951	46.2	20.9	43 W	-	33*
9 8	22 31.59	- 8 14.8	1.215	2.215	4.1	18.7	171 E	37	72	6 20	2 43.53	+16 54.4	1.432	1.016	45.2	21.0	45 W	-	34*
9 13	22 25.00	- 9 15.2	1.276	2.261	7.0	19.0	164 E	36	73	6 30	3 9.72	+19 47.5	1.439	1.071	44.9	21.2	48 W	-	34*
9 18	22 19.31	-10 7.9	1.344	2.305	9.5	19.3	158 E	35	74	7 10	3 36.37	+22 24.7	1.430	1.115	45.0	21.2	51 W	-	30*
9 28	22 10.76	-11 30.4	1.498	2.392	13.7	19.8	145 E	33	76	7 20	4 3.77	+24 46.3	1.404	1.149	45.6	21.3	54 W	-	35*
10 8	22 5.86	-12 24.6	1.674	2.476	16.8	20.2	134 E	33	76	7 30	4 32.16	+26 52.1	1.366	1.172	46.4	21.3	57 W	-	41*
10 18	22 4.23	-12 54.9	1.866	2.558	18.9	20.6	124 E	32	77	8 9	5 1.89	+28 41.4	1.316	1.186	47.5	21.3	60 W	-	46*
10 28	22 5.38	-13 5.5	2.071	2.636	20.1	20.9	114 E	32	77	8 19	5 33.33	+30 12.4	1.256	1.190	48.8	21.2	62 W	-	50*
11 7	22 8.80	-13 0.2	2.284	2.712	20.7	21.2	105 E	32	77	8 29	6 6.87	+31 22.1	1.188	1.185	50.4	21.1	65 W	-	54*
11 17	22 14.05	-12 41.9	2.501	2.785	20.7	21.4	96 E	32	76*	9 8	6 43.04	+32 5.4	1.115	1.169	52.3	21.0	67 W	-	58*
4 11	0 6.88	- 2 46.6	2.558	1.662	12.5	21.5	21 W	-	15*	9 18	7 22.37	+32 14.8	1.039	1.144	54.6	20.9	68 W	-	60*
4 21	0 31.00	- 0 48.7	2.420	1.563	15.5	21.3	25 W	-	18*	9 28	8 5.35	+31 38.3	0.962	1.108	57.4	20.7	69 W	-	61*
5 1	0 57.32	+ 1 17.4	2.276	1.458	18.6	21.2	27 W	-	21*	10 8	8 52.39	+29 59.5	0.889	1.062	60.8	20.5	68 W	-	61*
5 11	1 26.47	+ 3 31.9	2.129	1.347	21.7	20.9	30 W	-	24*	10 18	9 43.56	+26 57.1	0.825	1.006	65.1	20.4	66 W	-	59*
5 21	1 59.28	+ 5 54.8	1.984	1.229	24.9	20.7	31 W	-	25*	10 23	10 10.54	+24 47.7	0.798	0.974	67.5	20.3	65 W	-	57*
5 31	2 36.80	+ 8 24.8	1.846	1.106	28.1	20.4	31 W	-	25*	10 28	10 38.30	+22 9.8	0.775	0.939	70.1	20.3	63 W	-	55*
6 5	2 57.70	+ 9 41.3	1.781	1.041	29.5	20.2	30 W	-	24*	11 2	11 6.69	+19 2.4	0.758	0.901	72.9	20.2	60 W	-	52*
6 10	3 20.27	+10 57.8	1.721	0.976	30.9	20.0	30 W	-	23*	11 7	11 35.57	+15 26.3	0.748	0.861	75.7	20.2	57 W	-	49*
6 15	3 44.67	+12 13.1	1.666	0.909	32.0	19.9	28 W	-	22*	11 12	12 4.78	+11 24.3	0.746	0.818	78.4	20.2	54 W	-	47*
6 20	4 11.07	+13 25.6	1.617	0.841	32.7	19.6	27 W	-	20*	11 17	12 34.19	+ 7 1.6	0.753	0.773	80.8	20.1	50 W	-	41*
6 25	4 39.57	+14 33.0	1.576	0.773	32.8	19.4	24 W	-	18*	11 22	13 3.77	+ 2 25.4	0.770	0.725	82.6	20.1	47 W	-	37*
6 30	5 10.27	+15 33.0	1.543	0.706	32.1	19.1	22 W	-	15*	11 27	13 33.56	- 2 16.1	0.798	0.676	83.6	20.1	43 W	-	32*
7 5	5 43.16	+16 22.7	1.518	0.642	30.3	18.9	19 W	-	12*	12 2	14 3.77	- 6 54.4	0.838	0.625	83.3	20.0	39 W	-	28*
7 10	6 18.17	+16 59.1	1.503	0.583	26.7	18.5	15 W	-	9*	12 7	14 34.71	-11 21.5	0.890	0.576	81.5	19.9	35 W	-	23*
7 15	6 55.08	+17 19.4	1.495	0.533	21.2	18.1	11 W	-	5*	12 12	15 6.82	-15 29.6	0.953	0.528	77.5	19.7	32 W	-	18*
7 20	7 33.48	+17 20.9	1.492	0.497	13.8	17.7	7 W	-	1*	12 17	15 40.63	-19 11.2	1.026	0.486	71.2	19.5	28 W	-	14*
7 25	8 12.71	+17 1.6	1.493	0.481	6.2	17.4	3 W	-	-	12 22	16 16.56	-22 17.9	1.107	0.453	62.5	19.2	24 W	-	10*
7 30	8 51.85	+16 20.6	1.495	0.487	8.4	17.5	4 E	-	-	12 27	16 54.65	-24 40.0	1.192	0.435	51.7	19.0	20 W	-	6*
8 4	9 29.97	+15 18.5	1.499	0.515	16.2	17.9	8 E	-	-	1 1	17 34.24	-26 9.3	1.276	0.435	40.0	18.8	17 W	-	2*
8 9	10 6.39	+13 57.8	1.506	0.559	22.7	18.3	12 E	-	2*	1 6	18 14.00	-26 42.5	1.354	0.452	29.0	18.7	13 W	-	7*
8 14	10 40.71	+12 22.3	1.520	0.615	27.2	18.7	16 E	-	3*	1 8	18 29.61	-26 40.8	1.383	0.463	25.1	18.7	12 W	-	5*
8 19	11 12.80	+10 36.4	1.541	0.677	29.9	19.0	19 E	-	6*	1 10	18 44.92	-26 31.3	1.411	0.476	21.5	18.7	10 W	-	4*
8 24	11 42.68	+ 8 44.4	1.570	0.743	31.2	19.3	22 E	-	8*	1 12	18 59.86	-26 14.6	1.438	0.491	18.2	18.7	9 W	-	3*
8 29	12 10.45	+ 6 50.3	1.607	0.811	31.6	19.5	25 E	-	10*	1 14	19 14.39	-25 51.5	1.464	0.508</					

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

20/21	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°	2020	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°
250458 2004 BO₄₁ (continuation)										497025 2003 QW₃₀ (continuation)									
11 27	20 44.56	+3 53.1	1.133	1.240	48.9	20.5	71 E	48*	41*	6 15	13 35.36	+22 10.5	0.484	1.241	51.8	21.2	106 E	67*	42
12 2	20 58.33	+5 47.7	1.195	1.270	47.0	20.6	70 E	50*	38*	6 20	13 45.32	+19 20.7	0.521	1.260	50.9	21.4	106 E	63*	45
12 7	21 11.45	+7 34.4	1.257	1.298	45.3	20.7	70 E	51*	35*	419624 2010 SO₁₆									
12 12	21 24.07	+9 14.5	1.318	1.325	43.7	20.8	68 E	53*	32*	4 11	5 51.07	+46 16.3	0.402	0.936	87.5	21.5	69 E	63*	14*
12 17	21 36.31	+10 49.5	1.379	1.350	42.3	20.9	67 E	53*	29*	4 16	6 20.71	+44 25.8	0.386	0.939	88.1	21.4	69 E	63*	17*
12 22	21 48.26	+12 20.3	1.438	1.373	40.9	21.0	66 E	54*	26*	4 21	6 49.31	+41 55.5	0.371	0.943	88.6	21.3	70 E	63*	20*
12 27	21 59.98	+13 47.7	1.495	1.394	39.6	21.1	65 E	54*	23*	4 26	7 16.47	+38 46.2	0.357	0.948	88.9	21.3	70 E	62*	24*
1	22 11.53	+15 12.4	1.551	1.413	38.4	21.1	63 E	54*	20*	5 1	7 41.92	+34 59.9	0.345	0.953	89.0	21.2	71 E	60*	28*
1 6	22 22.99	+16 34.8	1.605	1.431	37.2	21.2	62 E	54*	18*	5 6	8 5.55	+30 40.4	0.334	0.958	88.9	21.2	72 E	57*	32*
1 11	22 34.38	+17 55.5	1.657	1.447	36.1	21.3	60 E	53*	15*	5 11	8 27.37	+25 52.4	0.326	0.964	88.7	21.1	73 E	53*	37*
1 16	22 45.76	+19 14.8	1.707	1.462	35.1	21.3	59 E	52*	13*	5 16	8 47.53	+20 42.3	0.320	0.969	88.2	21.1	73 E	48*	43*
285179 1996 TY₁₁										497025 2003 QW₃₀ (continuation)									
4 11	3 31.66	+27 18.2	1.397	0.843	45.3	21.4	37 E	30*	12*	5 21	9 6.23	+15 17.0	0.316	0.976	87.5	21.0	74 E	43*	48*
4 16	3 49.97	+28 20.0	1.343	0.795	48.0	21.2	36 E	29*	12*	5 26	9 23.69	+9 43.9	0.315	0.982	86.6	21.0	75 E	38*	53*
4 21	4 9.46	+29 12.5	1.282	0.747	51.5	21.1	36 E	28*	12*	5 31	9 40.12	+4 10.3	0.316	0.988	85.5	21.0	76 E	32*	59*
4 26	4 30.10	+29 52.2	1.215	0.702	55.9	21.0	35 E	28*	12*	6 5	9 55.69	-1 17.6	0.320	0.995	84.4	21.0	77 E	26*	64*
5 1	4 51.71	+30 14.9	1.141	0.661	61.3	20.9	35 E	27*	13*	6 10	10 10.59	-6 34.4	0.325	1.001	83.2	21.0	78 E	21*	68*
5 6	5 14.00	+30 15.5	1.062	0.625	67.9	20.8	35 E	27*	14*	6 15	10 25.05	-11 36.4	0.332	1.008	81.9	21.0	79 E	16*	71*
5 11	5 36.43	+29 48.5	0.976	0.596	75.7	20.8	35 E	26*	15*	6 20	10 39.25	-16 21.4	0.340	1.014	80.7	21.0	80 E	11*	74*
5 16	5 58.29	+28 48.5	0.887	0.578	84.5	20.8	35 E	24*	17*	6 25	10 53.38	-20 48.6	0.350	1.020	79.5	21.0	81 E	6*	75*
5 21	6 18.73	+27 10.5	0.796	0.571	94.1	20.9	34 E	22*	18*	6 30	11 7.59	-24 57.9	0.360	1.026	78.3	21.1	81 E	2*	74*
5 26	6 36.94	+24 50.2	0.707	0.576	103.9	21.2	33 E	19*	20*	7 5	11 22.03	-28 49.6	0.370	1.032	77.2	21.1	82 E	—	73*
202683 2006 US₂₁₆										497025 2003 QW₃₀ (continuation)									
4 11	3 43.75	+17 44.5	1.084	0.658	65.0	21.4	36 E	26*	20*	7 10	11 36.86	-32 24.1	0.380	1.038	76.2	21.1	83 E	—	71*
4 16	3 53.96	+18 29.0	1.028	0.596	70.7	21.2	34 E	23*	19*	7 15	11 52.26	-35 42.3	0.391	1.044	75.2	21.2	83 E	—	68*
4 21	4 1.68	+19 8.3	0.960	0.529	79.1	21.1	31 E	21*	17*	7 20	12 8.41	-38 45.2	0.401	1.049	74.3	21.2	83 E	—	66*
4 26	4 4.65	+19 39.8	0.883	0.458	91.7	21.1	27 E	17*	14*	7 25	12 25.50	-41 33.5	0.411	1.053	73.4	21.3	84 E	—	64*
5 1	3 58.54	+19 55.7	0.801	0.385	111.6	21.5	21 E	11*	10*	7 30	12 43.67	-44 7.7	0.421	1.058	72.6	21.3	84 E	—	62*
497025 2003 QW₃₀ (continuation)										523805 2001 QA₁₄₃									
4 11	4 47.77	+43 15.5	0.221	0.902	110.8	21.1	57 E	51*	11*	8 4	13 3.08	-46 27.5	0.430	1.062	71.9	21.3	84 E	—	61*
4 12	4 57.27	+44 49.1	0.219	0.908	109.6	21.0	59	53*	11*	8 8	13 23.86	-48 32.5	0.438	1.066	71.3	21.3	85 E	—	59*
4 13	5 7.43	+46 21.4	0.216	0.914	108.3	20.9	60	54*	10*	8 14	13 46.16	-50 21.9	0.446	1.069	70.7	21.4	85 E	—	58*
4 14	5 18.28	+47 51.5	0.214	0.920	106.9	20.9	61	55*	10*	8 19	14 10.07	-51 54.7	0.454	1.072	70.2	21.4	85 E	—	57*
4 15	5 29.88	+49 18.9	0.212	0.926	105.5	20.8	63	57*	9*	8 24	14 35.58	-53 9.6	0.461	1.074	69.7	21.4	85 E	—	57*
4 16	5 42.25	+50 42.6	0.210	0.931	104.1	20.7	64	58*	9*	8 29	15 2.55	-54 5.1	0.467	1.076	69.3	21.4	85 E	—	57*
4 17	5 55.42	+52 1.9	0.209	0.937	102.6	20.6	66	59*	8*	9 3	15 30.74	-54 39.4	0.473	1.077	68.9	21.5	85 E	—	57*
4 18	6 9.40	+53 15.8	0.208	0.943	101.0	20.5	67	61*	8*	9 8	15 59.77	-54 51.0	0.478	1.078	68.6	21.5	85 E	—	57*
4 19	6 24.17	+54 23.5	0.208	0.949	99.5	20.5	69	62*	7*	9 13	16 29.21	-54 38.7	0.483	1.079	68.3	21.5	85 E	—	58*
4 20	6 39.69	+55 24.2	0.207	0.955	97.9	20.4	70	63*	7*	500912 2013 OL₅									
4 21	6 55.90	+56 17.1	0.208	0.961	96.3	20.4	72	65*	7*	4 11	14 7.52	-31 33.4	2.433	3.363	7.5	23.3	154 W	13	84
4 22	7 12.68	+57 1.5	0.208	0.967	94.7	20.3	73	66*	6*	4 16	14 2.73	-31 16.0	2.402	3.354	6.4	23.2	158 W	14	85
4 23	7 29.92	+57 37.1	0.209	0.973	93.0	20.2	75	68*	6*	4 21	13 57.78	-30 53.8	2.378	3.344	5.6	23.2	161 W	14	85
4 24	7 47.43	+58 3.4	0.210	0.978	91.4	20.2	77	69*	6*	4 26	13 52.77	-30 27.1	2.361	3.333	5.3	23.1	162 E	15	86
4 25	8 5.06	+58 20.4	0.211	0.984	89.8	20.2	78	70*	6*	5 1	13 47.83	-29 56.4	2.351	3.323	5.4	23.1	162 E	15	86
4 26	8 22.60	+58 28.2	0.213	0.990	88.2	20.1	80	71*	6	5 6	13 43.07	-29 22.3	2.348	3.312	6.1	23.1	159 E	16	87
4 27	8 39.89	+58 27.2	0.215	0.996	86.7	20.1	81	73*	6	5 11	13 38.59	-28 45.6	2.353	3.301	7.2	23.2	156 E	16	87
4 28	8 56.75	+58 17.7	0.217	1.002	85.1	20.1	82	74*	6	498664 2008 SZ₁₃₆									
4 29	9 13.05	+58 0.5	0.219	1.008	83.6	20.0	84	75*	6	4 11	14 10.90	-13 49.9	2.905	3.885	3.6	23.5	166 W	31	78
4 30	9 28.68	+57 36.3	0.222	1.013	82.2	20.0	85	76*	6	4 21	14 3.15	-13 3.6	2.875	3.880	0.6	23.2	178 W	32	77
5 1	9 43.55	+57 5.9	0.225	1.019	80.8	20.0	87	77*	7	5 1	13 55.29	-12 15.2	2.877	3.874	2.5	23.4	170 E	33	76
5 2	9 57.62	+56 30.1	0.228	1.025	79.4	20.0	88	78*	7	5 11	13 47.95	-11 28.4	2.909	3.868	5.5	23.6	159 E	34	75
5 3	10 10.87	+55 49.6	0.231	1.030	78.0	20.0	89	79*	8	5 21	13 41.63	-10 46.5	2.970	3.860	8.1	23.8	147 E	34	75
5 4	10 23.31	+55 5.3	0.235	1.036	76.7	20.0	90	80*	9	499490 2010 MW									
5 5	10 34.94	+54 17.8	0.238	1.042	75.5	20.0	91	81	10	4 11	14 12.07	-32 13.6	1.826	2.757	9.5	23.0	153 W	13	84
5 6	10 45.81	+53 27.7	0.242	1.047	74.2	20.0	92	82	11	4 16	14 6.66	-31 39.9	1.783	2.737	8.1	22.9	157 W	13	84
5 7	10 55.95	+52 35.7	0.246	1.053	73.1	20.0	93	82	11	4 21	14 0.94	-30 58.7	1.747	2.717	7.0	22.8	161 W	14	85
5 8	11 5.42	+51 42.1	0.251	1.058	71.9	20.0	94	83	12	4 26	13 55.07	-30 10.3	1.719	2.696	6.4	22.7	163 E	15	86
5 9	11 14.24	+50 47.5	0.255	1.064	70.9	20.1	95	84	13	5 1	13 49.22	-29 15.5	1.697	2.675	6.5	22.7	163 E	16	87
5 10	11 22.48	+49 52.1	0.260	1.069	69.8	20.1	96	85	14	5 6	13 43.56	-28 15.3	1.682	2.654	7.4	22.7	160 E	17	88
5 11	11 30.18	+48 56.3	0.264	1.075	68.8	20.1	97	86	15	5 11	13 38.24	-27 11.0	1.675	2.632	8.8	22.7	156 E	18	89
5 12	11 37.39	+48 0.3	0.269	1.080	67.9	20.1	98	87	16	523595 2002 OS₄									
5 13	11 44.14	+47 4.3	0.274	1.086	67.0	20.1	99	88	17	4 11	14 15.78	-52 54.3	1.993	2.783	15.0	22.9	134 W	—	63
5 14	11 50.47	+46 8.5	0.279	1.091	66.1	20.1	99	89	18	4 16	14 7.88	-52 49.6	1.961	2.779	14.3	22.8	137 W	—	63
5 15	11 56.42	+45 13.1	0.284	1.096	65.3	20.2	100	90	19	4 21	13 59.61	-52 34.3	1.935	2.775	13.7	22.7	139 W	—	63
5 16	12 2.03	+44 18.1	0.289	1.102	64.5	20.2	101	90	20	4 26	13 51.25	-52 8.2	1.915	2.771	13.2	22.7	141 E	—	64
5 17	12 7.32	+43 23.7	0.295	1.107	63.7	20.2													

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

2020	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45° - 26°	2020	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45° - 26°				
418929 2009 DM₁									471108 2010 CL₁												
4	11	14 18.28	8 30.1	3.088	4.065	3.6	22.8	165 W	36	73	4	11	14 26.51	16 23.0	1.332	2.257	12.8	22.5	150 W	61	48
4	21	14 10.40	7 30.7	3.099	4.100	1.4	22.7	174 W	37	72	4	16	14 20.60	17 21.1	1.341	2.269	12.6	22.6	151 W	62	47
5	1	14 2.55	6 34.1	3.142	4.134	2.8	22.9	169 E	38	71	4	21	14 14.52	18 9.8	1.357	2.281	12.9	22.6	150 W	63	46
5	11	13 55.29	5 43.8	3.216	4.167	5.3	23.1	158 E	39	70	4	26	14 8.46	18 48.2	1.378	2.293	13.6	22.7	148 E	64	45
5	21	13 49.05	5 2.2	3.318	4.200	7.6	23.3	147 E	40	69	5	1	14 2.60	19 15.7	1.406	2.304	14.6	22.8	145 E	64	45
466084 2012 BK₂₄									7336 Saunders												
4	11	14 19.11	8 27.3	2.035	3.014	4.9	22.5	165 W	37	72	4	11	14 29.68	7 46.3	1.923	2.894	6.0	23.0	162 W	37	72
4	21	14 9.66	7 34.0	2.033	3.035	1.8	22.3	175 W	37	72	4	16	14 25.09	7 10.3	1.887	2.875	4.2	22.9	168 W	38	71
5	1	14 0.18	6 44.0	2.061	3.054	3.8	22.5	168 E	38	71	4	21	14 20.16	6 33.6	1.858	2.856	2.8	22.7	172 W	38	71
5	11	13 51.53	6 2.2	2.118	3.073	7.4	22.7	157 E	39	70	4	26	14 15.02	5 56.9	1.836	2.837	2.7	22.7	172 W	39	70
5	21	13 44.41	5 31.7	2.200	3.090	10.6	22.9	146 E	39	70	5	1	14 9.79	5 21.0	1.822	2.817	4.0	22.7	169 E	40	69
483504 2002 XN₁₄									381844 2009 WV₁₆₃												
4	11	14 20.96	3 30.2	1.549	2.516	7.6	23.7	160 W	49	60	4	11	14 29.86	10 40.2	2.301	3.270	5.3	22.3	162 W	34	75
4	16	14 14.61	3 59.7	1.544	2.521	6.6	23.7	163 W	49	60	4	21	14 21.16	10 5.8	2.252	3.252	2.0	22.1	174 W	35	74
4	21	14 8.08	4 25.5	1.546	2.526	6.5	23.7	163 W	49	60	5	1	14 11.89	9 30.9	2.233	3.234	2.4	22.1	172 E	35	74
4	26	14 1.53	4 46.6	1.556	2.530	7.3	23.7	161 E	50	59	5	11	14 2.89	8 59.1	2.243	3.215	5.9	22.3	161 E	36	73
5	1	13 55.15	5 2.4	1.573	2.534	8.7	23.8	158 E	50	59	5	21	13 54.90	8 34.1	2.281	3.194	9.3	22.4	149 E	36	73
5	6	13 49.08	5 12.5	1.596	2.537	10.3	23.9	153 E	50	59	506446 2001 RD₁₄₂										
5	11	13 43.47	5 16.9	1.626	2.540	12.1	24.0	148 E	50	59	4	11	14 31.55	3 51.0	3.425	4.371	4.9	22.8	158 W	49	60
162741 2000 WG₆									508861 2002 RN₃₈												
4	11	14 21.95	5 23.7	2.501	3.475	4.5	22.4	164 W	40	69	4	11	14 33.44	20 8.6	4.974	5.918	3.6	25.0	158 W	25	84
4	21	14 12.52	4 46.5	2.477	3.475	2.4	22.2	172 W	40	69	4	21	14 27.65	19 43.6	4.950	5.939	1.8	24.9	169 W	25	84
5	1	14 2.85	4 13.4	2.485	3.473	3.8	22.3	167 E	41	68	5	1	14 21.67	19 15.0	4.956	5.960	0.9	24.8	175 E	26	83
5	11	13 53.72	3 47.8	2.523	3.471	6.7	22.5	156 E	41	68	5	11	14 15.85	18 44.5	4.994	5.981	2.2	24.9	167 E	26	83
5	21	13 45.74	3 32.1	2.588	3.467	9.6	22.7	145 E	41	68	5	21	14 10.51	18 13.9	5.062	6.001	3.9	25.1	156 E	27	82
450142 1998 XN₂									368810 2005 YE₁₈₁												
4	11	14 24.02	16 9.9	2.046	3.016	5.8	24.3	162 W	29	80	4	11	14 35.77	50 31.7	2.859	3.636	11.3	22.7	135 W	—	65
4	21	14 13.09	15 14.5	1.998	3.000	1.8	24.0	175 W	30	79	4	16	14 30.06	50 38.3	2.830	3.639	10.6	22.6	138 W	—	65
5	1	14 1.64	14 12.1	1.981	2.982	2.6	24.0	172 E	31	78	4	21	14 24.02	50 38.3	2.808	3.642	10.0	22.6	141 W	—	65
5	11	13 50.73	13 8.6	1.994	2.963	6.8	24.3	160 E	32	77	4	26	14 17.80	50 31.6	2.791	3.645	9.6	22.6	143 W	—	65
5	21	13 41.26	12 9.8	2.036	2.942	10.6	24.5	148 E	33	76	5	1	14 11.55	50 18.2	2.780	3.648	9.2	22.5	144 E	—	66
496164 2010 WL₄₀									427885 2005 SR₂₁₈												
4	11	14 24.37	22 16.5	1.703	2.663	7.8	22.2	159 W	23	86	4	11	14 36.00	8 25.3	2.566	3.528	5.3	22.4	161 W	37	72
4	16	14 19.71	21 57.0	1.669	2.649	5.9	22.1	164 W	23	86	4	21	14 27.56	7 51.6	2.548	3.544	2.5	22.3	171 W	37	72
4	21	14 14.70	21 33.2	1.641	2.635	4.1	21.9	169 W	23	86	5	1	14 18.76	7 19.9	2.560	3.560	2.4	22.3	171 E	38	71
4	26	14 9.48	21 5.7	1.620	2.621	2.9	21.8	172 E	24	85	5	11	14 10.34	6 53.3	2.603	3.574	5.2	22.5	161 E	38	71
5	1	14 4.22	20 35.1	1.606	2.607	3.4	21.8	171 E	24	85	5	21	14 2.90	6 34.4	2.674	3.588	8.0	22.7	150 E	38	71
5	6	13 59.05	20 2.1	1.600	2.592	5.1	21.9	167 E	25	84	353938 1998 QR₁₅										
5	11	13 54.14	19 27.6	1.600	2.577	7.2	22.0	161 E	26	83	4	11	14 36.62	28 7.0	3.012	3.931	6.7	24.0	153 W	17	88
5	16	13 49.60	18 52.8	1.606	2.562	9.3	22.1	156 E	26	83	4	21	14 28.04	27 45.9	2.934	3.904	4.5	23.8	162 W	17	88
5	21	13 45.55	18 18.4	1.619	2.547	11.4	22.2	150 E	27	82	5	1	14 18.80	27 12.4	2.886	3.876	3.3	23.7	167 E	18	89
497483 2005 YE₂₇₇									250162 2002 TY₅₇												
4	11	14 25.12	18 43.5	2.537	3.499	5.4	22.5	161 W	26	83	4	11	14 38.80	9 35.7	1.549	2.515	7.8	22.8	160 W	35	74
4	21	14 16.80	18 0.2	2.492	3.490	2.3	22.3	172 W	27	82	4	16	14 33.60	9 5.9	1.524	2.509	5.5	22.7	166 W	36	73
5	1	14 8.11	17 10.3	2.478	3.481	1.9	22.2	174 E	28	81	4	21	14 27.99	8 35.3	1.505	2.504	3.4	22.5	171 W	36	73
5	11	13 59.80	16 17.7	2.494	3.471	5.0	22.4	163 E	29	80	4	26	14 22.15	8 4.6	1.494	2.497	2.3	22.4	174 W	37	72
5	21	13 52.54	15 26.9	2.539	3.461	8.1	22.6	151 E	30	79	5	1	14 16.22	7 34.9	1.490	2.491	3.5	22.5	171 E	37	72
497138 2004 RE₁₀									507013 2008 TP₁₆₅												
4	11	14 25.18	2 35.0	2.700	3.668	4.7	22.9	163 W	42	67	4	11	14 40.01	12 50.4	4.026	4.977	4.0	22.5	160 W	32	77
4	21	14 17.24	1 51.3	2.667	3.658	3.1	22.8	169 W	43	66	4	21	14 34.10	12 35.5	3.997	4.991	1.9	22.3	171 W	32	77
5	1	14 8.96	1 13.2	2.665	3.647	4.1	22.8	165 E	44	65	5	1	14 27.88	12 19.7	3.998	5.004	0.6	22.2	177 E	33	76
5	11	14 1.03	0 44.1	2.692	3.635	6.6	23.0	156 E	44	65	5	11	14 21.77	12 4.7	4.030	5.017	2.7	22.4	167 E	33	76
5	21	13 54.01	0 26.3	2.746	3.623	9.2	23.1	145 E	45	64	5	21	14 16.15	11 52.1	4.091	5.030	4.8	22.6	156 E	33	76
465402 2008 HW₁									488636 2002 WY₁₂												
4	11	14 25.52	1 4.8	2.385	3.348	5.6	22.3	161 W	46	63	4	11	14 26.22	7 32.2	1.391	2.346	9.6	22.6	157 W	53	56
4	16	14 19.24	1 48.8	2.333	3.310	4.8	22.1	164 W	47	62	4	16	14 18.96	7 38.2	1.400	2.366	8.6	22.6	159 W	53	56
4	21	14 12.56	2 32.3	2.290	3.271	4.6	22.1	165 W	48	61	4	21	14 11.61	7 38.6	1.416	2.386	8.2	22.6	160 W	53	56
4	26	14 5.59	3 14.5	2.256	3.232	5.2	22.0	163 E	48	61	4	26	14 4.39	7 33.1	1.439	2.405	8.7	22.7	159 E	53	56
5	1	13 58.45	3 54.4	2.230	3.192	6.5	22.1	159 E	49	60	5	1	13 57.48	7 21.7	1.468	2.423	9.8	22.8	156 E	52	57
5	6	13 51.27	4 31.4	2.213	3.151	8.1	22.1	154 E	50	59	5	6	13 51.05	7 4.6	1.505	2.441	11.2	22.9	152 E	52	57
5	11	13 44.19	5 4.6	2.204	3.110	9.8	22.1	148 E	50	59	5	11	13 45.21	6 42.1	1.547	2.459	12.8	23.1	147 E	52	57
5	16	13 37.32	5 33.5	2.203	3.067	11.6	22.2	143 E	51	58											
5	21	13 30.78	5 57.6	2.208	3.025	13.3	22.2	137 E	51	58											

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

2020	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°	2020	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°		
469366 2001 PH₁₃										413010 2000 CV₃₉											
4	11	14 40.31	-1 40.5	3.116	4.065	5.2	24.0	159 W	43	66	4	11	14 57.74	-29 28.5	2.338	3.235	9.3	22.0	149 W	16	87
4	21	14 33.21	-0 48.5	3.056	4.037	3.6	23.9	166 W	44	65	4	16	14 53.46	-29 18.3	2.307	3.238	7.9	21.9	154 W	16	87
5	1	14 25.55	-0 1.3	3.027	4.008	3.8	23.9	165 E	45	64	4	21	14 48.83	-29 4.1	2.284	3.241	6.4	21.8	159 W	16	87
5	11	14 17.91	+0 38.0	3.028	3.978	5.7	24.0	157 E	46	63	4	26	14 43.96	-28 45.8	2.267	3.244	5.1	21.8	163 W	16	87
5	21	14 10.80	+1 6.7	3.057	3.947	7.9	24.1	147 E	46	63	5	1	14 38.96	-28 23.9	2.258	3.246	4.1	21.7	167 W	17	88
461397 2001 SD₁₇₀										434431 2005 NC₇											
4	11	14 41.34	-4 9.4	2.351	3.307	6.2	22.9	159 W	41	68	4	11	14 57.89	-1 30.6	2.987	3.914	6.4	21.9	154 W	43	66
4	16	14 36.94	-3 21.6	2.342	3.317	4.9	22.9	164 W	42	67	4	21	14 51.20	-0 31.6	2.913	3.882	4.5	21.8	162 W	44	65
4	21	14 32.34	-2 34.7	2.340	3.327	3.9	22.8	167 W	42	67	5	1	14 43.70	+0 23.1	2.870	3.850	4.0	21.7	164 W	45	64
4	26	14 27.65	-1 49.5	2.346	3.337	3.6	22.8	168 W	43	66	5	11	14 35.96	+1 9.7	2.856	3.816	5.4	21.7	159 E	46	63
5	1	14 22.97	-1 6.8	2.360	3.346	4.2	22.9	166 E	44	65	5	21	14 28.55	+1 45.2	2.871	3.782	7.7	21.8	150 E	47	62
5	6	14 18.39	-0 27.2	2.382	3.355	5.4	23.0	162 E	45	64	5	31	14 22.02	+2 7.4	2.912	3.747	10.0	21.9	140 E	47	62
5	11	14 14.01	+0 8.8	2.411	3.364	6.7	23.1	157 E	45	64	219527 2001 QK₁₄₂										
5	16	14 9.90	+0 40.8	2.448	3.373	8.1	23.2	152 E	46	63	4	11	14 58.53	-16 40.8	2.107	3.041	8.2	21.3	154 W	28	81
523610 2005 TG										4	21	14 49.34	-16 14.0	2.011	2.996	4.6	21.0	166 W	29	80	
4	11	14 46.62	-19 20.8	2.816	3.754	6.2	23.7	156 W	26	83	5	1	14 38.64	-15 39.7	1.943	2.901	3.5	20.6	179 W	29	80
4	21	14 38.40	-18 31.5	2.792	3.780	3.2	23.5	167 E	26	83	5	11	14 27.36	-15 0.9	1.906	2.954	0.8	20.8	169 E	30	79
5	1	14 29.76	-17 36.6	2.798	3.805	0.7	23.4	177 E	27	82	5	21	14 16.51	-14 21.8	1.898	2.856	8.1	20.9	157 E	31	78
5	11	14 21.39	-16 39.7	2.836	3.829	3.2	23.6	168 E	28	81	5	31	14 7.07	-13 47.3	1.917	2.806	12.1	21.1	145 E	31	78
5	21	14 13.88	-15 44.6	2.903	3.852	6.1	23.8	156 E	29	80	6	10	13 59.77	-13 21.7	1.958	2.755	15.6	21.2	133 E	32	77
31210 1998 BX₇										6	20	13 55.03	-13 7.9	2.017	2.702	18.5	21.3	122 E	32*	77	
4	11	14 52.37	-4 32.0	2.753	3.693	6.2	21.8	156 W	40	69	6	30	13 53.02	-13 7.4	2.087	2.648	20.8	21.4	112 E	30*	77
4	21	14 44.51	-3 41.1	2.732	3.713	3.9	21.7	165 W	41	68	401871 2000 WA₄₄										
5	1	14 36.14	-2 55.0	2.742	3.733	3.3	21.7	168 W	42	67	4	11	14 58.72	-7 48.3	2.143	3.082	7.8	22.4	155 W	37	72
5	11	14 27.91	-2 16.9	2.782	3.751	5.0	21.8	161 E	43	66	4	21	14 50.05	-7 9.5	2.100	3.084	4.6	22.2	166 W	38	71
5	21	14 20.41	-1 49.2	2.850	3.768	7.5	22.0	151 E	43	66	5	1	14 40.44	-6 32.9	2.085	3.085	2.8	22.0	171 W	38	71
5	31	14 14.13	-1 33.5	2.945	3.785	9.8	22.2	141 E	43	66	5	11	14 30.78	-6 2.4	2.100	3.085	5.0	22.2	164 E	39	70
506298 2017 ME₈										5	21	14 21.89	-5 41.4	2.143	3.084	8.3	22.4	154 E	39	70	
4	11	14 53.87	-11 44.3	1.676	2.625	8.8	21.9	156 W	33	76	461590 2004 RS₂₅₁										
4	21	14 45.16	-11 1.1	1.606	2.597	4.7	21.6	168 W	34	75	4	11	15 0.12	-44 55.2	1.864	2.688	14.6	22.5	137 W	-	71
5	1	14 34.99	-10 14.8	1.563	2.569	1.9	21.3	175 W	35	74	4	16	14 53.70	-45 22.5	1.844	2.700	13.5	22.5	141 W	-	71
5	11	14 24.49	-9 30.8	1.548	2.539	5.6	21.5	166 E	35	74	4	21	14 46.65	-45 41.8	1.831	2.712	12.4	22.4	144 W	-	70
5	21	14 14.79	-8 54.3	1.560	2.509	10.2	21.7	154 E	36	73	4	26	14 39.19	-45 52.5	1.822	2.724	11.5	22.4	147 W	-	70
5	31	14 6.90	-8 30.2	1.595	2.478	14.4	21.9	143 E	36	73	5	1	14 31.53	-45 54.3	1.821	2.735	10.9	22.4	149 E	-	70
297539 2001 OY₅₁										5	6	14 23.91	-45 47.6	1.825	2.746	10.5	22.4	150 E	-	70	
4	11	14 54.63	-15 12.1	1.616	2.562	9.3	21.6	156 W	30	79	5	11	14 16.55	-45 33.0	1.836	2.757	10.6	22.4	150 E	-	70
4	21	14 45.44	-14 35.7	1.551	2.541	4.9	21.3	168 W	30	79	5	16	14 9.65	-45 11.2	1.853	2.768	10.9	22.4	149 E	-	71
5	1	14 34.78	-13 52.5	1.512	2.520	0.5	20.9	179 W	31	78	5	21	14 3.38	-44 43.4	1.876	2.778	11.5	22.5	147 E	-	71
5	11	14 23.82	-13 7.5	1.502	2.497	5.1	21.2	167 E	32	77	285594 2000 QC₁₁₄										
5	21	14 13.79	-12 26.3	1.518	2.474	9.9	21.4	155 E	33	76	4	11	15 2.81	-2 41.5	1.866	2.799	9.2	21.4	154 W	42	67
5	31	14 5.75	-11 54.5	1.558	2.449	14.2	21.6	144 E	33	76	4	16	14 59.02	-2 3.8	1.833	2.790	7.7	21.3	158 W	43	66
405399 2004 OJ										4	21	14 54.81	-1 26.6	1.807	2.780	6.4	21.2	162 W	44	65	
4	11	14 56.21	-8 38.3	1.604	2.551	9.2	22.0	156 W	36	73	4	26	14 50.26	-0 50.8	1.788	2.771	5.5	21.1	165 W	44	65
4	21	14 47.34	-7 46.8	1.537	2.526	5.3	21.7	167 W	37	72	5	1	14 45.49	-0 17.3	1.775	2.761	5.4	21.1	165 W	45	64
5	1	14 36.95	-6 55.6	1.498	2.499	3.3	21.5	172 W	38	71	5	6	14 40.64	+0 13.0	1.770	2.750	6.2	21.1	163 E	45	64
5	11	14 26.19	-6 10.6	1.486	2.472	6.5	21.6	164 E	39	70	5	11	14 35.83	+0 39.5	1.771	2.740	7.4	21.2	159 E	46	63
5	21	14 16.25	-5 37.6	1.501	2.444	11.0	21.8	153 E	39	70	5	16	14 31.16	+1 1.7	1.779	2.729	9.0	21.2	155 E	46	63
5	31	14 8.19	-5 20.7	1.538	2.415	15.2	22.0	141 E	40	69	5	21	14 26.77	+1 19.1	1.794	2.718	10.7	21.3	150 E	46	63
363135 2001 QQ₁₉₉										5	26	14 22.76	+1 31.4	1.814	2.707	12.4	21.4	145 E	47	62	
4	11	14 56.23	-8 2.4	6.671	7.597	3.1	21.5	156 W	37	72	5	31	14 19.22	+1 38.4	1.840	2.695	14.0	21.5	140 E	47	62
4	21	14 52.38	-7 23.8	6.621	7.598	1.9	21.4	165 W	38	71	306886 2001 TC₆₃										
5	1	14 48.26	-6 45.8	6.603	7.599	1.2	21.4	171 W	38	71	4	11	15 3.48	-14 38.8	1.536	2.474	10.4	21.7	154 W	30	79
5	11	14 44.09	-6 9.9	6.615	7.600	1.8	21.4	166 E	39	70	4	21	14 54.97	-13 57.9	1.466	2.451	5.9	21.3	165 W	31	78
5	21	14 40.08	-5 37.1	6.657	7.601	2.9	21.5	157 E	39	70	5	1	14 44.70	-13 10.4	1.421	2.428	1.4	21.0	177 W	32	77
5	31	14 36.42	-5 8.6	6.728	7.602	4.1	21.6	147 E	40	69	5	11	14 33.84	-12 21.4	1.404	2.404	4.5	21.1	169 E	33	76
323308 2003 UH₈₁										5	21	14 23.68	-11 37.0	1.413	2.379	9.5	21.4	157 E	33	76	
4	11	14 57.50	-10 33.8	2.229	3.168	7.5	22.4	156 W	34	75	5	31	14 15.37	-11 3.0	1.446	2.353	14.1	21.6	146 E	34	75
4	21	14 49.32	-9 40.8	2.185	3.171	4.2	22.2	167 W	35	74	259430 2003 SN₆										
5	1	14 40.27	-8 47.3	2.170	3.174	2.1	22.0	174 W	36	73	4	11	15 3.58	-15 53.9	1.842	2.774	9.3	21.7	153 W	29	80
5	11	14 31.19	-7 58.0	2.186	3.175	4.4	22.2	166 E	37	72	4	21	14 55.51	-14 53.2	1.765	2.749	5.4	21.4	165 W	30	79
5	21	14 22.86	-7 16.7	2.229	3.175	7.8	22.4	155 E	38	71	5	1	14 45.96	-13 44.2	1.717	2.723	1.2	21.0	177 W	31	78
376784 2000 QW₁₄₄										5	11	14 35.93	-12 32.3	1.696	2.696	3.8	21.2	170 E	32	77	
4	11	14 57.53	-21 57.9	1.544	2.477	10.7	21.6	153 W	23	86	5	21	14 26.48	-11 23.9	1.704	2.669	8.3	21.4	158 E	34	75
4	21	14 48.19	-21 52.1	1.466	2.447	6.5	21.3	164 W	23	86	5	31	14 18.56	-10 25.0	1.738	2.640	12.4	21.5	146 E	35	

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

2020	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°	2020	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°
513138 2002 CY₅₈										285110 1995 MA₁									
4 11	15 4.34	-31 25.1	0.934	1.853	17.5	23.0	146 W	14	85	4 11	15 16.01	+12 38.6	2.273	3.140	10.8	22.0	144 W	58	51
4 16	14 56.46	-31 41.4	0.899	1.845	15.0	22.8	152 W	13	84	4 16	15 11.78	+13 8.3	2.226	3.115	10.1	22.0	147 W	58	51
4 21	14 47.30	-31 48.4	0.869	1.836	12.5	22.7	157 W	13	84	4 21	15 7.06	+13 34.8	2.185	3.090	9.6	21.9	149 W	59	50
4 26	14 37.12	-31 44.9	0.845	1.826	10.3	22.5	161 W	13	84	4 26	15 1.92	+13 57.0	2.151	3.065	9.4	21.8	150 W	59	50
5 1	14 26.26	-31 29.9	0.826	1.815	9.1	22.4	163 E	14	85	5 1	14 56.46	+14 14.2	2.124	3.040	9.5	21.8	150 W	59	50
5 6	14 15.16	-31 3.7	0.814	1.804	9.3	22.4	163 E	14	85	5 6	14 50.80	+14 25.8	2.103	3.014	9.9	21.8	149 E	59	50
5 11	14 4.25	-30 27.2	0.809	1.792	11.1	22.4	160 E	15	86	5 11	14 45.04	+14 31.0	2.090	2.987	10.6	21.7	147 E	60	49
5 16	13 53.94	-29 42.2	0.809	1.778	13.7	22.5	155 E	15	86	5 16	14 39.31	+14 29.7	2.082	2.961	11.6	21.8	144 E	59	50
18916 2000 OG₄₄										313087 2000 UD₁₂									
4 11	15 5.83	-26 8.8	5.174	6.055	4.9	22.4	149 W	19	90	4 11	15 16.02	-2 34.1	1.797	2.713	10.6	21.5	150 W	42	67
4 21	15 0.51	-25 54.1	5.098	6.048	3.4	22.3	159 W	19	90	4 16	15 12.37	-2 5.1	1.759	2.703	9.0	21.4	155 W	43	66
5 1	14 54.69	-25 33.7	5.050	6.041	1.9	22.2	168 W	19	90	4 21	15 8.20	-1 36.8	1.729	2.692	7.6	21.3	159 W	43	66
5 11	14 48.70	-25 8.6	5.033	6.033	1.5	22.1	171 E	20	89	4 26	15 3.61	-1 10.1	1.704	2.682	6.4	21.2	163 W	44	65
5 21	14 42.89	-24 40.2	5.047	6.024	2.7	22.2	163 E	20	89	5 1	14 58.72	0 45.8	1.687	2.671	5.8	21.1	164 W	44	65
5 31	14 37.59	-24 10.2	5.091	6.016	4.3	22.3	154 E	21	88	5 6	14 53.66	0 24.6	1.676	2.660	6.0	21.1	164 W	45	64
189263 2005 CA										520862 2014 WG₇									
4 11	15 8.41	-10 3.3	3.403	4.320	6.1	21.9	153 W	35	74	4 11	15 17.59	+29 11.3	0.765	1.622	26.9	22.3	133 W	74	35
4 21	15 1.64	-9 11.3	3.351	4.324	3.8	21.8	164 W	36	73	4 16	15 6.93	+29 1.0	0.725	1.602	26.2	22.1	135 W	74	35
5 1	14 54.18	-8 19.1	3.328	4.327	2.0	21.6	172 W	37	72	4 21	14 54.37	+28 29.3	0.689	1.581	25.6	22.0	137 W	73	36
5 11	14 46.56	-7 29.7	3.337	4.330	2.8	21.7	168 E	38	71	4 26	14 40.19	+27 31.1	0.658	1.561	25.3	21.8	139 W	73	36
5 21	14 39.28	-6 45.7	3.377	4.332	5.0	21.8	158 E	38	71	5 1	14 24.83	+26 2.4	0.632	1.540	25.5	21.7	139 E	71	38
5 31	14 32.80	-6 9.6	3.446	4.332	7.3	22.0	147 E	39	70	5 6	14 8.88	+24 1.0	0.611	1.520	26.3	21.6	138 E	69	40
408875 2001 TQ₁₂₃										494888 2008 SC₁₈₀									
4 11	15 11.25	-25 7.0	1.610	2.518	12.0	21.9	148 W	20	89	4 11	15 11.66	-14 54.0	1.517	2.446	11.2	22.0	152 W	30	79
4 21	15 3.02	-24 29.8	1.530	2.497	8.0	21.6	160 W	21	88	4 21	15 2.81	-14 35.7	1.443	2.424	6.8	21.7	163 W	30	79
5 1	14 52.83	-23 34.1	1.475	2.474	3.9	21.3	170 W	21	88	5 1	14 51.92	-14 11.6	1.395	2.401	1.9	21.4	175 W	31	78
5 11	14 41.86	-22 23.1	1.447	2.451	3.5	21.2	172 E	23	86	5 11	14 40.18	-13 45.4	1.374	2.378	3.7	21.4	171 E	31	78
5 21	14 31.44	-21 3.2	1.447	2.427	7.7	21.4	161 E	24	85	5 21	14 28.94	-13 21.7	1.380	2.353	8.8	21.7	159 E	32	77
5 31	14 22.80	-19 42.9	1.471	2.402	12.3	21.6	150 E	25	84	5 31	14 19.49	-13 5.6	1.410	2.328	13.6	21.9	147 E	32	77
494888 2008 SC₁₈₀										363091 2000 SF₁₀₂									
4 11	15 11.66	-14 54.0	1.517	2.446	11.2	22.0	152 W	30	79	4 11	15 12.75	-18 18.8	1.485	2.409	11.8	21.5	151 W	27	82
4 21	15 2.81	-14 35.7	1.443	2.424	6.8	21.7	163 W	30	79	4 21	15 4.94	-17 42.4	1.397	2.374	7.4	21.1	162 W	27	82
5 1	14 51.92	-14 11.6	1.395	2.401	1.9	21.4	175 W	31	78	5 1	14 54.88	-16 54.2	1.334	2.339	2.3	20.7	175 W	28	81
5 11	14 40.18	-13 45.4	1.374	2.378	3.7	21.4	171 E	31	78	5 11	14 43.73	-15 57.9	1.297	2.303	3.1	20.7	173 E	29	80
5 21	14 28.94	-13 21.7	1.380	2.353	8.8	21.7	159 E	32	77	5 21	14 32.84	-14 59.9	1.287	2.266	8.6	20.9	160 E	30	79
5 31	14 19.49	-13 5.6	1.410	2.328	13.6	21.9	147 E	32	77	5 31	14 23.58	-14 7.6	1.300	2.229	13.8	21.1	148 E	31	78
363091 2000 SF₁₀₂										4596 1981 QB									
4 11	15 12.75	-18 18.8	1.485	2.409	11.8	21.5	151 W	27	82	4 11	15 17.71	+27 46.0	2.613	3.385	12.3	21.8	134 W	73	36
4 21	15 4.94	-17 42.4	1.397	2.374	7.4	21.1	162 W	27	82	4 16	15 13.62	+28 37.9	2.606	3.389	12.1	21.8	135 W	74	35
5 1	14 54.88	-16 54.2	1.334	2.339	2.3	20.7	175 W	28	81	4 21	15 9.16	+29 24.1	2.604	3.391	12.1	21.8	135 W	74	35
5 11	14 43.73	-15 57.9	1.297	2.303	3.1	20.7	173 E	29	80	4 26	15 4.41	+30 3.6	2.609	3.394	12.1	21.8	135 W	75	34
5 21	14 32.84	-14 59.9	1.287	2.266	8.6	20.9	160 E	30	79	5 1	14 59.49	+30 35.8	2.619	3.396	12.3	21.8	134 W	76	33
5 31	14 23.58	-14 7.6	1.300	2.229	13.8	21.1	148 E	31	78	5 6	14 54.49	+31 0.4	2.635	3.398	12.7	21.8	132 W	76	33
6 10	14 17.00	-13 27.7	1.334	2.191	18.4	21.3	137 E	32	77	5 11	14 49.52	+31 17.3	2.656	3.400	13.0	21.8	131 E	76	33
6 20	14 13.63	-13 4.2	1.385	2.152	22.2	21.4	127 E	32*	77	5 16	14 44.67	+31 26.4	2.681	3.401	13.5	21.9	128 E	76	33
308899 2006 SL₁₉₈										405020 2001 QX									
4 11	15 13.15	+1 6.6	1.529	2.448	11.8	21.7	150 W	46	63	4 11	15 19.84	-7 24.2	1.211	2.139	13.6	21.4	150 W	38	71
4 16	15 8.66	+2 8.8	1.501	2.443	10.3	21.6	154 W	47	62	4 16	15 17.07	-6 44.8	1.171	2.124	11.5	21.3	155 W	38	71
4 21	15 3.61	+3 9.6	1.479	2.438	9.1	21.5	157 W	48	61	4 21	15 13.57	-6 4.0	1.137	2.109	9.4	21.1	160 W	39	70
4 26	14 58.11	+4 7.7	1.464	2.432	8.4	21.4	159 W	49	60	4 26	15 9.44	-5 23.0	1.108	2.094	7.5	21.0	164 W	40	69
5 1	14 52.31	+5 1.8	1.457	2.426	8.4	21.4	159 W	50	59	5 1	15 4.80	-4 42.9	1.085	2.079	6.2	20.8	167 W	40	69
5 6	14 46.39	+5 50.4	1.456	2.419	9.2	21.4	158 E	51	58	5 6	14 59.82	-4 4.9	1.068	2.064	6.1	20.8	167 W	41	68
5 11	14 40.50	+6 32.7	1.461	2.412	10.4	21.5	154 E	52	57	5 11	14 54.67	-3 30.3	1.057	2.049	7.3	20.8	165 E	41	68
5 16	14 34.80	+7 7.7	1.473	2.404	12.0	21.6	150 E	52	57	5 16	14 49.55	-3 0.2	1.052	2.034	9.4	20.9	161 E	42	67
5 21	14 29.44	+7 35.1	1.491	2.396	13.8	21.7	146 E	53	56	5 21	14 44.65	-2 35.6	1.052	2.019	11.8	21.0	156 E	42	67
5 26	14 24.56	+7 54.5	1.515	2.387	15.6	21.7	141 E	53	56	5 26	14 40.15	-2 17.4	1.058	2.004	14.3	21.0	151 E	43	66
5 31	14 20.26	+8 6.1	1.544	2.378	17.3	21.8	136 E	53	56	5 31	14 36.21	-2 6.0	1.069	1.989	16.8	21.1	146 E	43	66
469338 2000 SF₁₃₇										303226 2004 NY₃₀									
4 11	15 14.61	-27 3.9	1.849	2.742	11.5	21.8	147 W	18	89	4 11	15 21.32	+6 44.6	3.958	4.821	6.7	21.5	146 W	52	57
4 21	15 6.91	-26 52.2	1.749	2.705	8.2	21.5	158 W	18	89	4 21	15 15.73	+7 24.0	3.910	4.823	5.6	21.4	152 W	52	57
5 1	14 57.18	-26 23.7	1.674	2.667	4.7	21.3	167 W	19	90	5 1	15 9.46	+7 55.6	3.890	4.824	5.0	21.4	155 W	53	56
5 11	14 46.41	-25 38.9	1.627	2.628	3.8	21.1	170 E	19	90	5 11	15 2.90	+8 17.0	3.898	4.825	5.3	21.4	154 E	53	56
5 21	14 35.80	-24 41.4	1.607	2.588	7.0	21.2	162 E	20	89	5 21	14 56.47	+8 26.8	3.934	4.825	6.3	21.5	148 E	53	56
5 31	14 26.55	-23 37.7	1.613	2.548	11.1	21.4	151 E	21	88	5 31	14 50.56	+8 24.2	3.996	4.824	7.6	21.6	141 E	53	56
247858 2003 UA₃₈										370199 2002 DG₂									
4 11	15 15.70	-7 5.0	1.879	2.798	10.0	21.5	151 W	38	71	4 11	15 21.72	-54 28.5	2.844	3.547	12.9	21.7	128 W	-	62
4 21	15 7.73	-6 24.6	1.807	2.778	6.6	21.2	16												

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

2020	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45° - 26°	2020	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45° - 26°		
370199 2002 DG ₂ (continuation)									430802 2004 XK ₄										
5 1	14 56.15	-55 45.1	2.714	3.538	10.8	21.5	139 W	60	4 11	15 34.36	-7 32.9	0.709	1.641	19.8	22.3	146 W	37	72	
5 6	14 48.73	-55 46.9	2.696	3.535	10.4	21.5	141 E	60	4 16	15 27.82	-7 38.0	0.708	1.665	16.1	22.2	153 W	37	72	
5 11	14 41.25	-55 41.2	2.683	3.532	10.2	21.4	142 E	60	4 21	15 20.44	-7 44.3	0.712	1.688	12.5	22.1	159 W	37	72	
5 16	14 33.91	-55 28.3	2.677	3.529	10.2	21.4	142 E	61	4 26	15 12.51	-7 52.1	0.721	1.712	8.9	22.1	165 W	37	72	
5 21	14 26.89	-55 8.6	2.676	3.526	10.3	21.4	142 E	61	5 1	15 4.38	-8 2.0	0.735	1.735	6.0	22.0	170 W	37	72	
5 26	14 20.38	-54 42.8	2.682	3.522	10.6	21.4	140 E	61	5 6	14 56.39	-8 14.2	0.754	1.759	4.8	22.0	172 W	37	72	
5 31	14 14.51	-54 11.8	2.693	3.518	11.0	21.5	139 E	62	5 11	14 48.83	-8 28.9	0.780	1.782	6.2	22.2	169 E	37	72	
508808 2000 UK ₁₉									5 16 14 41.94 -8 46.2 0.811 1.805 8.8 22.4 164 E 36 73										
4 11	15 22.47	-12 14.1	1.888	2.797	10.5	21.6	149 W	33	76	5 21	14 35.92	-9 6.1	0.847	1.827	11.7	22.7	159 E	36	73
4 21	15 14.59	-12 8.4	1.793	2.762	6.9	21.3	161 W	33	76	5 26	14 30.89	-9 28.6	0.889	1.849	14.4	22.9	153 E	36	73
5 1	15 4.71	-12 1.5	1.725	2.726	3.0	21.0	172 W	33	76	461369 2000 SK ₉									
5 11	14 53.71	-11 55.7	1.685	2.689	2.8	20.9	173 E	33	76	4 11	15 35.39	-5 54.5	1.945	2.832	11.4	21.7	146 W	39	70
5 21	14 42.66	-11 53.9	1.673	2.652	7.0	21.1	161 E	33	76	4 16	15 32.03	-4 59.4	1.921	2.841	9.8	21.6	151 W	40	69
5 31	14 32.68	-11 59.1	1.688	2.614	11.3	21.2	150 E	33	76	4 21	15 28.20	-4 4.3	1.903	2.850	8.3	21.5	156 W	41	68
6 10	14 24.70	-12 13.9	1.725	2.575	15.1	21.4	139 E	33	76	4 26	15 24.00	-3 10.0	1.893	2.859	6.9	21.5	160 W	42	67
378701 2008 NJ ₁									5 1 15 19.52 -2 17.6 1.889 2.868 5.9 21.4 163 W 43 66										
4 11	15 22.49	-47 47.0	1.514	2.313	18.6	21.7	133 W	68	5 6	15 14.90	-1 28.0	1.893	2.876	5.6	21.4	164 W	44	65	
4 16	15 17.10	-47 53.3	1.472	2.308	17.3	21.6	137 W	68	5 11	15 10.24	-0 42.0	1.904	2.885	5.9	21.5	163 E	44	65	
4 21	15 10.73	-47 50.1	1.435	2.302	16.0	21.5	141 W	68	5 16	15 5.66	-0 0.4	1.922	2.893	6.9	21.5	160 E	45	64	
4 26	15 3.57	-47 36.0	1.402	2.296	14.8	21.4	144 W	68	5 21	15 1.26	+0 36.4	1.948	2.901	8.2	21.6	156 E	46	63	
5 1	14 55.85	-47 10.4	1.375	2.290	13.7	21.3	148 W	69	5 26	14 57.15	+1 7.8	1.979	2.908	9.7	21.7	151 E	46	63	
5 6	14 47.87	-46 32.9	1.354	2.284	12.8	21.2	150 E	69	5 31	14 53.42	+1 33.7	2.017	2.916	11.1	21.8	146 E	47	62	
5 11	14 39.92	-45 43.8	1.338	2.277	12.3	21.2	151 E	70	6 5	14 50.14	+1 54.0	2.061	2.923	12.5	21.9	141 E	47	62	
5 16	14 32.28	-44 43.9	1.329	2.269	12.3	21.1	152 E	71	399404 2001 TL ₅₄										
5 21	14 25.23	-43 34.6	1.326	2.262	12.8	21.1	150 E	72	4 11	15 35.62	-21 5.9	1.925	2.803	12.0	22.5	145 W	24	85	
5 26	14 18.99	-42 17.8	1.328	2.254	13.7	21.2	148 E	74	4 21	15 28.21	-20 33.0	1.844	2.793	8.4	22.2	156 W	24	85	
5 31	14 13.72	-40 55.7	1.337	2.245	14.9	21.2	145 E	75	5 1	15 18.83	-19 49.4	1.788	2.782	4.2	22.0	168 W	25	84	
6 5	14 9.51	-39 30.8	1.351	2.237	16.4	21.3	142 E	76	5 11	15 8.39	-18 57.5	1.761	2.771	0.5	21.6	179 E	26	83	
6 10	14 6.40	-38 5.1	1.371	2.227	17.9	21.4	138 E	78	5 21	14 57.96	-18 1.5	1.792	2.758	4.7	21.9	167 E	27	82	
6 15	14 4.39	-36 40.5	1.395	2.218	19.5	21.4	133 E	79	5 31	14 48.61	-17 7.0	1.761	2.744	8.9	22.2	155 E	28	81	
501731 2014 UG ₈₄									416451 2003 VM ₁₂										
4 11	15 24.25	-17 34.3	1.403	2.315	13.2	21.6	148 W	27	82	4 11	15 36.16	-10 52.4	2.065	2.950	10.9	22.4	146 W	34	75
4 21	15 17.09	-17 14.4	1.317	2.286	8.8	21.3	160 W	28	81	4 21	15 28.98	-10 21.9	1.982	2.934	7.7	22.2	157 W	35	74
5 1	15 7.37	-16 45.0	1.254	2.256	3.7	20.9	172 W	28	81	5 1	15 19.97	-9 50.3	1.925	2.916	4.3	21.9	168 W	35	74
5 11	14 56.18	-16 9.3	1.217	2.225	1.9	20.7	176 E	29	80	5 11	15 9.93	-9 21.1	1.896	2.898	3.0	21.8	171 E	36	73
5 21	14 44.93	-15 32.1	1.205	2.194	7.6	21.0	163 E	29	80	5 21	14 59.79	-8 57.8	1.895	2.879	5.8	21.9	163 E	36	73
5 31	14 35.13	-14 59.8	1.217	2.163	13.0	21.2	151 E	30	79	5 31	14 50.50	-8 43.6	1.923	2.859	9.5	22.1	152 E	36	73
6 10	14 27.95	-14 38.2	1.251	2.131	17.8	21.4	140 E	30	79	455217 2001 QD ₁₅₄									
523670 2013 EP ₄₁									4 11 15 38.46 -10 7.7 2.157 3.037 10.8 22.4 145 W 35 74										
4 11	15 24.91	+15 33.3	0.991	1.877	19.8	21.6	141 W	61	48	4 21	15 30.91	-9 13.3	2.101	3.049	7.6	22.2	156 W	36	73
4 16	15 22.00	+17 37.1	0.966	1.863	19.3	21.6	142 W	63	46	5 1	15 21.84	-8 18.6	2.072	3.061	4.4	22.0	166 W	37	72
4 21	15 18.20	+19 36.7	0.947	1.848	19.3	21.5	143 W	65	44	5 11	15 12.07	-7 28.0	2.072	3.071	3.4	21.9	170 E	38	71
4 26	15 13.59	+21 28.8	0.932	1.834	19.7	21.5	142 W	66	43	5 21	15 2.45	-6 45.5	2.102	3.080	5.8	22.1	162 E	38	71
5 1	15 8.35	+23 10.5	0.923	1.819	20.5	21.4	141 W	68	41	5 31	14 53.85	-6 14.5	2.159	3.088	9.0	22.3	152 E	39	70
5 6	15 2.66	+24 39.1	0.918	1.804	21.6	21.4	139 W	70	39	446819 2000 RB ₅₃									
5 11	14 56.76	+25 52.6	0.918	1.788	23.1	21.5	136 E	71	38	4 11	15 39.46	-53 24.3	3.019	3.706	12.5	22.4	127 W	63	62
5 16	14 50.86	+26 49.7	0.922	1.773	24.6	21.5	133 E	72	37	4 16	15 34.90	-53 44.8	2.971	3.702	11.9	22.3	130 W	62	62
5 21	14 45.22	+27 29.8	0.929	1.757	26.3	21.6	130 E	72	37	4 21	15 29.66	-54 0.2	2.928	3.697	11.3	22.3	134 W	62	62
5 26	14 40.06	+27 52.8	0.939	1.741	28.0	21.6	126 E	73	36	4 26	15 23.84	-54 9.8	2.890	3.692	10.7	22.2	137 W	62	62
5 31	14 35.59	+27 59.6	0.951	1.725	29.7	21.7	123 E	73	36	5 1	15 17.56	-54 13.2	2.858	3.686	10.1	22.2	140 W	62	62
6 5	14 31.94	+27 51.3	0.966	1.708	31.2	21.7	119 E	73	36	5 6	15 10.98	-54 10.1	2.831	3.681	9.7	22.1	142 W	62	62
368812 2006 AA ₁₁									5 11 15 4.25 -54 0.2 2.811 3.675 9.3 22.1 144 E 62 62										
4 11	15 27.64	-22 18.0	2.679	3.554	9.1	21.7	146 W	23	86	5 16	14 57.53	-53 43.7	2.797	3.669	9.2	22.1	145 E	62	62
4 21	15 20.31	-22 8.4	2.599	3.548	6.3	21.5	157 W	23	86	5 21	14 51.00	-53 20.7	2.789	3.663	9.2	22.1	145 E	63	63
5 1	15 11.63	-21 50.9	2.547	3.541	3.2	21.3	169 W	23	86	5 26	14 44.81	-52 51.9	2.787	3.656	9.3	22.1	144 E	63	63
5 11	15 2.31	-21 26.7	2.525	3.533	1.2	21.1	176 E	24	85	5 31	14 39.11	-52 17.8	2.792	3.650	9.7	22.1	143 E	64	64
5 21	14 53.10	-20 58.0	2.533	3.524	3.9	21.3	166 E	24	85	6 5	14 34.01	-51 39.5	2.802	3.643	10.2	22.1	141 E	64	64
5 31	14 44.74	-20 27.9	2.569	3.514	7.0	21.5	155 E	25	84	504869 2010 VQ ₂₅									
469513 2003 QR ₇₉									4 11 15 39.80 -17 14.6 1.866 2.745 12.2 22.2 145 W 28 81										
4 11	15 28.08	-55 41.5	0.700	1.524	32.0	22.4	126 W	60	4 21	15 32.51	-17 13.4	1.771	2.720	8.6	21.9	156 W	28	81	
4 16	15 15.25	-56 52.5	0.691	1.539	30.2	22.3	130 W	59	5 1	15 22.93	-17 6.9	1.700	2.694	4.5	21.6	168 W	28	81	
4 21	15 0.06	-57 41.7	0.686	1.553	28.5	22.3	133 W	58	5 11	15 11.90	-16 56.2	1.657	2.667	0.4	21.2	179 E	28	81	
4 26	14 43.24	-58 5.3	0.683	1.566	27.0	22.3	135 W	58	5 21	15 0.50	-16 43.8	1.642	2.639	4.8	21.5	167 E	28	81	
5 1	14 25.82	-58 1.4	0.684	1.579	25.8	22.2	137 E	58	5 31	14 49.93	-16 32.9	1.655	2.610	9.3	21.7	155 E	28	81	
5 6	14 8.96	-57 30.7	0.689	1.590	25.0	22.3	138 E	58	89958 2002 LY ₄₅										
5 11	13 53.65	-56 36.0	0.698	1.601	24.7	22.3	139 E	59	4 11	15 40.29	-10 57.2	2.079	2.956	11.2	21.6	145 W	34	75	
5 16	13 40.59	-55 21.8	0.710	1.611	24.8	22.3	138 E	61	4 21	15 27.37	-9 44.5	2.030	2.983	7.4	21.4</				

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

2020	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45° - 26°	20/21	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45° - 26°									
474451 2003 SR₁₅									393350 1992 RN₁																	
4 11	15 48.16	+ 2 43.8	0.591	1.509	24.6	22.5	141 W	48 61	4 11	16 8.52	-12 38.4	2.324	3.141	12.3	21.5	138 W	32 77									
4 16	15 41.98	+ 4 52.7	0.585	1.522	21.9	22.4	145 W	50 59	4 21	16 4.27	-12 4.4	2.189	3.091	9.8	21.2	149 W	33 76									
4 21	15 34.60	+ 6 55.6	0.583	1.534	19.7	22.3	149 W	52 57	5 1	15 57.87	-11 27.2	2.077	3.040	6.8	20.9	159 W	34 75									
4 26	15 26.31	+ 8 48.1	0.586	1.546	18.1	22.3	151 W	54 55	5 11	15 49.74	-10 49.4	1.991	2.988	3.9	20.6	169 W	34 75									
5 1	15 17.46	+10 26.5	0.593	1.557	17.5	22.3	152 W	55 54	5 21	15 40.52	-10 13.9	1.934	2.935	3.5	20.5	170 E	35 74									
5 6	15 8.47	+11 47.7	0.606	1.568	17.9	22.4	151 W	57 52	5 31	15 31.06	- 9 44.4	1.905	2.882	6.6	20.6	161 E	35 74									
5 11	14 59.70	+12 50.2	0.623	1.577	19.2	22.5	149 E	58 51	6 10	15 22.30	- 9 24.3	1.902	2.828	10.3	20.7	150 E	36 73									
5 16	14 51.50	+13 33.5	0.644	1.586	21.0	22.7	146 E	59 50	6 20	15 15.05	- 9 16.0	1.923	2.774	13.8	20.8	139 E	36 73									
5 21	14 44.13	+13 58.2	0.670	1.594	23.0	22.8	142 E	59 50	6 30	15 9.92	- 9 20.9	1.964	2.719	16.9	20.9	129 E	36 73									
5 26	14 37.83	+14 5.6	0.699	1.602	25.1	23.0	138 E	59 50	7 10	15 7.28	- 9 39.0	2.019	2.663	19.5	21.0	119 E	35 74									
380434 2003 QV₁₁₄									153315 2001 NH₆																	
4 11	15 48.85	-11 34.2	1.284	2.169	16.2	21.2	143 W	33 76	4 11	16 11.99	+46 19.7	1.094	1.750	31.8	22.0	113 W	89 18									
4 21	15 44.08	-11 15.3	1.181	2.128	12.2	20.8	153 W	34 75	4 16	16 3.04	+47 30.2	1.094	1.759	31.4	22.0	114 W	87 16									
5 1	15 36.03	-10 55.3	1.100	2.087	7.5	20.4	164 W	34 75	4 21	15 52.64	+48 24.3	1.096	1.767	31.2	22.0	114 W	87 16									
5 11	15 25.43	-10 38.2	1.041	2.046	3.9	20.1	172 W	34 75	4 26	15 41.08	+48 59.7	1.100	1.774	31.0	22.0	115 W	86 15									
5 16	15 19.55	-10 32.3	1.021	2.026	4.5	20.1	171 E	34 75	5 1	15 28.77	+49 14.6	1.107	1.780	31.0	22.0	115 W	86 15									
5 21	15 13.53	-10 28.9	1.007	2.005	6.7	20.1	167 E	35 74	5 6	15 16.18	+49 8.1	1.116	1.784	31.1	22.0	114 W	86 15									
5 26	15 7.61	-10 28.7	0.998	1.984	9.4	20.2	161 E	35 74	5 11	15 3.79	+48 40.2	1.128	1.788	31.2	22.1	113 E	86 15									
5 31	15 2.00	-10 32.3	0.995	1.964	12.3	20.3	156 E	34 75	5 16	14 52.03	+47 52.1	1.142	1.791	31.4	22.1	112 E	87 16									
6 10	14 52.51	-10 52.2	1.005	1.923	17.9	20.5	144 E	34 75	5 21	14 41.27	+46 45.0	1.158	1.793	31.8	22.1	111 E	88 17									
6 20	14 46.23	-11 30.3	1.031	1.882	23.0	20.6	134 E	33 76	5 26	14 31.78	+45 21.3	1.177	1.794	32.1	22.2	110 E	90 19									
6 30	14 43.88	-12 26.3	1.071	1.843	27.2	20.8	124 E	32 76	5 31	14 23.70	+43 43.2	1.198	1.793	32.5	22.2	108 E	89 20									
7 10	14 45.60	-13 38.4	1.118	1.804	30.7	20.9	115 E	30 78	6 5	14 17.09	+41 53.6	1.221	1.792	32.9	22.3	106 E	87 22									
7 20	14 51.25	-15 3.6	1.172	1.766	33.3	21.1	107 E	27 79	430560 2002 NC₃₂																	
7 30	15 0.60	-16 38.8	1.227	1.729	35.3	21.2	100 E	25 81	4 11	16 23.37	-35 2.8	2.296	3.040	14.6	21.4	130 W	10 81									
8 9	15 13.33	-18 20.5	1.284	1.694	36.6	21.3	94 E	22 82	4 21	16 18.01	-34 44.7	2.176	3.019	12.2	21.2	140 W	10 81									
8 19	15 29.16	-20 4.8	1.340	1.662	37.5	21.4	89 E	20 81*	5 1	16 10.00	-34 9.9	2.076	2.998	9.4	21.0	151 W	11 82									
8 29	15 47.90	-21 48.2	1.396	1.631	38.0	21.4	84 E	18 78*	5 11	15 59.94	-33 16.0	2.002	2.976	6.3	20.8	161 W	12 83									
9 8	16 9.34	-23 26.4	1.449	1.603	38.1	21.5	79 E	17 73*	5 21	15 48.74	-32 2.8	1.955	2.952	4.1	20.6	168 E	13 84									
9 18	16 33.28	-24 55.1	1.502	1.579	38.0	21.5	75 E	16 69*	5 31	15 37.55	-30 33.3	1.937	2.928	5.1	20.6	165 E	14 85									
385240 2000 SW₃₆₃									495891 2004 VS₆₀																	
4 11	15 48.89	-20 16.9	1.941	2.798	12.8	21.4	142 W	25 84	4 11	16 26.22	-29 13.8	1.168	1.979	22.3	21.2	131 W	16 87									
4 21	15 42.81	-20 16.9	1.831	2.764	9.5	21.1	153 W	25 84	4 16	16 27.04	-28 36.1	1.097	1.950	20.9	21.0	136 W	16 87									
5 1	15 34.32	-20 9.7	1.745	2.730	5.6	20.8	165 W	25 84	4 21	16 26.90	-27 49.3	1.030	1.920	19.1	20.8	141 W	17 88									
5 11	15 24.13	-19 55.6	1.685	2.694	1.3	20.5	177 W	25 84	4 26	16 25.74	-26 52.0	0.967	1.890	17.1	20.5	147 W	18 89									
5 16	15 18.68	-19 46.4	1.666	2.676	1.2	20.4	177 E	25 84	5 1	16 23.52	-25 43.2	0.909	1.860	14.6	20.3	152 W	19 90									
5 21	15 13.19	-19 36.2	1.654	2.658	3.5	20.5	171 E	25 84	5 6	16 20.28	-24 21.9	0.855	1.830	11.9	20.0	158 W	21 88									
5 26	15 7.81	-19 25.5	1.649	2.640	5.8	20.7	165 E	26 83	5 11	16 16.05	-22 47.1	0.807	1.800	8.8	19.7	164 W	22 87									
5 31	15 2.70	-19 14.9	1.650	2.621	8.0	20.7	159 E	26 83	5 16	16 10.93	-20 58.6	0.764	1.769	5.3	19.4	171 W	24 85									
6 5	14 57.98	-19 4.7	1.658	2.603	10.2	20.8	153 E	26 83	5 21	16 5.07	-18 56.8	0.727	1.739	2.0	19.0	177 W	26 83									
6 10	14 53.76	-18 55.7	1.671	2.584	12.3	20.9	147 E	26 83	5 26	15 58.69	-16 43.0	0.697	1.708	3.2	19.0	175 E	28 81									
6 15	14 50.13	-18 48.2	1.690	2.565	14.2	21.0	142 E	26 83	5 31	15 52.07	-14 20.0	0.673	1.678	7.3	19.1	168 E	31 78									
6 20	14 47.17	-18 42.8	1.714	2.546	16.1	21.1	136 E	26 83	6 5	15 45.52	-11 51.1	0.655	1.647	11.7	19.2	161 E	33 76									
6 25	14 44.92	-18 39.6	1.742	2.527	17.7	21.1	131 E	26 83	6 10	15 39.33	- 9 20.5	0.643	1.617	16.2	19.3	154 E	36 73									
6 30	14 43.42	-18 39.1	1.774	2.507	19.2	21.2	126 E	26 83	6 15	15 33.74	- 6 52.1	0.636	1.587	20.6	19.3	147 E	38 71									
7 5	14 42.68	-18 41.4	1.809	2.488	20.6	21.3	121 E	26 83	6 20	15 29.01	- 4 30.1	0.634	1.557	24.8	19.4	140 E	40 69									
7 10	14 42.68	-18 46.5	1.846	2.468	21.7	21.3	116 E	25 83	6 25	15 25.33	- 2 17.5	0.636	1.527	28.8	19.5	134 E	43 66									
7 15	14 43.42	-18 54.4	1.886	2.448	22.7	21.4	112 E	24 83	6 30	15 22.84	- 0 16.4	0.642	1.498	32.3	19.6	128 E	45 64									
7 20	14 44.87	-19 5.0	1.927	2.429	23.6	21.5	107 E	23 83	7 10	15 21.60	+ 3 8.1	0.658	1.441	38.9	19.7	117 E	48 61									
382456 2000 QV₈₄									335746 2007 EJ₂₆																	
4 11	15 51.27	- 8 36.7	2.346	3.198	11.1	21.4	142 W	36 73	4 11	16 0.25	+15 3.3	1.261	2.083	20.4	21.4	134 W	60 49									
4 21	15 45.68	- 7 38.3	2.248	3.174	8.4	21.1	153 W	37 72	4 16	15 57.14	+16 57.1	1.239	2.082	19.5	21.3	136 W	62 47									
5 1	15 38.32	- 6 38.7	2.175	3.149	5.7	20.9	162 W	38 71	4 21	15 53.12	+18 46.7	1.224	2.081	18.9	21.3	138 W	64 45									
5 11	15 29.76	- 5 42.3	2.131	3.123	4.1	20.8	167 W	39 70	4 26	15 48.31	+20 29.7	1.213	2.080	18.5	21.3	139 W	65 44									
5 21	15 20.77	- 4 53.3	2.115	3.097	5.5	20.8	163 E	40 69	5 1	15 42.81	+22 3.5	1.208	2.078	18.5	21.2	139 W	67 42									
5 31	15 12.15	- 4 15.7	2.127	3.069	8.4	21.0	154 E	41 68	5 6	15 36.80	+23 26.2	1.208	2.075	18.7	21.3	139 W	68 41									
6 10	15 4.69	- 3 52.2	2.164	3.041	11.5	21.1	143 E	41 68	5 11	15 30.46	+24 36.0	1.214	2.072	19.3	21.3	137 W	70 39									
6 20	14 58.94	- 3 43.8	2.223	3.011	14.2	21.2	133 E	41 68	5 16	15 23.99	+25 31.9	1.224	2.069	20.1	21.3	135 E	71 38									
6 30	14 55.29	- 3 50.4	2.300	2.981	16.6	21.4	123 E	41 68	5 21	15 17.61	+26 13.2	1.239	2.065	21.0	21.4	133 E	71 38									
7 10	14 53.88	- 4 10.6	2.390	2.950	18.4	21.5	114 E	40 68	5 26	15 11.51	+26 39.7	1.258	2.061	22.1	21.4	130 E	72 37									
382456 2000 QV₈₄									335746 2007 EJ₂₆																	
4 11	16 0.25	+15 3.3	1.261	2.083	20.4	21.4	134 W	60 49	5 31	15 5.90	+26 52.1	1.281	2.057	23.2	21.5	127 E	72 37									
4 16	15 57.14	+16 57.1	1.239	2.082	19.5	21.3	136 W	62 47	6 5	15 0.92	+26 51.3	1.307	2.051	24.3	21.6	124 E	72 37									
4 21	15 53.12	+18 46.7	1.224	2.081	18.9	21.3	138 W	64 45	6 10	14 56.68	+26 38.4	1.336	2.046	25.4	21.6	120 E	72 37									
4 26	15 48.31	+20 29.7	1.213	2.080	18.5	21.3	139 W	65 44	- 32220 -																	

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

20/21	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45° - 26°	2020	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45° - 26°
495891 2004 VS₆₀ (continuation)									501771 2014 UQ₂₀₄ (continuation)								
8 4	15 39.94	+ 8 20.2	0.707	1.311	50.1	20.0	98 E	50* 56	6 30	15 48.97	-10 11.7	1.055	1.934	20.6	20.5	138 E	35 74
8 9	15 46.96	+ 8 56.4	0.715	1.289	51.6	20.0	95 E	51* 55	7 10	15 46.68	-10 34.8	1.101	1.906	24.7	20.7	128 E	34 75
8 14	15 54.99	+ 9 26.3	0.721	1.268	53.0	20.0	92 E	51* 55	7 20	15 48.18	-11 15.1	1.157	1.878	28.1	20.8	120 E	34* 75
8 19	16 4.02	+ 9 50.5	0.726	1.249	54.2	20.1	90 E	51* 54	7 30	15 53.39	-12 9.2	1.220	1.852	30.7	21.0	112 E	32* 76
8 24	16 14.02	+10 9.8	0.729	1.231	55.2	20.1	88 E	51* 54*	8 9	16 2.03	-13 12.7	1.287	1.826	32.5	21.1	104 E	30* 77
8 29	16 24.98	+10 24.9	0.731	1.215	56.1	20.1	87 E	51* 53*	8 19	16 13.77	-14 21.7	1.358	1.801	33.8	21.3	98 E	29* 78
9 8	16 49.75	+10 44.1	0.731	1.190	57.5	20.1	85 E	52* 52*	8 29	16 28.30	-15 32.3	1.429	1.778	34.6	21.4	92 E	27* 79*
9 18	17 18.37	+10 50.0	0.726	1.173	58.3	20.1	84 E	53* 51*	9 8	16 45.30	-16 40.6	1.501	1.757	34.9	21.4	87 E	26* 77*
9 28	17 51.01	+10 43.9	0.720	1.167	58.6	20.0	84 E	54* 51*	332079 2005 TZ₂₇								
10 8	18 27.65	+10 26.4	0.715	1.170	58.2	20.0	84 E	55* 50*	4 11	16 43.32	-19 21.1	1.416	2.192	20.7	21.5	129 W	26 83
10 18	19 8.10	+9 57.7	0.715	1.184	57.1	20.0	86 E	55* 50*	4 21	16 38.96	-18 45.8	1.347	2.214	16.9	21.3	140 W	26 83
10 23	19 29.57	+ 9 39.9	0.718	1.194	56.3	20.0	87 E	55* 50*	5 1	16 31.06	-18 3.3	1.297	2.236	12.3	21.0	152 W	27 82
10 28	19 51.70	+ 9 20.5	0.725	1.207	55.4	20.0	88 E	54 51*	5 11	16 20.39	-17 15.5	1.268	2.255	7.2	20.8	164 W	28 81
11 2	20 14.28	+ 9 0.0	0.735	1.221	54.3	20.0	89 E	54 51*	5 21	16 8.15	-16 25.7	1.265	2.274	2.4	20.6	175 W	29 80
11 7	20 37.12	+ 8 39.2	0.749	1.238	53.2	20.1	90 E	54 51*	5 31	15 55.86	-15 38.5	1.288	2.292	4.7	20.8	169 E	29 80
11 12	21 0.00	+ 8 18.8	0.768	1.256	52.0	20.1	90 E	53 51*	6 10	15 45.02	-14 59.4	1.337	2.308	9.6	21.1	158 E	30 79
11 17	21 22.72	+ 8 0.0	0.791	1.276	50.8	20.2	91 E	53 51*	6 20	15 36.67	-14 32.1	1.409	2.323	14.1	21.4	146 E	30 79
11 22	21 45.08	+ 7 43.4	0.819	1.298	49.5	20.3	91 E	53 52*	265196 2004 BW₅₈								
11 27	22 6.89	+ 7 30.0	0.852	1.321	48.3	20.4	92 E	53 52*	4 11	16 44.89	+ 4 57.4	1.070	1.854	25.6	21.5	127 W	50 59
12 2	22 28.02	+ 7 20.0	0.890	1.345	47.1	20.5	92 E	52 51*	4 16	16 41.52	+ 5 56.7	1.046	1.868	23.8	21.4	131 W	51 58
12 7	22 48.39	+ 7 13.7	0.932	1.371	45.9	20.6	91 E	52 51*	4 21	16 37.00	+ 6 53.4	1.026	1.881	21.9	21.3	136 W	52 57
12 12	23 7.94	+ 7 11.3	0.979	1.397	44.8	20.7	91 E	52 51*	4 26	16 31.39	+ 7 45.7	1.010	1.894	20.0	21.2	140 W	53 56
12 17	23 26.67	+ 7 12.9	1.029	1.424	43.7	20.8	90 E	52 50*	5 1	16 24.82	+ 8 31.8	0.999	1.906	18.2	21.1	144 W	54 55
12 22	23 44.59	+ 7 18.2	1.084	1.452	42.6	20.9	89 E	52 49*	5 6	16 17.46	+ 9 10.0	0.992	1.918	16.7	21.1	147 W	54 55
12 27	0 1.73	+ 7 27.0	1.142	1.481	41.6	21.1	88 E	52 49*	5 11	16 9.52	+ 9 38.7	0.991	1.929	15.6	21.1	149 W	55 54
1 1	0 18.12	+ 7 38.9	1.203	1.510	40.6	21.2	87 E	53 48*	5 16	16 1.25	+ 9 57.0	0.996	1.939	15.1	21.1	150 W	55 54
1 6	0 33.82	+ 7 53.5	1.268	1.539	39.5	21.3	85 E	53 47*	5 21	15 52.90	+10 3.9	1.006	1.948	15.2	21.1	150 W	55 54
1 11	0 48.89	+ 8 10.5	1.334	1.569	38.5	21.4	84 E	53 46*	5 26	15 44.75	+ 9 59.4	1.021	1.957	15.8	21.2	148 E	55 54
367073 2006 PZ₁₉									5 31	15 37.07	+ 9 43.7	1.043	1.965	17.0	21.3	146 E	55 54
4 11	16 27.74	- 8 15.7	1.919	2.707	15.6	21.4	133 W	37 72	6 5	15 30.04	+ 9 17.8	1.069	1.972	18.4	21.4	142 E	54 55
4 21	16 24.21	- 7 24.0	1.808	2.681	13.0	21.2	143 W	38 71	6 10	15 23.83	+ 8 42.8	1.100	1.978	19.9	21.5	138 E	54 55
5 1	16 18.07	- 6 31.7	1.717	2.654	9.9	20.9	153 W	38 71	6 15	15 18.53	+ 8 0.0	1.136	1.984	21.5	21.6	134 E	53 56
5 11	16 9.74	- 5 43.2	1.649	2.627	7.0	20.7	161 W	39 70	6 20	15 14.21	+ 7 10.7	1.176	1.989	23.0	21.7	130 E	52 57
5 18	15 59.95	- 5 3.2	1.608	2.598	5.9	20.6	165 W	40 69	65909 1998 FH₁₂								
5 31	15 49.69	- 4 36.5	1.594	2.569	7.8	20.6	160 E	40 69	4 11	16 46.48	-15 51.1	0.821	1.646	28.3	21.1	129 W	29 80
6 10	15 40.09	- 4 26.6	1.605	2.540	11.2	20.7	151 E	41 68	4 16	16 43.58	-15 26.9	0.768	1.635	26.1	20.9	134 W	30 79
6 20	15 32.12	- 4 34.6	1.639	2.509	14.9	20.9	141 E	40 69	4 21	16 38.93	-14 58.7	0.718	1.623	23.3	20.6	140 W	30 79
6 30	15 26.51	- 5 0.4	1.692	2.478	18.1	21.1	131 E	40 69	4 26	16 32.36	-14 26.1	0.671	1.609	20.1	20.4	147 W	31 78
7 10	15 23.63	- 5 41.8	1.760	2.447	20.8	21.2	121 E	39* 70	5 1	16 23.76	-13 48.7	0.628	1.594	16.5	20.1	153 W	31 78
7 20	15 23.59	- 6 36.1	1.838	2.414	22.9	21.3	112 E	37* 71	5 11	16 0.44	-12 18.9	0.559	1.560	8.3	19.5	167 W	33 76
7 30	15 26.34	- 7 40.6	1.924	2.381	24.4	21.4	104 E	35* 72	5 21	15 30.25	-10 32.2	0.513	1.519	7.3	19.2	169 E	34 75
171465 Evamaria									5 31	14 57.24	- 8 42.7	0.493	1.472	17.8	19.4	154 E	36 73
4 11	16 32.82	- 8 53.0	3.658	4.393	9.8	21.4	132 W	36 73	6 5	14 41.40	- 7 53.6	0.492	1.446	23.6	19.6	145 E	37 72
4 21	16 29.91	- 8 20.3	3.544	4.379	8.1	21.2	142 W	37 72	6 10	14 26.79	- 7 11.5	0.496	1.418	29.2	19.7	137 E	38 71
5 1	16 25.65	- 7 48.2	3.452	4.365	6.3	21.1	152 W	37 72	6 15	14 13.82	- 6 38.1	0.503	1.389	34.6	19.9	129 E	38 71
5 11	16 20.31	- 7 18.5	3.386	4.350	4.5	20.9	160 W	38 71	6 20	14 2.69	- 6 14.3	0.514	1.358	39.5	20.0	122 E	39* 70
5 21	16 14.27	- 6 53.2	3.348	4.335	3.3	20.8	166 W	38 71	6 30	13 46.13	- 5 55.1	0.538	1.291	48.4	20.2	108 E	36* 70
5 31	16 7.97	- 6 33.9	3.338	4.320	3.8	20.9	164 E	38 71	7 10	13 36.25	- 6 8.8	0.562	1.217	56.1	20.4	97 E	32* 70
6 10	16 1.90	- 6 22.2	3.358	4.305	5.5	20.9	156 E	39 70	7 20	13 31.35	- 6 46.7	0.579	1.135	63.3	20.5	86 E	28* 71*
6 20	15 56.48	- 6 18.7	3.404	4.290	7.5	21.1	147 E	39 70	7 30	13 29.59	- 7 40.3	0.584	1.047	70.6	20.6	77 E	23* 67*
6 30	15 52.09	- 6 23.8	3.474	4.274	9.3	21.2	137 E	39 70	8 9	13 28.61	- 8 39.2	0.573	0.951	79.2	20.6	67 E	18* 60*
7 10	15 49.00	- 6 37.0	3.564	4.258	10.9	21.3	127 E	38 71	8 19	13 25.24	- 9 28.4	0.546	0.849	90.4	20.7	57 E	14* 51*
7 20	15 47.36	- 6 57.7	3.670	4.242	12.2	21.4	118 E	38* 71	8 29	13 14.14	- 9 40.0	0.504	0.744	106.5	21.0	45 E	9* 39*
7 30	15 47.26	- 7 24.8	3.789	4.226	13.1	21.5	109 E	36* 71	507411 2012 MQ₆								
455263 2001 UM₂₂₁									4 11	16 48.98	- 0 29.6	2.036	2.758	16.9	21.3	127 W	45 64
4 11	16 35.60	-20 23.7	1.516	2.302	19.2	21.5	131 W	25 84	4 21	16 45.38	- 0 20.0	1.905	2.722	14.8	21.1	136 W	45 64
4 21	16 28.85	-21 32.7	1.458	2.334	15.3	21.3	142 W	23 86	5 1	16 38.93	- 0 19.7	1.792	2.685	12.2	20.8	146 W	45 64
5 1	16 18.65	-22 38.7	1.419	2.367	10.7	21.1	154 W	22 87	5 11	16 29.85	- 0 33.6	1.701	2.647	9.5	20.6	154 W	44 65
5 11	16 5.89	-23 37.9	1.405	2.398	5.8	20.9	166 W	21 88	5 21	16 18.69	- 1 5.9	1.635	2.609	7.7	20.4	160 W	44 65
5 21	15 51.89	-24 26.9	1.419	2.429	1.8	20.7	176 W	21 88	5 31	16 6.36	- 1 59.1	1.597	2.570	8.1	20.3	159 E	43 66
5 31	15 38.25	-25 4.8	1.461	2.460	5.2	21.0	167 E	20									

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

20/21	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°	2020	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°										
507411 2012 MQ₆										503848 4702 P-L																			
<i>(continuation)</i>										<i>(continuation)</i>																			
11 7	17 42.48	-31 49.8	2.543	1.927	20.2	21.2	42 E	5*	36*	6 5	16 50.49	-22 23.7	0.841	1.855	0.3	19.2	179 E	23	86										
11 17	18 7.38	-32 55.9	2.573	1.892	18.7	21.1	38 E	4*	32*	6 10	16 45.08	-22 18.1	0.828	1.840	3.6	19.5	173 E	23	86										
11 27	18 33.96	-33 45.3	2.595	1.858	17.2	21.0	34 E	3*	28*	6 15	16 39.73	-22 12.1	0.820	1.825	7.0	19.6	167 E	23	86										
12 7	19 2.06	-34 15.7	2.610	1.826	15.7	20.9	30 E	2*	24*	6 20	16 34.71	-22 6.1	0.818	1.810	10.3	19.7	161 E	23	86										
12 17	19 31.47	-34 24.9	2.618	1.796	14.3	20.9	27 E	—	21*	6 25	16 30.26	-22 0.7	0.820	1.796	13.5	19.8	156 E	23	86										
12 27	20 1.91	-34 11.1	2.621	1.769	13.1	20.8	24 E	—	18*	6 30	16 26.58	-21 56.5	0.827	1.782	16.6	19.9	150 E	23	86										
1 6	20 33.05	-33 33.1	2.619	1.744	12.1	20.7	22 E	—	16*	7 5	16 23.85	-21 53.9	0.839	1.768	19.4	20.0	145 E	23	86										
1 16	21 4.57	-32 30.5	2.613	1.722	11.3	20.7	20 E	—	14*	7 10	16 22.15	-21 53.4	0.853	1.755	22.1	20.1	139 E	23	86										
151723 2003 BX₆₃										399325 1999 GY₅																			
4 11	16 50.26	-6 57.8	2.614	3.322	13.8	21.4	128 W	38	71	4 11	17 9.53	-4 6.0	0.719	1.515	33.9	21.5	123 W	41	68										
4 21	16 46.53	-6 10.9	2.523	3.334	11.7	21.2	137 W	39	70	4 16	17 1.17	-1 32.5	0.706	1.546	30.5	21.4	129 W	43	66										
5 1	16 40.78	-5 25.8	2.453	3.345	9.4	21.1	147 W	40	69	4 21	16 51.23	+1 1.7	0.698	1.576	27.0	21.3	135 W	46	63										
5 11	16 33.41	-4 45.7	2.407	3.356	7.0	21.0	156 W	40	69	4 26	16 39.89	+3 32.3	0.695	1.603	23.7	21.3	140 W	49	60										
5 21	16 24.94	-4 13.4	2.388	3.365	5.3	20.9	162 W	41	68	5 1	16 27.46	+5 54.5	0.699	1.629	20.9	21.2	145 W	51	58										
5 31	16 16.09	-3 51.7	2.397	3.374	5.5	20.9	162 E	41	68	5 6	16 14.33	+8 3.6	0.709	1.654	18.8	21.2	148 W	53	56										
6 10	16 7.59	-3 42.4	2.435	3.382	7.3	21.0	155 E	41	68	5 11	16 0.98	+9 55.5	0.725	1.677	17.7	21.3	150 W	55	54										
6 20	16 0.10	-3 45.9	2.498	3.389	9.7	21.2	146 E	41	68	5 16	15 47.84	+11 27.6	0.749	1.698	17.8	21.3	149 W	56	53										
6 30	15 54.13	-4 1.8	2.586	3.395	11.9	21.3	136 E	41	68	5 21	15 35.37	+12 38.6	0.779	1.718	18.7	21.5	147 E	58	51										
363491 2003 TP										6318 Cronkite																			
4 11	16 54.65	-10 45.2	1.442	2.194	21.5	21.3	127 W	34	75	4 11	17 12.16	-19 11.8	2.864	3.506	13.9	21.4	123 W	26	83										
4 21	16 55.87	-7 58.8	1.321	2.156	19.1	21.0	136 W	37	72	4 21	17 7.94	-19 34.3	2.759	3.524	12.0	21.3	133 W	25	84										
5 1	16 53.84	-4 49.6	1.218	2.118	16.2	20.7	144 W	40	69	5 1	17 1.49	-19 56.7	2.673	3.541	9.5	21.1	144 W	25	84										
5 11	16 48.62	-1 24.9	1.136	2.079	13.5	20.4	151 W	44	65	5 11	16 53.11	-20 18.5	2.611	3.558	6.6	20.9	156 W	25	84										
5 16	16 44.92	+0 19.8	1.104	2.060	12.6	20.3	154 W	45	64	5 21	16 43.27	-20 38.9	2.577	3.573	3.4	20.8	168 W	24	85										
5 21	16 40.61	+2 3.2	1.079	2.040	12.2	20.2	155 W	47	62	5 31	16 32.68	-20 57.4	2.573	3.587	0.3	20.5	179 W	24	85										
5 26	16 35.83	+3 43.3	1.059	2.021	12.5	20.2	154 W	49	60	6 10	16 22.16	-21 13.9	2.600	3.600	3.4	20.8	168 E	24	85										
5 31	16 30.75	+5 17.7	1.046	2.002	13.4	20.2	153 E	50	59	6 20	16 12.46	-21 29.0	2.658	3.612	6.5	21.0	156 E	24	85										
6 5	16 25.56	+6 44.4	1.038	1.982	14.8	20.2	150 E	52	57	6 30	16 4.23	-21 43.9	2.743	3.623	9.3	21.2	145 E	23	86										
6 10	16 20.45	+8 1.6	1.036	1.963	16.6	20.2	146 E	53	56	7 10	15 57.91	-22 0.0	2.852	3.632	11.6	21.4	134 E	23	86										
6 15	16 15.59	+9 8.2	1.039	1.944	18.6	20.3	142 E	54	55	335052 2004 RA₁₁₀																			
6 20	16 11.17	+10 3.2	1.046	1.925	20.7	20.3	138 E	55	54	4 11	17 15.14	-53 6.9	2.568	3.124	16.9	21.4	115 W	—	63										
6 30	16 4.26	+11 17.8	1.072	1.888	24.7	20.5	129 E	56	53	4 16	17 14.45	-53 38.3	2.498	3.108	16.4	21.3	119 W	—	62										
7 10	16 0.61	+11 48.5	1.110	1.851	28.1	20.6	121 E	57	52	4 21	17 12.78	-54 7.8	2.430	3.092	15.9	21.2	123 W	—	62										
7 20	16 0.57	+11 41.9	1.155	1.815	31.0	20.7	113 E	57*	52	4 26	17 10.10	-54 34.7	2.367	3.075	15.2	21.2	127 W	—	61										
7 30	16 4.24	+11 5.8	1.204	1.780	33.2	20.8	106 E	55*	53	5 1	17 6.40	-54 58.0	2.307	3.058	14.5	21.1	130 W	—	61										
8 9	16 11.41	+10 8.0	1.254	1.747	34.8	20.9	100 E	54*	54	5 6	17 1.69	-55 17.0	2.252	3.041	13.8	21.0	134 W	—	61										
8 19	16 21.83	+8 54.9	1.303	1.716	36.0	21.0	95 E	52*	55	5 11	16 56.03	-55 30.5	2.201	3.024	13.0	20.9	138 W	—	60										
8 29	16 35.23	+7 31.8	1.351	1.686	36.8	21.1	90 E	50*	56*	5 16	16 49.53	-55 37.6	2.156	3.007	12.3	20.8	141 W	—	60										
9 8	16 51.34	+6 3.4	1.397	1.659	37.3	21.1	86 E	48*	57*	5 21	16 42.31	-55 37.2	2.115	2.989	11.7	20.7	143 W	—	60										
9 18	17 9.94	+4 33.5	1.442	1.634	37.5	21.2	82 E	46*	57*	5 26	16 34.58	-55 28.7	2.081	2.971	11.2	20.6	145 W	—	61										
9 28	17 30.82	+3 5.8	1.485	1.612	37.5	21.2	78 E	45*	55*	5 31	16 26.58	-55 11.4	2.052	2.953	10.9	20.6	147 E	—	61										
10 8	17 53.77	+1 43.7	1.527	1.594	37.3	21.2	75 E	44*	53*	6 5	16 18.56	-54 45.3	2.030	2.934	10.8	20.6	147 E	—	61										
10 18	18 18.57	+0 30.2	1.570	1.579	36.9	21.3	72 E	43*	51*	6 10	16 10.78	-54 10.7	2.014	2.916	11.0	20.5	147 E	—	62										
10 28	18 45.01	+0 31.5	1.614	1.567	36.4	21.3	69 E	42*	48*	6 15	16 3.46	-53 28.0	2.004	2.897	11.5	20.5	145 E	—	63										
11 7	19 12.78	+1 19.2	1.661	1.559	35.7	21.3	67 E	42*	45*	6 20	15 56.80	-52 38.2	1.999	2.878	12.2	20.5	143 E	—	63										
11 17	19 41.61	+1 50.8	1.712	1.555	34.8	21.4	64 E	41*	41*	6 25	15 50.97	-51 42.5	2.001	2.859	13.1	20.6	140 E	—	64										
11 27	20 11.18	+2 5.2	1.767	1.555	33.8	21.4	61 E	41*	38*	6 30	15 46.08	-50 42.2	2.009	2.839	14.1	20.6	137 E	—	65										
12 7	20 41.17	+2 2.1	1.828	1.559	32.6	21.4	58 E	40*	34*	7 5	15 42.20	-49 38.7	2.021	2.820	15.2	20.6	134 E	—	66										
12 17	21 11.28	+1 42.1	1.894	1.566	31.3	21.5	56 E	40*	30*	7 10	15 39.34	-48 33.4	2.039	2.800	16.2	20.7	130 E	—	67										
364141 2006 DC₄₂										503848 4702 P-L																			
4 11	16 57.58	-29 56.5	1.120	1.879	26.0	21.4	125 W	15	86	4 11	17 7.61	-22 24.2	1.302	2.034	24.3	21.4	123 W	23	86										
4 21	16 57.28	-30 1.2	1.041	1.885	22.4	21.1	134 W	15	86	4 21	17 12.21	-22 31.8	1.182	2.000	21.9	21.1	132 W	22	87										
5 1	16 52.23	-29 51.6	0.974	1.889	17.9	20.9	145 W	15	86	5 1	17 13.41	-22 36.1	1.076	1.967	18.6	20.8	142 W	22	87										
5 11	16 42.74	-29 23.6	0.924	1.893	12.4	20.6	156 W	16	87	5 11	17 10.94	-22 37.3	0.985	1.934	14.3	20.4	152 W	22	87										
5 21	16 29.90	-28 33.9	0.895	1.896	6.4	20.2	168 W	16	87	5 21	17 4.83	-22 35.0	0.912	1.902	9.0	20.0	163 W	22	87										
5 26	16 22.81	-28 1.1	0.888	1.898	3.9	20.1	173 W	17	88	5 26	17 0.58	-22 32.2	0.883	1.886	6.1	19.8	169 W	22	87										
5 31	16 15.68	-27 23.8	0.888	1.899	3.6	20.1	173 E	18	89	5 31	16 55.73	-22 28.4	0.859	1.871	3.0	19.5	175 W	23	86										
6 5	16 8.79	-26 43.3	0.893	1.899	5.8	20.2	169 E	18	89																				
6 10	16 2.41	-26 0.8	0.905	1.900	8.7	20.4	164 E	19	90																				
6 15	15 56.76	-25 18.0	0.921	1.901	11.7	20.5	158 E	20	89																				
6 20	15 52.01	-24 36.1	0.943	1.901	14.6	20.7	152 E	20	89																				
6 25	15 48.29	-23 56.7	0.970	1.901	17.3	20.8	146 E	21	88																				
6 30	15 45.66	-23 20.6	1.000	1.901	19.7	21.0	141 E	22	87																				
7 5	15 44.12	-22 48.6	1.035	1.900	21.9	21.1	136 E	22	87																				
7 10	15 43.66	-22 21.1	1.073	1.900	23.9	21.3	131 E	23	86																				
7 15	15 44.22	-21 58.1	1.114	1.899	25.6	21.4	126 E	23	86																				

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

20/21	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°-26°	2020	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°-26°
335052 2004 RA₁₁₀									507639 2013 LU₃₄								
<i>(continuation)</i>																	
9 28	16 39.70	-35 16.7	2.633	2.455	22.4	21.1	69 E	5* 61*	4 11	17 30.43	-26 13.7	1.202	1.891	27.9	21.2	118 W	19 90
10 3	16 47.77	-34 44.4	2.670	2.432	22.0	21.1	66 E	5* 58*	4 16	17 35.13	-25 12.6	1.140	1.874	27.1	21.1	122 W	20 89
10 8	16 56.16	-34 12.8	2.705	2.409	21.5	21.1	62 E	6* 55*	4 21	17 39.05	-24 3.0	1.080	1.857	26.0	20.9	126 W	21 88
10 13	17 4.82	-33 41.4	2.739	2.386	21.0	21.1	59 E	6* 52*	4 26	17 42.11	-22 44.4	1.023	1.840	24.7	20.7	130 W	22 87
10 18	17 13.76	-33 10.0	2.771	2.363	20.5	21.1	56 E	6* 50*	5 1	17 44.26	-21 16.4	0.969	1.823	23.2	20.5	134 W	24 85
10 23	17 22.94	-32 38.3	2.800	2.340	19.8	21.1	53 E	6* 47*	5 6	17 45.47	-19 38.5	0.920	1.807	21.5	20.4	139 W	25 84
10 28	17 32.35	-32 5.9	2.828	2.316	19.2	21.1	50 E	7* 44*	5 11	17 45.71	-17 50.8	0.875	1.790	19.6	20.2	144 W	27 82
11 2	17 41.96	-31 32.6	2.852	2.292	18.4	21.0	47 E	7* 41*									
11 7	17 51.76	-30 58.2	2.875	2.269	17.7	21.0	44 E	7* 38*	5 21	17 43.24	-13 47.3	0.798	1.759	15.3	19.8	153 W	31 78
11 12	18 1.73	-30 22.2	2.895	2.245	16.8	21.0	41 E	7* 35*	5 31	17 37.20	-9 15.0	0.742	1.730	11.6	19.5	160 W	36 73
11 17	18 11.87	-29 44.7	2.912	2.221	16.0	20.9	38 E	7* 32*	6 10	17 28.71	-4 33.5	0.710	1.703	11.1	19.3	161 W	40 69
11 22	18 22.15	-29 5.2	2.927	2.198	15.1	20.9	35 E	7* 29*									
11 27	18 32.55	-28 23.5	2.939	2.174	14.2	20.8	33 E	7* 26*	6 15	17 24.01	-2 17.5	0.702	1.690	12.5	19.3	159 E	43 64
12 2	18 43.07	-27 39.6	2.948	2.150	13.2	20.8	30 E	7* 23*	6 20	17 19.33	0 9.5	0.700	1.678	14.7	19.4	155 E	45 64
12 7	18 53.68	-26 53.2	2.954	2.126	12.2	20.7	27 E	7* 20*	6 25	17 14.92	+ 1 47.6	0.703	1.666	17.3	19.5	151 E	47 62
12 12	19 4.38	-26 4.0	2.958	2.102	11.2	20.7	25 E	7* 17*	6 30	17 11.00	+ 3 31.4	0.711	1.655	20.0	19.6	146 E	49 60
12 17	19 15.15	-25 12.1	2.959	2.079	10.2	20.6	22 E	6* 14*	7 5	17 7.78	+ 5 0.8	0.723	1.645	22.7	19.7	141 E	50 59
12 22	19 25.99	-24 17.2	2.957	2.055	9.1	20.5	19 E	6* 12*	7 10	17 5.37	+ 6 15.3	0.738	1.635	25.2	19.8	137 E	51 58
12 27	19 36.88	-23 19.2	2.953	2.032	8.1	20.5	17 E	5* 9*									
1 1	19 47.81	-22 18.0	2.946	2.008	7.0	20.4	14 E	4* 6*	7 20	17 3.41	+ 8 0.8	0.777	1.618	29.5	20.0	128 E	53 56
1 6	19 58.78	-21 13.5	2.937	1.985	5.9	20.3	12 E	3* 4*	7 30	17 5.57	+ 8 55.2	0.825	1.604	32.9	20.2	121 E	54 55
1 11	20 9.78	-20 5.6	2.925	1.962	4.8	20.2	10 E	2* 1*	8 9	17 11.78	+ 9 9.7	0.879	1.594	35.4	20.4	115 E	54 55
1 16	20 20.80	-18 54.2	2.911	1.939	3.7	20.1	7 E	—									
497133 2004 PV₉₇									498550 2008 HV₄								
4 11	17 19.60	-29 3.5	1.302	2.001	25.7	21.4	120 W	16 87	4 11	17 38.06	-20 30.2	0.741	1.488	37.1	21.3	116 W	24 85
4 21	17 25.78	-30 8.2	1.186	1.972	23.6	21.1	128 W	15 86	4 21	17 36.64	-16 21.8	0.696	1.525	32.0	21.1	126 W	29 80
5 1	17 28.48	-31 15.6	1.081	1.943	20.7	20.7	137 W	14 85	5 1	17 29.18	-11 47.6	0.663	1.560	26.0	20.9	137 W	33 76
5 11	17 27.24	-32 23.9	0.991	1.915	17.0	20.4	146 W	13 84	5 11	17 16.33	-7 3.0	0.645	1.594	19.7	20.7	148 W	38 71
5 21	17 21.82	-33 28.8	0.917	1.887	12.6	20.0	156 W	12 83	5 21	16 59.69	-2 33.6	0.648	1.625	14.8	20.5	156 W	42 67
5 26	17 17.62	-33 57.7	0.888	1.874	10.3	19.9	161 W	11 82	5 31	16 41.83	+ 1 11.2	0.674	1.655	14.0	20.6	157 W	46 63
5 31	17 12.61	-34 22.9	0.863	1.860	8.3	19.7	165 W	11 82	6 10	16 25.52	+ 3 51.3	0.721	1.682	17.2	20.9	151 E	49 60
6 5	17 6.98	-34 43.4	0.844	1.847	6.9	19.6	167 W	10 81	6 20	16 12.73	+ 5 23.6	0.788	1.707	21.6	21.3	142 E	50 59
6 10	17 0.96	-34 58.5	0.829	1.834	6.8	19.5	168 E	10 81	6 30	16 4.47	+ 5 57.2	0.869	1.729	25.6	21.7	133 E	51 58
6 15	16 54.84	-35 7.8	0.821	1.822	8.1	19.5	165 E	10 81									
6 20	16 48.91	-35 11.0	0.817	1.809	10.3	19.6	161 E	10 81									
6 25	16 43.49	-35 8.8	0.818	1.797	12.9	19.7	157 E	10 81									
6 30	16 38.86	-35 1.9	0.824	1.785	15.6	19.8	152 E	10 81									
7 5	16 35.21	-34 51.3	0.834	1.774	18.3	19.9	147 E	10 81									
7 10	16 32.71	-34 38.1	0.847	1.763	20.8	20.0	142 E	10 81									
7 15	16 31.43	-34 23.3	0.865	1.753	23.2	20.1	137 E	11 82									
7 20	16 31.43	-34 7.8	0.885	1.742	25.4	20.2	133 E	11 82									
7 30	16 35.25	-33 37.2	0.933	1.723	29.1	20.4	124 E	11 82									
8 9	16 43.84	-33 9.2	0.990	1.706	32.0	20.6	117 E	12* 83									
8 19	16 56.61	-32 43.2	1.052	1.691	34.2	20.8	110 E	12* 83									
8 29	17 12.97	-32 17.1	1.120	1.678	35.7	20.9	104 E	12* 84									
9 8	17 32.26	-31 47.7	1.190	1.668	36.7	21.1	98 E	13* 84									
9 18	17 53.92	-31 11.5	1.263	1.660	37.2	21.2	93 E	13* 84*									
9 28	18 17.43	-30 25.5	1.339	1.655	37.3	21.3	89 E	14* 82*									
10 8	18 42.27	-29 27.0	1.417	1.652	37.0	21.4	84 E	15* 78*									
498046 2007 PT₂₇									325766 2010 JX₁₄₀								
4 11	17 24.91	-18 46.3	1.309	2.003	25.8	21.3	120 W	26 83	4 11	17 45.13	-22 52.0	1.847	2.442	21.9	21.3	115 W	22 87
4 21	17 31.63	-18 18.1	1.184	1.966	23.9	21.0	128 W	27 82	4 21	17 48.58	-22 22.8	1.707	2.414	20.3	21.1	124 W	23 86
5 1	17 35.28	-17 44.1	1.071	1.930	21.1	20.6	136 W	27 82	5 1	17 49.05	-21 48.0	1.578	2.385	17.9	20.8	133 W	23 86
5 11	17 35.48	-17 6.1	0.972	1.895	17.4	20.2	146 W	28 81	5 11	17 46.32	-21 7.7	1.465	2.356	14.7	20.5	144 W	24 85
5 21	17 32.03	-16 26.6	0.889	1.860	12.8	19.8	156 W	29 80	5 21	17 40.38	-20 22.1	1.371	2.326	10.8	20.2	155 W	25 84
5 31	17 25.21	-15 48.5	0.825	1.825	7.7	19.4	166 W	29 80	5 31	17 31.62	-19 31.6	1.299	2.295	6.2	19.9	166 W	25 84
6 5	17 20.81	-15 31.2	0.800	1.808	5.4	19.2	170 W	29 80	6 5	17 26.44	-19 5.0	1.272	2.280	3.8	19.7	171 W	26 83
6 10	17 15.97	-15 15.9	0.781	1.792	4.4	19.1	172 W	30 79	6 10	17 20.93	-18 38.0	1.251	2.265	2.1	19.5	175 W	26 83
6 15	17 10.90	-15 2.9	0.766	1.775	5.7	19.1	170 E	30 79	6 15	17 15.26	-18 11.0	1.237	2.249	3.1	19.5	173 E	27 82
6 20	17 5.84	-14 52.9	0.757	1.759	8.3	19.2	166 E	30 79	6 20	17 9.60	-17 44.5	1.229	2.233	5.5	19.6	168 E	27 82
6 25	17 1.06	-14 46.4	0.753	1.744	11.3	19.3	160 E	30 79	6 25	17 4.15	-17 19.1	1.228	2.218	8.1	19.7	162 E	28 81
6 30	16 56.79	-14 43.8	0.753	1.728	14.4	19.4	155 E	30 79	6 30	16 59.11	-16 55.4	1.233	2.202	10.7	19.8	156 E	28 81
7 5	16 53.25	-14 45.4	0.757	1.714	17.4	19.5	150 E	30 79	7 5	16 54.62	-16 34.0	1.243	2.186	13.2	19.9	151 E	28 81
7 10	16 50.59	-14 51.1	0.766	1.699	20.4	19.6	144 E	30 79	7 10	16 50.81	-16 15.2	1.258	2.170	15.6	20.0	145 E	29 80
7 20	16 48.39	-15 14.7	0.793	1.672	25.6	19.8	135 E	30 79	7 20	16 45.57	-15 46.9	1.302	2.138	19.9	20.2	134 E	29 80
7 30	16 50.74	-15 52.5	0.830	1.646	29.9	20.0	126 E	29 80	7 30	16 43.87	-15 31.4	1.360	2.106	23.5	20.4	124 E	29 80
8 9	16 57.64	-16 40.2	0.876	1.623	33.4	20.2	118 E	28* 81	8 9	16 45.74	-15 27.8	1.428	2.074	26.2	20.5	115 E	29* 79
8 19	17 8.75	-17 33.0	0.927	1.603	36.0	20.3	111 E	27* 82	8 19	16 51.00	-15 33.9	1.503	2.042	28.3	20.7	107 E	29* 80
8 29	17 23.67	-18 25.7	0.983	1.586	37.9	20.5	105 E	26* 82	8 29	16 59.36	-15 46.8	1.581	2.011	29.7	20.8	99 E	28* 80
9 8	17 41.88	-19 13.3	1.042	1.572	39.1	20.6	100 E	26* 83	9 8	17 10.51	-16 3.3	1.661	1.980	30.6	20.9	92 E	28* 80*
9 18	18 2.88	-19 51.1	1.104	1.561	39.9	20.8	95 E	25* 84*									

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°
325766 2010 JX₁₄₀										383006 2005 LE₁₉									
<i>(continuation)</i>										<i>(continuation)</i>									
1 6	21 28.11	-9 8.9	2.384	1.694	20.1	21.0	36 E	25*	18*	10 8	19 26.98	-17 32.5	1.051	1.522	40.8	20.3	96 E	27	81*
1 16	21 53.98	-7 9.8	2.423	1.683	18.4	21.0	33 E	23*	14*	10 18	19 52.49	-17 32.5	1.115	1.521	40.9	20.5	92 E	27	80*
512979 2017 UA₁₀										511061 2013 SM₈₄									
4 11	17 53.58	-33 32.1	1.537	2.130	25.8	21.5	112 W	11	82	4 11	18 12.12	-12 47.7	1.452	2.002	28.4	21.4	108 W	32*	77
4 16	17 58.14	-33 52.5	1.471	2.114	25.2	21.3	116 W	11	82	4 21	18 22.43	-10 4.7	1.325	1.969	27.6	21.1	115 W	35	74
4 21	18 2.02	-34 12.9	1.407	2.099	24.5	21.2	120 W	11	82	5 1	18 30.23	-6 57.7	1.209	1.937	26.3	20.8	122 W	38	71
4 26	18 5.12	-34 33.3	1.345	2.083	23.6	21.0	124 W	10	81	5 11	18 35.15	-3 28.7	1.106	1.905	24.6	20.6	128 W	42	67
5 1	18 7.39	-34 53.6	1.285	2.068	22.5	20.9	128 W	10	81	5 21	18 36.86	+0 17.1	1.019	1.874	22.6	20.3	135 W	45	64
5 6	18 8.75	-35 13.5	1.229	2.052	21.2	20.7	133 W	10	81	5 26	18 36.45	+2 13.4	0.981	1.860	21.5	20.2	138 W	47	62
5 11	18 9.16	-35 32.8	1.177	2.036	19.7	20.6	137 W	9	80	5 31	18 35.20	+4 9.7	0.948	1.845	20.6	20.0	140 W	49	60
5 16	18 8.54	-35 51.0	1.127	2.021	18.0	20.4	142 W	9	80	6 5	18 33.16	+6 4.2	0.920	1.831	19.8	19.9	142 W	51	58
5 21	18 6.87	-36 7.5	1.082	2.006	16.2	20.3	146 W	9	80	6 10	18 30.38	+7 54.5	0.896	1.817	19.3	19.8	144 W	53	56
5 26	18 4.14	-36 21.4	1.042	1.990	14.2	20.1	151 W	9	80	6 15	18 26.97	+9 38.4	0.877	1.804	19.0	19.8	145 W	55	54
5 31	18 0.41	-36 31.8	1.005	1.975	12.1	19.9	156 W	8	79	6 20	18 23.05	+11 13.5	0.863	1.791	19.2	19.7	145 W	56	53
6 5	17 55.79	-36 37.6	0.974	1.960	10.0	19.8	160 W	8	79	6 25	18 18.79	+12 37.6	0.853	1.779	19.6	19.7	144 W	58	51
6 10	17 50.42	-36 38.1	0.948	1.945	8.2	19.6	164 W	8	79	6 30	18 14.40	+13 49.1	0.848	1.767	20.4	19.7	143 E	59	50
6 15	17 44.50	-36 32.3	0.928	1.930	7.0	19.5	167 W	8	79	7 5	18 10.09	+14 46.7	0.846	1.756	21.5	19.7	141 E	60	49
6 20	17 38.28	-36 19.9	0.912	1.915	7.1	19.4	167 E	9	80	7 10	18 6.05	+15 29.9	0.849	1.745	22.8	19.7	138 E	61	48
6 25	17 32.06	-36 0.6	0.903	1.901	8.4	19.5	164 E	9	80	7 15	18 2.47	+15 58.7	0.854	1.734	24.1	19.8	136 E	61	48
6 30	17 26.14	-35 35.1	0.898	1.887	10.5	19.5	160 E	9	80	7 20	17 59.53	+16 13.4	0.863	1.725	25.5	19.8	133 E	61	48
7 5	17 20.80	-35 4.2	0.899	1.873	12.9	19.6	156 E	10	81	7 25	17 57.38	+16 14.9	0.875	1.716	26.9	19.9	130 E	61	48
7 10	17 16.25	-34 28.9	0.904	1.859	15.5	19.7	151 E	11	82	7 30	17 56.12	+16 4.4	0.889	1.707	28.2	20.0	127 E	61	48
7 15	17 12.68	-33 50.5	0.914	1.845	18.1	19.8	146 E	11	82	8 4	17 55.84	+15 43.5	0.905	1.700	29.5	20.0	124 E	61	48
7 20	17 10.22	-33 10.4	0.928	1.832	20.5	19.9	141 E	12	83	8 9	17 56.54	+15 13.6	0.923	1.693	30.6	20.1	122 E	60	49
7 25	17 8.96	-32 29.6	0.946	1.819	22.8	20.0	136 E	13	84	8 14	17 58.25	+14 36.0	0.943	1.686	31.7	20.2	119 E	60	49
7 30	17 8.91	-31 49.1	0.967	1.806	24.9	20.1	131 E	13	84	8 19	18 0.96	+13 52.2	0.964	1.681	32.6	20.2	116 E	59	50
8 9	17 12.37	-30 32.0	1.017	1.782	28.6	20.2	123 E	14	85	8 24	18 4.65	+13 3.5	0.987	1.676	33.4	20.3	114 E	58	51
8 19	17 20.20	-29 21.3	1.075	1.760	31.4	20.4	115 E	16*	87	8 29	18 9.29	+12 11.2	1.011	1.672	34.2	20.4	112 E	57	52
8 29	17 31.89	-28 16.8	1.139	1.739	33.6	20.6	108 E	17*	88	9 3	18 14.82	+11 16.5	1.036	1.668	34.8	20.4	109 E	56	53
9 8	17 46.82	-27 16.0	1.208	1.720	35.0	20.7	102 E	18*	89	9 8	18 21.19	+10 20.4	1.062	1.666	35.3	20.5	107 E	55	54
9 18	18 4.42	-26 15.5	1.279	1.704	35.9	20.9	96 E	19*	90*	9 13	18 28.35	+9 23.7	1.090	1.664	35.7	20.6	105 E	54	55
9 28	18 24.22	-25 12.2	1.352	1.689	36.4	21.0	90 E	20*	84*	9 18	18 36.24	+8 27.3	1.118	1.663	36.1	20.6	103 E	53	56
10 8	18 45.72	-24 2.7	1.427	1.677	36.4	21.1	86 E	21*	79*	9 23	18 44.82	+7 31.9	1.148	1.663	36.3	20.7	101 E	53	56
10 18	19 8.54	-22 44.7	1.503	1.668	36.2	21.2	81 E	22*	74*	9 28	18 54.02	+6 38.5	1.179	1.663	36.5	20.7	99 E	52	57
10 28	19 32.34	-21 16.3	1.580	1.661	35.6	21.3	77 E	24*	69*	10 3	19 3.79	+5 47.4	1.211	1.664	36.6	20.8	97 E	51	58*
11 7	19 56.77	-19 36.4	1.658	1.658	34.8	21.3	73 E	25*	63*	10 8	19 14.07	+4 59.4	1.245	1.667	36.7	20.9	95 E	50	59*
11 17	20 21.59	-17 44.5	1.736	1.657	33.8	21.4	69 E	27*	58*	10 13	19 24.80	+4 14.7	1.280	1.669	36.6	20.9	93 E	49	59*
11 27	20 46.61	-15 40.9	1.815	1.658	32.6	21.5	65 E	29*	52*	10 18	19 35.95	+3 33.8	1.317	1.673	36.5	21.0	92 E	49	59*
290074 Donasaddock										398577 2011 WK₄₅									
4 11	18 2.09	+6 58.3	2.012	2.506	22.4	21.5	108 W	52	57	4 11	18 16.17	-21 56.8	1.512	2.051	27.8	21.5	108 W	23*	86
4 21	18 3.44	+8 37.8	1.927	2.524	21.1	21.4	115 W	54	55	4 21	18 26.75	-21 24.6	1.374	2.015	26.9	21.2	115 W	24	85
5 1	18 1.93	+10 12.0	1.853	2.541	19.5	21.2	123 W	55	54	5 1	18 34.93	-20 47.1	1.244	1.978	25.4	20.9	123 W	24	85
5 11	17 57.58	+11 34.3	1.791	2.557	17.7	21.1	130 W	57	52	5 11	18 40.26	-20 5.7	1.124	1.942	23.1	20.6	131 W	25	84
5 21	17 50.63	+12 37.6	1.745	2.572	15.8	21.0	136 W	58	51	5 21	18 42.27	-19 22.0	1.016	1.906	20.0	20.2	140 W	26	83
5 31	17 41.60	+13 14.7	1.719	2.586	14.3	20.9	141 W	58	51	5 31	18 40.58	-18 37.4	0.923	1.870	15.8	19.8	150 W	26	83
6 10	17 31.37	+13 20.4	1.713	2.599	13.5	20.9	143 W	58	51	6 10	18 35.23	-17 53.7	0.847	1.835	10.8	19.4	160 W	27	82
6 20	17 20.94	+12 52.9	1.729	2.612	13.6	21.0	143 E	58	51	6 20	18 26.67	-17 12.6	0.790	1.800	5.4	19.0	170 W	28	81
6 30	17 11.37	+11 53.9	1.768	2.623	14.7	21.1	139 E	57	52	6 25	18 21.56	-16 53.8	0.769	1.782	3.8	18.8	173 W	28	81
7 10	17 3.55	+10 28.7	1.827	2.633	16.2	21.2	134 E	55	54	6 30	18 16.17	-16 36.6	0.753	1.766	4.7	18.8	172 E	28	81
7 20	16 58.03	+8 44.2	1.904	2.642	17.9	21.3	127 E	54	55	7 5	18 10.78	-16 21.3	0.743	1.749	7.3	18.9	167 E	29	80
383006 2005 LE₁₉										398577 2011 WK₄₅									
4 11	18 9.31	-16 14.5	1.543	2.094	26.9	21.5	109 W	29	80	7 10	18 5.62	-16 8.3	0.737	1.733	10.5	19.0	162 E	29	80
4 21	18 19.47	-15 23.6	1.399	2.050	26.1	21.2	116 W	30	79	7 15	18 0.95	-15 57.9	0.736	1.716	13.7	19.1	156 E	29	80
5 1	18 27.42	-14 26.3	1.265	2.007	24.7	20.9	124 W	31	78	7 20	17 56.99	-15 50.4	0.740	1.701	16.9	19.2	151 E	29	80
5 11	18 32.79	-13 24.9	1.141	1.963	22.6	20.5	132 W	32	77	7 25	17 53.94	-15 45.9	0.747	1.686	19.9	19.3	146 E	29	80
5 21	18 35.16	-12 22.3	1.030	1.920	19.7	20.2	140 W	33	76	7 30	17 51.96	-15 44.4	0.758	1.671	22.8	19.4	140 E	29	80
5 31	18 34.23	-11 22.6	0.934	1.878	16.1	19.8	149 W	34	75	8 9	17 51.46	-15 49.4	0.789	1.642	27.8	19.6	131 E	29	80
6 5	18 32.53	-10 55.3	0.893	1.857	14.1	19.6	154 W	34	75	8 19	17 55.71	-16 2.8	0.829	1.616	31.9	19.8	122 E	29	80
6 10	18 30.04	-10 30.7	0.856	1.836	12.0	19.4	158 W	34	75	8 29	18 4.55	-16 20.6	0.876	1.593	35.1	20.0	115 E	29	80
6 15	18 26.84	-10 9.6	0.823	1.816	10.1	19.2	162 W	35	74	9 8	18 17.51	-16 37.9	0.927	1.572	37.4	20.1	109 E	28	81
6 20	18 23.03	-9 52.5	0.795	1.796	8.5	19.1	165 W	35	74	9 18	18 34.04	-16 50.3	0.982	1.553	39.1	20.3	103 E	28	81
6 25	18 18.77	-9 40.4	0.773	1.776	7.8	18.9	166 W	35	74	9 28	18 53.62	-16 53.3	1.040	1.539	40.2	20.4	98 E	28	81
6 30	18 14.28	-9 33.7	0.755	1.757	8.4	18.9	165 E	35	74	10 8</									

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

20/21	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°-26°	2020	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°-26°	
398577 2011 WK₄₅ (continuation)									389694 2011 QD₄₈									
10 18	19 39.68	-16 17.4	1.162	1.520	41.0	20.6	89 E	29 77*	4 11	18 37.14	-47 20.3	1.372	1.874	31.4	21.5	103 W	-	69
10 28	20 5.18	-15 33.8	1.227	1.515	40.8	20.8	85 E	29 73*	4 16	18 39.28	-48 30.9	1.343	1.899	30.3	21.4	107 W	-	67
11 7	20 31.70	-14 31.6	1.294	1.515	40.4	20.9	82 E	30 68*	4 21	18 40.00	-49 43.3	1.315	1.923	29.2	21.4	111 W	-	66
11 17	20 58.85	-13 11.2	1.365	1.519	39.6	21.0	79 E	32 64*	4 26	18 39.15	-50 56.9	1.289	1.946	27.8	21.3	115 W	-	65
11 27	21 26.32	-11 33.4	1.440	1.526	38.7	21.1	75 E	33 59*	5 1	18 36.56	-52 10.5	1.265	1.969	26.4	21.3	120 W	-	64
12 7	21 53.81	-9 40.6	1.518	1.537	37.6	21.2	72 E	35 53*	5 6	18 32.09	-53 22.7	1.243	1.991	24.9	21.2	124 W	-	63
12 17	22 21.16	-7 35.0	1.600	1.551	36.4	21.3	69 E	37 48*	5 11	18 25.62	-54 31.5	1.225	2.012	23.3	21.2	128 W	-	61
12 27	22 48.24	-5 19.5	1.685	1.569	34.9	21.4	66 E	39 44*	5 16	18 17.11	-55 34.4	1.210	2.032	21.6	21.1	132 W	-	60
1 6	23 14.96	-2 57.2	1.775	1.590	33.4	21.4	63 E	41 39*	5 21	18 6.58	-56 28.5	1.199	2.051	20.1	21.1	136 W	-	60
210705 2000 SY₁₅₅									308004 2004 RT₁₁₀									
4 11	18 17.13	-26 25.3	2.320	2.789	20.0	21.5	107 W	19* 90	4 11	18 42.56	-44 51.3	2.592	2.971	19.2	21.4	102 W	-	71
4 21	18 20.42	-26 48.8	2.175	2.773	18.9	21.3	116 W	18 89	4 16	18 44.76	-45 12.6	2.527	2.970	18.9	21.3	106 W	-	71
5 1	18 21.03	-27 15.5	2.040	2.756	17.2	21.1	126 W	18 89	4 21	18 46.19	-45 34.6	2.463	2.969	18.5	21.3	111 W	-	70
5 11	18 18.71	-27 45.2	1.919	2.738	14.8	20.8	136 W	17 88	4 26	18 46.82	-45 57.1	2.401	2.968	17.9	21.2	115 W	-	70
5 21	18 13.36	-28 16.4	1.815	2.719	11.7	20.6	147 W	17 88	5 1	18 46.58	-46 19.7	2.342	2.967	17.2	21.1	119 W	-	70
5 31	18 5.12	-28 46.5	1.732	2.699	8.1	20.3	158 W	16 87	5 6	18 45.45	-46 42.0	2.285	2.965	16.5	21.0	124 W	-	69
6 5	18 0.08	-28 59.9	1.700	2.689	6.1	20.2	164 W	16 87	5 11	18 43.40	-47 3.5	2.232	2.963	15.6	21.0	128 W	-	69
6 10	17 54.57	-29 11.8	1.675	2.678	4.2	20.0	169 W	16 87	5 16	18 40.41	-47 23.4	2.182	2.961	14.6	20.9	133 W	-	69
6 15	17 48.71	-29 21.7	1.656	2.668	2.6	19.9	173 W	16 87	5 21	18 36.47	-47 41.0	2.137	2.959	13.5	20.8	137 W	-	68
6 20	17 42.65	-29 29.2	1.645	2.657	2.5	19.9	173 E	16 87	5 26	18 31.63	-47 55.4	2.097	2.956	12.4	20.7	141 W	-	68
6 25	17 36.58	-29 34.3	1.640	2.646	4.1	20.0	169 E	15 86	6 31	18 25.96	-48 5.6	2.062	2.953	11.3	20.6	145 W	-	68
6 30	17 30.66	-29 36.9	1.642	2.634	6.1	20.1	164 E	15 86	6 5	18 19.58	-48 10.7	2.033	2.950	10.2	20.5	149 W	-	68
7 5	17 25.07	-29 37.3	1.651	2.623	8.2	20.2	158 E	15 86	6 10	18 12.62	-48 10.0	2.010	2.947	9.2	20.5	152 W	-	68
7 10	17 19.94	-29 35.8	1.666	2.611	10.3	20.3	153 E	15 86	6 15	18 5.25	-48 2.8	1.993	2.943	8.5	20.4	154 W	-	68
7 15	17 15.40	-29 32.7	1.687	2.599	12.3	20.3	147 E	15 86	6 20	17 57.69	-47 48.8	1.983	2.939	8.2	20.4	156 W	-	68
7 20	17 11.54	-29 28.4	1.713	2.587	14.2	20.4	141 E	16 87	6 25	17 50.15	-47 27.9	1.980	2.935	8.3	20.4	155 E	-	69
7 30	17 6.18	-29 18.2	1.780	2.562	17.4	20.6	131 E	16 87	6 30	17 42.85	-47 0.4	1.983	2.930	8.8	20.4	154 E	-	69
8 9	17 4.12	-29 8.3	1.861	2.536	20.0	20.8	121 E	16 87	7 5	17 35.98	-46 26.9	1.993	2.926	9.6	20.5	151 E	-	70
8 19	17 5.33	-29 0.4	1.953	2.510	22.0	20.9	112 E	16 87	7 10	17 29.70	-45 48.2	2.010	2.921	10.7	20.5	148 E	-	70
8 29	17 9.63	-28 55.2	2.051	2.482	23.4	21.0	103 E	16 87	7 15	17 24.15	-45 5.3	2.032	2.915	11.9	20.6	144 E	-	71
9 8	17 16.72	-28 52.1	2.153	2.454	24.1	21.1	95 E	15 87*	7 20	17 19.42	-44 19.3	2.060	2.910	13.1	20.7	140 E	-	72
9 18	17 26.27	-28 50.2	2.255	2.426	24.4	21.2	87 E	15 81*	7 25	17 15.57	-43 31.2	2.094	2.904	14.3	20.7	135 E	-	72
9 28	17 38.03	-28 47.9	2.355	2.396	24.3	21.3	80 E	15 74*	7 30	17 12.63	-42 42.1	2.133	2.898	15.4	20.8	131 E	-	73
10 8	17 51.69	-28 43.5	2.450	2.366	23.9	21.3	73 E	14 67*	8 4	17 10.60	-41 52.8	2.176	2.892	16.5	20.9	126 E	-	74
10 18	18 7.01	-28 35.2	2.540	2.336	23.1	21.4	67 E	14 61*	8 9	17 9.44	-41 4.0	2.222	2.886	17.4	21.0	122 E	-	75
10 28	18 23.80	-28 21.5	2.623	2.305	22.1	21.4	61 E	14 55*	8 14	17 9.12	-40 16.3	2.273	2.879	18.3	21.0	117 E	-	76
11 7	18 41.81	-28 0.8	2.698	2.273	20.8	21.4	55 E	14 48*	8 19	17 9.61	-39 30.0	2.326	2.872	19.0	21.1	113 E	-	76
11 17	19 0.89	-27 31.7	2.764	2.241	19.4	21.3	49 E	14 42*	8 24	17 10.85	-38 45.6	2.381	2.865	19.6	21.2	108 E	-	77
11 27	19 20.85	-26 53.1	2.821	2.209	17.8	21.3	43 E	13 36*	8 29	17 12.80	-38 3.0	2.439	2.857	20.1	21.2	104 E	-	77
12 7	19 41.52	-26 3.9	2.868	2.176	16.2	21.2	38 E	13 30*	9 3	17 15.40	-37 22.5	2.497	2.849	20.4	21.3	100 E	-	79
12 17	20 2.76	-25 3.7	2.905	2.144	14.4	21.2	33 E	12 24*	9 8	17 18.60	-36 43.9	2.557	2.841	20.7	21.3	96 E	-	79*
12 27	20 24.44	-23 51.9	2.932	2.111	12.5	21.1	28 E	10 19*	9 13	17 22.35	-36 7.1	2.617	2.833	20.8	21.4	92 E	-	79*
1 6	20 46.43	-22 28.4	2.949	2.078	10.6	21.0	23 E	8 14*	9 18	17 26.61	-35 32.0	2.678	2.825	20.8	21.4	88 E	-	77*
1 16	21 8.66	-20 53.3	2.957	2.045	8.6	20.9	18 E	6 10*	9 23	17 31.33	-34 58.5	2.738	2.816	20.8	21.5	84 E	-	75*
453319 2008 VM₇₇									3908 Nyx									
4 11	18 29.36	-21 0.7	1.587	2.077	27.9	21.4	104 W	24* 85	4 11	18 57.97	-23 0.0	1.809	2.187	27.0	21.5	98 W	21*	87
4 21	18 34.64	-22 34.4	1.501	2.109	26.0	21.3	113 W	22* 87	4 21	19 9.09	-22 36.4	1.642	2.138	27.0	21.2	105 W	22*	87
5 1	18 36.42	-24 22.1	1.423	2.140	23.4	21.1	123 W	21 88	5 1	19 18.39	-22 11.8	1.479	2.087	26.4	20.9	113 W	23*	86
5 11	18 34.33	-26 24.0	1.356	2.172	20.0	20.9	133 W	19 90	5 11	19 25.47	-21 47.7	1.324	2.034	25.3	20.6	121 W	23*	86
5 21	18 28.14	-28 36.8	1.305	2.203	15.8	20.8	144 W	16 87	5 21	19 29.80	-21 25.9	1.177	1.980	23.3	20.2	129 W	24	85
5 31	18 18.02	-30 52.8	1.275	2.234	11.2	20.6	155 W	14 85	6 31	19 30.77	-21 7.9	1.042	1.924	20.4	19.8	139 W	24	85
6 10	18 4.83	-33 1.2	1.269	2.265	6.7	20.4	165 W	12 83	6 10	19 27.77	-20 54.9	0.922	1.866	16.3	19.4	149 W	24	85
6 15	17 57.52	-33 59.0	1.276	2.280	5.2	20.4	168 W	11 82	6 20	19 20.27	-20 46.8	0.818	1.807	11.0	18.8	160 W	24	85
6 20	17 50.04	-34 51.1	1.290	2.295	5.1	20.4	169 E	10 81	6 30	19 8.22	-20 41.8	0.733	1.746	4.5	18.2	172 W	24	85
6 25	17 42.63	-35 36.6	1.311	2.310	6.2	20.5	166 E	9 80	7 5	19 0.72	-20 39.5	0.699	1.715	1.4	17.9	178 W	24	85
6 30	17 35.56	-36 15.5	1.339	2.325	8.0	20.6	161 E	9 80	7 10	18 52.49	-20 36.6	0.670	1.684	3.7	17.9	174 E	24	85
7 5	17 29.04	-36 47.8	1.373	2.340	10.0	20.8	156 E	8 79	7 15	18 43.78	-20 32.8	0.646	1.652	7.8	18.0	167 E	24	85
7 10	17 23.23	-37 14.0	1.412	2.354	12.0	20.9	151 E	8 79	7 20	18 34.95	-20 27.8	0.627	1.621	12.1	18.1	161 E	25	84
7 15	17 18.29	-37 34.9	1.457	2.369	13.9	21.1	146 E	7 78	7 25	18 26.38	-20 21.6	0.613	1.589	16.4	18.1	154 E	25	84
7 20	17 14.28	-37 51.2	1.508	2.383	15.7	21.2	141 E	7 78	8 4	18 11.48	-20 6.9	0.598	1.525	24.9	18.2	141 E	25	84
7 25	17 11.28	-38 3.8	1.563	2.397	17.2	21.4	136 E	7 78	8 9	18 5.72	-19 59.2	0.595	1.493	28.9	18.3	135 E	25	84
138155 2000 ES₇₀									3908 Nyx									
4 11	18 35.74	+7 2.2	1.888	2.280	25.7	21.4	100 W	52* 57	8 14	18 1.37	-19 51.9	0.595	1.461	32.7	18.4	129 E	25	84
4 21	18 39.61	+9 21.2	1.802	2.297	24.8	21.3	106 W	54* 55	8 19	17 58.55	-19 45.3	0.596	1.429	36.2	18.4	123 E	25	84
5 1	18 40.53	+11 40.0	1.722	2.314	23.6	21.2	113 W	57 52	8 29									

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°
3908 Nyx										190451 2000 AX₁₄₆									
<i>(continuation)</i>										<i>(continuation)</i>									
10 18	19 20.63	-17 58.4	0.584	1.105	63.8	18.6	84 E	27	74*	7 25	18 11.18	-8 49.6	1.690	2.604	12.1	20.3	147 E	36	73
10 28	19 52.14	-16 48.4	0.565	1.073	66.5	18.6	82 E	28	71*	7 30	18 7.28	-9 44.4	1.719	2.600	13.7	20.4	143 E	35	74
11 7	20 28.15	-15 4.1	0.543	1.052	68.4	18.5	81 E	30	68*	8 4	18 4.02	-10 39.5	1.754	2.595	15.3	20.5	138 E	34	75
11 17	21 8.62	-12 38.0	0.522	1.043	69.4	18.4	81 E	32	65*	8 9	18 1.45	-11 34.4	1.793	2.590	16.7	20.6	133 E	33	76
11 27	21 53.36	-9 25.0	0.505	1.047	69.1	18.3	82 E	36	63*	8 14	17 59.60	-12 28.4	1.837	2.584	18.1	20.7	128 E	33	76
12 2	22 17.13	-7 31.0	0.499	1.053	68.5	18.3	83 E	37	61*	8 19	17 58.49	-13 21.2	1.885	2.579	19.3	20.8	123 E	32	77
12 7	22 41.68	-5 26.7	0.496	1.062	67.5	18.3	85 E	40	60*	8 24	17 58.13	-14 12.6	1.937	2.573	20.3	20.9	118 E	31	78
12 12	23 6.84	-3 13.9	0.496	1.074	66.2	18.3	86	42	59*	8 29	17 58.50	-15 2.1	1.991	2.567	21.1	21.0	114 E	30	79
12 17	23 32.42	-0 55.2	0.501	1.089	64.6	18.3	88 E	44	58*	9 3	17 59.57	-15 49.6	2.047	2.561	21.9	21.1	109 E	29	80
12 22	23 58.19	+1 26.2	0.509	1.106	62.8	18.3	90 E	46	56*	9 8	18 1.32	-16 35.1	2.105	2.554	22.4	21.1	105 E	28	81
12 27	0 23.88	+3 46.8	0.522	1.126	60.8	18.3	92 E	49	55*	9 13	18 3.72	-17 18.2	2.165	2.547	22.9	21.2	100 E	28	81
1 1	0 49.24	+6 3.2	0.539	1.147	58.8	18.4	93 E	51	53*	9 18	18 6.74	-17 59.1	2.225	2.540	23.2	21.3	96 E	27	82
1 6	1 14.07	+8 12.4	0.561	1.171	56.8	18.4	95 E	53	52*	9 23	18 10.35	-18 37.6	2.286	2.533	23.3	21.3	92 E	26	82*
1 11	1 38.19	+10 12.3	0.588	1.196	54.9	18.5	96 E	55	50*	9 28	18 14.50	-19 13.6	2.347	2.526	23.4	21.4	88 E	25	80*
1 16	2 1.51	+12 1.6	0.620	1.222	53.1	18.6	97 E	57	49*	10 3	18 19.18	-19 47.2	2.407	2.518	23.3	21.4	85 E	25	77*
										10 8	18 24.33	-20 18.2	2.467	2.510	23.1	21.5	81 E	24	73*
										10 13	18 29.93	-20 46.7	2.527	2.502	22.9	21.5	77 E	23	70*
310582 2001 TP₂₃₅										218271 2003 ED₄									
4 11	19 0.85	-21 5.6	1.614	2.002	29.8	21.4	97 W	23*	85	4 11	19 37.58	+0 26.6	2.944	3.030	19.2	21.4	85 W	41*	63*
4 21	19 15.90	-21 10.7	1.479	1.971	29.7	21.2	103 W	23*	85	4 21	19 44.03	+1 34.7	2.787	3.004	19.5	21.3	93 W	44*	62
5 1	19 29.46	-21 20.2	1.348	1.940	29.2	21.0	110 W	23*	85	5 1	19 48.84	+2 43.3	2.630	2.977	19.5	21.2	100 W	46*	61
5 11	19 41.20	-21 37.9	1.225	1.910	28.1	20.7	117 W	23*	86	5 11	19 51.82	+3 49.9	2.478	2.948	19.0	21.0	108 W	48*	60
5 21	19 50.73	-22 7.9	1.110	1.880	26.3	20.4	125 W	23*	86	5 21	19 52.74	+4 51.7	2.332	2.919	18.2	20.8	116 W	50*	59
5 31	19 57.54	-22 54.4	1.006	1.851	23.7	20.1	133 W	22	87	5 31	19 51.41	+5 44.7	2.197	2.888	16.9	20.6	124 W	51	58
6 10	20 1.18	-24 0.8	0.914	1.822	20.2	19.7	142 W	21	88	6 10	19 47.76	+6 24.6	2.074	2.857	15.3	20.4	132 W	51	58
6 20	20 1.22	-25 28.0	0.836	1.795	15.8	19.3	151 W	20	89	6 20	19 41.84	+6 46.7	1.969	2.825	13.3	20.2	140 W	52	57
6 25	19 59.81	-26 18.7	0.803	1.782	13.3	19.2	156 W	19	90	6 30	19 33.92	+6 46.1	1.884	2.791	11.5	20.0	147 W	52	57
6 30	19 57.51	-27 13.0	0.775	1.769	10.6	19.0	161 W	18	89	7 10	19 24.60	+6 19.4	1.821	2.757	10.2	19.9	151 W	51	58
7 5	19 54.38	-28 9.6	0.752	1.756	8.0	18.8	166 W	17	88	7 20	19 14.67	+5 25.5	1.783	2.722	10.2	19.8	152 E	50	59
7 10	19 50.54	-29 6.9	0.734	1.744	5.9	18.6	170 W	16	87	7 30	19 5.12	+4 6.4	1.771	2.686	11.6	19.8	148 E	49	60
7 15	19 46.18	-30 3.2	0.720	1.732	5.1	18.5	171 W	15	86	8 4	19 0.79	+3 18.9	1.774	2.667	12.7	19.8	145 E	48	61
7 20	19 41.51	-30 56.4	0.712	1.721	6.4	18.5	169 E	14	85	8 9	18 56.90	+2 27.2	1.783	2.649	13.9	19.9	141 E	47	62
7 25	19 36.83	-31 45.1	0.709	1.710	9.0	18.6	165 E	13	84	8 14	18 53.54	+1 32.1	1.797	2.630	15.2	19.9	137 E	47	62
7 30	19 32.44	-32 27.7	0.710	1.699	11.9	18.7	160	13	84	8 19	18 50.78	+0 34.5	1.816	2.611	16.5	20.0	133 E	46	63
8 4	19 28.61	-33 3.4	0.716	1.689	14.9	18.8	155 E	12	83	8 24	18 48.68	+0 24.7	1.840	2.591	17.8	20.0	128 E	45	64
8 9	19 25.58	-33 31.8	0.726	1.680	17.9	19.0	149 E	11	82	8 29	18 47.28	-1 24.6	1.868	2.572	19.0	20.1	124 E	44	65
8 14	19 23.54	-33 52.8	0.739	1.671	20.6	19.1	144 E	11	82	9 3	18 46.59	-2 24.4	1.899	2.552	20.1	20.1	120 E	43	66
8 19	19 22.64	-34 6.5	0.757	1.663	23.2	19.2	140 E	11	82	9 8	18 46.62	-3 23.5	1.934	2.532	21.1	20.2	115 E	42	67
8 24	19 22.98	-34 13.3	0.777	1.655	25.5	19.3	135 E	11	82	9 18	18 48.81	-5 17.5	2.010	2.492	22.7	20.3	107 E	40	69
8 29	19 24.59	-34 13.8	0.800	1.648	27.6	19.4	131 E	11	82	9 28	18 53.74	-7 3.0	2.093	2.450	23.9	20.4	98 E	38	71
9 3	19 27.45	-34 8.3	0.825	1.641	29.5	19.5	127 E	11	82	10 8	19 1.19	-8 37.6	2.180	2.408	24.5	20.4	91 E	36*	71*
9 8	19 31.49	-33 57.3	0.853	1.635	31.1	19.7	123 E	11	82	10 18	19 10.93	-10 0.0	2.266	2.366	24.7	20.5	83 E	35*	67*
9 13	19 36.64	-33 41.1	0.882	1.630	32.6	19.8	119 E	11	82	10 28	19 22.73	-11 9.1	2.350	2.323	24.5	20.5	76 E	33*	62*
9 18	19 42.82	-33 19.7	0.913	1.626	33.8	19.9	116 E	12	83	11 7	19 36.34	-12 4.4	2.430	2.279	24.0	20.5	69 E	32*	56*
9 23	19 49.95	-32 53.4	0.945	1.622	34.8	20.0	113 E	12	83	11 17	19 51.55	-12 45.7	2.504	2.234	23.2	20.5	63 E	31*	49*
9 28	19 57.91	-32 22.3	0.979	1.619	35.7	20.1	110 E	13	84	11 27	20 8.18	-13 12.7	2.570	2.190	22.1	20.5	57 E	30*	42*
10 3	20 6.59	-31 46.5	1.014	1.617	36.3	20.2	107 E	13	84	12 7	20 26.04	-13 25.5	2.628	2.145	20.8	20.5	51 E	28*	36*
10 8	20 15.89	-31 6.1	1.050	1.615	36.9	20.2	104 E	14	85	12 17	20 44.98	-13 24.2	2.677	2.100	19.4	20.4	45 E	26*	30*
10 13	20 25.73	-30 21.0	1.087	1.614	37.3	20.3	101 E	15	86	12 27	21 4.88	-13 9.3	2.716	2.054	17.7	20.4	39 E	24*	24*
10 18	20 36.01	-29 31.4	1.125	1.614	37.6	20.4	99 E	15	86	1 6	21 25.60	-12 41.2	2.745	2.009	16.0	20.3	34 E	22*	19*
10 23	20 46.68	-28 37.4	1.164	1.615	37.8	20.5	97 E	16	87	1 16	21 47.07	-12 0.4	2.764	1.965	14.1	20.2	29 E	18*	15*
10 28	20 57.64	-27 39.1	1.204	1.616	37.8	20.6	94 E	17	88*	206253 2002 XM₆₃									
11 2	21 8.83	-26 36.8	1.244	1.618	37.8	20.6	92 E	18	86*	4 11	19 41.62	-17 30.4	1.923	2.123	28.1	21.5	87 W	24*	78*
11 7	21 20.19	-25 30.6	1.286	1.621	37.7	20.7	90 E	19	83*	4 21	19 56.71	-16 50.8	1.774	2.087	28.7	21.3	93 W	25*	81*
11 12	21 31.68	-24 20.7	1.328	1.624	37.5	20.8	88 E	21	80*	5 1	20 10.67	-16 10.5	1.628	2.051	29.0	21.1	99 W	26*	80
11 17	21 43.25	-23 7.4	1.372	1.628	37.3	20.9	86 E	22	77*	5 11	20 23.29	-15 32.3	1.486	2.014	28.8	20.8	106 W	26*	80
11 22	21 54.89	-21 50.9	1.416	1.633	36.9	20.9	84 E	23	74*	5 21	20 34.29	-14 59.1	1.349	1.977	28.1	20.6	113 W	29*	79
11 27	22 6.54	-20 31.6	1.461	1.639	36.6	21.0	82 E	24	71*	5 31	20 43.32	-14 34.6	1.220	1.940	26.8	20.3	120 W	30*	79
12 2	22 18.20	-19 9.8	1.507	1.645	36.1	21.0	80 E	26	68*	6 10	20 50.03	-14 22.8	1.099	1.903	24.8	19.9	128 W	31	78
12 7	22 29.83	-17 45.8	1.553	1.652	35.6	21.1	78 E	27	65*	6 20	20 53.95	-14 28.4	0.989	1.866	21.8	19.6	137 W	31	78
12 12	22 41.43	-16 20.0	1.600	1.659	35.1	21.2	76 E	29	62*	6 30	20 54.65	-14 55.8	0.893	1.829	17.9	19.2	146 W	30	79
12 17	22 52.99	-14 52.5	1.648	1.667	34.5	21.2	74 E	30	59*	7 10	20 51.93	-15 47.4	0.812	1.792	12.9	18.8	157 W	29	80
12 22	23 4.51	-13 23.8	1.697																

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°	
206253 2002 XM₆₃ (continuation)									243100 2007 RQ₃₁									
10 13	20 47.01	-24 3.2	0.874	1.514	38.9	19.4	108 E	21 88	4 11	19 55.59	-15 11.1	1.496	1.702	35.8	21.4	83 W	25*	75*
10 18	20 55.92	-23 37.3	0.901	1.505	39.8	19.4	105 E	21 88	4 21	20 18.19	-13 13.8	1.397	1.683	36.6	21.2	87 W	27*	76*
10 23	21 5.56	-23 5.1	0.928	1.498	40.5	19.5	102 E	22 87	5 1	20 39.70	-11 4.7	1.301	1.665	37.2	21.1	91 W	29*	75*
10 28	21 15.83	-22 26.7	0.957	1.491	41.1	19.6	100 E	23 86	5 11	20 59.93	-8 46.8	1.211	1.651	37.5	20.9	96 W	32*	73
11 2	21 26.65	-21 42.2	0.985	1.485	41.5	19.7	97 E	23 86*	5 21	21 18.70	-6 23.3	1.125	1.638	37.5	20.7	100 W	34*	70
11 7	21 37.91	-20 51.9	1.015	1.481	41.8	19.7	95 E	24 84*	5 31	21 35.73	-3 58.3	1.045	1.629	37.0	20.6	105 W	38*	68
11 12	21 49.56	-19 55.8	1.045	1.477	42.0	19.8	93 E	25 82*	6 10	21 50.75	-1 36.3	0.970	1.622	36.1	20.4	110 W	41*	66
11 17	22 1.54	-18 54.3	1.076	1.474	42.1	19.8	91 E	26 79*	6 15	21 57.40	-0 27.9	0.934	1.620	35.5	20.3	112 W	43*	64
11 22	22 13.79	-17 47.6	1.107	1.473	42.1	19.9	89 E	27 76*	6 20	22 3.40	+0 37.6	0.900	1.619	34.6	20.1	115 W	45*	63
11 27	22 26.24	-16 36.2	1.139	1.472	42.0	20.0	87 E	28 73*	6 25	22 8.70	+1 39.5	0.867	1.618	33.6	20.0	118 W	46*	62
12 2	22 38.85	-15 20.3	1.172	1.472	41.9	20.0	86 E	30 71*	6 30	22 13.26	+2 36.9	0.837	1.618	32.5	19.9	121 W	48*	61
12 7	22 51.58	-14 0.5	1.206	1.474	41.7	20.1	84 E	31 68*	7 5	22 17.03	+3 28.9	0.808	1.619	31.1	19.8	125 W	48	61
12 12	23 4.40	-12 37.2	1.241	1.476	41.4	20.1	82 E	32 65*	7 10	22 19.96	+4 14.7	0.781	1.620	29.6	19.7	128 W	49	60
12 17	23 17.29	-11 10.8	1.276	1.479	41.0	20.2	81 E	34 62*	7 15	22 22.02	+4 53.2	0.756	1.623	27.8	19.6	132 W	50	59
12 22	23 30.23	-9 41.9	1.313	1.484	40.6	20.2	79 E	35 59*	7 20	22 23.17	+5 23.3	0.734	1.625	25.8	19.5	136 W	50	59
12 27	23 43.20	-8 10.9	1.350	1.489	40.2	20.3	78 E	37 57*	7 25	22 23.41	+5 44.2	0.714	1.629	23.6	19.3	140 W	51	58
1 1	23 56.18	-6 38.5	1.388	1.495	39.7	20.4	76 E	38 54*	7 30	22 22.80	+5 54.9	0.698	1.634	21.2	19.2	144 W	51	58
1 6	0 9.16	+5 5.0	1.428	1.502	39.1	20.4	75 E	40 52*	8 9	22 19.31	+5 44.7	0.674	1.645	16.1	19.0	153 W	51	58
1 11	0 22.15	+3 31.1	1.468	1.511	38.5	20.5	73 E	41* 49*	8 19	22 13.66	+4 52.6	0.667	1.658	11.1	18.8	162 W	50	59
1 16	0 35.15	+1 57.0	1.510	1.520	37.9	20.5	72 E	43* 47*	8 29	22 7.40	+3 25.9	0.676	1.674	8.4	18.8	166 E	48	61
468910 2014 KQ₇₆									237616 2001 RN₄									
4 11	19 43.27	+25 17.5	0.113	0.991	92.6	20.0	81 W	63* 38*	9 3	22 4.60	+2 34.2	0.688	1.683	8.9	18.8	165 E	48	61
4 13	19 16.68	+25 53.2	0.111	1.005	85.5	19.7	88 W	67* 38	9 8	22 2.26	+1 39.7	0.705	1.693	10.4	18.9	162 E	47	62
4 15	18 49.57	+26 10.8	0.111	1.020	78.4	19.5	95 W	70* 38	9 13	22 0.54	+0 44.5	0.726	1.703	12.5	19.1	159 E	46	63
4 17	18 22.52	+26 9.0	0.112	1.034	71.4	19.3	102 W	71 38	9 18	21 59.55	-0 9.4	0.752	1.713	14.8	19.3	154 E	45	64
4 19	17 56.11	+25 48.2	0.115	1.048	64.7	19.2	109 W	71 38	9 23	21 59.39	-1 0.2	0.782	1.724	17.1	19.5	150 E	44	65
4 21	17 30.89	+25 10.2	0.118	1.062	58.4	19.1	116 W	70 39	9 28	22 0.08	-1 46.6	0.816	1.736	19.2	19.6	145 E	43	66
4 23	17 7.25	+24 18.0	0.122	1.075	52.5	19.0	122 W	69 40	10 3	22 1.62	-2 27.5	0.854	1.748	21.2	19.8	141 E	43	66
4 25	16 45.47	+23 14.8	0.128	1.089	47.2	19.0	127 W	68 41	10 8	22 3.98	-3 2.5	0.896	1.760	23.0	20.0	136 E	42	67
4 27	16 25.67	+22 4.1	0.134	1.102	42.4	19.0	132 W	67 42	10 18	22 10.97	-3 53.3	0.989	1.786	26.0	20.3	128 E	41	68
4 29	16 7.86	+20 48.9	0.142	1.114	38.3	19.0	137 W	66 43	10 28	22 20.64	-4 18.4	1.094	1.813	28.2	20.6	121 E	41	68
5 1	15 51.97	+19 31.8	0.150	1.127	34.7	19.1	140 W	65 44	11 7	22 32.44	-4 19.5	1.208	1.841	29.6	20.9	113 E	41	68
5 3	15 37.86	+18 14.7	0.159	1.139	31.9	19.1	143 W	63 46	11 17	22 45.92	-3 59.4	1.331	1.870	30.4	21.2	107 E	41	68
5 5	15 25.39	+16 58.8	0.168	1.151	29.7	19.2	146 W	62 47	11 27	23 0.70	-3 20.9	1.460	1.900	30.7	21.4	100 E	42	67*
5 7	15 14.39	+15 45.1	0.179	1.163	28.1	19.3	147 W	61 48	237616 2001 RN₄									
5 9	15 4.70	+14 34.0	0.190	1.175	27.0	19.5	148 W	60 49	4 11	19 56.79	-17 43.9	1.697	1.872	32.1	21.4	84 W	23*	76*
5 11	14 56.19	+13 25.9	0.201	1.186	26.5	19.6	148 E	58 51	4 21	20 16.60	-16 24.7	1.576	1.846	33.0	21.2	88 W	24*	79*
5 16	14 39.19	+10 48.5	0.232	1.213	26.7	20.0	147 E	56 53	5 1	20 35.42	-14 58.2	1.458	1.821	33.5	21.0	93 W	26*	79
5 21	14 27.13	+8 28.1	0.266	1.239	28.3	20.3	145 E	53 56	5 11	20 53.10	-13 26.5	1.344	1.797	33.8	20.8	99 W	28*	77
5 26	14 18.83	+6 21.9	0.303	1.263	30.4	20.7	141 E	51 58	5 21	21 9.43	-11 51.9	1.235	1.774	33.6	20.6	104 W	30*	76
5 31	14 13.48	+4 27.4	0.342	1.285	32.5	21.1	137 E	49 60	5 31	21 24.14	-10 17.7	1.131	1.753	33.0	20.4	110 W	33*	74
6 5	14 10.43	+2 42.4	0.382	1.306	34.6	21.4	133 E	48 61	6 10	21 36.93	-8 47.2	1.033	1.733	31.9	20.1	116 W	35*	73
48468 1991 SS₁									6 20	21 47.44	-7 24.6	0.943	1.715	30.1	19.8	122 W	37*	71
4 11	19 48.50	-26 4.9	2.370	2.525	23.3	21.5	87 W	15* 81*	6 30	21 55.22	-6 14.7	0.862	1.699	27.6	19.6	129 W	39	70
4 21	20 0.55	-26 0.1	2.204	2.487	23.8	21.3	94 W	16* 88*	7 10	21 59.92	-5 22.8	0.790	1.685	24.1	19.2	137 W	40	69
5 1	20 11.18	-25 59.8	2.039	2.448	23.8	21.1	101 W	17* 90	7 20	22 1.22	-4 54.1	0.730	1.673	19.7	18.9	146 W	40	69
5 11	20 20.13	-26 6.2	1.879	2.408	23.4	20.9	109 W	18* 90	7 30	21 59.12	-4 52.5	0.685	1.664	14.4	18.6	156 W	40	69
5 21	20 27.07	-26 21.7	1.726	2.367	22.4	20.6	117 W	18* 90	8 9	21 54.26	-5 18.6	0.655	1.657	8.6	18.3	166 W	40	69
5 31	20 31.56	-26 48.2	1.582	2.325	20.7	20.4	126 W	18* 89	8 14	21 51.12	-5 40.8	0.646	1.654	5.8	18.1	170 W	39	70
6 10	20 33.22	-27 27.0	1.450	2.283	18.4	20.0	135 W	18 89	8 19	21 47.77	-6 8.0	0.643	1.652	4.2	18.0	173 E	39	70
6 20	20 31.61	-28 18.0	1.333	2.240	15.2	19.7	145 W	17 88	8 24	21 44.45	-6 38.7	0.644	1.651	5.0	18.1	172 E	38	71
6 30	20 26.48	-29 18.4	1.235	2.197	11.4	19.4	155 W	16 87	8 29	21 41.41	-7 11.2	0.649	1.650	7.5	18.2	168 E	38	71
7 5	20 22.62	-29 50.3	1.193	2.175	9.4	19.2	160 W	15 86	9 3	21 38.85	-7 44.1	0.659	1.650	10.5	18.3	163 E	37	72
7 10	20 17.97	-30 22.2	1.157	2.154	7.4	19.0	164 W	15 86	9 8	21 36.94	-8 15.8	0.674	1.650	13.5	18.5	158 E	37	72
7 15	20 12.62	-30 52.7	1.127	2.132	5.8	18.9	168 W	14 85	9 13	21 35.82	-8 45.1	0.692	1.651	16.3	18.7	153 E	36	73
7 20	20 6.72	-31 20.7	1.103	2.110	5.2	18.8	169 W	14 85	9 18	21 35.60	-9 10.9	0.715	1.653	19.0	18.8	148 E	36	73
7 25	20 0.48	-31 45.0	1.085	2.088	6.1	18.8	167 E	13 84	9 23	21 36.34	-9 32.2	0.741	1.656	21.5	19.0	143 E	35	74
7 30	19 54.13	-32 4.5	1.073	2.066	8.1	18.8	163 E	13 84	9 28	21 38.05	-9 48.5	0.771	1.659	23.7	19.1	138 E	35	74
8 4	19 47.93	-32 18.6	1.066	2.044	10.6	18.9	158 E	13 84	10 8	21 44.24	-10 4.8	0.839	1.667	27.4	19.5	130 E	35	74
8 9	19 42.12	-32 27.0	1.065	2.021	13.2	18.9	153 E	13 84	10 18	21 53.74	-9 58.9	0.918	1.677	30.1	19.7	122 E	35	74
8 14	19 36.91	-32 29.5	1.069	1.999	15.8	19.0	148 E	13 84	10 28	22 6.04	-9 31.5	1.005	1.690	32.1	20.0	115 E	35	74
8 19	19 32.51	-32 26.4	1.078	1.977	18.3	19.1	142 E	13 84	11 7	22 20.53	-8 44.5	1.101	1.704	33.3	20.3	109 E	36	73
8 24	19 29.09	-32 18.2	1.091	1.956	20.7	19.2	137 E	13 84	11 17	22 36.68	-7 40.0	1.203	1.721	34.0	20.5	103 E	37	72*
8 29	19 26.76	-32 5.4	1.107	1.934	22.9													

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°	
271480 2004 FX₃₁ (continuation)									329502 2002 RM₁₃₇									
6 15	20 38.89	+20 55.5	1.082	1.788	30.4	20.3	117 W	66 43	4 11	20 28.56	-1 9.2	2.565	2.464	22.9	21.5	73 W	35*	58*
6 20	20 35.66	+21 47.5	1.037	1.780	29.6	20.2	120 W	67 42	4 21	20 41.38	-0 1.1	2.415	2.430	23.9	21.4	79 W	37*	61*
6 25	20 31.23	+22 30.9	0.994	1.771	28.6	20.1	124 W	68 41	5 1	20 53.27	+1 7.7	2.264	2.396	24.8	21.2	85 W	39*	63*
6 30	20 25.59	+23 3.7	0.953	1.761	27.6	20.0	127 W	68 41	5 11	21 4.06	+2 14.7	2.112	2.361	25.3	21.1	91 W	41*	62
7 5	20 18.78	+23 23.5	0.915	1.750	26.5	19.8	130 W	68 41	5 21	21 13.58	+3 17.5	1.960	2.325	25.6	20.9	98 W	44*	61
7 10	20 10.87	+23 28.1	0.881	1.737	25.6	19.7	133 W	68 41	5 31	21 21.58	+4 12.7	1.811	2.289	25.4	20.7	105 W	47*	60
7 15	20 1.98	+23 14.9	0.849	1.724	24.7	19.6	135 W	68 41	6 10	21 27.82	+4 56.0	1.666	2.253	24.7	20.4	112 W	49*	59
7 20	19 52.35	+22 42.0	0.822	1.710	24.1	19.5	137 E	68 41	6 15	21 30.18	+5 11.7	1.596	2.234	24.2	20.3	116 W	50*	59
7 25	19 42.26	+21 47.9	0.800	1.695	23.8	19.4	138 E	67 42	6 20	21 31.99	+5 22.4	1.528	2.216	23.5	20.2	120 W	50*	59
7 30	19 32.07	+20 32.3	0.782	1.678	24.0	19.3	138 E	66 43	6 25	21 33.20	+5 27.2	1.462	2.198	22.6	20.0	124 W	50	59
8 4	19 22.14	+18 56.1	0.768	1.661	24.6	19.3	137 E	64 45	6 30	21 33.79	+5 25.3	1.399	2.179	21.5	19.9	128 W	50	59
8 9	19 12.80	+17 1.0	0.760	1.642	25.8	19.3	135 E	62 47	7 5	21 33.72	+5 15.8	1.339	2.161	20.3	19.7	133 W	50	59
8 14	19 4.34	+14 50.0	0.756	1.623	27.3	19.3	133 E	60 49	7 10	21 32.99	+4 57.7	1.282	2.142	18.8	19.6	137 W	50	59
8 19	18 57.03	+12 26.5	0.756	1.602	29.2	19.3	129 E	57 52	7 15	21 31.57	+4 30.0	1.229	2.124	17.2	19.4	142 W	49	60
8 24	18 51.03	+9 54.2	0.761	1.581	31.3	19.3	126 E	55 54	7 20	21 29.47	+3 51.9	1.180	2.105	15.3	19.2	147 W	49	60
8 29	18 46.44	+7 17.1	0.769	1.558	33.4	19.4	122 E	52 57	7 30	21 23.44	+2 2.2	1.097	2.068	11.3	18.9	157 W	47	62
9 3	18 43.29	+4 38.6	0.780	1.535	35.6	19.5	118 E	50 59	8 9	21 15.56	-0 32.2	1.036	2.031	7.6	18.6	165 E	44	65
9 8	18 41.56	+2 1.2	0.794	1.510	37.8	19.5	113 E	47 62	8 19	21 6.89	-3 44.5	0.999	1.995	7.4	18.4	165 E	41	68
9 13	18 41.21	-0 33.0	0.810	1.484	39.8	19.6	109 E	44 65	8 24	21 2.71	-5 30.4	0.991	1.977	9.1	18.5	162 E	39	70
9 18	18 42.19	-3 2.3	0.827	1.457	41.8	19.6	105 E	42 67	8 29	20 58.90	-7 19.6	0.989	1.959	11.5	18.5	157 E	38	71
9 23	18 44.44	-5 25.7	0.845	1.429	43.6	19.7	101 E	40 69	9 3	20 55.62	-9 9.5	0.992	1.942	14.1	18.6	152 E	36	73
9 28	18 47.88	-7 42.7	0.864	1.400	45.3	19.7	97 E	37 72*	9 8	20 53.04	-10 57.6	1.002	1.924	16.8	18.7	147 E	34	75
10 8	18 58.00	-11 56.1	0.899	1.339	48.3	19.8	90 E	33* 74*	9 13	20 51.26	-12 41.9	1.016	1.907	19.4	18.8	141 E	32	77
10 18	19 12.05	-15 42.8	0.931	1.274	50.9	19.9	83 E	29* 71*	9 18	20 50.41	-14 20.6	1.036	1.890	21.8	18.9	136 E	31	78
10 28	19 29.63	-19 4.4	0.955	1.205	53.3	19.9	76 E	26* 67*	9 23	20 50.53	-15 52.3	1.059	1.873	24.0	19.0	131 E	29	80
11 2	19 39.63	-20 36.6	0.963	1.170	54.4	19.8	73 E	24* 65*	9 28	20 51.67	-17 16.0	1.086	1.857	26.1	19.1	126 E	28	81
11 7	19 50.38	-22 3.4	0.968	1.133	55.6	19.8	71 E	23* 62*	10 8	20 56.96	-19 37.7	1.148	1.825	29.4	19.3	116 E	25	84
11 12	20 1.85	-23 25.3	0.970	1.096	56.8	19.8	68 E	21* 60*	10 18	21 6.06	-21 24.4	1.218	1.795	31.9	19.5	108 E	24	85
11 17	20 14.03	-24 42.6	0.969	1.059	58.2	19.8	65 E	20* 58*	10 28	21 18.60	-22 36.9	1.293	1.766	33.6	19.6	100 E	22	87
11 27	20 40.35	-27 4.9	0.955	0.984	61.2	19.6	61 E	17* 53*	11 2	21 26.00	-23 0.9	1.332	1.752	34.2	19.7	97 E	22	87*
12 7	21 8.96	-29 13.8	0.923	0.909	65.1	19.5	57 E	15* 50*	11 7	21 34.06	-23 17.2	1.370	1.739	34.7	19.7	93 E	22	85*
12 17	21 39.41	-31 13.1	0.873	0.839	70.1	19.4	53 E	13* 46*	11 12	21 42.73	-23 26.1	1.409	1.727	35.0	19.8	90 E	22	83*
12 22	21 55.07	-32 10.7	0.840	0.807	73.3	19.3	52 E	11* 45*	11 17	21 51.95	-23 27.7	1.447	1.715	35.2	19.8	87 E	22	79*
12 27	22 10.80	-33 7.8	0.803	0.778	76.9	19.3	50 E	10* 44*	11 22	22 1.66	-23 22.5	1.485	1.704	35.2	19.9	85 E	22	76*
1 1	22 26.36	-34 5.3	0.761	0.753	81.0	19.2	49 E	9* 43*	11 27	22 11.81	-23 10.5	1.523	1.693	35.2	19.9	82 E	22	73*
1 6	22 41.47	-35 3.4	0.714	0.732	85.7	19.2	48 E	8* 42*	12 2	22 22.34	-22 52.3	1.560	1.683	35.1	19.9	79 E	22	70*
1 11	22 55.78	-36 2.6	0.664	0.716	90.8	19.2	47 E	6* 41*	12 7	22 33.20	-22 28.0	1.596	1.674	35.0	20.0	77 E	23	67*
1 16	23 8.84	-37 2.8	0.610	0.707	96.4	19.2	46 E	4* 40*	12 12	22 44.35	-21 58.0	1.632	1.665	34.7	20.0	74 E	23	64*
279823 2000 RD₈									12 17	22 55.77	-21 22.4	1.668	1.657	34.4	20.0	72 E	24	62*
4 11	20 26.84	-36 50.1	2.811	2.844	20.4	21.4	82 W	3* 70*	12 22	23 7.41	-20 41.7	1.702	1.650	34.1	20.1	70 E	24	59*
4 21	20 37.11	-36 39.1	2.665	2.831	20.8	21.3	89 W	4* 76*	12 27	23 19.25	-19 56.1	1.736	1.644	33.7	20.1	68 E	25*	57*
5 1	20 45.47	-36 34.3	2.518	2.817	20.8	21.2	97 W	5* 79*	1 1	23 31.24	-19 6.0	1.769	1.639	33.3	20.1	66 E	26*	54*
5 11	20 51.65	-36 36.5	2.372	2.802	20.4	21.0	105 W	6* 79	1 6	23 43.38	-18 11.8	1.801	1.634	32.8	20.1	64 E	27*	52*
5 21	20 55.29	-36 46.5	2.231	2.786	19.5	20.9	113 W	7* 79	1 11	23 55.63	-17 13.6	1.833	1.630	32.3	20.1	62 E	27*	50*
5 31	20 56.00	-37 3.9	2.098	2.769	18.1	20.7	122 W	7* 79	1 16	0 8.00	-16 12.0	1.865	1.628	31.8	20.2	61 E	28*	48*
6 10	20 53.44	-37 26.6	1.976	2.752	16.2	20.5	131 W	8* 79	380665 2005 EF₂₂₄									
6 20	20 47.35	-37 50.9	1.870	2.733	13.6	20.2	141 W	7 78	4 11	20 33.66	-43 9.3	2.663	2.718	21.4	21.4	82 W	-	66*
6 25	20 42.97	-38 1.8	1.824	2.723	12.2	20.1	145 W	7 78	4 21	20 48.47	-43 42.5	2.510	2.686	22.0	21.3	89 W	-	69*
6 30	20 37.75	-38 10.6	1.784	2.713	10.8	20.0	150 W	7 78	5 1	21 1.95	-44 25.4	2.358	2.652	22.2	21.1	96 W	-	71*
7 5	20 31.77	-38 16.3	1.749	2.703	9.3	19.9	155 W	7 78	5 11	21 13.81	-45 19.8	2.209	2.618	22.1	21.0	102 W	-	71
7 10	20 25.13	-38 18.0	1.721	2.692	8.0	19.8	158 W	7 78	5 21	21 23.68	-46 27.8	2.065	2.582	21.7	20.8	109 W	-	70
7 15	20 17.99	-38 14.8	1.699	2.681	7.0	19.7	161 W	7 78	5 31	21 31.03	-47 50.3	1.929	2.545	21.0	20.6	116 W	-	68
7 20	20 10.52	-38 6.0	1.684	2.670	6.6	19.7	162 W	7 78	6 10	21 35.25	-49 27.0	1.804	2.507	19.8	20.4	123 W	-	67
7 25	20 2.92	-37 51.0	1.676	2.659	7.0	19.7	162 E	7 78	6 15	21 35.95	-50 19.9	1.746	2.487	19.2	20.3	126 W	-	66
7 30	19 55.43	-37 29.9	1.675	2.648	7.9	19.7	159 E	8 79	6 20	21 35.57	-51 15.0	1.691	2.467	18.5	20.2	130 W	-	65
8 4	19 48.24	-37 2.7	1.681	2.636	9.3	19.8	155 E	8 79	6 25	21 34.00	-52 11.4	1.641	2.447	17.8	20.0	133 W	-	64
8 9	19 41.55	-36 30.0	1.694	2.624	10.9	19.8	151 E	9 80	6 30	21 31.14	-53 7.8	1.594	2.427	17.1	19.9	136 W	-	63
8 14	19 35.50	-35 52.6	1.712	2.612	12.6	19.9	146 E	9 80	7 5	21 26.95	-54 2.6	1.552	2.406	16.4	19.8	138 W	-	62
8 19	19 30.22	-35 11.1	1.737	2.600	14.3	20.0	141 E	10 81	7 10	21 21.37	-54 54.0	1.515	2.385	15.9	19.8	140 W	-	61
8 24	19 25.82	-34 26.6	1.767	2.587	15.9	20.1	136 E	11 82	7 15	21 14.42	-55 40.1	1.482	2.364	15.5	19.7	141 W	-	60
8 29	19 22.32	-33 39.9	1.801	2.575	17.3	20.1	131 E	11 82	7 20	21 6.21	-56 18.5	1.455	2.342	15.4	19.6	142 W	-	60
9 8	19 18.12	-32 2.8	1.882	2.548	19.9	20.3	121 E	13 84	7 25	20 56.92	-56 47.2	1.433	2.321	15.6	19.6	142 W	-	59
9 18	19 17.48	-30 24.4	1.976	2.521	21.8	20.4	111 E	15 86	7 30	20 46.89	-57 4.4	1.416	2.298	16.0				

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°
380665 2005 EF₂₂₄									464764 2003 US₂₀								
<i>(continuation)</i>									<i>(continuation)</i>								
10 13	19 57.30	-42 12.8	1.618	1.942	30.9	19.9	93 E	3 74	11 17	23 37.64	-6 24.8	1.226	1.897	27.5	20.7	117 E	39 70
10 18	20 2.99	-40 42.7	1.646	1.918	31.3	19.9	90 E	4 75*	11 27	23 45.65	-4 18.4	1.351	1.927	28.7	20.9	110 E	41 68
10 23	20 9.36	-39 11.6	1.674	1.893	31.6	20.0	86 E	6 75*	12 7	23 55.70	-2 10.1	1.483	1.958	29.3	21.2	103 E	43 66*
10 28	20 16.32	-37 39.6	1.702	1.868	31.9	20.0	83 E	7 75*	12 17	0 7.39	-0 0.8	1.621	1.989	29.4	21.4	96 E	45 61*
11 2	20 23.79	-36 6.4	1.729	1.843	32.1	20.0	80 E	9 73*	360658 2004 RS₅₄								
11 7	20 31.72	-34 31.8	1.756	1.818	32.1	20.0	77 E	10 71*	4 11	20 48.06	-13 0.8	1.780	1.727	33.2	21.4	70 W	22* 63*
11 17	20 48.72	-31 18.2	1.808	1.769	32.1	20.0	72 E	14 66*	4 21	21 12.36	-11 19.8	1.677	1.702	34.6	21.3	74 W	23* 66*
11 27	21 6.99	-27 57.3	1.856	1.720	31.7	20.0	66 E	17* 59*	5 1	21 36.29	-9 31.3	1.577	1.679	35.9	21.2	78 W	24* 68*
12 7	21 26.21	-24 28.2	1.900	1.672	31.2	19.9	62 E	20* 53*	5 11	21 59.80	-7 37.9	1.480	1.659	37.0	21.0	81 W	26* 69*
12 17	21 46.22	-20 49.8	1.939	1.625	30.5	19.9	57 E	23* 46*	5 21	22 22.83	-5 42.2	1.387	1.640	37.9	20.9	85 W	28* 69*
12 27	22 6.90	-17 1.8	1.973	1.580	29.6	19.9	52 E	26* 39*	5 31	22 45.28	-3 47.4	1.297	1.624	38.6	20.8	88 W	31* 68
1 6	22 28.17	-13 4.2	2.003	1.538	28.6	19.8	48 E	28* 33*	6 10	23 7.05	-1 57.0	1.212	1.611	39.0	20.6	92 W	34* 66
1 16	22 50.04	-8 57.1	2.028	1.498	27.5	19.7	45 E	29* 28*	6 20	23 27.98	-0 14.5	1.130	1.601	39.1	20.4	96 W	38* 64
190677 2001 BQ₆₁									6 30	23 47.82	+1 15.9	1.052	1.593	38.8	20.3	101 W	41* 63
4 11	20 43.44	+5 50.6	3.784	3.537	15.3	21.5	68 W	39* 51*	7 10	0 6.30	+2 30.2	0.979	1.589	38.1	20.1	105 W	45* 61
4 21	20 50.49	+6 58.7	3.646	3.527	16.0	21.4	75 W	41* 54*	7 20	0 23.01	+3 24.2	0.910	1.587	36.7	19.9	111 W	48* 61
5 1	20 56.34	+8 6.9	3.503	3.515	16.5	21.3	82 W	45* 56*	7 30	0 37.42	+3 53.3	0.847	1.589	34.7	19.7	117 W	49 60
5 11	21 0.84	+9 13.7	3.357	3.503	16.8	21.2	90 W	48* 55	8 9	0 49.02	+3 54.0	0.789	1.594	31.9	19.5	124 W	49 60
5 21	21 3.84	+10 17.0	3.210	3.490	16.7	21.1	97 W	51* 54	8 19	0 57.19	+3 23.5	0.740	1.602	28.2	19.2	132 W	48 61
5 31	21 5.17	+11 14.4	3.067	3.476	16.3	21.0	105 W	55* 53	8 29	1 1.42	+2 21.0	0.700	1.613	23.4	19.0	141 W	47 62
6 10	21 4.72	+12 3.1	2.929	3.461	15.6	20.9	113 W	57* 52	9 3	1 2.01	+1 38.9	0.684	1.620	20.7	18.8	145 W	47 62
6 20	21 2.39	+12 39.7	2.801	3.445	14.5	20.7	122 W	58* 51	9 8	1 1.61	+0 50.8	0.672	1.627	17.7	18.7	151 W	46 63
6 30	20 58.20	+13 0.8	2.687	3.429	13.1	20.6	130 W	58 51	9 13	1 0.27	-0 2.1	0.664	1.635	14.6	18.6	156 W	45 64
7 10	20 52.33	+13 2.8	2.589	3.411	11.6	20.4	138 W	58 51	9 18	0 58.11	-0 58.0	0.660	1.643	11.4	18.5	161 W	44 65
7 20	20 45.09	+12 43.0	2.513	3.393	10.0	20.3	145 W	58 51	9 23	0 55.30	-1 54.6	0.661	1.653	8.3	18.4	166 W	43 66
7 30	20 36.98	+12 0.0	2.460	3.374	8.8	20.2	149 E	57 52	9 28	0 52.06	-2 49.7	0.666	1.662	5.8	18.3	170 W	42 67
8 9	20 28.69	+10 54.8	2.432	3.354	8.5	20.1	151 E	56 53	10 3	0 48.61	-3 41.0	0.676	1.673	4.9	18.3	172 W	41 68
8 19	20 20.88	+9 30.3	2.432	3.333	9.3	20.2	148 E	55 54	10 8	0 45.18	-4 26.5	0.691	1.683	6.3	18.4	169 E	41 68
8 24	20 17.38	+8 42.4	2.441	3.322	10.0	20.2	145 E	54 55	10 13	0 41.98	-5 4.8	0.711	1.695	8.8	18.6	165 E	40 69
8 29	20 14.24	+7 51.8	2.457	3.311	10.8	20.2	142 E	53 56	10 18	0 39.22	-5 34.6	0.736	1.707	11.5	18.8	160 E	39 70
9 3	20 11.53	+6 59.2	2.479	3.300	11.8	20.3	138 E	52 57	10 28	0 35.61	-6 6.6	0.800	1.732	16.8	19.2	150 E	39 70
9 8	20 9.29	+6 5.4	2.506	3.289	12.7	20.3	134 E	51 58	11 7	0 35.06	-6 3.0	0.880	1.758	21.2	19.6	140 E	39 70
9 13	20 7.55	+5 11.2	2.539	3.277	13.6	20.4	130 E	50 59	11 17	0 37.69	-5 28.5	0.974	1.786	24.7	19.9	131 E	40 69
9 18	20 6.34	+4 17.2	2.576	3.265	14.5	20.4	126 E	49 60	11 22	0 40.15	-5 1.5	1.025	1.801	26.0	20.1	127 E	40 69
9 28	20 5.56	+2 32.6	2.664	3.241	16.0	20.5	117 E	48 61	11 27	0 43.29	-4 29.1	1.080	1.815	27.2	20.3	123 E	41 68
10 8	20 6.95	+0 55.6	2.763	3.216	17.2	20.7	108 E	46 63	12 2	0 47.08	-3 52.0	1.137	1.830	28.1	20.4	119 E	41 68
10 18	20 10.39	-0 31.0	2.872	3.190	17.9	20.7	99 E	44 64*	12 7	0 51.43	-3 11.0	1.196	1.846	28.9	20.6	115 E	42 67
10 28	20 15.74	-1 45.6	2.986	3.164	18.3	20.8	91 E	43 63*	12 12	0 56.32	-2 26.6	1.257	1.861	29.5	20.7	112 E	43 66
11 7	20 22.79	-2 47.3	3.100	3.136	18.3	20.9	83 E	42 59*	12 17	1 1.68	-1 39.4	1.320	1.877	29.9	20.9	108 E	43 66
11 17	20 31.33	-3 35.9	3.213	3.108	17.9	20.9	75 E	41* 52*	12 22	1 7.48	-0 49.9	1.385	1.892	30.2	21.0	105 E	44 65*
11 27	20 41.17	-4 11.6	3.320	3.078	17.2	21.0	67 E	40* 45*	12 27	1 13.67	+0 1.4	1.451	1.908	30.3	21.1	102 E	45 63*
12 7	20 52.12	-4 34.8	3.420	3.048	16.2	21.0	60 E	38* 38*	1 1	1 20.20	+0 54.1	1.518	1.924	30.4	21.2	98 E	46 61*
12 17	21 4.01	-4 46.2	3.511	3.017	15.0	21.0	53 E	36* 30*	1 6	1 27.05	+1 47.9	1.586	1.940	30.3	21.4	95 E	47 59*
12 27	21 16.70	-4 46.4	3.589	2.986	13.6	20.9	46 E	33* 23*	1 11	1 34.19	+2 42.3	1.655	1.956	30.2	21.5	92 E	48 57*
1 6	21 30.05	-4 36.4	3.655	2.953	12.0	20.9	39 E	29* 17*	522684 2016 JP								
1 16	21 43.95	-4 16.9	3.706	2.920	10.3	20.8	32 E	24* 11*	4 11	21 3.49	-8 37.0	0.100	0.965	108.8	20.1	66 W	24* 58*
464764 2003 US₂₀									4 13	20 39.16	-5 54.9	0.097	0.979	101.5	19.7	73 W	30* 62*
4 11	20 44.67	-26 8.9	1.717	1.747	33.6	21.4	75 W	11* 68*	4 15	20 13.84	-2 58.2	0.095	0.992	94.0	19.3	81 W	36* 64*
4 21	21 10.97	-25 14.0	1.617	1.727	34.8	21.3	79 W	11* 72*	4 17	19 47.95	+0 6.7	0.094	1.005	86.4	19.0	88 W	41* 64*
5 1	21 36.58	-24 10.8	1.520	1.709	35.8	21.1	82 W	11* 76*	4 19	19 21.94	+3 12.2	0.094	1.018	78.9	18.8	96 W	46* 61
5 11	22 1.33	-23 1.9	1.427	1.693	36.5	21.0	86 W	12* 80*	4 21	18 56.32	+6 10.3	0.096	1.031	71.6	18.6	103 W	51* 58
5 21	22 25.05	-21 50.0	1.339	1.680	37.0	20.9	90 W	14* 84*	4 22	18 43.80	+7 34.5	0.098	1.037	68.2	18.5	107 W	53* 56
5 31	22 47.49	-20 38.2	1.254	1.670	37.3	20.7	94 W	16* 85	4 23	18 31.55	+8 54.4	0.099	1.044	64.9	18.5	110 W	54 55
6 10	23 8.43	-19 29.4	1.173	1.662	37.2	20.6	99 W	18* 83	4 24	18 19.61	+10 9.5	0.102	1.050	61.7	18.4	113 W	55 54
6 20	23 27.56	-18 27.0	1.096	1.657	36.6	20.4	103 W	21* 82	4 25	18 8.01	+11 19.6	0.104	1.056	58.7	18.4	116 W	56 53
6 30	23 44.49	-17 34.0	1.024	1.656	35.6	20.2	108 W	24* 82	4 26	17 56.80	+12 24.3	0.107	1.062	55.8	18.4	119 W	57 52
7 10	23 58.81	-16 52.8	0.957	1.657	34.1	20.0	114 W	27* 81	4 27	17 46.00	+13 23.6	0.109	1.068	53.2	18.4	122 W	58 51
7 20	0 9.98	-16 25.3	0.896	1.661	31.8	19.8	121 W	28* 80	4 28	17 35.62	+14 17.6	0.113	1.074	50.7	18.4	124 W	59 50
7 30	0 17.41	-16 12.0	0.841	1.668	28.8	19.6	128 W	29 80	4 29	17 25.68	+15 6.3	0.116	1.080	48.4	18.4	127 W	60 49
8 9	0 20.63	-16 10.9	0.795	1.678	24.9	19.4	136 W	29 80	4 30	17 16.17	+15 50.0	0.120	1.086	46.3	18.4	129 W	61 48
8 14	0 20.54	-16 13.6	0.776	1.684	22.7	19.3	140 W	29 80	5 1	17 7.11	+16 28.8	0.123	1.092	44.4	18.5	131 W	61 48
8 19	0 19.31	-16 17.4	0.760	1.690	20.3	19.2	145 W	29 80	5 3	16 50.28	+17 33.2	0.132	1.104	41.1	18.5	134 W	63 46
8 24	0 16.97	-16 21.1	0.748	1.698	17.7	19.0	149 W	29 80	5 5	16 35.12	+18 21.7	0.141	1.115	38.4	18.6	137 W	63 46
8 29	0 13.64	-16 23.3	0.740	1.705	15.1	18.9	154 W	29 80	5 7	16 21.53	+18 56.8	0.150	1.126	36.3	18.7	139 W	64 45
9 3	0 9.47	-16 22.7	0.735	1.714	12.5	18.8	158 W	29 80	5 9	16 9.35	+19 20.7	0.160	1.13				

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°	
354408 2003 UR₂₀₅										168870 2000 WN₆ (continuation)										
4 11	21 17.07	-8 1.7	2.591	2.305	22.7	21.5	62 W	22*	54*	11 27	21 46.42	-39 50.6	2.862	2.723	20.2	21.0	72 E	5	65*	
4 21	21 33.64	-6 10.5	2.442	2.259	24.3	21.3	68 W	25*	59*	12 2	21 52.21	-38 55.7	2.907	2.709	19.8	21.0	69 E	6	62*	
5 1	21 49.85	-4 12.6	2.291	2.213	25.8	21.2	73 W	27*	62*	12 7	21 58.32	-37 59.7	2.950	2.695	19.4	21.0	65 E	7	59*	
5 11	22 5.68	-2 8.7	2.140	2.168	27.1	21.0	78 W	30*	64*	12 12	22 4.73	-37 2.7	2.991	2.680	19.0	21.0	62 E	8*	56*	
5 21	22 21.09	+0 0.6	1.990	2.122	28.3	20.9	83 W	33*	64*	12 17	22 11.42	-36 4.7	3.030	2.666	18.5	21.0	59 E	9*	53*	
5 31	22 35.99	+2 14.0	1.842	2.077	29.2	20.7	88 W	37*	62	12 22	22 18.34	-35 5.7	3.067	2.651	18.0	21.0	56 E	9*	50*	
6 10	22 50.32	+4 30.7	1.698	2.032	29.9	20.5	94 W	42*	59	12 27	22 25.48	-34 5.9	3.102	2.636	17.4	21.0	53 E	10*	47*	
6 20	23 3.97	+6 49.2	1.559	1.988	30.3	20.3	99 W	47*	57	1	1	22 32.80	-33 5.1	3.134	2.621	16.8	21.0	51 E	10*	44*
6 30	23 16.76	+9 7.7	1.425	1.945	30.4	20.0	104 W	52*	55	1 6	22 40.29	-32 3.5	3.163	2.605	16.2	21.0	48 E	10*	41*	
7 10	23 28.52	+11 23.8	1.298	1.903	30.2	19.8	110 W	56*	53	1 11	22 47.94	-31 1.1	3.190	2.589	15.6	20.9	45 E	10*	38*	
7 20	23 38.99	+13 34.7	1.179	1.862	29.4	19.5	116 W	59	50	1 16	22 55.73	-29 57.8	3.214	2.573	14.9	20.9	42 E	10*	36*	
7 25	23 43.62	+14 36.9	1.122	1.842	28.9	19.3	119 W	60	49	365426 2010 KC₆₁										
7 30	23 47.81	+15 36.0	1.068	1.823	28.2	19.2	122 W	61	48	4 11	21 44.25	-18 28.9	1.864	1.603	32.5	21.4	59 W	10*	53*	
8 4	23 51.51	+16 31.5	1.016	1.804	27.3	19.0	125 W	62	47	4 21	22 12.92	-16 33.3	1.785	1.584	34.1	21.4	62 W	11*	56*	
8 9	23 54.67	+17 22.4	0.967	1.786	26.3	18.9	129 W	62	47	5 1	22 41.10	-14 27.7	1.709	1.568	35.5	21.3	65 W	11*	59*	
8 14	23 57.25	+18 8.0	0.920	1.768	25.1	18.7	132 W	63	46	5 11	23 8.70	-12 14.9	1.637	1.555	36.8	21.2	67 W	13*	61*	
8 19	23 59.19	+18 47.1	0.877	1.751	23.8	18.5	136 W	64	45	5 21	23 35.68	-9 58.1	1.569	1.546	37.9	21.1	70 W	15*	63*	
8 24	0 0.48	+19 18.5	0.836	1.734	22.2	18.4	140 W	64	45	5 31	0 1.91	-7 40.4	1.504	1.541	38.9	21.1	73 W	17*	65*	
8 29	0 1.13	+19 41.2	0.799	1.719	20.5	18.2	143 W	65	44	6 10	0 27.33	+5 25.0	1.442	1.539	39.6	21.0	75 W	20*	66*	
9 3	0 1.14	+19 54.1	0.766	1.704	18.7	18.0	147 W	65	44	6 20	0 51.83	-3 14.7	1.383	1.541	40.2	20.9	78 W	24*	66*	
9 8	0 0.57	+19 56.2	0.736	1.689	16.7	17.9	151 W	65	44	6 30	1 15.23	+1 12.5	1.324	1.547	40.5	20.9	82 W	29*	65*	
9 13	23 59.49	+19 46.8	0.710	1.676	14.8	17.7	155 W	65	44	7 10	1 37.35	+0 39.6	1.268	1.557	40.6	20.8	85 W	34*	63*	
9 18	23 58.02	+19 25.1	0.688	1.663	12.9	17.5	158 W	64	45	7 20	1 57.96	+2 19.8	1.211	1.570	40.3	20.7	89 W	39*	62	
9 23	23 56.34	+18 51.5	0.670	1.652	11.3	17.4	161 E	64	45	7 30	2 16.72	+3 46.7	1.155	1.587	39.7	20.6	94 W	44*	60	
9 28	23 54.64	+18 6.7	0.657	1.641	10.4	17.3	163 E	63	46	8 9	2 33.28	+4 59.8	1.100	1.607	38.6	20.5	99 W	48*	59	
10 3	23 53.12	+17 12.0	0.648	1.631	10.3	17.3	163 E	62	47	8 19	2 47.16	+5 58.9	1.045	1.629	36.9	20.4	105 W	51*	58	
10 8	23 51.98	+16 9.5	0.644	1.623	11.3	17.3	161 E	61	48	8 29	2 57.81	+6 44.2	0.992	1.655	34.6	20.2	112 W	52	57	
10 13	23 51.40	+15 1.5	0.644	1.615	13.0	17.3	159 E	60	49	9 8	3 4.71	+7 17.1	0.942	1.682	31.5	20.0	119 W	52	57	
10 18	23 51.54	+13 50.5	0.649	1.608	15.1	17.4	155 E	59	50	9 18	3 7.29	+7 38.9	0.898	1.712	27.5	19.9	128 W	53	56	
10 23	23 52.53	+12 39.4	0.658	1.603	17.5	17.5	151 E	58	51	9 28	3 5.24	+7 51.8	0.864	1.743	22.6	19.7	138 W	53	56	
10 28	23 54.45	+11 31.0	0.671	1.598	19.8	17.6	147 E	57	52	10 8	2 58.73	+7 59.0	0.842	1.776	16.8	19.5	149 W	53	56	
11 2	23 57.32	+10 27.2	0.688	1.595	22.1	17.8	143 E	55	54	10 13	2 54.02	+8 1.5	0.838	1.793	13.6	19.4	155 W	53	56	
11 7	0 1.12	+9 29.8	0.708	1.593	24.3	17.9	139 E	54	55	10 18	2 48.57	+8 3.9	0.838	1.810	10.3	19.3	161 W	53	56	
11 12	0 5.82	+8 39.8	0.732	1.592	26.3	18.0	135 E	54	55	10 23	2 42.61	+8 6.9	0.844	1.827	7.1	19.2	167 W	53	56	
11 17	0 11.39	+7 58.1	0.760	1.592	28.1	18.2	131 E	53	56	10 28	2 36.40	+8 11.1	0.856	1.845	4.4	19.1	172 W	53	56	
11 27	0 24.85	+7 0.8	0.823	1.596	31.0	18.4	123 E	52	57	11 2	2 30.22	+8 17.0	0.873	1.863	3.4	19.1	174 W	53	56	
12 7	0 40.87	+6 36.9	0.896	1.604	33.2	18.7	117 E	52	57	11 7	2 24.30	+8 25.0	0.897	1.881	5.2	19.3	170 E	53	56	
12 17	0 58.87	+6 42.0	0.979	1.617	34.6	18.9	111 E	52	57	11 17	2 14.13	+8 48.7	0.961	1.917	10.6	19.7	159 E	54	55	
12 27	1 18.41	+7 11.0	1.069	1.634	35.5	19.2	105 E	52	56*	11 27	2 7.18	+9 24.2	1.047	1.954	15.6	20.1	148 E	54	55	
1	6	1 39.05	+7 58.0	1.167	1.655	35.8	19.4	100 E	53	54*	12 7	2 3.94	+10 11.3	1.152	1.991	19.6	20.5	137 E	55	54
1 16	2 0.51	+8 57.3	1.272	1.679	35.7	19.6	95 E	54	52*	12 17	2 4.32	+11 8.6	1.272	2.028	22.6	20.8	128 E	56	53	
168870 2000 WN₆										12 27	2 7.99	+12 14.3	1.405	2.065	24.7	21.2	119 E	57	52	
4 11	21 35.07	-30 26.5	3.348	3.081	17.3	21.5	66 W	1*	57*	12 27	2 14.44	+13 26.1	1.548	2.102	26.0	21.4	110 E	58	50*	
4 21	21 47.49	-30 41.8	3.214	3.077	18.2	21.4	73 W	2*	64*	257803 2000 EC₇₅										
5 1	21 58.98	-31 7.0	3.075	3.072	18.9	21.3	80 W	3*	71*	4 11	21 45.38	-28 11.6	3.104	2.797	18.6	21.4	63 W	2*	55*	
5 11	22 9.38	-31 44.3	2.934	3.066	19.2	21.2	88 W	4*	78*	4 21	21 58.59	-27 16.2	2.958	2.771	19.9	21.4	70 W	4*	62*	
5 21	22 18.52	-32 35.6	2.793	3.058	19.2	21.1	95 W	5*	83*	5 1	22 10.83	-26 24.4	2.806	2.744	20.9	21.3	76 W	6*	69*	
5 31	22 26.15	-33 42.7	2.655	3.050	18.9	21.0	103 W	6*	82	5 11	22 21.95	-25 37.5	2.650	2.716	21.7	21.1	83 W	8*	76*	
6 10	22 32.00	-35 6.5	2.524	3.041	18.1	20.9	111 W	7*	81	5 21	22 31.81	-24 56.8	2.491	2.687	22.1	21.0	90 W	10*	84*	
6 20	22 35.74	-36 47.2	2.402	3.030	17.0	20.7	119 W	7*	79	5 31	22 40.17	-24 23.7	2.332	2.657	22.2	20.8	97 W	13*	88	
6 30	22 37.00	-38 43.2	2.294	3.019	15.6	20.6	127 W	6*	77	6 10	22 46.77	-23 59.3	2.175	2.626	21.9	20.6	105 W	16*	88	
7 10	22 35.46	-40 50.4	2.204	3.006	13.9	20.4	135 W	4	75	6 20	22 51.29	-23 44.7	2.023	2.594	21.1	20.4	113 W	19*	88	
7 15	22 33.54	-41 56.3	2.166	3.000	13.1	20.3	138 W	3	74	6 30	22 53.35	-23 40.4	1.878	2.562	19.7	20.2	122 W	21*	88	
7 20	22 30.84	-43 2.2	2.133	2.993	12.3	20.3	141 W	2	73	7 10	22 52.56	-23 45.9	1.744	2.528	17.7	19.9	131 W	21	88	
7 25	22 27.36	-44 6.9	2.106	2.986	11.6	20.2	144 W	1	72	7 20	22 48.57	-23 59.2	1.624	2.494	15.0	19.7	141 W	21	88	
7 30	22 23.13	-45 9.1	2.085	2.978	11.1	20.2	146 W	-	71	7 30	22 41.18	-24 16.0	1.523	2.459	11.6	19.4	151 W	21	88	
8 4	22 18.21	-46 7.2	2.071	2.971	10.8	20.1	147 W	-	70	8 4	22 36.26	-24 23.8	1.481	2.442	9.8	19.2	156 W	21	88	
8 9	22 12.70	-47 0.1	2.062	2.963	10.8	20.1	147 W	-	69	8 9	22 30.59	-24 30.0	1.444	2.424	8.0	19.1	161 W	21	88	
8 14	22 6.71	-47 46.4	2.060	2.954	11.1	20.1	146 W	-	68	8 14	22 24.28	-24 33.4	1.414	2.406	6.4	18.9	165 W	20	89	
8 19	22 0.41	-48 25.3	2.064	2.946	11.6	20.1	144 W	-	68	8 19	22 17.47	-24 33.2	1.390	2.387	5.5	18.9	167 W	20	89	
8 24	21 53.97	-48 55.8	2.074	2.937	12.2	20.2	142 E	-	67	8 24	22 10.34	-24 28.3	1.374	2.369	5.7	18.8	167 E	21	88	
8 29	21 47.59	-49 17.7	2.089	2.928	13.1	20.2	139 E	-	67	8 29	22 3.11	-24 18.1	1.364	2.351	6.9	18.8	164 E	21	88	
9 3	21 41.46	-49 30.																		

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

20/21	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°	2020	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°										
257803 2000 EC₇₅										242464 2004 RB₂₃₆																			
<i>(continuation)</i>										<i>(continuation)</i>																			
1 6	22 46.04	- 0 36.8	2.185	1.850	26.6	20.0	57 E	41*	32*	9 23	1 22.21	+12 16.8	1.030	1.990	11.7	19.9	156 W	57	52	9 28	1 17.21	+11 53.9	1.027	2.005	8.7	19.8	162 W	57	52
1 16	23 3.75	+ 2 6.5	2.238	1.815	25.5	20.0	52 E	40*	26*	10 3	1 11.85	+11 27.1	1.029	2.019	5.7	19.6	168 W	56	53	10 8	1 6.35	+10 57.5	1.038	2.034	2.9	19.5	174 W	56	53
99799 2002 LJ₃										469234 2016 JG₅																			
4 11	21 57.65	-10 59.8	1.622	1.306	38.1	21.5	54 W	14*	47*	4 11	22 4.67	-13 7.8	2.031	1.632	29.2	21.5	53 W	11*	47*	4 21	22 31.89	-11 28.9	1.961	1.624	30.8	21.4	56 W	12*	50*
4 21	22 32.60	- 8 28.5	1.551	1.266	40.2	21.4	54 W	14*	48*	5 1	22 58.65	- 9 46.3	1.894	1.619	32.1	21.4	59 W	12*	53*	5 11	23 24.89	- 8 2.9	1.827	1.617	33.4	21.3	62 W	13*	55*
5 1	23 8.43	- 5 41.3	1.489	1.227	42.2	21.3	55 W	14*	48*	5 21	23 50.57	- 6 21.5	1.763	1.618	34.5	21.3	65 W	15*	58*	6 10	0 15.59	- 4 45.1	1.699	1.623	35.4	21.3	68 W	17*	60*
5 11	23 45.20	- 2 41.8	1.436	1.190	44.0	21.2	55 W	14*	48*	6 10	0 39.86	- 3 16.4	1.637	1.631	36.2	21.2	72 W	20*	62*	6 20	1 3.28	- 1 57.7	1.575	1.642	36.8	21.2	75 W	23*	63*
5 21	0 22.92	+ 0 25.3	1.393	1.156	45.6	21.1	55 W	15*	47*	6 30	1 25.64	- 0 51.7	1.513	1.655	37.1	21.1	79 W	27*	64*	7 10	1 46.78	- 0 0.1	1.452	1.672	37.1	21.0	83 W	32*	64*
5 31	1 1.54	+ 3 33.7	1.361	1.126	46.9	21.0	54 W	16*	46*	7 20	2 6.43	+ 0 35.4	1.390	1.691	36.9	21.0	88 W	36*	63	8 9	2 39.96	+ 0 53.3	1.268	1.736	35.3	20.8	98 W	43*	63
6 10	1 40.98	+ 6 36.5	1.340	1.100	47.9	20.9	54 W	17*	45*	8 19	2 53.06	+ 0 35.0	1.208	1.762	33.8	20.6	105 W	45*	63	8 29	3 3.10	- 0 0.9	1.151	1.789	31.7	20.5	112 W	45	64
6 20	2 21.09	+ 9 26.7	1.328	1.080	48.6	20.9	53 W	19*	43*	9 8	3 9.61	- 0 52.3	1.099	1.818	28.9	20.4	119 W	44	65	9 18	3 12.18	- 1 55.8	1.054	1.848	25.5	20.2	128 W	43	66
6 30	3 1.60	+11 57.7	1.326	1.067	48.8	20.9	52 W	21*	41*																				
7 10	3 42.21	+14 3.8	1.331	1.060	48.7	20.9	52 W	23*	39*																				
7 20	4 22.57	+15 41.4	1.341	1.060	48.4	20.9	51 W	26*	38*																				
7 30	5 2.27	+16 48.6	1.354	1.068	47.8	20.9	51 W	29*	36*																				
8 9	5 40.93	+17 25.5	1.369	1.082	47.1	20.9	51 W	32*	35*																				
8 19	6 18.25	+17 33.7	1.384	1.103	46.4	21.0	52 W	35*	34*																				
8 29	6 53.93	+17 16.4	1.395	1.129	45.7	21.0	53 W	37*	33*																				
9 8	7 27.82	+16 37.4	1.402	1.160	45.1	21.1	53 W	40*	33*																				
9 18	7 59.82	+15 40.9	1.404	1.194	44.6	21.1	57 W	42*	33*																				
9 28	8 29.89	+14 31.4	1.400	1.231	44.2	21.2	59 W	45*	33*																				
10 8	8 58.05	+13 13.2	1.388	1.270	43.9	21.2	62 W	47*	34*																				
10 18	9 24.33	+11 50.5	1.368	1.311	43.6	21.2	65 W	50*	36*																				
10 28	9 48.74	+10 27.3	1.340	1.351	43.3	21.3	69 W	51*	38*																				
11 7	10 11.29	+ 9 7.4	1.304	1.392	43.0	21.3	73 W	53*	41*																				
11 17	10 31.93	+ 7 54.7	1.260	1.432	42.5	21.2	78 W	53*	44*																				
11 27	10 50.54	+ 6 53.4	1.208	1.472	41.8	21.2	84 W	52	47*																				
12 7	11 6.94	+ 6 7.4	1.151	1.510	40.7	21.1	90 W	51	51*																				
12 17	11 20.83	+ 5 41.4	1.088	1.547	39.2	21.0	96 W	51	55*																				
12 27	11 31.76	+ 5 40.7	1.023	1.582	37.1	20.8	104 W	51	58*																				
1 6	11 39.22	+ 6 10.1	0.957	1.616	34.1	20.7	113 W	51	58																				
1 16	11 42.55	+ 7 14.8	0.895	1.648	30.2	20.5	123 W	52	57																				
483547 2003 WM₂₅										387816 2004 FM₁₇																			
4 11	21 58.92	-19 48.7	1.804	1.507	33.7	21.4	57 W	7*	50*	9 23	3 11.89	- 2 30.3	1.035	1.863	23.6	20.1	132 W	42	67	9 28	3 10.56	- 3 5.3	1.019	1.879	21.5	20.1	137 W	42	67
4 21	22 34.09	-17 31.0	1.696	1.439	36.2	21.2	58 W	7*	52*	10 3	3 8.23	- 3 39.6	1.007	1.895	19.3	20.0	141 W	41	68	10 8	3 4.97	- 4 12.0	0.999	1.911	17.0	19.9	146 W	41	68
5 1	23 10.48	-14 46.4	1.602	1.375	38.6	21.1	58 W	7*	52*	10 13	3 0.87	- 4 41.1	0.996	1.927	14.8	19.8	150 W	40	69	10 18	2 56.09	- 5 5.8	0.997	1.944	12.8	19.8	154 W	40	69
5 11	23 47.89	-11 36.2	1.524	1.315	40.9	20.9	58 W	7*	52*	10 23	2 50.82	- 5 24.5	1.004	1.960	11.2	19.8	158 W	40	69	10 28	2 45.28	- 5 36.4	1.016	1.977	10.2	19.8	159 W	39	70
5 21	0 26.09	- 8 4.1	1.462	1.261	42.9	20.8	58 W	8*	52*	11 7	2 34.25	- 5 37.4	1.058	2.011	10.7	19.9	158 E	39	70	11 17	2 24.59	- 5 7.7	1.123	2.045	13.5	20.2	151 E	40	69
5 31	1 4.73	- 4 16.6	1.418	1.215	44.5	20.7	57 W	9*	51*	11 27	2 17.52	- 4 10.2	1.209	2.079	16.9	20.5	142 E	41	68	12 2	2 15.16	- 3 33.1	1.259	2.096	18.5	20.7	138 E	41	68
6 10	1 43.51	- 0 22.4	1.390	1.178	45.6	20.6	56 W	11*	49*	12 7	2 13.62	- 2 51.4	1.313	2.113	19.9	20.8	133 E	42	67	12 17	2 12.88	- 2 6.0	1.372	2.130	21.2	21.0	129 E	43	66
6 20	2 22.11	+ 3 29.1	1.378	1.152	46.3	20.6	55 W	14*	47*	12 12	2 12.93	- 2 17.5	1.434	2.147	22.3	21.1	124 E	44	65	12 17	2 12.93	- 2 17.5	1.434	2.147	22.3	21.0	124 E	44	65
6 30	3 0.22	+ 7 8.4	1.378	1.139	46.5	20.5	54 W	18*	45*	12 22	2 13.74	- 0 26.6	1.499	2.164	23.2	21.3	120 E	45	64	12 27	2 15.26	+ 0 26.0	1.566	2.181	24.0	21.4	116 E	45	64
7 10	3 37.56	+10 28.0	1.388	1.138	46.2	20.5	54 W	22*	43*																				
7 20	4 13.89	+13 22.8	1.404	1.149	45.6	20.6	54 W	26*	41*																				
7 30	4 48.94	+15 49.9	1.423	1.173	44.8	20.6	54 W	31*	39*																				
8 9	5 22.46	+17 49.3	1.442	1.209	43.9	20.7	56 W	35*	37*																				
8 19	5 54.22	+19 22.8	1.458	1.253	43.0	20.8	58 W	40*	36*																				
8 29	6 23.99	+20 34.0	1.469	1.306	42.2	20.9	60 W	45*	35*																				
9 8	6 51.57	+21 27.3	1.473	1.365	41.4	20.9	64 W	49*	34*																				
9 18	7 16.83	+22 7.8	1.470	1.429	40.5	21.0	68 W	54*	34*																				
9 28	7 39.56	+22 40.8	1.459	1.496	39.6	21.1	72 W	59*	34*																				
10 8	7 59.62	+23 11.8	1.439	1.566	38.6	21.1	78 W	63*	35*																				
10 18	8 16.81	+23 46.2	1.412	1.637	37.2	21.1	84 W	67*	36*																				
10 28	8 30.84	+24 29.3	1.379	1.710	35.5	21.1	91 W	69*	36*																				
11 7	8 41.42	+25 25.6	1.341	1.783	33.3	21.1	99 W	70	37*																				
11 17	8 48.12	+26 38.9	1.302	1.856	30.6	21.0	107 W	72	37*																				
11 27	8 50.48	+28 10.6	1.267	1.928	27.1	21.0	117 W	73	36																				
12 7	8 48.17	+29 58.8	1.239	2.000	22.9	20.9	128 W	75	34																				
12 17	8 41.04	+31 56.8	1.224	2.071	18.1	20.8	139 W	77	32																				
12 27	8 29.54	+33 52.6	1.230	2.141	13.1	20.7	151 W	79	30																				
1 6	8 14.94	+35 32.0	1.259	2.210	8.6	20.6	160 W	81	28																				
1 16	7 59.17	+36 43.2	1.316	2.278	6.8	20.7	164 W	82	27																				
242464 2004 RB₂₃₆										387816 2004 FM₁₇																			
4 11	22 0.38	-12 44.4	2.029	1.645	29.4	21.5	54 W	12*	47*	4 11	22 5.65	- 5 45.0	1.031	0.862	63.2	21.5	50 W	17*	43*	4 16	22 30.70	- 3 40.1	1.039	0.838	63.6	21.5	48 W	16*	41*
4 21	22 24.87	-10 19.1	1.970	1.651	30.6	21.5	57 W	14*	51*	4 21	22 55.96	- 1 31.3	1.052	0.815	63.7	21.4	47 W	15*	39*	5 1	22 48.34	- 7 50.5	1.910	1.661	31.8	21.5	60 W	16*	54*
5 1	22 48.34	- 7 50.5	1.910	1.661	31.8	21.5	60 W	16*	54*	5 11	23 10.77	- 5 21.3	1.849	1.672	32.8														

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°
466277 2013 PH									328979 2010 VB₂₀₀ (continuation)								
4 11	22 7.73	- 7 37.8	2.123	1.669	27.5	21.5	50 W	15* 44*	5 21	0 36.15	+ 1 30.2	2.101	1.667	28.3	21.4	51 W	13* 44*
4 21	22 31.62	- 4 34.9	2.057	1.665	29.0	21.4	53 W	17* 46*	5 31	1 1.03	+ 3 39.1	2.035	1.662	29.7	21.3	54 W	16* 46*
5 1	22 54.87	- 1 26.9	1.991	1.663	30.3	21.4	57 W	19* 49*	6 10	1 25.77	+ 5 41.0	1.969	1.659	31.0	21.3	57 W	19* 48*
5 11	23 17.50	+ 1 43.6	1.926	1.664	31.6	21.4	60 W	22* 50*	6 20	1 50.35	+ 7 33.7	1.903	1.660	32.2	21.3	61 W	23* 49*
5 21	23 39.53	+ 4 54.3	1.862	1.668	32.7	21.3	63 W	25* 51*	6 30	2 14.64	+ 9 15.3	1.837	1.663	33.3	21.2	64 W	27* 50*
5 31	0 0.93	+ 8 2.8	1.798	1.675	33.7	21.3	67 W	29* 52*	7 10	2 38.55	+10 44.3	1.771	1.669	34.2	21.2	67 W	32* 50*
6 10	0 21.68	+11 6.8	1.734	1.685	34.5	21.3	70 W	34* 51*	7 20	3 1.91	+11 59.3	1.705	1.677	35.0	21.1	71 W	37* 50*
6 20	0 41.71	+14 4.4	1.669	1.697	35.1	21.2	74 W	39* 49*	7 30	3 24.51	+12 59.5	1.637	1.688	35.5	21.1	75 W	43* 50*
6 30	1 0.88	+16 53.7	1.604	1.712	35.5	21.1	78 W	45* 47*	8 9	3 46.09	+13 44.6	1.569	1.702	35.8	21.0	79 W	48* 50*
7 10	1 19.02	+19 33.2	1.538	1.729	35.7	21.1	82 W	52* 44	8 19	4 6.39	+14 14.6	1.499	1.717	35.9	20.9	84 W	52* 50*
7 20	1 35.90	+22 1.6	1.472	1.748	35.5	21.0	87 W	58* 42	8 29	4 25.02	+14 30.1	1.429	1.735	35.6	20.8	89 W	56* 49*
7 30	1 51.16	+24 17.5	1.405	1.769	35.0	20.9	92 W	65* 40	9 8	4 41.62	+14 32.5	1.358	1.755	34.9	20.7	95 W	59* 49
8 9	2 4.40	+26 19.6	1.338	1.792	34.0	20.8	98 W	70* 38	9 18	4 55.75	+14 23.4	1.288	1.776	33.8	20.6	101 W	59 50
8 19	2 15.12	+28 6.7	1.272	1.816	32.6	20.7	105 W	73 36	9 28	5 6.90	+14 4.9	1.219	1.799	32.0	20.5	108 W	59 50
8 29	2 22.72	+29 36.3	1.209	1.842	30.6	20.6	112 W	75 34	10 8	5 14.61	+13 39.8	1.153	1.824	29.6	20.3	116 W	59 50
9 8	2 26.68	+30 45.4	1.151	1.870	27.8	20.4	120 W	76 33	10 18	5 18.36	+13 11.2	1.093	1.850	26.4	20.1	124 W	58 51
9 13	2 27.15	+31 11.0	1.124	1.884	26.2	20.3	124 W	76 33	10 28	5 17.84	+12 42.6	1.043	1.877	22.3	19.9	134 W	58 51
9 18	2 26.55	+31 29.6	1.099	1.898	24.4	20.2	129 W	76 33	11 7	5 13.07	+12 18.0	1.006	1.904	17.4	19.7	145 W	57 52
9 23	2 24.90	+31 40.6	1.078	1.912	22.4	20.1	133 W	77 32	11 17	5 4.56	+12 0.9	0.987	1.933	11.9	19.5	156 W	57 52
9 28	2 22.24	+31 43.1	1.059	1.927	20.2	20.1	138 W	77 32	11 27	4 59.27	+11 56.4	0.985	1.947	9.2	19.4	162 W	57 52
10 3	2 18.68	+31 36.8	1.045	1.942	17.9	20.0	143 W	77 32	11 27	4 53.57	+11 54.9	0.989	1.962	6.8	19.3	166 W	57 52
10 8	2 14.33	+31 21.1	1.034	1.957	15.5	19.9	148 W	76 33	12 2	4 47.70	+11 56.7	0.999	1.977	5.2	19.3	169 W	57 52
10 13	2 9.38	+30 55.9	1.029	1.972	13.1	19.8	153 W	76 33	12 7	4 41.88	+12 1.9	1.016	1.991	5.4	19.4	169 E	57 52
10 18	2 4.05	+30 21.7	1.029	1.988	10.9	19.7	158 W	75 34	12 12	4 36.35	+12 10.6	1.038	2.006	7.1	19.5	165 E	57 52
10 23	1 58.58	+29 39.1	1.034	2.003	9.0	19.7	162 W	75 34	12 17	4 31.32	+12 22.6	1.067	2.021	9.3	19.7	161 E	57 52
10 28	1 53.23	+28 49.7	1.045	2.019	7.9	19.7	164 E	74 35	12 22	4 26.96	+12 37.9	1.101	2.036	11.7	19.9	155 E	58 51
11 2	1 48.23	+27 55.2	1.063	2.034	7.9	19.7	164 E	73 36	12 27	4 23.39	+12 56.1	1.142	2.052	14.0	20.0	150 E	58 51
11 7	1 43.77	+26 57.6	1.086	2.050	8.8	19.8	161 E	72 37	1 1	4 20.70	+13 17.0	1.187	2.067	16.1	20.2	144 E	58 51
11 12	1 39.99	+25 58.7	1.115	2.066	10.5	20.0	158 E	71 38	1 6	4 18.90	+13 40.2	1.237	2.082	18.0	20.4	139 E	59 50
11 17	1 37.02	+25 0.5	1.151	2.081	12.4	20.1	153 E	70 39	1 11	4 18.02	+14 5.2	1.291	2.097	19.7	20.6	134 E	59 50
11 22	1 34.93	+24 4.7	1.191	2.097	14.3	20.3	148 E	69 40	1 16	4 18.03	+14 31.9	1.349	2.112	21.2	20.7	129 E	60 49
11 27	1 33.73	+23 12.8	1.237	2.113	16.1	20.5	143 E	68 41	367341 2008 DJ₆								
12 2	1 33.41	+22 25.6	1.288	2.129	17.9	20.6	139 E	67 42	4 11	23 1.41	- 6 29.5	2.583	1.886	18.8	21.5	37 W	7* 31*
12 7	1 33.94	+21 43.8	1.343	2.145	19.4	20.8	134 E	67 42	4 21	23 24.96	- 5 26.4	2.488	1.856	20.9	21.4	41 W	8* 35*
12 12	1 35.27	+21 7.6	1.402	2.160	20.8	20.9	129 E	66 43	5 1	23 48.91	- 4 24.5	2.391	1.826	23.0	21.4	45 W	8* 39*
12 17	1 37.36	+20 37.2	1.464	2.176	21.9	21.1	124 E	66 43	5 11	0 13.29	- 3 25.6	2.291	1.798	25.1	21.3	49 W	9* 43*
12 22	1 40.16	+20 12.6	1.530	2.192	22.9	21.2	120 E	65 44	5 21	0 38.18	- 2 31.9	2.192	1.770	27.0	21.3	53 W	10* 46*
12 27	1 43.59	+19 53.5	1.598	2.207	23.7	21.4	115 E	65 44	5 31	1 3.57	- 1 45.4	2.093	1.745	28.9	21.2	56 W	11* 49*
1 1	1 47.60	+19 39.5	1.668	2.223	24.3	21.5	111 E	65 44*	6 10	1 29.49	- 1 8.6	1.996	1.721	30.6	21.1	60 W	13* 52*
4 11	22 24.35	- 8 29.7	2.235	1.708	25.2	21.5	47 W	12* 40*	6 20	1 55.91	- 0 43.6	1.902	1.699	32.2	21.0	63 W	16* 55*
4 21	22 49.61	- 6 25.7	2.158	1.693	26.9	21.4	50 W	13* 43*	6 30	2 22.74	- 0 32.6	1.813	1.679	33.6	20.9	66 W	19* 57*
5 1	23 14.68	- 4 18.6	2.082	1.680	28.6	21.4	53 W	14* 46*	7 10	2 49.85	- 0 37.7	1.728	1.661	34.8	20.8	69 W	22* 59*
5 11	23 39.55	- 2 10.7	2.007	1.669	30.1	21.3	56 W	16* 49*	7 20	3 17.08	- 1 0.2	1.648	1.646	35.9	20.7	72 W	25* 60*
5 21	0 4.25	- 0 4.4	1.933	1.660	31.6	21.3	59 W	17* 51*	7 30	3 44.15	- 1 41.2	1.573	1.634	36.8	20.6	75 W	28* 62*
5 31	0 28.74	+ 1 57.7	1.859	1.654	32.9	21.2	62 W	20* 53*	8 9	4 10.80	- 2 40.8	1.505	1.625	37.6	20.6	78 W	31* 64*
6 10	0 52.99	+ 3 53.2	1.786	1.651	34.1	21.2	66 W	23* 54*	8 19	4 36.71	- 3 58.3	1.442	1.618	38.1	20.5	80 W	33* 65*
6 20	1 16.94	+ 5 39.8	1.714	1.650	35.1	21.1	69 W	27* 55*	8 29	5 1.50	- 5 32.3	1.383	1.615	38.4	20.4	83 W	34* 67*
6 30	1 40.47	+ 7 15.3	1.643	1.652	36.0	21.0	72 W	31* 55*	9 8	5 24.83	- 7 20.2	1.329	1.614	38.5	20.3	86 W	35* 70*
7 10	2 3.44	+ 8 37.6	1.572	1.656	36.6	21.0	76 W	36* 55*	9 18	5 46.33	- 9 19.2	1.278	1.617	38.4	20.2	89 W	35* 72*
7 20	2 25.67	+ 9 45.1	1.501	1.663	37.0	20.9	80 W	41* 54*	9 23	5 56.26	-10 21.7	1.253	1.620	38.3	20.2	91 W	34* 73*
7 30	2 46.88	+10 36.4	1.430	1.672	37.2	20.8	84 W	46* 53	9 28	6 5.59	-11 25.4	1.229	1.623	38.1	20.1	93 W	34* 75*
8 9	3 6.78	+11 10.5	1.359	1.684	37.0	20.7	89 W	51* 53	10 3	6 14.27	-12 29.9	1.206	1.627	37.8	20.1	95 W	33 76*
8 19	3 25.00	+11 27.2	1.289	1.698	36.5	20.6	94 W	54* 53	10 8	6 22.26	-13 34.5	1.182	1.632	37.5	20.0	96 W	31 77*
8 29	3 41.07	+11 26.2	1.220	1.715	35.4	20.5	100 W	56* 53	10 13	6 29.50	-14 38.6	1.159	1.637	37.1	20.0	98 W	30 79
9 8	3 54.54	+11 8.4	1.153	1.733	33.9	20.3	106 W	56 53	10 18	6 35.93	-15 41.5	1.136	1.643	36.6	19.9	101 W	29 80
9 18	4 4.85	+10 35.0	1.089	1.753	31.7	20.2	114 W	56 53	10 23	6 41.48	-16 42.3	1.114	1.650	36.0	19.9	103 W	28 81
9 28	4 11.45	+ 9 47.9	1.031	1.775	28.7	20.0	122 W	55 54	10 28	6 46.13	-17 39.9	1.091	1.658	35.3	19.8	105 W	27 82
10 8	4 13.93	+ 8 50.8	0.980	1.798	25.0	19.8	131 W	54 55	11 2	6 49.81	-18 33.6	1.070	1.666	34.6	19.8	108 W	26 83
10 13	4 13.53	+ 8 19.9	0.958	1.810	22.8	19.7	135 W	53 56	11 7	6 52.49	-19 22.0	1.048	1.675	33.7	19.7	110 W	26 83
10 18	4 12.05	+ 7 48.3	0.940	1.822	20.4	19.6	140 W	53 56	11 12	6 54.11	-20 4.1	1.028	1.684	32.7	19.7	113 W	25 84
10 23	4 9.52	+ 7 17.0	0.926	1.835	17.9	19.5	146 W	52 57	11 17	6 54.65	-20 38.2	1.008	1.694	31.6	19.6	116 W	24 85
10 28	4 6.06	+ 6 47.1	0.916	1.848	15.2	19.4	151 W	52 57	11 22	6 54.09	-21 2.8	0.990	1.705	30.4	19.5	119 W	24 85
11 2	4 1.80	+ 6 19.5	0.911	1.861	12.6	19.3	156 W	51 58	11 27	6 52.48	-21 16.1	0.973	1.716	29.1	19.5	122 W	24 85
11 7	3 56.91	+ 5 55.4	0.911	1.874	10.2	19.2	160 W	51 58	12 2	6 49.88	-21 16.7	0.958	1.727	27.7	19.4	125	

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

20/21	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°	2020	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°
489510 2007 PS₈ (continuation)										164294 2004 XZ₁₃₀ (continuation)									
5 31	1 26.52	+ 5 59.5	1.952	1.472	30.5	21.0	48 W	13*	40*	4 26	0 40.03	+ 5 36.0	1.294	0.565	47.9	21.5	25 W	4*	18*
6 10	1 58.29	+ 8 23.7	1.885	1.438	32.2	20.9	49 W	15*	41*	5 1	0 58.20	+ 7 25.9	1.368	0.616	42.8	21.7	25 W	4*	18*
6 20	2 31.03	+10 37.3	1.826	1.410	33.6	20.9	50 W	18*	41*	5 6	1 16.33	+ 9 11.2	1.432	0.664	39.2	21.9	25 W	5*	18*
6 30	3 4.57	+12 35.8	1.776	1.388	34.8	20.8	51 W	21*	40*	5 11	1 34.32	+10 50.9	1.485	0.707	36.6	22.0	25 W	5*	18*
7 10	3 38.64	+14 15.3	1.734	1.373	35.9	20.8	52 W	24*	40*	417210 2005 XV₇₇									
7 20	4 12.92	+15 32.6	1.699	1.366	36.7	20.7	54 W	28*	39*	4 21	0 21.81	+ 5 16.6	1.132	0.463	62.4	21.4	24 W	5*	18*
7 30	4 46.99	+16 25.7	1.670	1.366	37.4	20.7	55 W	31*	39*	4 26	0 45.71	+ 9 33.3	1.228	0.481	52.0	21.4	22 W	6*	15*
8 9	5 20.41	+16 54.3	1.646	1.374	37.9	20.7	56 W	35*	38*	5 1	1 10.62	+13 20.4	1.318	0.509	43.0	21.4	20 W	6*	13*
8 19	5 52.79	+16 59.5	1.625	1.389	38.2	20.7	58 W	39*	38*	5 6	1 35.99	+16 36.4	1.400	0.545	35.7	21.5	18 W	6*	10*
8 29	6 23.70	+16 43.5	1.604	1.411	38.5	20.7	60 W	42*	38*	5 11	2 1.40	+19 22.0	1.475	0.586	29.9	21.6	17 W	6*	8*
9 8	6 52.87	+16 9.9	1.584	1.439	38.6	20.7	63 W	45*	38*	396793 2004 JN₂									
9 18	7 20.06	+15 22.4	1.561	1.474	38.5	20.8	66 W	48*	39*	4 21	0 26.60	+11 38.8	1.392	0.592	39.1	21.2	22 W	9*	13*
9 28	7 45.04	+14 25.2	1.535	1.513	38.4	20.8	70 W	51*	41*	4 26	1 1.90	+13 49.2	1.394	0.532	35.0	20.9	18 W	6*	10*
10 8	8 7.70	+13 22.8	1.504	1.557	38.1	20.8	74 W	54*	42*	5 1	1 39.67	+15 38.8	1.403	0.479	28.3	20.5	13 W	3*	5*
10 18	8 27.88	+12 19.3	1.469	1.604	37.5	20.8	79 W	56*	44*	5 6	2 19.69	+17 0.8	1.415	0.439	18.5	20.0	8 W	—	—
10 28	8 45.39	+11 19.1	1.429	1.654	36.7	20.8	84 W	56*	47*	5 11	3 1.35	+17 50.2	1.426	0.419	6.2	19.5	3 W	—	1*
11 7	9 0.08	+10 26.5	1.384	1.707	35.5	20.7	90 W	55	50*	5 16	3 43.48	+18 5.9	1.431	0.425	7.0	19.5	3 E	—	—
11 17	9 11.67	+ 9 45.6	1.336	1.762	33.8	20.7	97 W	55	52*	5 21	4 24.76	+17 51.8	1.432	0.453	18.4	20.1	8 E	—	2*
11 27	9 19.85	+ 9 21.1	1.287	1.818	31.6	20.6	105 W	54	54*	5 26	5 4.23	+17 14.0	1.433	0.500	27.0	20.6	13 E	—	7*
12 7	9 24.34	+ 9 16.7	1.239	1.875	28.6	20.5	114 W	54	55	5 31	5 41.45	+16 18.3	1.436	0.556	32.7	21.0	17 E	—	11*
12 17	9 24.87	+ 9 35.9	1.197	1.933	24.8	20.4	125 W	55	54	6 5	6 16.30	+15 9.7	1.446	0.618	36.1	21.3	21 E	1*	15*
12 27	9 21.39	+10 20.2	1.165	1.991	20.2	20.2	136 W	55	54	416002 2002 BN									
1 6	9 14.24	+11 27.8	1.148	2.049	14.8	20.1	148 W	56	53	4 21	0 28.84	+ 2 45.6	1.065	0.423	70.4	21.2	23 W	2*	17*
1 16	9 4.25	+12 52.8	1.153	2.107	8.9	19.9	161 W	58	51	4 23	0 39.03	+ 2 11.5	1.109	0.438	65.0	21.2	23 W	1*	17*
4 11	23 16.70	-49 41.6	1.413	1.323	42.8	21.4	64 W	—	37*	4 25	0 49.35	+ 1 46.7	1.151	0.456	60.2	21.3	23 W	—	17*
4 13	23 30.08	-49 7.5	1.405	1.312	43.2	21.4	63 W	—	37*	4 27	0 59.68	+ 1 30.1	1.192	0.475	55.9	21.3	23 W	—	17*
4 15	23 43.20	-48 28.5	1.398	1.300	43.5	21.4	63 W	—	36*	4 29	1 9.94	+ 1 20.2	1.232	0.496	52.2	21.4	23 W	—	17*
4 17	23 56.02	-47 44.9	1.392	1.290	43.8	21.4	63 W	—	35*	5 1	1 20.07	+ 1 16.2	1.270	0.518	48.9	21.4	23 W	—	16*
4 19	0 8.50	-46 56.9	1.387	1.279	44.0	21.3	62 W	—	35*	5 3	1 30.01	+ 1 16.8	1.306	0.541	45.9	21.5	23 W	—	16*
4 21	0 20.60	-46 4.8	1.384	1.268	44.3	21.3	62 W	—	34*	331471 1984 QY₁									
4 26	0 49.14	-43 39.2	1.379	1.242	44.8	21.3	60 W	—	33*	4 21	1 6.64	+24 35.5	0.481	0.564	148.1	20.8	17 W	11*	—
5 1	1 15.10	-40 55.8	1.381	1.218	45.1	21.3	59 W	—	31*	4 26	0 31.39	+28 47.9	0.416	0.670	134.4	19.0	28 W	22*	7*
5 6	1 38.57	-37 59.9	1.387	1.195	45.2	21.2	57 W	—	31*	5 1	23 46.89	+32 51.5	0.368	0.772	119.8	17.7	42 W	34*	16*
5 11	1 59.73	-34 56.1	1.399	1.174	45.2	21.2	56 W	—	30*	5 6	22 51.54	+36 15.2	0.335	0.870	104.7	16.8	57 W	47*	22*
5 16	2 18.85	-31 48.3	1.413	1.154	45.0	21.2	54 W	—	30*	5 11	21 45.82	+38 6.1	0.317	0.964	89.1	16.2	73 W	62*	26*
5 21	2 36.18	-28 39.3	1.430	1.137	44.6	21.2	52 W	—	30*	5 12	21 31.83	+38 12.1	0.315	0.982	86.0	16.1	76 W	65*	26*
5 26	2 51.99	-25 31.2	1.449	1.122	44.2	21.2	51 W	—	31*	5 13	21 17.71	+38 11.9	0.314	1.000	82.8	16.0	79 W	68*	26
5 31	3 6.50	-22 25.5	1.468	1.110	43.6	21.1	49 W	—	32*	5 14	21 3.55	+38 5.3	0.313	1.018	79.7	15.9	83 W	71*	26
6 5	3 19.92	-19 22.8	1.487	1.100	43.0	21.1	48 W	—	33*	5 15	20 49.43	+37 52.4	0.313	1.036	76.6	15.8	86 W	73*	26
6 10	3 32.44	-16 23.4	1.506	1.092	42.4	21.1	46 W	—	34*	5 16	20 35.43	+37 33.2	0.314	1.054	73.6	15.8	89 W	76*	26
6 15	3 44.22	-13 27.5	1.522	1.088	41.8	21.1	46 W	—	35*	5 17	20 21.64	+37 7.8	0.316	1.071	70.6	15.7	92 W	78*	27
6 20	3 55.41	-10 34.9	1.536	1.086	41.3	21.1	45 W	—	36*	5 18	20 8.14	+36 36.8	0.318	1.089	67.6	15.7	95 W	80*	27
6 25	4 6.12	-7 45.4	1.548	1.088	40.9	21.1	44 W	—	37*	5 19	19 54.99	+36 0.4	0.321	1.106	64.8	15.6	99 W	81*	28
6 30	4 16.44	-4 58.7	1.557	1.092	40.6	21.1	44 W	—	38*	5 20	19 42.26	+35 19.1	0.324	1.123	61.9	15.6	102 W	80	29
7 5	4 26.47	-2 14.3	1.563	1.099	40.4	21.2	44 W	—	39*	5 21	19 29.98	+34 33.6	0.328	1.140	59.2	15.6	105 W	80	29
7 10	4 36.30	+ 0 28.2	1.565	1.108	40.3	21.2	45 W	4*	39*	5 22	19 18.19	+33 44.3	0.333	1.157	56.5	15.6	108 W	79	30
7 15	4 45.98	+ 3 9.2	1.564	1.121	40.4	21.2	46 W	9*	39*	5 23	19 6.92	+32 52.0	0.338	1.174	54.0	15.6	110 W	78	31
7 20	4 55.58	+ 5 49.1	1.560	1.135	40.6	21.2	47 W	14*	39*	5 24	18 56.18	+31 57.1	0.344	1.190	51.5	15.6	113 W	77	32
7 25	5 5.14	+ 8 28.3	1.552	1.152	40.9	21.3	48 W	18*	39*	5 25	18 45.97	+31 0.3	0.351	1.207	49.1	15.6	116 W	76	33
7 30	5 14.70	+11 7.3	1.541	1.171	41.2	21.3	49 W	23*	38*	5 26	18 36.30	+30 2.1	0.358	1.223	46.9	15.6	118 W	75	34
8 4	5 24.30	+13 46.6	1.528	1.192	41.5	21.3	51 W	28*	38*	5 27	18 27.15	+29 2.9	0.365	1.240	44.7	15.6	121 W	74	35
8 9	5 33.99	+16 26.7	1.512	1.215	41.9	21.4	53 W	32*	37*	5 28	18 18.51	+28 3.3	0.373	1.256	42.7	15.6	123 W	73	36
8 14	5 43.80	+19 8.0	1.494	1.239	42.2	21.4	55 W	37*	35*	5 29	18 10.36	+27 3.5	0.382	1.272	40.8	15.6	125 W	72	37
8 19	5 53.75	+21 50.9	1.474	1.265	42.5	21.4	58 W	42*	34*	5 30	18 2.68	+26 4.0	0.391	1.288	39.0	15.7	127 W	71	38
8 24	6 3.86	+24 36.1	1.452	1.292	42.7	21.4	60 W	46*	32*	5 31	17 55.46	+25 5.0	0.401	1.304	37.3	15.7	129 W	70	39
8 29	6 14.17	+27 23.9	1.429	1.320	42.9	21.4	63 W	51*	30*	6 2	17 42.27	+23 9.4	0.422	1.335	34.2	15.8	132 W	68	41
9 3	6 24.70	+30 14.8	1.406	1.348	42.9	21.5	65 W	55*	28*	6 4	17 30.62	+21 18.1	0.444	1.366	31.6	15.9	135 W	66	43
9 8	6 35.49	+33 9.1	1.382	1.378	42.8	21.5	68 W	60*	26*	6 6	17 20.33	+19 32.0	0.468	1.396	29.4	16.0	137		

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

2020	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°	2020	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°												
331471 1984 QY₁ (continuation)										337555 2001 SM₂₆₁																					
9 8	16 40.47	-10 48.0	2.406	2.521	23.4	20.6	85 E	31*	72*	4 21	1 52.91	+11 22.8	3.055	2.051	0.4	21.5	1 W	—	—	4 21	1 52.91	+11 22.8	3.055	2.051	0.4	21.5	1 W	—	—		
9 18	16 50.10	-11 54.7	2.640	2.615	22.0	20.9	78 E	29*	67*	5 1	2 14.10	+13 0.5	3.090	2.088	2.5	21.7	5 W	—	—	5 11	2 34.98	+14 29.1	3.115	2.126	4.5	21.9	10 W	—	4*		
9 28	17 0.45	-12 52.0	2.870	2.706	20.4	21.1	71 E	28*	61*	5 21	2 55.54	+15 47.9	3.131	2.163	6.5	22.1	14 W	—	8*	5 31	3 15.75	+16 56.8	3.137	2.201	8.5	22.2	19 W	2*	12*		
10 8	17 11.34	-13 40.6	3.093	2.794	18.7	21.2	64 E	26*	55*																						
10 18	17 22.67	-14 21.2	3.306	2.879	16.8	21.4	57 E	24*	47*																						
457059 2008 EG										308043 2004 TH₁₀																					
4 21	1 8.52	+4 35.1	1.056	0.252	71.4	19.6	14 W	—	8*	4 21	1 54.32	+18 39.4	2.177	1.185	5.8	21.1	7 W	—	—	4 21	1 54.32	+18 39.4	2.177	1.185	5.8	21.1	7 W	—	—		
4 22	1 13.53	+6 18.7	1.089	0.247	63.9	19.4	13 W	—	7*	4 26	2 8.69	+19 31.3	2.111	1.116	5.6	20.9	6 W	—	—	4 26	2 8.69	+19 31.3	2.111	1.116	5.6	20.9	6 W	—	—		
4 23	1 19.07	+8 2.3	1.121	0.246	56.3	19.2	12 W	—	6*	5 1	2 24.17	+20 22.4	2.041	1.043	5.6	20.7	6 W	—	—	5 1	2 24.17	+20 22.4	2.041	1.043	5.6	20.7	6 W	—	—		
4 24	1 25.09	+9 44.7	1.151	0.248	48.9	19.1	11 W	—	5*	5 6	2 40.98	+21 11.5	1.966	0.966	5.7	20.4	5 W	—	—	5 6	2 40.98	+21 11.5	1.966	0.966	5.7	20.4	5 W	—	—		
4 25	1 31.53	+11 24.7	1.180	0.254	42.0	19.0	10 W	—	3*	5 11	2 59.36	+21 57.4	1.886	0.885	5.8	20.2	5 W	—	—	5 11	2 59.36	+21 57.4	1.886	0.885	5.8	20.2	5 W	—	—		
4 26	1 38.32	+13 1.3	1.207	0.263	35.9	19.0	9 W	—	2*	5 16	3 19.66	+22 38.1	1.801	0.798	5.8	19.8	5 W	—	—	5 16	3 19.66	+22 38.1	1.801	0.798	5.8	19.8	5 W	—	—		
4 27	1 45.38	+14 33.5	1.233	0.275	30.7	19.0	8 W	—	1*	5 21	3 42.28	+23 10.9	1.712	0.705	5.4	19.4	4 W	—	—	5 21	3 42.28	+23 10.9	1.712	0.705	5.4	19.4	4 W	—	—		
4 28	1 52.62	+16 1.0	1.257	0.289	26.6	19.0	7 W	—	—	5 26	4 7.77	+23 31.4	1.615	0.605	4.3	18.9	3 W	—	—	5 26	4 7.77	+23 31.4	1.615	0.605	4.3	18.9	3 W	—	—		
4 29	1 59.99	+17 23.5	1.279	0.304	23.4	19.1	7 W	—	—	5 31	4 36.77	+23 33.1	1.511	0.498	3.9	18.3	2 E	—	—	5 31	4 36.77	+23 33.1	1.511	0.498	3.9	18.3	2 E	—	—		
4 30	2 7.43	+18 40.9	1.300	0.321	21.2	19.1	7 W	—	—																						
4 30	2 7.43	+18 40.9	1.300	0.321	21.2	19.1	7 W	—	—																						
5 1	2 14.90	+19 53.3	1.319	0.339	19.9	19.2	7 W	1*	—	6 2	4 49.53	+23 26.6	1.465	0.454	5.5	18.2	2 E	—	—	6 2	4 49.53	+23 26.6	1.465	0.454	5.5	18.2	2 E	—	—		
5 3	2 29.81	+22 3.9	1.356	0.376	18.9	19.5	7 W	1*	—	6 4	5 3.02	+23 14.7	1.417	0.409	8.5	18.0	3 E	—	—	6 4	5 3.02	+23 14.7	1.417	0.409	8.5	18.0	3 E	—	—		
5 5	2 44.57	+23 57.1	1.391	0.415	19.2	19.8	8 W	1*	—	6 6	5 17.26	+22 56.7	1.365	0.363	13.2	17.8	5 E	—	—	6 6	5 17.26	+22 56.7	1.365	0.363	13.2	17.8	5 E	—	—		
5 7	2 59.07	+25 34.9	1.423	0.453	19.9	20.0	9 E	1*	—	6 8	5 32.22	+22 31.7	1.308	0.318	20.3	17.7	6 E	—	—	6 8	5 32.22	+22 31.7	1.308	0.318	20.3	17.7	6 E	—	—		
5 9	3 13.26	+26 59.0	1.455	0.492	20.6	20.3	10 E	3*	—	6 10	5 47.72	+21 59.6	1.243	0.277	30.6	17.6	8 E	—	—	6 10	5 47.72	+21 59.6	1.243	0.277	30.6	17.6	8 E	—	—		
5 11	3 27.12	+28 11.0	1.486	0.530	21.1	20.5	11 E	4*	—	6 12	6 3.25	+21 21.6	1.170	0.241	45.6	17.6	10 E	—	—	6 12	6 3.25	+21 21.6	1.170	0.241	45.6	17.6	10 E	—	—		
5 13	3 40.62	+29 12.4	1.517	0.567	21.4	20.7	12 E	5*	—	6 14	6 17.69	+20 42.7	1.086	0.219	65.8	17.8	11 E	—	—	6 14	6 17.69	+20 42.7	1.086	0.219	65.8	17.8	11 E	—	—		
5 15	3 53.75	+30 4.2	1.547	0.603	21.5	20.9	13 E	6*	—	6 16	6 29.38	+20 12.6	0.995	0.215	89.6	18.4	12 E	—	—	6 16	6 29.38	+20 12.6	0.995	0.215	89.6	18.4	12 E	—	—		
5 17	4 6.50	+30 47.6	1.578	0.638	21.5	21.1	13 E	7*	—	6 18	6 37.06	+20 1.4	0.903	0.232	112.8	19.6	12 E	—	—	6 18	6 37.06	+20 1.4	0.903	0.232	112.8	19.6	12 E	—	—		
5 19	4 18.88	+31 23.4	1.608	0.673	21.4	21.2	14 E	8*	—	6 20	6 40.77	+20 13.1	0.820	0.264	132.3	21.2	11 E	—	—	6 20	6 40.77	+20 13.1	0.820	0.264	132.3	21.2	11 E	—	—		
5 21	4 30.87	+31 52.6	1.638	0.706	21.2	21.4	15 E	9*	—	6 21	6 41.40	+20 27.1	0.782	0.283	140.5	22.2	10 E	—	—	6 21	6 41.40	+20 27.1	0.782	0.283	140.5	22.2	10 E	—	—		
5 26	4 59.20	+32 40.8	1.712	0.785	20.3	21.7	16 E	10*	—	6 22	6 41.39	+20 45.8	0.746	0.304	147.7	23.4	9 E	—	—	6 22	6 41.39	+20 45.8	0.746	0.304	147.7	23.4	9 E	—	—		
5 31	5 25.26	+33 0.8	1.786	0.859	19.1	21.9	16 E	10*	—	6 23	6 40.82	+21 9.0	0.713	0.326	154.2	24.7	8 E	—	—	6 23	6 40.82	+21 9.0	0.713	0.326	154.2	24.7	8 E	—	—		
6 5	5 49.22	+32 59.8	1.858	0.928	17.8	22.1	16 E	10*	—	6 24	6 39.79	+21 36.1	0.682	0.348	160.0	26.4	7 E	—	—	6 24	6 39.79	+21 36.1	0.682	0.348	160.0	26.4	7 E	—	—		
6 10	6 11.25	+32 42.9	1.928	0.992	16.4	22.3	16 E	10*	1*																						
285818 2001 BZ₃₉										385371 2002 QS₁₆																					
4 21	1 14.59	+10 44.1	2.259	1.282	7.9	21.5	10 W	—	4*	4 21	1 55.97	+16 0.9	2.649	1.648	2.5	21.5	4 E	—	—	4 21	1 55.97	+16 0.9	2.649	1.648	2.5	21.5	4 E	—	—		
4 26	1 31.68	+12 4.8	2.237	1.261	8.4	21.4	11 W	—	4*	5 1	2 23.64	+18 14.6	2.651	1.648	2.4	21.5	4 W	—	—	5 1	2 23.64	+18 14.6	2.651	1.648	2.4	21.5	4 W	—	—		
5 1	1 49.20	+13 22.8	2.217	1.242	8.8	21.4	11 W	—	4*	5 11	2 51.84	+20 14.5	2.653	1.650	3.3	21.5	5 W	—	—	5 11	2 51.84	+20 14.5	2.653	1.650	3.3	21.5	5 W	—	—		
5 6	2 7.15	+14 37.4	2.198	1.224	9.2	21.4	11 W	—	5*	5 21	3 20.53	+21 58.2	2.654	1.656	4.6	21.6	8 W	—	—	5 21	3 20.53	+21 58.2	2.654	1.656	4.6	21.6	8 W	—	—		
5 11	2 25.52	+15 47.6	2.181	1.208	9.5	21.3	11 W	—	5*	5 31	3 49.59	+23 23.9	2.653	1.664	6.1	21.7	10 W	1*	2*	5 31	3 49.59	+23 23.9	2.653	1.664	6.1	21.7	10 W	1*	2*		
5 16	2 44.30	+16 52.7	2.167	1.193	9.7	21.3	12 W	—	5*																						
5 21	3 3.47	+17 51.8	2.154	1.181	10.0	21.3	12 W	—	5*	4 21	1 57.64	+11 44.1	2.817	1.812	0.3	21.4	0 E	—	—	4 21	1 57.64	+11 44.1	2.817	1.812	0.3	21.4	0 E	—	—		
5 26	3 22.99	+18 44.2	2.144	1.170	10.2	21.3	12 W	—	5*	5 1	2 22.02	+13 35.5	2.844	1.839	1.7	21.6	3 W	—	—	5 1	2 22.02	+13 35.5	2.844	1.839	1.7	21.6	3 W	—	—		
5 31	3 42.81	+19 29.2	2.136	1.162	10.3	21.2	12 W	—	5*	5 11	2 46.24	+15 15.4	2.866	1.867	3.6	21.8	7 W	—	—	5 11	2 46.24	+15 15.4	2.866	1.867	3.6	21.8	7 W	—	—		
6 5	4 2.87	+20 6.0	2.130	1.156	10.4	21.2	12 W	—	5*																						

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

20/21	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°	2020	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°
305090 2007 VQ₄ (continuation)										250680 2005 QC₅ (continuation)									
9 28	8 19.70	+31 38.1	1.791	1.655	33.5	20.0	66 W	59*	22*	7 5	9 54.14	+12 27.5	0.819	0.701	83.6	21.4	43 E	15*	34*
10 3	8 37.26	+31 53.3	1.728	1.625	34.6	19.9	67 W	60*	21*	7 10	10 21.05	+ 8 34.0	0.778	0.736	84.3	21.4	46 E	14*	38*
10 8	8 55.43	+32 3.7	1.667	1.596	35.6	19.8	68 W	62*	21*	7 15	10 47.56	+ 4 25.5	0.746	0.771	84.1	21.4	49 E	13*	42*
10 13	9 14.21	+32 8.6	1.608	1.567	36.6	19.7	69 W	63*	20*	7 20	11 13.84	+ 0 7.7	0.722	0.807	83.2	21.4	52 E	12*	45*
10 18	9 33.56	+32 7.4	1.553	1.539	37.6	19.6	70 W	64*	19*	7 25	11 39.99	- 4 13.1	0.705	0.842	81.6	21.4	55 E	11*	49*
10 23	9 53.43	+31 59.6	1.500	1.512	38.6	19.5	71 W	65*	19*	7 30	12 6.11	- 8 30.2	0.696	0.876	79.6	21.4	58 E	10*	52*
10 28	10 13.76	+31 44.3	1.451	1.486	39.5	19.4	72 W	66*	18*	8 4	12 32.21	-12 36.9	0.693	0.909	77.3	21.4	61 E	9*	55*
11 2	10 34.47	+31 21.1	1.406	1.461	40.4	19.4	73 W	66*	18*	8 9	12 58.30	-16 27.6	0.698	0.941	74.8	21.4	64 E	8*	57*
11 7	10 55.45	+30 49.6	1.364	1.437	41.3	19.3	73 W	67*	18*	8 14	13 24.34	-19 58.0	0.708	0.971	72.3	21.4	66 E	7*	60*
11 12	11 16.60	+30 9.5	1.326	1.414	42.2	19.2	74 W	67*	17*	8 19	13 50.27	-23 5.2	0.723	1.000	69.8	21.4	68 E	6*	61*
11 17	11 37.78	+29 21.0	1.292	1.393	43.0	19.1	74 W	67*	17*	8 24	14 16.01	-25 47.8	0.743	1.027	67.5	21.5	70 E	6*	63*
11 22	11 58.84	+28 24.3	1.262	1.373	43.8	19.1	74 W	67*	18*	170903 2004 WS₂									
11 27	12 19.66	+27 19.8	1.235	1.354	44.5	19.0	74 W	67*	18*	4 21	3 35.91	+18 3.3	2.221	1.376	17.9	21.5	25 E	15*	12*
12 2	12 40.12	+26 8.2	1.212	1.338	45.2	19.0	74 W	66*	19*	5 1	4 1.57	+19 53.3	2.170	1.286	16.7	21.2	22 E	12*	10*
12 7	13 0.12	+24 50.4	1.192	1.323	45.8	18.9	74 W	66*	20*	5 11	4 29.92	+21 35.1	2.103	1.190	15.7	21.0	19 E	9*	8*
12 12	13 19.56	+23 27.5	1.175	1.310	46.3	18.9	74 W	65*	21*	5 21	5 1.47	+23 4.5	2.021	1.088	15.3	20.7	16 E	7*	7*
12 17	13 38.36	+22 0.7	1.161	1.299	46.7	18.9	74 W	64*	22*	5 31	5 36.85	+24 14.9	1.924	0.981	15.5	20.3	15 E	5*	6*
12 22	13 56.47	+20 31.0	1.148	1.291	47.1	18.8	74 W	63*	24*	6 5	5 56.18	+24 40.1	1.871	0.926	16.1	20.2	15 E	5*	6*
12 27	14 13.85	+18 59.4	1.138	1.285	47.4	18.8	74 W	62*	26*	6 10	6 16.72	+24 56.5	1.814	0.870	17.1	20.0	15 E	5*	6*
1 1	14 30.48	+17 26.9	1.128	1.281	47.7	18.8	74 W	61*	28*	6 15	6 38.55	+25 2.3	1.753	0.813	18.6	19.8	15 E	4*	6*
1 6	14 46.36	+15 54.2	1.120	1.279	47.8	18.8	75 W	60*	30*	6 20	7 1.73	+24 55.1	1.689	0.758	20.7	19.7	15 E	5*	7*
1 11	15 1.49	+14 22.1	1.112	1.279	47.9	18.8	75 W	58*	33*	6 25	7 26.28	+24 32.4	1.621	0.704	23.7	19.5	16 E	5*	7*
1 16	15 15.87	+12 51.1	1.104	1.282	48.0	18.8	76 W	57*	35*	6 30	7 52.17	+23 51.0	1.549	0.653	27.7	19.4	17 E	5*	9*
470068 2006 SQ₂₇₃										7 5	8 19.29	+22 48.1	1.472	0.607	32.9	19.2	19 E	6*	10*
4 21	2 36.80	+16 6.5	2.616	1.639	6.6	21.5	11 E	4*	1*	7 10	8 47.42	+21 20.6	1.391	0.570	39.4	19.2	21 E	7*	12*
5 1	3 4.23	+18 27.2	2.636	1.644	4.9	21.4	8 E	1*	—	7 15	9 16.24	+19 26.5	1.305	0.544	47.1	19.1	23 E	8*	15*
5 11	3 32.22	+20 32.4	2.655	1.652	3.3	21.3	5 E	—	—	7 20	9 45.34	+17 4.8	1.216	0.531	55.7	19.2	26 E	8*	18*
5 21	4 0.71	+22 20.3	2.672	1.662	1.8	21.3	3 E	—	—	7 25	10 14.38	+14 15.8	1.127	0.535	64.3	19.3	28 E	9*	21*
5 31	4 29.58	+23 49.1	2.688	1.676	1.2	21.2	2 W	—	—	7 30	10 43.18	+11 0.7	1.039	0.553	72.0	19.4	31 E	9*	24*
6 10	4 58.68	+24 57.6	2.703	1.691	2.3	21.4	4 W	—	—	8 4	11 11.88	+ 7 21.1	0.958	0.584	78.1	19.6	34 E	9*	27*
6 20	5 27.83	+25 45.2	2.715	1.709	3.9	21.5	7 W	—	—	8 9	11 40.84	+ 3 18.2	0.886	0.626	82.3	19.7	38 E	10*	31*
88191 2000 YK₂₁										8 14	12 10.56	- 1 5.5	0.824	0.674	84.5	19.8	41 E	10*	35*
4 21	2 37.51	+16 42.0	3.274	2.297	4.9	21.5	11 E	4*	1*	8 19	12 41.52	- 5 45.7	0.775	0.726	84.7	19.8	46 E	10*	39*
5 1	2 56.78	+17 49.0	3.279	2.279	2.7	21.4	6 E	—	—	8 21	12 54.34	- 7 40.8	0.759	0.748	84.3	19.8	47 E	10*	41*
5 11	3 16.48	+18 50.1	3.271	2.261	0.6	21.2	1 E	—	—	8 23	13 7.44	- 9 36.5	0.746	0.770	83.7	19.8	49 E	10*	43*
5 21	3 36.61	+19 44.2	3.252	2.242	1.6	21.2	4 W	—	—	8 25	13 20.81	-11 32.1	0.734	0.792	82.8	19.8	51 E	10*	45*
5 31	3 57.15	+20 30.2	3.221	2.222	3.8	21.3	8 W	—	2*	8 27	13 34.45	-13 26.6	0.725	0.815	81.8	19.8	53 E	10*	47*
6 10	4 18.06	+21 7.2	3.179	2.202	5.9	21.4	13 W	—	6*	8 29	13 48.36	-15 19.2	0.718	0.837	80.6	19.8	55 E	10*	49*
6 20	4 39.30	+21 34.2	3.127	2.180	8.1	21.4	18 W	4*	10*	8 31	14 2.52	-17 8.8	0.714	0.860	79.2	19.8	57 E	10*	51*
6 30	5 0.82	+21 50.3	3.066	2.158	10.2	21.5	22 W	7*	14*	9 2	14 16.89	-18 54.6	0.712	0.882	77.7	19.8	59 E	10*	53*
7 10	5 22.56	+21 54.7	2.995	2.135	12.3	21.5	27 W	11*	17*	9 4	14 31.44	-20 35.5	0.712	0.905	76.1	19.8	61 E	10*	54*
7 20	5 44.45	+21 46.9	2.916	2.112	14.4	21.5	31 W	16*	20*	9 6	14 46.13	-22 10.7	0.715	0.927	74.5	19.8	62 E	10*	56*
7 30	6 6.41	+21 26.3	2.828	2.088	16.4	21.4	36 W	21*	22*	9 8	15 0.90	-23 39.6	0.719	0.949	72.8	19.8	64 E	10*	58*
8 9	6 28.36	+20 52.5	2.734	2.063	18.4	21.4	40 W	26*	25*	9 13	15 37.80	-26 50.8	0.739	1.004	68.6	19.9	68 E	10*	62*
8 19	6 50.22	+20 5.3	2.633	2.038	20.4	21.4	44 W	31*	27*	9 18	16 13.92	-29 15.1	0.771	1.058	64.4	19.9	72 E	10*	65*
8 29	7 11.90	+19 4.8	2.526	2.013	22.2	21.3	49 W	35*	29*	9 23	16 48.43	-30 54.2	0.812	1.110	60.6	20.0	75 E	10*	68*
9 8	7 33.33	+17 50.9	2.415	1.987	24.0	21.2	53 W	40*	31*	9 28	17 20.69	-31 53.6	0.862	1.162	57.1	20.2	77 E	11*	70*
9 18	7 54.42	+16 24.0	2.299	1.961	25.7	21.1	58 W	44*	33*	10 3	17 50.40	-32 20.7	0.918	1.211	53.9	20.3	78 E	11*	71*
9 28	8 15.09	+14 44.5	2.181	1.934	27.4	21.0	62 W	47*	36*	10 8	18 17.51	-32 22.7	0.981	1.259	51.2	20.5	79 E	12*	72*
10 8	8 35.28	+12 53.0	2.060	1.908	28.8	20.9	67 W	50*	38*	10 13	18 42.15	-32 5.8	1.047	1.306	48.7	20.6	79 E	13*	73*
10 18	8 54.91	+10 50.1	1.937	1.882	30.2	20.8	72 W	52*	42*	10 18	19 4.55	-31 35.3	1.118	1.351	46.4	20.8	79 E	13*	73*
10 28	9 13.88	+ 8 36.8	1.814	1.856	31.4	20.7	77 W	52*	45*	10 23	19 24.98	-30 54.8	1.191	1.395	44.4	20.9	79 E	14*	73*
11 7	9 32.12	+ 6 14.2	1.692	1.830	32.4	20.5	82 W	51*	49*	11 2	20 0.94	-29 14.9	1.345	1.477	40.8	21.2	77 E	16*	71*
11 17	9 49.52	+ 3 43.3	1.570	1.805	33.2	20.4	87 W	49*	54*	11 7	20 16.93	-28 18.9	1.424	1.517	39.2	21.3	75 E	17*	69*
11 27	10 5.91	+ 1 6.0	1.451	1.780	33.6	20.2	92 W	46*	58*	11 12	20 31.85	-27 20.3	1.504	1.555	37.7	21.5	74 E	18*	67*
12 7	10 21.12	+ 1 36.1	1.335	1.756	33.8	20.0	97 W	43*	64*	376848 2001 RY₄₇									
12 17	10 34.92	+ 4 20.6	1.224	1.733	33.6	19.7	103 W	41*	68*	4 21	4 29.24	+32 33.3	1.286	0.841	51.3	21.5	41 E	34*	13*
12 27	10 46.97	+ 7 4.4	1.118	1.711	32.9	19.5	109 W	38	71	4 26	4 49.30	+32 28.5	1.245	0.803	53.8	21.4	40 E	33*	14*
250680 2005 QC₅										5 1	5 9.75	+32 6.5	1.199	0.764	56.7	21.3	39 E	31*	15*
4 21	2 51.66	+17 45.1	1.712	0.783	19.0	21.3	15 E	8*	3*	5 6	5 30.34	+31 24.5	1.146	0.726	60.4	21.2	39 E	30*	16*
4 26	3 13.34	+19 44.6	1.669	0.748	20.9	21.2	15 E	8*	4*	5 11	5 50.76	+30 19.9	1.089	0.688	64.8	21.1	38 E	28*	17*
5 1	3 36.40	+21 37.8	1.622	0.713	23.4	21.1	16 E	9*	4*	5 16	6 10.55	+28 49.9	1.025	0.652	70.1	21.0	37 E	26*	19*
5 6	4 0.95	+23 22.0	1.571	0.679	26.4	21.0	17 E	10*	5*	5 21	6 29.13	+26 52.1	0.957	0.619	76.6	20.9	37 E	24*	20*
5 11	4 27.09	+24 53.7	1.516	0.647															

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

2020	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45° - 26°	2020	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45° - 26°
285990 2001 SK₉ (continuation)									329390 2001 YP₂								
6 20	7 26.77	+14 28.3	1.344	0.577	44.5	19.1	23 E	1* 17*	4 21	14 53.89	+21 48.0	2.066	2.935	11.8	23.6	143 W	67 42
6 25	7 48.81	+16 4.5	1.237	0.499	52.9	18.8	23 E	2* 17*	4 26	14 47.96	+22 6.5	2.059	2.930	11.8	23.6	143 W	67 42
6 30	8 11.57	+18 14.6	1.117	0.432	65.5	18.6	23 E	4* 16*	5 1	14 41.88	+22 17.5	2.060	2.925	12.1	23.6	143 W	67 42
7 2	8 20.47	+19 20.4	1.066	0.410	72.0	18.6	23 E	6* 15*	5 6	14 35.78	+22 20.6	2.066	2.919	12.6	23.6	141 E	67 42
7 4	8 28.97	+20 36.4	1.014	0.394	79.3	18.7	22 E	7* 14*	5 11	14 29.79	+22 15.6	2.078	2.913	13.3	23.7	139 E	67 42
7 6	8 36.78	+22 3.5	0.961	0.382	87.3	18.8	22 E	8* 13*	5 16	14 24.05	+22 2.6	2.096	2.906	14.1	23.7	136 E	67 42
7 8	8 43.61	+23 42.7	0.907	0.377	95.7	19.0	22 E	9* 12*	5 21	14 18.66	+21 42.0	2.120	2.900	15.0	23.8	132 E	67 42
7 10	8 49.16	+25 33.9	0.856	0.378	104.2	19.3	21 E	10* 10*	476703 2008 TQ₁₄₅								
7 12	8 53.20	+27 35.9	0.806	0.386	112.2	19.7	21 E	11* 8*	4 21	14 54.42	-13 20.4	3.738	4.718	3.0	22.7	166 W	32 77
7 14	8 55.57	+29 47.2	0.760	0.399	119.3	20.1	20 E	12* 6*	5 1	14 48.51	-12 50.6	3.721	4.726	0.9	22.6	176 W	32 77
7 16	8 56.19	+32 5.3	0.717	0.418	125.1	20.5	20 E	13* 3*	5 11	14 42.52	-12 21.4	3.734	4.734	1.9	22.7	171 E	33 76
7 18	8 55.06	+34 27.5	0.678	0.441	129.3	20.9	20 E	13* —	5 21	14 36.85	-11 54.6	3.777	4.741	4.1	22.8	160 E	33 76
7 20	8 52.23	+36 51.5	0.643	0.467	131.9	21.2	20 E	14* —	5 31	14 31.88	-11 32.2	3.847	4.748	6.2	23.0	149 E	33 76
7 22	8 47.76	+39 14.7	0.612	0.495	132.8	21.3	21 E	14* —	431760 2008 HE								
7 24	8 41.71	+41 35.2	0.585	0.526	132.3	21.3	22 E	15* —	4 21	14 55.57	-15 3.6	3.385	4.364	3.4	24.3	165 W	30 79
7 26	8 34.14	+43 51.2	0.560	0.557	130.8	21.2	25 E	15* —	5 1	14 45.56	-14 14.9	3.345	4.351	0.7	24.0	177 W	31 78
7 28	8 25.10	+46 1.3	0.538	0.589	128.4	21.0	27 W	16* —	5 11	14 35.40	-13 24.4	3.339	4.337	2.3	24.2	170 E	32 77
7 30	8 14.61	+48 4.2	0.519	0.622	125.5	20.7	30 W	20* —	5 21	14 25.67	-12 35.1	3.367	4.322	5.0	24.3	158 E	32 77
8 1	8 2.70	+49 59.2	0.501	0.655	122.2	20.5	33 W	24* —	5 31	14 16.92	-11 50.1	3.426	4.305	7.5	24.5	146 E	33 76
8 3	7 49.36	+51 45.3	0.485	0.688	118.7	20.3	37 W	28* —	329774 2004 LE								
8 5	7 34.61	+53 21.8	0.471	0.721	115.1	20.0	40 W	32* —	4 21	14 58.11	-6 14.1	3.693	4.666	3.5	23.2	164 W	39 70
8 7	7 18.42	+54 48.2	0.457	0.754	111.3	19.8	44 W	36* —	5 1	14 49.99	-5 11.6	3.651	4.644	2.3	23.1	169 W	40 69
8 9	7 0.80	+56 3.7	0.445	0.787	107.5	19.6	48 W	40* —	5 11	14 41.66	-4 12.5	3.641	4.622	3.4	23.2	164 E	41 68
8 11	6 41.75	+57 7.5	0.434	0.819	103.7	19.5	52 W	44* —	5 21	14 33.61	-3 19.6	3.664	4.599	5.4	23.3	155 E	42 67
8 13	6 21.31	+57 58.7	0.423	0.851	99.9	19.3	56 W	48* —	5 31	14 26.29	-2 35.3	3.717	4.574	7.5	23.4	144 E	42 67
8 15	5 59.54	+58 36.3	0.413	0.883	96.0	19.1	60 W	53* 1*	255587 Gardenia								
8 17	5 36.60	+58 59.0	0.404	0.914	92.0	19.0	64 W	57* 2*	4 21	15 3.16	-7 50.5	2.374	3.348	5.1	22.6	163 W	37 72
8 19	5 12.67	+59 5.5	0.395	0.945	88.1	18.9	69 W	61* 3*	5 1	14 54.49	-7 1.0	2.349	3.347	2.9	22.5	170 W	38 71
8 20	5 0.42	+59 2.3	0.391	0.961	86.1	18.8	71 W	63* 4*	5 11	14 45.53	-6 16.3	2.355	3.346	4.0	22.5	167 E	39 70
8 21	4 48.04	+58 54.5	0.387	0.976	84.0	18.7	74 W	66* 4*	5 21	14 37.04	-5 39.9	2.389	3.343	6.9	22.7	157 E	39 70
8 22	4 35.58	+58 42.1	0.384	0.991	82.0	18.7	76 W	68* 5*	5 31	14 29.69	-5 14.6	2.450	3.339	9.8	22.9	146 E	40 69
8 23	4 23.08	+58 24.8	0.380	1.006	79.9	18.6	78 W	70* 5*	497176 2004 TQ₁₃								
8 24	4 10.60	+58 2.6	0.377	1.021	77.8	18.5	81 W	72* 6*	4 21	15 3.53	-19 28.6	3.048	4.016	4.4	24.2	162 W	26 83
8 25	3 58.18	+57 35.4	0.374	1.036	75.7	18.5	83 W	74* 6	5 1	14 55.51	-18 44.0	3.004	4.007	1.6	24.0	174 W	26 83
8 26	3 45.89	+57 3.2	0.371	1.051	73.6	18.4	86 W	76* 7	5 11	14 47.20	-17 55.1	2.991	3.997	1.5	24.0	174 E	27 82
8 27	3 33.77	+56 26.0	0.369	1.065	71.4	18.4	88 W	78* 8	5 21	14 39.21	-17 5.0	3.009	3.986	4.4	24.2	163 E	28 81
8 28	3 21.87	+55 43.8	0.366	1.080	69.3	18.3	91 W	79* 8	5 31	14 32.11	-16 17.2	3.056	3.974	7.1	24.3	151 E	29 80
8 29	3 10.23	+54 56.7	0.364	1.094	67.1	18.3	94 W	80 9	144908 2004 YH₃₂								
8 30	2 58.88	+54 4.9	0.363	1.109	64.9	18.2	96 W	81 10	4 21	15 4.93	-23 16.0	11.172	12.122	1.6	23.8	160 W	22 87
8 31	2 47.86	+53 8.4	0.361	1.123	62.6	18.2	99 W	82 11	5 1	15 1.30	-23 13.5	11.118	12.110	0.9	23.7	170 W	22 87
9 1	2 37.19	+52 7.4	0.360	1.137	60.4	18.1	102 W	83 12	5 11	14 57.56	-23 9.3	11.093	12.098	0.5	23.6	174 E	22 87
9 2	2 26.89	+51 2.3	0.360	1.151	58.1	18.1	104 W	84 13	5 21	14 53.86	-23 4.0	11.100	12.086	1.1	23.7	166 E	22 87
9 3	2 16.97	+49 53.3	0.359	1.165	55.9	18.0	107 W	85 14	5 31	14 50.34	-22 58.0	11.137	12.073	1.9	23.8	156 E	22 87
9 4	2 7.44	+48 40.7	0.359	1.179	53.6	18.0	110 W	86 15	468583 2007 LS								
9 5	1 58.31	+47 24.8	0.360	1.193	51.3	18.0	112 W	88 17	4 21	15 9.31	-14 4.7	2.341	3.311	5.4	22.8	162 W	31 78
9 6	1 49.58	+46 5.9	0.361	1.207	49.0	17.9	115 W	89 18	5 1	14 59.63	-13 9.3	2.253	3.256	2.0	22.5	173 W	32 77
9 7	1 41.24	+44 44.5	0.362	1.221	46.8	17.9	118 W	90 19	5 11	14 49.05	-12 10.2	2.195	3.199	2.5	22.4	172 E	33 76
9 8	1 33.28	+43 20.8	0.364	1.234	44.5	17.9	121 W	98 21	5 21	14 38.44	-11 11.7	2.169	3.140	6.3	22.5	160 E	34 75
9 10	1 18.48	+40 28.5	0.369	1.261	40.0	17.8	126 W	85 24	5 31	14 28.65	-10 18.6	2.171	3.080	10.0	22.7	148 E	35 74
9 12	1 5.11	+37 32.0	0.376	1.288	35.7	17.8	132 W	83 26	380125 1996 UC₁								
9 14	0 53.06	+34 34.2	0.384	1.314	31.4	17.8	137 W	80 29	4 21	15 9.59	-20 56.0	1.887	2.853	6.9	22.4	160 W	24 85
9 16	0 42.22	+31 38.1	0.395	1.340	27.4	17.7	142 W	77 32	5 1	14 59.21	-20 37.6	1.825	2.826	2.9	22.1	172 W	24 85
9 18	0 32.49	+28 45.8	0.408	1.365	23.6	17.7	147 W	74 35	5 11	14 47.93	-20 10.7	1.791	2.798	2.2	22.0	174 E	25 84
9 20	0 23.78	+25 59.4	0.422	1.390	20.0	17.7	152 W	71 38	5 21	14 36.86	-19 38.4	1.787	2.769	6.4	22.2	162 E	25 84
9 22	0 15.98	+23 20.5	0.438	1.415	16.8	17.8	156 W	68 41	5 31	14 27.08	-19 5.6	1.810	2.739	10.5	22.3	151 E	26 83
9 24	0 9.02	+20 50.0	0.456	1.440	14.1	17.8	160 W	66 43	492478 2014 NB₃₉								
9 26	0 2.81	+18 28.7	0.476	1.464	11.8	17.8	163 E	63 46	4 21	15 10.03	-15 34.2	1.829	2.801	6.5	23.7	162 W	29 80
9 28	23 57.28	+16 16.8	0.498	1.488	10.2	17.9	165 E	61 48	4 26	15 3.55	-14 49.2	1.803	2.795	4.3	23.6	168 W	30 79
10 3	23 46.03	+11 28.1	0.558	1.547	9.4	18.2	165 E	56 53	5 1	14 56.77	-14 2.2	1.784	2.789	2.1	23.4	174 W	31 78
10 8	23 37.80	+7 34.0	0.626	1.604	11.8	18.6	161 E	53 56	5 6	14 49.83	-13 13.9	1.774	2.782	1.2	23.3	177 E	32 77
10 13	23 31.97	+4 26.7	0.701	1.659	14.9	19.1	155 E	49 60	5 11	14 42.91	-12 25.4	1.772	2.774	3.2	23.5	171 E	33 76
10 18	23 28.05	+1 58.5	0.783	1.713	17.8	19.5	148 E	47 62	5 16	14 36.16	-11 37.6	1.777	2.766	5.6	23.6	165 E	

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

2020	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45° - 26°	2020	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45° - 26°
457260 2008 RY₂₄ (continuation)									503859 1998 QO₅₂								
5 21	14 41.31	-21 9.2	2.235	3.219	5.1	22.5	163 E	24 85	4 21	15 28.46	-10 57.8	2.391	3.340	6.7	23.5	157 W	34 75
5 26	14 36.72	-20 42.6	2.261	3.222	6.8	22.6	158 E	24 85	5 1	15 20.16	-10 10.9	2.333	3.324	3.7	23.3	168 W	35 74
366833 2005 MC									409204 2003 WX₂₅								
4 21	15 13.59	-48 9.4	3.333	4.156	8.9	22.8	140 W	- 68	5 11	15 11.05	- 9 25.1	2.304	3.307	2.6	23.2	172 E	36 73
4 26	15 8.23	-48 2.8	3.304	4.158	8.2	22.8	144 W	- 68	5 21	15 1.88	- 8 44.0	2.306	3.289	5.1	23.3	163 E	36 73
5 1	15 2.65	-47 51.0	3.281	4.160	7.6	22.7	147 W	- 68	5 31	14 53.42	- 8 11.1	2.336	3.269	8.2	23.5	153 E	37 72
5 6	14 56.97	-47 34.0	3.264	4.161	7.2	22.7	149 W	- 68	357024 1999 YR₁₄								
5 11	14 51.30	-47 11.8	3.254	4.162	6.9	22.7	150 E	- 69	4 21	15 30.97	-25 6.1	3.018	3.945	6.4	24.6	154 W	20 89
5 16	14 45.76	-46 44.9	3.251	4.163	6.8	22.7	151 E	- 69	5 1	15 21.57	-25 7.6	2.998	3.979	3.8	24.4	165 W	20 89
5 21	14 40.45	-46 13.7	3.256	4.164	7.0	22.7	150 E	- 70	5 11	15 11.68	-25 1.4	3.008	4.012	1.8	24.3	173 E	20 89
5 26	14 35.47	-45 38.6	3.267	4.164	7.3	22.7	149 E	- 70	5 21	15 1.98	-24 48.9	3.049	4.044	3.1	24.5	168 E	20 89
510013 2009 YZ₁									5 31	14 53.13	-24 32.5	3.122	4.075	5.6	24.7	157 E	20 89
4 21	15 15.24	+19 40.5	2.666	3.520	9.9	22.8	143 W	65 44	402946 2007 TN₃₄₈								
4 26	15 10.94	+20 1.1	2.651	3.513	9.8	22.8	144 W	65 44	4 21	15 15.79	-14 21.6	1.882	2.849	6.8	22.5	160 W	31 78
5 1	15 6.43	+20 16.3	2.642	3.506	9.8	22.8	144 W	65 44	5 1	15 6.41	-13 38.8	1.836	2.837	2.9	22.2	172 W	31 78
5 6	15 1.80	+20 25.8	2.640	3.498	10.0	22.8	143 W	65 44	5 11	14 56.27	-12 54.6	1.819	2.825	2.2	22.1	174 E	32 77
5 11	14 57.15	+20 29.3	2.644	3.491	10.4	22.8	141 E	65 44	5 21	14 46.38	-12 13.2	1.830	2.811	6.2	22.3	162 E	33 76
5 16	14 52.55	+20 26.7	2.653	3.483	10.9	22.8	139 E	65 44	5 31	14 37.71	-11 39.2	1.868	2.797	10.2	22.5	151 E	33 76
5 21	14 48.11	+20 17.9	2.669	3.475	11.5	22.8	137 E	65 44	434007 2000 VH₆₁								
5 26	14 43.90	+20 3.2	2.690	3.466	12.2	22.9	134 E	65 44	4 21	15 18.80	-14 5.0	1.819	2.784	7.2	22.5	160 W	31 78
402946 2007 TN₃₄₈									4 26	15 13.79	-13 30.5	1.825	2.811	5.1	22.4	166 W	31 78
4 21	15 15.79	-14 21.6	1.882	2.849	6.8	22.5	160 W	31 78	5 1	15 8.63	-12 56.1	1.839	2.839	3.1	22.3	171 W	32 77
5 1	15 6.41	-13 38.8	1.836	2.837	2.9	22.2	172 W	31 78	5 6	15 3.47	-12 22.4	1.859	2.866	1.7	22.2	175 W	33 76
5 11	14 56.27	-12 54.6	1.819	2.825	2.2	22.1	174 E	32 77	5 11	14 58.42	-11 50.2	1.887	2.892	2.4	22.4	173 E	33 76
5 21	14 46.38	-12 13.2	1.830	2.811	6.2	22.3	162 E	33 76	5 16	14 53.60	-11 20.1	1.922	2.919	4.1	22.5	168 E	34 75
5 31	14 37.71	-11 39.2	1.868	2.797	10.2	22.5	151 E	33 76	5 21	14 49.11	-10 52.5	1.965	2.945	6.0	22.7	162 E	34 75
434007 2000 VH₆₁									5 26	14 45.05	-10 27.9	2.014	2.971	7.8	22.8	157 E	35 74
4 21	15 18.80	-14 5.0	1.819	2.784	7.2	22.5	160 W	31 78	371092 2005 UA₄₅₉								
4 26	15 13.79	-13 30.5	1.825	2.811	5.1	22.4	166 W	31 78	4 21	15 20.65	-11 4.0	2.559	3.517	5.8	22.4	159 W	34 75
5 1	15 8.63	-12 56.1	1.839	2.839	3.1	22.3	171 W	32 77	5 1	15 12.32	-10 36.0	2.529	3.525	3.0	22.3	170 W	34 75
5 6	15 3.47	-12 22.4	1.859	2.866	1.7	22.2	175 W	33 76	5 11	15 3.49	-10 10.0	2.529	3.532	2.3	22.2	172 E	35 74
5 11	14 58.42	-11 50.2	1.887	2.892	2.4	22.4	173 E	33 76	5 21	14 54.88	- 9 48.4	2.558	3.538	4.9	22.4	163 E	35 74
5 16	14 53.60	-11 20.1	1.922	2.919	4.1	22.5	168 E	34 75	5 31	14 47.14	- 9 33.7	2.617	3.543	7.7	22.6	152 E	35 74
5 21	14 49.11	-10 52.5	1.965	2.945	6.0	22.7	162 E	34 75	180186 2003 QZ₃₀								
5 26	14 45.05	-10 27.9	2.014	2.971	7.8	22.8	157 E	35 74	4 21	15 22.84	- 9 43.7	2.769	3.723	5.7	22.9	159 W	35 74
371092 2005 UA₄₅₉									5 1	15 14.02	- 8 54.8	2.753	3.746	3.1	22.8	168 W	36 73
4 21	15 20.65	-11 4.0	2.559	3.517	5.8	22.4	159 W	34 75	5 11	15 4.84	- 8 8.9	2.769	3.768	2.6	22.8	170 E	37 72
5 1	15 12.32	-10 36.0	2.529	3.525	3.0	22.3	170 W	34 75	5 21	14 55.95	- 7 29.2	2.815	3.788	4.9	23.0	161 E	38 71
5 11	15 3.49	-10 10.0	2.529	3.532	2.3	22.2	172 E	35 74	5 31	14 47.97	- 6 58.0	2.890	3.807	7.5	23.1	151 E	38 71
5 21	14 54.88	- 9 48.4	2.558	3.538	4.9	22.4	163 E	35 74	380980 2006 SN₁₁₀								
5 31	14 47.14	- 9 33.7	2.617	3.543	7.7	22.6	152 E	35 74	4 21	15 23.06	-10 56.5	2.457	3.412	6.2	22.7	159 W	34 75
180186 2003 QZ₃₀									5 1	15 14.31	-10 24.9	2.433	3.427	3.2	22.5	169 W	35 74
4 21	15 22.84	- 9 43.7	2.769	3.723	5.7	22.9	159 W	35 74	5 11	15 5.06	- 9 55.5	2.438	3.441	2.4	22.5	172 E	35 74
5 1	15 14.02	- 8 54.8	2.753	3.746	3.1	22.8	168 W	36 73	5 21	14 56.07	- 9 31.0	2.473	3.453	5.0	22.7	163 E	35 74
5 11	15 4.84	- 8 8.9	2.769	3.768	2.6	22.8	170 E	37 72	5 31	14 48.02	- 9 14.0	2.537	3.465	7.9	22.9	152 E	36 73
5 21	14 55.95	- 7 29.2	2.815	3.788	4.9	23.0	161 E	38 71	436761 2012 DN								
5 31	14 47.97	- 6 58.0	2.890	3.807	7.5	23.1	151 E	38 71	4 21	15 23.32	+ 9 18.8	2.557	3.462	8.4	23.4	150 W	54 55
380980 2006 SN₁₁₀									4 26	15 18.95	+ 9 53.2	2.534	3.453	7.9	23.4	152 W	55 54
4 21	15 23.06	-10 56.5	2.457	3.412	6.2	22.7	159 W	34 75	5 1	15 14.31	+10 24.0	2.518	3.444	7.7	23.3	153 W	55 54
5 1	15 14.31	-10 24.9	2.433	3.427	3.2	22.5	169 W	35 74	5 6	15 9.50	+10 50.6	2.510	3.435	7.8	23.3	152 W	56 53
5 11	15 5.06	- 9 55.5	2.438	3.441	2.4	22.5	172 E	35 74	5 11	15 4.62	+11 12.7	2.508	3.425	8.3	23.3	151 E	56 53
5 21	14 56.07	- 9 31.0	2.473	3.453	5.0	22.7	163 E	35 74	5 16	14 59.75	+11 29.7	2.513	3.415	8.9	23.4	148 E	56 53
5 31	14 48.02	- 9 14.0	2.537	3.465	7.9	22.9	152 E	36 73	5 21	14 54.99	+11 41.5	2.525	3.405	9.8	23.4	145 E	57 52
436761 2012 DN									5 26	14 50.42	+11 47.9	2.543	3.394	10.7	23.5	141 E	57 52
4 21	15 23.32	+ 9 18.8	2.557	3.462	8.4	23.4	150 W	54 55	508765 2108 P-L								
4 26	15 18.95	+ 9 53.2	2.534	3.453	7.9	23.4	152 W	55 54	4 21	15 28.25	-22 39.5	1.582	2.531	9.5	22.4	155 W	22 87
5 1	15 14.31	+10 24.0	2.518	3.444	7.7	23.3	153 W	55 54	5 1	15 18.54	-22 18.0	1.499	2.492	5.2	22.1	167 W	23 86
5 6	15 9.50	+10 50.6	2.510	3.435	7.8	23.3	152 W	56 53	5 11	15 7.10	-21 44.1	1.442	2.451	1.7	21.8	176 E	23 86
5 11	15 4.62	+11 12.7	2.508	3.425	8.3	23.3	151 E	56 53	5 21	14 55.15	-21 0.6	1.413	2.409	5.5	21.9	167 E	24 85
5 16	14 59.75	+11 29.7	2.513	3.415	8.9	23.4	148 E	56 53	5 31	14 44.12	-20 12.8	1.410	2.367	10.5	22.1	155 E	25 84
5 21	14 54.99	+11 41.5	2.525	3.405	9.8	23.4	145 E	57 52	315440 2007 WX₁								
5 26	14 50.42	+11 47.9	2.543	3.394	10.7	23.5	141 E	57 52	4 21	15 45.12	- 9 9.3	2.043	2.973	8.8	21.7	153 W	36 73
508765 2108 P-L									5 1	15 36.80	- 8 27.9	1.987	2.966	5.6	21.5	163 W	37 72
4 21	15 28.25	-22 39.5	1.582	2.531	9.5	22.4	155 W	22 87	5 11	15 27.29	- 7 50.0	1.959	2.957	3.6	21.4	169 W	37 72
5 1	15 18.54	-22 18.0	1.499	2.492	5.2	22.1	167 W	23 86	5 21	15 17.47	- 7 19.1	1.959	2.948	5.2	21.4	165 E	38 71
5																	