

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

2021	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°	2021	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°
368184 2000 RN₇₇										255071 2005 UH₆ (continuation)									
5 6	3 7.31	+25 23.7	1.921	0.942	10.3	21.4	10 E	3*	—	10 11	17 44.82	-25 58.2	0.547	0.951	78.5	19.5	69 E	16*	63*
5 11	3 29.15	+26 22.0	1.894	0.913	10.5	21.4	10 E	3*	—	10 13	18 3.49	-25 54.9	0.557	0.974	76.0	19.5	71 E	17*	65*
5 16	3 51.97	+27 8.2	1.865	0.884	10.8	21.3	9 E	3*	—	10 15	18 21.35	-25 43.3	0.569	0.996	73.5	19.5	73 E	18*	67*
5 21	4 15.72	+27 40.2	1.836	0.854	11.2	21.2	9 E	3*	—	10 17	18 38.31	-25 24.7	0.584	1.017	71.2	19.6	75 E	19*	69*
5 26	4 40.36	+27 56.1	1.806	0.825	11.8	21.1	10 E	4*	—	10 19	18 54.34	-25 0.2	0.600	1.039	69.0	19.6	77 E	20*	70*
5 31	5 5.79	+27 53.8	1.775	0.795	12.6	21.0	10 E	4*	—	10 21	19 9.43	-24 31.1	0.617	1.059	66.9	19.6	78 E	20*	72*
6 5	5 31.88	+27 31.7	1.743	0.767	13.8	20.9	10 E	4*	—	10 23	19 23.61	-23 58.5	0.637	1.079	65.0	19.7	80 E	21*	73*
6 10	5 58.48	+26 48.2	1.710	0.740	15.3	20.9	11 E	3*	1*	10 25	19 36.90	-23 23.2	0.657	1.099	63.2	19.7	81 E	22*	73*
6 15	6 25.37	+25 42.5	1.676	0.716	17.3	20.8	12 E	3*	3*	10 27	19 49.36	-22 46.1	0.679	1.119	61.5	19.8	82 E	22*	74*
6 20	6 52.38	+24 14.2	1.641	0.694	19.8	20.8	13 E	3*	5*	10 29	20 1.05	-22 7.7	0.702	1.138	59.9	19.9	82 E	23*	74*
6 25	7 19.30	+22 23.7	1.605	0.675	22.8	20.8	15 E	2*	8*	10 31	20 12.01	-21 28.6	0.726	1.156	58.5	19.9	83 E	24*	75*
6 30	7 45.99	+20 12.3	1.568	0.661	26.1	20.8	17 E	2*	10*	11 2	20 22.32	-20 49.1	0.750	1.174	57.1	20.0	83 E	24*	75*
7 5	8 12.35	+17 41.9	1.530	0.652	29.8	20.8	19 E	1*	12*	11 7	20 45.57	-19 10.8	0.815	1.217	54.1	20.2	84 E	26*	74*
7 10	8 38.31	+14 55.4	1.491	0.648	33.6	20.8	21 E	1*	14*	11 12	21 5.85	-17 34.8	0.883	1.258	51.5	20.3	84 E	27*	72*
7 15	9 3.87	+11 55.7	1.453	0.650	37.4	20.9	23 E	—	17*	11 17	21 23.80	-16 2.5	0.953	1.296	49.3	20.5	84 E	29*	70*
7 20	9 29.07	+8 46.5	1.415	0.658	41.1	21.0	25 E	—	19*	11 22	21 39.93	-14 34.1	1.026	1.332	47.4	20.7	83 E	30*	68*
7 25	9 54.00	+5 31.2	1.379	0.670	44.5	21.0	28 E	—	22*	11 27	21 54.62	-13 9.4	1.099	1.366	45.6	20.8	82 E	32*	65*
7 30	10 18.76	+2 13.2	1.345	0.687	47.4	21.1	30 E	—	24*	12 2	22 8.20	-11 48.1	1.174	1.398	44.0	21.0	80 E	33*	63*
8 4	10 43.48	+1 4.1	1.315	0.708	49.9	21.2	32 E	—	26*	12 7	22 20.90	-10 29.6	1.248	1.427	42.6	21.1	78 E	35*	60*
8 9	11 8.28	+4 17.8	1.288	0.732	51.8	21.3	35 E	—	28*	12 12	22 32.90	-9 13.5	1.323	1.454	41.2	21.2	77 E	36*	57*
8 14	11 33.26	+7 25.0	1.266	0.758	53.1	21.4	37 E	—	30*	12 17	22 44.33	-7 59.6	1.397	1.479	39.9	21.4	75 E	37*	54*
8 19	11 58.46	+10 22.8	1.249	0.786	54.0	21.4	39 E	—	32*	12 22	22 55.30	-6 47.5	1.470	1.502	38.6	21.5	72 E	38*	51*
422716 2000 WA₁₀₆										112221 2002 KH₄									
5 6	3 12.43	+18 7.3	2.846	1.844	2.8	21.5	5 E	—	—	5 6	3 35.17	+10 40.0	4.152	3.173	3.8	21.5	12 E	—	6*
5 16	3 37.53	+19 30.9	2.882	1.872	0.9	21.4	2 E	—	—	5 16	3 47.26	+10 32.0	4.149	3.156	3.0	21.4	9 E	—	1*
5 26	4 2.49	+20 40.0	2.913	1.901	1.1	21.5	2 W	—	—	5 26	3 59.51	+10 18.6	4.126	3.138	3.6	21.4	11 W	—	1*
6 5	4 27.23	+21 34.4	2.938	1.931	3.0	21.7	6 W	—	—	6 5	4 11.87	+9 59.0	4.083	3.118	5.1	21.4	16 W	—	8*
6 15	4 51.69	+22 14.1	2.956	1.961	5.0	21.8	10 W	—	3*	6 15	4 24.27	+9 31.9	4.021	3.098	6.9	21.5	21 W	—	15*
471612 2012 SR₄₅										506859 2007 VW₁₃₇									
5 6	3 13.34	+34 16.7	2.441	1.518	12.2	21.5	18 E	11*	—	5 6	4 7.40	+23 12.0	2.171	1.261	15.1	21.2	19 E	11*	6*
5 11	3 31.25	+35 28.9	2.438	1.513	12.1	21.5	18 E	10*	—	5 11	4 22.76	+23 37.0	2.122	1.199	14.8	21.1	18 E	9*	6*
5 16	3 49.75	+36 33.2	2.437	1.509	12.0	21.5	18 E	10*	—	5 16	4 39.08	+23 57.5	2.069	1.137	14.7	20.9	17 E	8*	6*
5 21	4 8.79	+37 28.6	2.438	1.506	11.8	21.4	18 E	10*	—	5 21	4 56.42	+24 12.3	2.013	1.074	14.8	20.7	16 E	7*	5*
5 26	4 28.29	+38 14.3	2.439	1.505	11.7	21.4	18 E	10*	—	5 26	5 14.88	+24 20.0	1.954	1.011	15.1	20.5	15 E	6*	5*
5 31	4 48.15	+38 49.7	2.442	1.505	11.6	21.4	17 E	10*	—	5 31	5 34.51	+24 19.0	1.893	0.948	15.8	20.3	15 E	5*	6*
6 5	5 8.29	+39 14.2	2.446	1.506	11.4	21.4	17 E	10*	—	6 5	5 55.41	+24 7.5	1.829	0.886	16.9	20.1	15 E	4*	6*
6 10	5 28.57	+39 27.5	2.452	1.509	11.2	21.4	17 E	9*	—	6 10	6 17.63	+23 43.2	1.762	0.824	18.6	20.0	15 E	4*	7*
6 15	5 48.85	+39 29.6	2.459	1.513	11.0	21.4	17 E	9*	—	6 15	6 11.23	+23 3.9	1.693	0.766	21.1	19.8	16 E	4*	8*
6 20	6 9.01	+39 20.5	2.468	1.519	10.8	21.4	16 E	9*	—	6 20	7 6.10	+22 7.2	1.622	0.711	24.2	19.6	17 E	3*	9*
6 25	6 28.91	+39 0.5	2.477	1.525	10.5	21.5	16 E	8*	—	6 25	7 32.27	+20 50.9	1.548	0.663	28.5	19.5	18 E	3*	11*
6 30	6 48.45	+38 30.2	2.488	1.534	10.2	21.5	16 E	8*	—	6 30	7 59.61	+19 13.3	1.473	0.623	33.9	19.4	20 E	3*	13*
7 5	7 5.53	+37 50.1	2.501	1.543	10.0	21.5	15 E	8*	—	7 5	8 27.94	+17 13.7	1.395	0.595	40.3	19.4	22 E	4*	15*
7 10	7 26.06	+37 1.0	2.514	1.553	9.7	21.5	15 E	7*	—	7 10	8 57.04	+14 52.7	1.318	0.582	47.3	19.4	25 E	4*	18*
255071 2005 UH₆										220006 2002 PS₈₇									
5 6	3 32.43	+20 14.2	2.412	1.431	7.3	21.4	10 E	3*	1*	5 6	4 9.82	+38 3.1	3.490	2.638	10.2	21.5	28 E	21*	—
5 16	3 58.04	+21 38.1	2.369	1.371	5.1	21.2	7 E	—	—	5 16	4 30.76	+38 18.2	3.513	2.615	8.8	21.4	23 E	17*	—
5 26	4 25.46	+22 50.7	2.311	1.302	3.0	20.9	4 E	—	—	5 26	4 52.17	+38 27.2	3.524	2.591	7.5	21.3	20 E	13*	—
6 5	4 55.07	+23 48.7	2.237	1.223	1.3	20.6	2 E	—	—	6 5	5 13.94	+38 28.9	3.522	2.567	6.5	21.3	17 E	10*	—
6 15	5 27.33	+24 27.5	2.150	1.135	1.6	20.3	2 W	—	—	6 15	5 36.00	+38 22.5	3.509	2.542	6.0	21.2	15 E	7*	—
6 20	5 44.62	+24 37.8	2.101	1.086	2.3	20.2	2 W	—	—	6 25	5 58.22	+38 7.2	3.483	2.515	6.1	21.2	15 W	8*	—
6 25	6 2.77	+24 40.7	2.049	1.035	3.0	20.1	3 W	—	—	7 5	6 20.50	+37 42.4	3.445	2.488	6.8	21.2	17 W	10*	—
6 30	6 21.89	+24 34.9	1.994	0.981	3.5	20.0	3 W	—	—	7 15	6 42.74	+37 7.9	3.395	2.461	7.9	21.2	19 W	13*	—
7 5	6 42.06	+24 18.8	1.937	0.925	3.9	19.8	4 W	—	—	7 25	7 4.80	+36 23.4	3.335	2.432	9.4	21.2	23 W	17*	—
7 10	7 3.39	+23 50.8	1.877	0.865	4.0	19.6	3 W	—	—	8 4	7 26.61	+35 29.1	3.264	2.403	11.0	21.2	27 W	21*	3*
7 15	7 25.99	+23 8.6	1.815	0.802	3.8	19.4	3 W	—	—	8 14	7 48.08	+34 25.0	3.182	2.373	12.8	21.1	31 W	25*	5*
7 20	7 49.97	+22 9.7	1.750	0.736	3.0	19.1	2 W	—	—	8 24	8 9.11	+33 11.6	3.090	2.343	14.5	21.1	36 W	29*	7*
7 25	8 15.45	+20 51.1	1.683	0.667	1.8	18.7	1 W	—	—	9 3	8 29.65	+31 49.1	2.989	2.312	16.3	21.1	40 W	34*	10*
7 30	8 42.59	+19 9.3	1.612	0.598	2.6	18.4	2 E	—	—	9 13	8 49.64	+30 18.3	2.880	2.281	18.1	21.0	45 W	39*	12*
8 4	9 11.51	+17 0.6	1.536	0.528	7.1	18.3	4 E	—	—	9 23	9 9.01	+28 39.6	2.762	2.249	19.9	21.0	50 W	43*	15*
8 9	9 42.27	+14 21.7	1.454	0.															

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

21/22	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°	21/22	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°
220006 2002 PS₈₇										141052 2001 XR₁									
<i>(continuation)</i>										<i>(continuation)</i>									
10 23	10 2.96	+23 2.1	2.368	2.151	24.8	20.7	65 W	57*	24*	11 17	18 9.34	-18 9.6	1.344	0.830	47.2	19.4	38 E	18*	28*
11 2	10 19.35	+20 57.5	2.227	2.118	26.3	20.6	71 W	60*	28*	11 22	18 38.18	-16 35.9	1.366	0.881	46.2	19.6	40 E	20*	29*
11 12	10 34.78	+18 47.4	2.082	2.084	27.5	20.4	76 W	62*	32*	11 27	19 5.15	-14 52.9	1.395	0.931	44.9	19.7	42 E	23*	29*
11 22	10 49.14	+16 32.0	1.935	2.051	28.5	20.2	82 W	61*	37*	12 2	19 30.33	-13 4.5	1.431	0.981	43.5	19.8	43 E	25*	29*
12 2	11 2.26	+14 11.1	1.787	2.018	29.2	20.1	89 W	59*	42*	12 7	19 53.82	-11 13.4	1.472	1.030	41.9	19.9	44 E	27*	28*
12 12	11 13.87	+11 44.3	1.640	1.985	29.6	19.9	95 W	57	48*	12 12	20 15.77	-9 21.9	1.518	1.079	40.3	20.1	45 E	29*	27*
12 22	11 23.68	+9 10.7	1.496	1.953	29.5	19.6	102 W	54	53*	12 17	20 36.32	-7 31.6	1.568	1.125	38.6	20.2	46 E	31*	26*
1 1	11 31.28	+6 29.0	1.357	1.921	28.9	19.3	109 W	51	57*	12 22	20 55.62	-5 43.4	1.622	1.171	37.0	20.3	46 E	32*	24*
1 11	11 36.11	+3 37.7	1.225	1.890	27.5	19.1	117 W	49	60	12 27	21 13.82	-3 58.0	1.678	1.215	35.4	20.4	46 E	34*	23*
1 21	11 37.56	+0 35.0	1.103	1.860	25.4	18.7	126 W	46	63	1 1	21 31.04	-2 15.7	1.736	1.258	33.8	20.5	45 E	34*	21*
244670 2003 KN₁₈										25974 2001 FF₄₃									
5 6	4 19.56	+14 25.5	2.129	1.243	17.1	21.3	21 E	7*	14*	5 6	4 54.32	+21 33.1	3.794	2.957	9.6	21.5	29 E	18*	16*
5 16	4 52.75	+15 55.4	2.073	1.173	16.9	21.1	20 E	5*	13*	5 16	5 9.38	+21 54.2	3.850	2.948	7.8	21.4	23 E	12*	13*
5 26	5 28.70	+17 7.9	2.015	1.105	17.2	20.9	19 E	3*	12*	5 26	5 24.82	+22 9.9	3.891	2.939	5.8	21.4	17 E	6*	9*
6 5	6 7.48	+17 57.3	1.956	1.042	17.8	20.8	18 E	2*	12*	6 5	5 40.56	+22 20.0	3.917	2.928	3.9	21.3	11 E	1*	4*
6 15	6 49.03	+18 17.6	1.898	0.988	19.0	20.6	18 E	1*	12*	6 15	5 56.53	+22 23.9	3.927	2.917	1.9	21.1	5 E	—	—
6 25	7 33.03	+18 2.9	1.844	0.943	20.6	20.5	19 E	1*	13*	6 25	6 12.64	+22 21.4	3.921	2.905	0.4	21.0	1 W	—	—
7 5	8 18.93	+17 8.8	1.796	0.913	22.7	20.5	20 E	2*	14*	7 5	6 28.83	+22 12.5	3.900	2.892	2.2	21.1	6 W	—	—
7 15	9 5.98	+15 33.8	1.758	0.899	25.0	20.4	22 E	3*	15*	7 15	6 45.02	+21 57.1	3.864	2.878	4.2	21.2	12 W	2*	4*
7 25	9 53.31	+13 20.0	1.731	0.902	27.2	20.5	24 E	5*	17*	7 25	7 1.13	+21 35.3	3.813	2.863	6.2	21.3	18 W	7*	9*
7 30	10 16.82	+12 0.3	1.723	0.911	28.1	20.5	25 E	5*	18*	8 4	7 17.11	+21 7.3	3.747	2.847	8.2	21.3	24 W	13*	12*
8 4	10 40.11	+10 33.5	1.719	0.923	28.9	20.6	26 E	6*	19*	8 14	7 32.88	+20 33.4	3.667	2.830	10.2	21.3	29 W	19*	16*
8 9	11 3.11	+9 0.7	1.719	0.939	29.6	20.6	27 E	7*	20*	8 24	7 48.36	+19 54.1	3.574	2.812	12.0	21.3	35 W	25*	19*
8 14	11 25.74	+7 23.4	1.723	0.959	30.0	20.7	28 E	8*	21*	9 3	8 3.47	+19 9.9	3.469	2.794	13.8	21.3	41 W	31*	22*
8 19	11 47.97	+5 43.0	1.731	0.982	30.3	20.8	29 E	9*	22*	9 13	8 18.15	+18 21.5	3.351	2.774	15.5	21.3	48 W	37*	25*
8 24	12 9.75	+4 0.8	1.744	1.008	30.3	20.8	30 E	9*	23*	9 23	8 32.29	+17 29.7	3.223	2.754	17.1	21.2	54 W	42*	28*
8 29	12 31.07	+2 18.3	1.761	1.036	30.2	20.9	31 E	10*	24*	10 3	8 45.80	+16 35.5	3.086	2.732	18.6	21.2	60 W	48*	32*
9 3	12 51.91	+0 36.8	1.783	1.066	29.8	21.0	32 E	11*	25*	10 13	8 58.56	+15 39.8	2.940	2.710	19.8	21.1	67 W	53*	35*
9 8	13 12.27	-1 2.7	1.808	1.098	29.4	21.1	32 E	11*	25*	10 23	9 10.44	+14 44.2	2.787	2.687	20.8	21.0	74 W	56*	38*
9 13	13 32.15	+2 39.2	1.838	1.131	28.8	21.2	33 E	12*	26*	11 2	9 21.26	+13 49.9	2.630	2.663	21.6	20.9	81 W	58*	42*
9 18	13 51.55	+4 11.6	1.871	1.165	28.0	21.2	33 E	12*	26*	11 11	9 30.84	+12 58.8	2.469	2.639	22.0	20.7	89 W	58	46*
9 23	14 10.48	+5 39.4	1.907	1.200	27.2	21.3	33 E	13*	26*	11 22	9 38.92	+12 12.8	2.308	2.613	22.1	20.6	97 W	57	49*
9 28	14 28.96	+7 2.1	1.947	1.236	26.3	21.4	33 E	13*	26*	12 2	9 45.25	+11 34.0	2.149	2.587	21.6	20.4	105 W	57	52*
10 3	14 47.00	-8 19.1	1.989	1.272	25.3	21.5	33 E	13*	25*	12 12	9 49.47	+11 4.9	1.996	2.560	20.6	20.2	114 W	56	53
504928 2011 CO₂										220909 2005 EO₁									
5 6	4 19.67	+13 21.7	2.147	1.263	17.0	21.5	21 E	6*	14*	5 6	8 21.12	+4 38.8	1.390	1.590	38.9	21.5	81 E	40*	59*
5 11	4 35.87	+15 16.4	2.151	1.255	16.3	21.4	20 E	5*	13*	5 16	8 32.97	+5 29.2	1.391	1.486	41.0	21.4	75 E	35*	56*
5 16	4 52.43	+17 5.8	2.156	1.249	15.7	21.4	19 E	5*	12*	5 26	8 47.96	+6 3.9	1.379	1.379	43.1	21.3	68 E	29*	54*
5 21	5 9.35	+18 49.2	2.162	1.244	15.0	21.4	18 E	5*	11*	6 5	9 5.97	+6 23.6	1.352	1.272	45.4	21.1	63 E	24*	51*
5 26	5 26.62	+20 26.0	2.169	1.242	14.4	21.4	18 E	5*	10*	6 15	9 27.01	+6 29.1	1.309	1.165	48.0	20.9	59 E	20*	48*
5 31	5 44.22	+21 55.4	2.177	1.242	13.7	21.3	17 E	5*	9*	6 25	9 51.15	+6 22.3	1.250	1.060	51.4	20.7	55 E	17*	46*
6 5	6 2.16	+23 17.0	2.186	1.245	13.2	21.3	16 E	5*	8*	7 5	10 18.55	+6 6.6	1.173	0.961	55.9	20.5	51 E	15*	43*
6 10	6 20.38	+24 30.0	2.197	1.249	12.6	21.3	16 E	5*	7*	7 10	10 33.54	+5 57.0	1.128	0.915	58.6	20.4	50 E	14*	42*
6 15	6 38.87	+25 34.1	2.208	1.256	12.2	21.3	15 E	5*	6*	7 15	10 49.44	+5 47.5	1.079	0.872	61.7	20.3	49 E	14*	41*
6 20	6 57.55	+26 28.9	2.220	1.264	11.8	21.4	15 E	5*	5*	7 20	11 6.25	+5 39.4	1.026	0.834	65.3	20.2	48 E	14*	40*
6 25	7 16.39	+27 14.1	2.234	1.275	11.5	21.4	14 E	6*	4*	7 25	11 24.00	+5 34.4	0.969	0.802	69.3	20.1	48 E	15*	40*
6 30	7 35.33	+27 49.6	2.248	1.287	11.2	21.4	14 E	6*	4*	7 30	11 42.71	+5 34.2	0.910	0.776	73.6	20.0	47 E	16*	39*
7 5	7 54.29	+28 15.3	2.263	1.301	11.0	21.4	14 E	6*	3*	8 4	12 2.42	+5 40.5	0.849	0.758	78.1	20.0	47 E	17*	39*
7 10	8 13.23	+28 31.5	2.279	1.317	10.9	21.5	14 E	7*	2*	8 9	12 23.22	+5 54.9	0.787	0.749	82.6	19.9	47 E	19*	38*
141052 2001 XR₁										220909 2005 EO₁									
5 6	4 25.62	+27 29.3	2.585	1.717	14.0	21.4	24 E	17*	8*	8 14	12 45.25	+6 18.8	0.725	0.749	86.8	19.9	48 E	21*	38*
5 16	4 49.53	+27 31.3	2.585	1.670	11.9	21.3	20 E	12*	6*	8 19	13 8.76	+6 52.6	0.665	0.759	90.4	19.9	49 E	24*	38*
5 26	5 14.26	+27 21.0	2.570	1.618	9.8	21.1	16 E	8*	4*	8 24	13 34.16	+7 36.2	0.607	0.777	93.1	19.9	50 E	27*	38*
6 5	5 39.87	+26 56.2	2.540	1.561	7.6	20.9	12 E	4*	2*	8 29	14 2.02	+8 28.0	0.553	0.803	94.5	19.8	52 E	30*	39*
6 15	6 6.38	+26 14.5	2.497	1.498	5.5	20.7	8 E	1*	—	9 3	14 33.05	+9 24.7	0.505	0.836	94.4	19.7	56 E	34*	40*
6 25	6 33.85	+25 13.0	2.440	1.429	3.4	20.4	5 E	—	—	9 8	15 8.00	+10 21.6	0.464	0.874	92.5	19.5	60 E	39*	41*
7 5	7 2.35	+23 48.8	2.371	1.355	1.3	20.1	2 E	—	—	9 13	15 47.35	+11 11.4	0.432	0.917	89.0	19.3	66 E	44*	43*
7 15	7 32.02	+21 58.6	2.292	1.276	1.0	19.9	1 W	—	—	9 17	16 4.31	+11 27.4	0.422	0.935	87.1	19.2	68 E	46*	44*
7 25	8 3.00	+19 38.4	2.203	1.190	2.8	19.8	3 W	—	—	9 22	16 21.91	+11 40.1	0.414	0.953	84.9	19.2	71 E	48*	45*
8 4	8 35.57	+16 44.1	2.106	1.099	4.6	19.6	5 W	—	—	9 27	16 40.05	+11 49.1	0.407	0.972	82.6	19.1	74 E	50*	46*
8 14	9 10.15	+13 11.2	2.005	1.002	6.0	19.4	6 W	—	—	9 30	16 58.62	+11 53.9	0.403	0.992	80.1	19.0	77 E	52*	48*
8 24	9 47.29	+8 55.9	1.900	0.902	7.1	19.1	6 W	—	—	9 33	17 17.48	+11 54.0	0.401	1.012	77.4	18.9	80 E	53*	49*
9 3	10 27.88	+3 56.4	1.797	0.801	7.8	18.7	6 W	—	—	9 38	18 4.75	+11 33.9	0.404	1.062	70.4	18.8	87 E	56*	51*
9 8	10 49.85	+1 10.9	1.746	0.752	8.2	18.6	6 W	—	—	9 43	18 50.10	+10 48.3	0.422	1.114	63.6	18.8	94		

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

2021	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°	2021	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°										
220909 2005 EO₁ (continuation)										456051 2006 AW																			
11 12	22 23.25	+ 4 35.1	0.898	1.540	37.4	20.4	109 E	50	59	5 6	15 56.82	-31 6.4	2.209	3.173	6.5	23.5	159 W	14	85	5 11	15 51.02	-30 51.0	2.172	3.156	5.0	23.4	164 W	14	85
11 17	22 37.61	+ 4 24.1	0.983	1.592	36.3	20.6	108 E	49	60	5 16	15 44.92	-30 31.5	2.142	3.138	3.8	23.3	168 W	14	85	5 21	15 38.67	-30 8.2	2.120	3.121	3.3	23.2	170 E	15	86
11 22	22 50.76	+ 4 19.5	1.071	1.643	35.3	20.9	106 E	49	60*	5 26	15 32.41	-29 41.4	2.105	3.103	4.0	23.2	168 E	15	86	5 31	15 26.29	-29 11.6	2.098	3.084	5.3	23.3	164 E	16	87
11 27	23 2.94	+ 4 20.6	1.162	1.694	34.5	21.1	104 E	49	59*	6 5	15 20.42	-28 39.5	2.098	3.065	7.0	23.4	159 E	16	87										
12 2	23 14.33	+ 4 26.5	1.256	1.744	33.7	21.3	101 E	49	59*																				
496965 2002 PQ₄₀										418929 2009 DM₁																			
5 6	15 41.15	- 2 10.9	2.332	3.303	5.6	22.4	161 W	43	66	5 6	15 57.24	- 8 6.1	3.776	4.745	3.8	23.6	162 W	37	72	5 16	15 50.11	- 7 29.3	3.753	4.745	2.6	23.5	168 W	38	71
5 16	15 32.84	- 1 17.6	2.289	3.267	5.4	22.3	162 W	44	65	5 26	15 42.84	- 6 57.1	3.761	4.745	3.3	23.6	164 E	38	71	6 5	15 35.87	- 6 31.3	3.800	4.743	5.0	23.7	156 E	38	71
5 26	15 24.32	+ 0 35.8	2.274	3.229	7.2	22.4	157 E	44	65	6 15	15 29.60	- 6 12.9	3.866	4.740	6.9	23.8	146 E	39	70										
6 5	15 16.32	+ 0 8.5	2.286	3.191	9.8	22.5	148 E	45	64																				
6 15	15 9.49	+ 0 2.6	2.322	3.152	12.4	22.6	138 E	45	64																				
267270 2001 RP₁₇										524203 2001 RA₄₂																			
5 6	15 42.13	-29 35.1	3.014	3.988	4.4	23.9	163 W	15	86	5 6	16 1.45	-46 29.6	3.863	4.738	6.7	24.6	147 W	-	70	5 11	15 56.73	-46 32.2	3.839	4.739	6.2	24.6	150 W	-	69
5 11	15 37.50	-29 26.4	2.996	3.986	3.3	23.8	167 W	16	87	5 16	15 51.83	-46 31.0	3.821	4.739	5.7	24.5	152 W	-	69	5 21	15 46.85	-46 26.0	3.810	4.739	5.4	24.5	154 E	-	70
5 16	15 32.77	-29 15.3	2.985	3.984	2.6	23.8	170 W	16	87	5 26	15 41.89	-46 17.4	3.806	4.738	5.4	24.5	154 E	-	70	5 31	15 37.03	-46 5.3	3.810	4.738	5.5	24.5	153 E	-	70
5 21	15 28.03	-29 2.1	2.982	3.982	2.6	23.8	170 E	16	87	6 5	15 32.36	-45 49.9	3.820	4.737	5.8	24.6	152 E	-	70										
5 26	15 23.38	-28 47.1	2.987	3.980	3.3	23.8	167 E	16	87																				
5 31	15 18.89	-28 30.5	2.999	3.977	4.4	23.9	162 E	16	87																				
6 5	15 14.65	-28 12.9	3.019	3.974	5.6	23.9	157 E	17	88																				
491765 2012 VU₁₁₀										461962 2006 UF₆₄																			
5 6	15 42.17	-25 47.9	1.849	2.835	5.3	22.7	165 W	19	90	5 6	16 7.17	-18 6.6	2.635	3.607	5.0	22.6	162 W	27	82	5 16	15 58.56	-17 28.0	2.617	3.623	1.9	22.4	173 W	28	81
5 11	15 36.82	-25 31.6	1.833	2.834	3.5	22.6	170 W	19	90	5 26	15 49.70	-16 49.0	2.629	3.637	1.8	22.4	173 E	28	81	6 5	15 41.30	-16 12.1	2.671	3.651	4.9	22.7	162 E	29	80
5 16	15 31.33	-25 12.5	1.825	2.832	2.2	22.5	174 W	20	89	6 15	15 33.97	-15 40.0	2.742	3.664	7.7	22.9	151 E	29	80										
5 21	15 25.83	-24 51.2	1.824	2.830	2.7	22.5	173 E	20	89																				
5 26	15 20.49	-24 28.2	1.830	2.828	4.3	22.7	168 E	21	88																				
5 31	15 15.43	-24 4.2	1.843	2.826	6.2	22.8	162 E	21	88																				
6 5	15 10.76	-23 39.7	1.863	2.823	8.1	22.9	157 E	21	88																				
523663 2012 OZ										483508 2003 CR₁																			
5 6	15 43.56	+18 1.3	1.385	2.275	15.4	23.4	143 W	63	46	5 6	16 10.93	-43 28.8	1.195	2.120	14.5	22.9	148 W	2	73	5 11	16 1.05	-43 25.6	1.170	2.117	12.8	22.8	152 W	2	73
5 11	15 37.82	+18 30.2	1.362	2.253	15.6	23.4	143 W	64	45	5 16	15 50.48	-43 10.8	1.151	2.113	11.4	22.7	156 W	2	73	5 21	15 39.59	-42 43.8	1.138	2.108	10.7	22.7	157 E	2	73
5 16	15 31.74	+18 49.3	1.345	2.231	16.1	23.4	142 W	64	45	5 26	15 28.80	-42 5.0	1.132	2.102	10.8	22.7	157 E	3	74	5 31	15 18.50	-41 15.7	1.132	2.096	11.7	22.7	155 E	4	75
5 21	15 25.52	+18 57.7	1.333	2.209	17.0	23.3	140 E	64	45	6 5	15 9.01	-40 17.7	1.138	2.089	13.2	22.8	152 E	5	76										
5 26	15 19.32	+18 54.8	1.325	2.186	18.0	23.3	138 E	64	45																				
5 31	15 13.34	+18 40.4	1.323	2.164	19.3	23.4	135 E	64	45																				
6 5	15 7.74	+18 14.8	1.325	2.140	20.6	23.4	132 E	63	46																				
524743 2003 UR₂₆₇										429192 2009 WM₅₃																			
5 6	15 45.13	-23 3.0	4.477	5.461	2.6	24.1	166 W	22	87	5 6	16 11.56	-12 55.3	2.733	3.699	5.3	22.7	160 W	32	77	5 16	15 38.73	-12 47.5	4.470	5.478	0.8	24.0	176 W	22	87
5 16	15 38.73	-22 47.5	4.470	5.478	0.8	24.0	176 W	22	87	5 26	15 54.45	-12 23.0	2.664	3.667	2.6	22.4	170 E	33	76	6 5	15 26.30	-22 10.7	4.547	5.512	3.6	24.2	160 E	23	86
5 26	15 32.32	-22 29.6	4.493	5.496	1.7	24.1	171 E	23	86	6 15	15 37.90	-12 8.0	2.713	3.632	7.9	22.7	150 E	33	76										
6 5	15 26.30	-22 10.7	4.547	5.512	3.6	24.2	160 E	23	86																				
6 15	15 20.99	-21 52.3	4.629	5.528	5.3	24.4	150 E	23	86																				
475513 2006 SS₃₅₁										477491 2010 CD₁₉																			
5 6	15 45.61	-24 48.9	1.487	2.475	6.1	22.5	165 W	20	89	5 6	16 11.69	-48 19.8	2.390	3.262	10.4	23.0	144 W	-	68	5 11	16 4.59	-48 14.5	2.378	3.276	9.5	23.0	148 W	-	68
5 11	15 39.58	-24 39.6	1.487	2.488	3.9	22.4	170 W	20	89	5 16	15 57.25	-48 2.4	2.373	3.291	8.7	23.0	151 W	-	68	5 21	15 49.86	-47 43.7	2.374	3.304	8.2	22.9	152 E	-	68
5 16	15 33.46	-24 27.7	1.494	2.502	2.2	22.3	175 W	21	88	5 26	15 42.61	-47 18.6	2.382	3.318	7.9	22.9	153 E	-	69	5 31	15 35.67	-46 47.8	2.397	3.330	8.0	23.0	153 E	-	69
5 21	15 27.44	-24 13.6	1.508	2.516	2.7	22.4	173 E	21	88	6 5	15 29.19	-46 11.9	2.419	3.343	8.5	23.0	151 E	-	70										
5 26	15 21.69	-23 57.9	1.529	2.529	4.7	22.5	168 E	21	88																				
5 31	15 16.36	-23 41.4	1.556	2.542	6.8	22.7	163 E	21	88																				
6 5	15 11.56	-23 24.7	1.590	2.555	8.9	22.8	157 E	22	87																				
406221 2007 BO₂₀										456938 2007 YV₅₆																			
5 6	15 47.97	-13 28.7	2.572	3.560	3.9	22.7	166 W	32	77	5 6	16 14.67	-10 3.9	0.750	1.730	12.1	22.3	159 W	35	74	5 16	15 55.89	- 8 37.2	0.648	1.651	7.3	21.7	168 W	36	73
5 16	15 39.00	-13 0.4	2.579	3.586	1.8	22.6	174 W	32	77	5 26	15 30.47	- 7 2.3	0.571	1.567	11.0	21.4	163 E	38	71	6 5	15 0.30	- 5 30.4	0.517	1.479	21.2	21.5	148 E	39	70
5 26	15 30.13	-12 35.4	2.617	3.612	3.6	22.7	167 E	32	77	6 15	14 28.92	- 4 17.4	0.485	1.387	33.2	21.5	132 E	41	68										
6 5	15 22.03	-12 15.7	2.684	3.636	6.4	22.9	156 E	33	76																				
6 15	15 15.25	-12 3.2	2.778	3.660	9.1	23.1	145 E	33	76																				
65407 2002 RP₁₂₀										406186 2006 WQ₁₁₇																			
5 6	15 50.44	+ 5 28.6	33.221	34.129	0.8	27.7	154 W	50	59	5 6	16 17.60	-36 1.4	2.685	3.611	7.4	22.6	153 W	9	80	5 11	16 12.88	-35 51.3	2.656	3.609	6.2	22.5	157 W	9	80
5 16	15 49.25	+ 5 32.4	33.242	34.161	0.7	27.7	155 W	51	58	5 16	16 7.91	-35 37.7	2.635	3.608	5.1	22.4	162 W	9	80	5 21	16 2.78	-35 20.5	2.621	3.606	4.3	22.4	165 W	10	81
5 26	15 48.05	+ 5 35.0	33.290	34.194	0.8	27.7	153 E	51	58	5 26	15 57.63	-34 59.9	2.614	3.605	4.0	22.3	166 E	10	81	5 31	15 52.54								

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

2021	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45° - 26°	21/22	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45° - 26°
18916 2000 OG₄₄									329774 2004 LE (continuation)								
5 6	16 24.93	-29 12.3	4.493	5.425	4.5	21.7	155 W	16 87	7 15	15 11.67	+18 16.6	1.805	2.274	25.7	20.9	104 E	62* 46
5 16	16 18.57	-29 1.2	4.415	5.398	2.7	21.6	165 W	16 87	7 20	15 8.20	+17 57.3	1.819	2.223	26.8	20.9	99 E	60* 46
5 26	16 11.72	-28 44.9	4.366	5.372	1.4	21.4	172 W	16 87	7 25	15 5.55	+17 32.9	1.832	2.171	27.8	20.9	95 E	58* 46
6 5	16 4.80	-28 24.0	4.348	5.344	2.3	21.5	168 E	17 88	7 30	15 3.72	+17 4.3	1.845	2.117	28.7	20.9	91 E	56* 47
6 15	15 58.24	-27 59.7	4.360	5.316	4.1	21.6	158 E	17 88	8 4	15 2.69	+16 32.0	1.856	2.063	29.4	20.9	87 E	54* 47
6 25	15 52.43	-27 33.6	4.401	5.288	5.9	21.7	148 E	17 88	8 9	15 2.45	+15 56.6	1.866	2.008	30.1	20.9	83 E	52* 48*
470004 2006 MJ₁₀																	
5 6	16 27.40	+30 11.0	1.843	2.589	17.9	22.9	128 W	75 34	8 14	15 2.99	+15 18.6	1.874	1.951	30.6	20.8	79 E	50* 48*
5 11	16 20.54	+30 37.9	1.813	2.569	17.9	22.9	129 W	76 33	8 19	15 4.26	+14 38.6	1.879	1.894	31.1	20.8	75 E	48* 48*
5 16	16 13.12	+30 54.5	1.787	2.548	18.0	22.8	129 W	76 33	8 24	15 6.26	+13 56.9	1.881	1.835	31.6	20.7	72 E	46* 47*
5 21	16 5.30	+30 59.9	1.766	2.526	18.2	22.8	129 W	76 33	8 29	15 8.95	+13 13.7	1.879	1.775	31.9	20.7	68 E	44* 45*
5 26	15 57.26	+30 53.2	1.750	2.504	18.6	22.8	128 E	76 33	9 3	15 12.32	+12 29.3	1.873	1.714	32.3	20.6	65 E	43* 43*
5 31	15 49.20	+30 34.1	1.739	2.481	19.2	22.7	127 E	76 33	9 8	15 16.36	+11 43.8	1.862	1.651	32.6	20.5	62 E	41* 42*
6 5	15 41.28	+30 2.6	1.733	2.457	19.8	22.7	125 E	75 34	9 13	15 21.06	+10 57.4	1.847	1.587	33.0	20.4	59 E	40* 39*
6 10	15 33.72	+29 19.0	1.731	2.433	20.6	22.7	123 E	74 35	9 23	15 32.46	+ 9 21.8	1.801	1.454	33.8	20.2	54 E	37* 35*
455213 2001 OE₈₄																	
5 6	16 27.68	-28 35.2	2.112	3.056	8.1	22.5	155 W	16 87	10 18	16 13.39	+ 4 58.3	1.586	1.094	38.4	19.4	43 E	32* 23*
5 11	16 22.53	-28 39.3	2.071	3.042	6.4	22.4	160 W	16 87	10 23	16 24.03	+ 3 57.0	1.524	1.017	40.2	19.2	41 E	31* 21*
5 16	16 16.93	-28 40.8	2.037	3.027	4.7	22.3	166 W	16 87	10 28	16 35.64	+ 2 49.8	1.455	0.938	42.6	19.0	40 E	30* 19*
5 21	16 10.98	-28 39.5	2.010	3.012	3.2	22.1	170 W	16 87	11 2	16 48.31	+ 1 34.0	1.379	0.858	45.7	18.8	38 E	29* 18*
5 26	16 4.83	-28 35.4	1.990	2.997	2.6	22.1	172 E	16 87	11 7	17 1.13	+ 0 5.4	1.295	0.777	49.9	18.6	37 E	28* 16*
5 31	15 58.61	-28 28.6	1.978	2.982	3.4	22.1	170 E	17 88	11 12	17 17.14	- 1 42.7	1.203	0.697	55.4	18.3	35 E	27* 15*
6 5	15 52.47	-28 19.3	1.973	2.966	4.9	22.2	165 E	17 88	11 14	17 23.46	- 2 33.7	1.164	0.665	58.1	18.2	35 E	26* 15*
6 10	15 46.55	-28 8.0	1.975	2.950	6.8	22.2	160 E	17 88	11 16	17 29.96	- 3 30.4	1.124	0.634	61.2	18.1	34 E	25* 15*
6 15	15 41.00	-27 55.1	1.985	2.934	8.6	22.3	154 E	17 88	11 18	17 36.60	- 4 34.2	1.083	0.604	64.7	18.1	33 E	24* 15*
6 20	15 35.92	-27 41.4	2.000	2.917	10.4	22.4	149 E	17 88	11 20	17 43.36	- 5 46.4	1.040	0.574	68.6	18.0	33 E	24* 14*
138524 2000 OJ₈																	
5 6	16 35.34	-19 32.5	2.585	3.526	6.9	22.1	155 W	25 84	11 22	17 50.18	- 7 8.7	0.997	0.546	73.1	17.9	32 E	23* 14*
5 16	16 26.32	-19 0.8	2.513	3.505	3.7	21.9	167 W	26 83	11 24	17 56.98	- 8 43.4	0.953	0.520	78.1	17.9	31 E	21* 14*
5 26	16 16.32	-18 26.1	2.470	3.483	0.9	21.6	177 W	27 82	11 26	18 3.66	-10 32.8	0.909	0.496	83.8	17.9	30 E	20* 15*
6 5	16 6.11	-17 50.4	2.459	3.459	3.4	21.8	168 E	27 82	11 28	18 10.09	-12 39.4	0.865	0.475	90.0	17.9	29 E	18* 15*
6 15	15 56.49	-17 16.3	2.477	3.433	6.8	22.0	157 E	28 81	11 30	18 16.07	-15 5.9	0.822	0.457	96.7	18.0	27 E	16* 15*
6 25	15 48.17	-16 46.6	2.523	3.407	9.8	22.1	145 E	28 81	12 2	18 21.38	-17 54.4	0.781	0.444	103.8	18.2	26 E	13* 15*
366455 2002 AZ₁₂₆																	
5 6	16 35.52	-24 58.1	2.076	3.017	8.3	21.3	154 W	20 89	12 4	18 25.77	-21 6.2	0.743	0.435	110.9	18.5	24 E	10* 15*
5 16	16 26.92	-24 35.6	1.995	2.986	4.7	21.0	166 W	20 89	12 6	18 28.96	-24 40.6	0.708	0.432	117.6	18.8	23 E	7* 15*
5 26	16 16.97	-24 5.2	1.943	2.954	1.1	20.7	177 W	21 88	12 8	18 30.70	-28 35.0	0.679	0.433	123.2	19.1	22 E	3* 15*
6 5	16 6.63	-23 28.5	1.918	2.922	3.6	20.8	170 E	22 87	12 10	18 30.77	-32 43.9	0.655	0.440	127.1	19.4	21 E	— 15*
6 15	15 56.91	-22 48.4	1.922	2.889	7.6	21.0	158 E	22 87	12 12	18 29.01	-36 59.9	0.637	0.452	128.6	19.6	21 E	— 14*
6 25	15 48.76	-22 9.1	1.952	2.854	11.4	21.1	146 E	23 86	12 13	18 27.42	-39 7.9	0.630	0.460	128.5	19.6	21 E	— 14*
7 5	15 42.83	-21 34.4	2.003	2.819	14.7	21.3	135 E	23 86	12 14	18 25.34	-41 14.6	0.625	0.468	127.8	19.5	22 E	— 14*
7 15	15 39.51	-21 7.4	2.073	2.784	17.4	21.4	125 E	24* 85	12 15	18 22.79	-43 18.7	0.621	0.478	126.7	19.5	23 E	— 13*
455190 2000 QE₂₅																	
5 6	16 38.74	- 6 20.1	2.353	3.278	8.3	21.8	152 W	39 70	12 16	18 19.76	-45 19.6	0.619	0.488	125.1	19.4	24 E	— 13*
5 16	16 30.40	- 5 35.1	2.289	3.259	6.0	21.6	160 W	39 70	12 17	18 16.28	-47 16.5	0.618	0.499	123.2	19.2	25 E	— 12*
5 26	16 21.03	- 4 57.7	2.254	3.239	5.0	21.5	164 W	40 69	12 18	18 12.35	-49 8.6	0.618	0.511	121.0	19.1	26 E	— 12*
6 5	16 11.38	- 4 31.0	2.247	3.217	6.3	21.6	160 E	40 69	12 19	18 8.00	-50 55.5	0.619	0.524	118.7	19.0	28 E	— 11*
6 15	16 2.25	- 4 16.9	2.268	3.195	8.9	21.7	151 E	41 68	12 20	18 3.24	-52 36.9	0.620	0.537	116.3	18.9	29 E	— 11*
6 25	15 54.38	- 4 16.6	2.315	3.171	11.6	21.8	141 E	41 68	12 21	17 58.10	-54 12.5	0.623	0.550	113.8	18.8	31 E	— 11*
448142 2008 SG₁₃₇																	
5 6	16 43.45	-29 28.3	1.385	2.321	12.0	21.3	151 W	16 87	12 22	17 52.61	-55 42.3	0.627	0.564	111.3	18.7	32 W	— 12*
5 16	16 34.06	-29 54.3	1.306	2.289	7.8	20.9	162 W	15 86	12 24	17 40.68	-58 24.4	0.635	0.593	106.4	18.5	35 W	— 16*
5 26	16 22.16	-30 7.3	1.251	2.256	4.2	20.6	171 W	15 86	12 26	17 27.69	-60 44.1	0.645	0.623	101.6	18.4	38 W	— 19*
6 5	16 9.15	-30 5.2	1.221	2.223	5.5	20.6	168 E	15 86	12 28	17 13.87	-62 43.2	0.657	0.654	97.2	18.4	41 W	— 22*
6 15	15 56.75	-29 49.2	1.216	2.189	10.2	20.8	158 E	15 86	12 30	16 59.45	-64 24.0	0.669	0.686	93.1	18.3	44 W	— 25*
6 25	15 46.65	-29 24.5	1.234	2.155	15.1	21.0	146 E	16 87	1 1	16 44.63	-65 48.7	0.681	0.718	89.3	18.3	47 W	— 28*
7 5	15 39.97	-28 57.9	1.271	2.121	19.5	21.1	136 E	16 87	1 3	16 29.56	-66 59.7	0.693	0.750	85.8	18.3	50 W	— 30*
7 15	15 37.26	-28 35.4	1.322	2.087	23.3	21.3	126 E	16* 87	1 5	16 14.38	-67 59.0	0.705	0.782	82.6	18.3	52 W	— 32*
7 25	15 38.64	-28 21.0	1.384	2.052	26.2	21.5	117 E	16* 88	1 7	15 59.16	-68 48.2	0.716	0.815	79.6	18.3	55 W	— 34*
329774 2004 LE									511096 2013 TO₁₃₉								
5 6	16 43.50	+ 9 49.7	2.044	2.905	12.4	21.3	142 W	55 54	5 6	16 47.50	-24 34.1	2.101	3.028	9.1	21.4	152 W	20 89
5 11	16 38.08	+11 4.8	1.985	2.864	12.0	21.2	144 W	56 53	5 16	16 38.90	-24 50.0	2.011	2.993	5.6	21.1	163 W	20 89
5 16	16 32.00	+12 18.1	1.933	2.823	11.8	21.1	145 W	57 52	5 26	16 28.59	-25 0.8	1.948	2.957	1.9	20.8	174 W	20 89
5 21	16 25.34	+13 27.9	1.889	2.782	11.9	21.0	145 W	58 51	6 5	16 17.48</							

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

2021	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45° - 26°	21/22	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45° - 26°	
402010 2003 QP₁₀₄ (continuation)									143637 2003 LP₆ (continuation)									
5 26	16 27.13	-39 46.7	2.424	3.398	5.6	21.8	161 W	5 76	11 2	16 25.68	+ 5 3.6	2.292	1.586	21.1	20.2	35 E	28*	11*
5 31	16 21.24	-39 40.1	2.420	3.399	5.3	21.8	162 E	5 76	11 12	16 44.34	+ 2 22.6	2.212	1.456	20.5	20.0	31 E	25*	6*
6 5	16 15.41	-39 29.3	2.423	3.400	5.5	21.8	161 E	6 77	11 22	17 5.34	- 0 21.6	2.115	1.315	20.0	19.6	27 E	21*	1*
6 10	16 9.76	-39 14.7	2.434	3.401	6.1	21.9	159 E	6 77	12 2	17 29.18	- 3 12.9	2.001	1.162	19.6	19.2	23 E	17*	-
6 15	16 4.43	-38 56.8	2.451	3.402	7.1	21.9	156 E	6 77	12 7	17 42.42	- 4 43.0	1.936	1.080	19.4	19.0	21 E	15*	-
6 20	15 59.53	-38 36.2	2.475	3.402	8.2	22.0	151 E	6 77	12 12	17 56.71	- 6 17.4	1.867	0.994	19.2	18.7	19 E	13*	-
6 25	15 55.14	-38 13.5	2.506	3.402	9.4	22.1	147 E	7 78	12 17	18 12.24	- 7 57.7	1.793	0.903	19.1	18.4	17 E	11*	-
529382 2009 WL₆₉									362925 2012 DX₃₀									
5 6	16 48.84	-13 27.6	2.142	3.067	9.0	22.0	152 W	32 77	5 6	16 55.83	+ 9 38.4	2.398	3.235	11.6	22.3	140 W	55	54
5 16	16 41.08	-13 3.8	2.057	3.035	5.9	21.7	162 W	32 77	5 11	16 52.14	+10 20.0	2.389	3.248	10.9	22.2	142 W	55	54
5 26	16 31.86	-12 42.7	1.998	3.001	3.3	21.5	170 W	32 77	5 16	16 48.13	+10 57.0	2.385	3.261	10.4	22.2	144 W	56	53
6 5	16 21.97	-12 26.3	1.968	2.967	4.2	21.5	168 E	33 76	5 21	16 43.89	+11 28.8	2.387	3.274	10.0	22.2	146 W	56	53
6 15	16 12.32	-12 16.9	1.966	2.932	7.5	21.6	158 E	33 76	5 26	16 39.51	+11 55.0	2.396	3.287	9.9	22.2	146 W	57	52
6 25	16 3.82	-12 16.1	1.990	2.896	11.0	21.8	147 E	33 76	5 31	16 35.08	+12 15.3	2.411	3.299	9.9	22.2	146 W	57	52
237838 2002 EV₇₁									376837 2001 QA₁₁₄									
5 6	16 49.74	-35 40.2	3.770	4.652	6.7	21.6	147 W	9 80	5 6	16 51.10	+11 54.6	2.879	3.701	10.3	22.4	139 W	57	52
5 16	16 43.31	-35 46.3	3.728	4.675	4.9	21.5	157 W	9 80	5 16	16 43.61	+12 28.3	2.829	3.693	9.3	22.3	144 W	57	52
5 26	16 36.14	-35 44.1	3.714	4.698	3.3	21.4	164 W	9 80	5 26	16 35.19	+12 44.1	2.803	3.684	8.9	22.3	146 W	58	51
6 5	16 28.78	-35 33.7	3.729	4.720	3.0	21.4	166 E	9 80	6 5	16 26.45	+12 40.0	2.802	3.674	9.3	22.3	144 E	58	51
6 15	16 21.76	-35 16.1	3.773	4.742	4.1	21.5	160 E	10 81	6 15	16 18.04	+12 15.2	2.826	3.663	10.3	22.3	140 E	57	52
6 25	16 15.59	-34 53.1	3.845	4.764	5.8	21.7	152 E	10 81	6 25	16 10.55	+11 31.0	2.874	3.651	11.6	22.4	134 E	57	52
141527 2002 FG₇									401994 2003 BS₂₇									
5 6	16 51.90	-10 3.4	1.424	2.353	12.3	22.2	150 W	35 74	5 6	16 59.62	- 6 54.6	2.715	3.606	8.7	22.1	147 W	38	71
5 11	16 44.71	- 9 28.8	1.408	2.366	10.1	22.1	156 W	36 73	5 16	16 52.49	- 6 22.2	2.654	3.603	6.4	22.0	156 W	39	70
5 16	16 37.00	- 8 55.6	1.399	2.378	7.9	22.0	161 W	36 73	5 26	16 44.30	- 5 56.5	2.619	3.600	4.8	21.9	163 W	39	70
5 21	16 28.95	- 8 24.6	1.397	2.389	6.3	21.9	165 W	37 72	6 5	16 35.65	- 5 39.7	2.614	3.595	4.8	21.9	163 E	39	70
5 26	16 20.77	- 7 56.3	1.402	2.399	5.6	21.9	167 W	37 72	6 15	16 27.23	- 5 33.1	2.637	3.590	6.6	22.0	156 E	39	70
5 31	16 12.68	- 7 31.5	1.415	2.409	6.3	21.9	165 E	37 72	6 25	16 19.66	- 5 37.4	2.687	3.584	8.9	22.1	147 E	39	70
6 5	16 4.86	- 7 10.7	1.435	2.417	7.9	22.1	161 E	38 71	394804 2008 RS₆₈									
6 10	15 57.50	- 6 54.3	1.463	2.425	9.9	22.2	156 E	38 71	5 6	17 0.52	-15 15.3	1.422	2.345	12.8	21.6	149 W	30	79
6 15	15 50.76	- 6 42.5	1.497	2.432	11.9	22.3	150 E	38 71	5 16	16 53.11	-14 48.8	1.341	2.316	8.6	21.3	160 W	30	79
6 20	15 44.75	- 6 35.3	1.538	2.439	13.9	22.5	145 E	38 71	5 26	16 43.31	-14 24.7	1.283	2.287	4.5	20.9	170 W	31	78
143637 2003 LP₆									524639 2003 SA₁₆₉									
5 6	16 54.93	+38 21.3	2.348	2.960	17.5	21.5	118 W	83 26	5 6	17 1.13	-15 45.6	2.186	3.094	9.7	22.5	149 W	29	80
5 11	16 47.97	+39 16.9	2.318	2.938	17.6	21.5	119 W	84 25	5 16	16 53.33	-15 29.6	2.107	3.077	6.4	22.3	160 W	30	79
5 16	16 40.32	+40 3.8	2.292	2.916	17.7	21.5	119 W	85 24	5 26	16 43.98	-15 15.0	2.056	3.059	3.2	22.0	170 W	30	79
5 21	16 32.08	+40 41.0	2.271	2.894	17.9	21.4	118 W	86 23	6 5	16 33.87	-15 3.2	2.032	3.039	2.9	22.0	171 E	30	79
5 26	16 23.43	+41 7.3	2.255	2.870	18.2	21.4	118 W	86 23	6 15	16 23.92	-14 55.6	2.038	3.019	6.1	22.1	162 E	30	79
5 31	16 14.52	+41 22.2	2.243	2.846	18.6	21.4	117 E	86 23	6 25	16 15.03	-14 53.9	2.071	2.998	9.6	22.3	151 E	30	79
6 5	16 5.56	+41 25.2	2.235	2.820	19.0	21.4	115 E	86 23	455578 2004 RA₂₁₆									
6 10	15 56.73	+41 16.3	2.232	2.794	19.5	21.4	113 E	86 23	5 6	17 2.25	-33 57.6	1.617	2.517	13.0	21.4	146 W	11	82
6 15	15 48.23	+40 55.8	2.232	2.768	20.0	21.4	111 E	86 23	5 11	16 58.39	-33 57.7	1.571	2.503	11.2	21.3	151 W	11	82
6 20	15 40.24	+40 24.3	2.235	2.740	20.5	21.4	109 E	85 24	5 16	16 53.77	-33 53.9	1.530	2.489	9.4	21.1	156 W	11	82
6 25	15 32.88	+39 42.7	2.242	2.712	21.1	21.4	106 E	85 24	5 21	16 48.52	-33 45.7	1.494	2.474	7.5	21.0	161 W	11	82
6 30	15 26.26	+38 52.1	2.252	2.682	21.6	21.4	104 E	84 25	5 26	16 42.77	-33 32.8	1.466	2.460	5.8	20.8	166 W	11	82
7 5	15 20.46	+37 53.7	2.264	2.652	22.1	21.4	101 E	83 26	5 31	16 36.69	-33 14.9	1.443	2.445	4.7	20.7	169 W	12	83
7 10	15 15.50	+36 48.4	2.277	2.621	22.6	21.4	98 E	81* 27	6 5	16 30.47	-32 52.3	1.428	2.430	4.7	20.7	169 E	12	83
7 15	15 11.43	+35 37.4	2.293	2.589	23.0	21.4	95 E	78* 28	6 10	16 24.29	-32 25.2	1.418	2.415	5.9	20.7	166 E	13	84
7 20	15 8.22	+34 21.8	2.309	2.556	23.4	21.4	92 E	75* 30	6 15	16 18.38	-31 54.4	1.416	2.400	7.8	20.8	161 E	13	84
7 25	15 5.85	+33 2.6	2.326	2.522	23.7	21.4	89 E	71* 31	6 20	16 12.91	-31 20.6	1.419	2.385	9.9	20.9	156 E	14	85
7 30	15 4.30	+31 40.6	2.343	2.487	24.0	21.4	86 E	68* 32	6 25	16 8.05	-30 44.9	1.429	2.370	12.0	21.0	151 E	14	85
8 4	15 3.51	+30 16.5	2.360	2.451	24.3	21.3	83 E	65* 34	7 5	16 3.91	-30 8.4	1.444	2.354	14.1	21.1	146 E	15	86
8 9	15 3.47	+28 50.9	2.376	2.414	24.4	21.3	80 E	62* 35*	7 5	16 0.57	-29 31.9	1.464	2.338	16.1	21.1	140 E	15	86
8 14	15 4.11	+27 24.4	2.392	2.376	24.5	21.3	77 E	59* 36*										
8 19	15 5.42	+25 57.3	2.406	2.337	24.6	21.3	74 E	57* 37*										
8 24	15 7.33	+24 30.2	2.418	2.297	24.6	21.3	71 E	54* 37*										
8 29	15 9.81	+23 3.1	2.429	2.255	24.5	21.2	68 E	52* 37*										
9 3	15 12.85	+21 36.4	2.438	2.213	24.4	21.2	65 E	50* 36*										
9 8	15 16.40	+20 10.1	2.444	2.169	24.3	21.2	62 E	48* 35*										
9 13	15 20.45	+18 44.4	2.447	2.123	24.1	21.1	60 E	46* 33*										
9 18	15 24.97	+17 19.4	2.448	2.077	23.9	21.1	57 E	44* 32*										
9 23	15 29.95	+15 55.2	2.445	2.029	23.7	21.0	54 E	42* 30*										
9 28	15 35.38	+14 31.7	2.439	1.980	23.4	20.9	52 E	40* 28*										
10 3	15 41.24	+13 8.9	2.430	1.929	23.1	20.8	49 E	38* 26*										
10 8	15 47.54	+11 46.8	2.416	1.876	22.8	20.8	47 E	37* 24*										
10 13	15 54.27	+10 25.3	2.400	1.822	22.4	20.7	44 E	35* 21*										
10 18	16 1.44	+ 9 4.4	2.379	1.766	22.1	20.6	42 E	33* 19*										
10 23	16 9.05	+ 7 44.0	2.354	1.708	21.8	20.5	40 E	32* 16*										

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

2021	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°	2021	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°
455578 2004 RA ₂₁₆ (continuation)										397474 2007 PP ₆ (continuation)									
7 10	15 58.12	-28 56.4	1.489	2.322	18.0	21.2	135 E	16	87	6 15	16 30.92	-20 10.1	2.284	3.276	4.5	22.1	165 E	25	84
7 15	15 56.57	-28 22.7	1.518	2.306	19.7	21.3	130 E	17	88	6 25	16 19.01	-20 5.5	2.388	3.326	8.0	22.4	153 E	25	84
7 20	15 55.94	-27 51.4	1.550	2.290	21.3	21.4	125 E	17*	88	432509 2010 FF ₇									
7 25	15 56.21	-27 22.7	1.585	2.274	22.7	21.5	120 E	17*	89	5 6	17 30.98	-25 14.6	1.037	1.934	18.8	22.0	142 W	20	89
506446 2001 RD ₁₄₂										5 11	17 23.20	-25 45.2	0.958	1.894	16.2	21.7	148 W	19	90
5 6	17 2.39	-11 26.8	2.702	3.597	8.6	22.0	148 W	34	75	5 16	17 13.08	-26 17.1	0.885	1.853	13.1	21.3	155 W	19	90
5 16	16 55.52	-11 17.4	2.604	3.562	6.1	21.8	158 W	34	75	5 21	17 0.35	-26 48.7	0.819	1.810	9.6	21.0	163 W	18	89
5 26	16 47.32	-11 12.4	2.533	3.526	3.8	21.6	167 W	34	75	5 26	16 44.81	-27 17.2	0.759	1.766	5.7	20.6	170 W	18	89
6 5	16 38.35	-11 12.8	2.490	3.490	3.4	21.5	168 E	34	75	5 31	16 26.40	-27 39.1	0.708	1.719	3.5	20.3	174 E	17	88
6 15	16 29.32	-11 19.9	2.478	3.453	5.6	21.6	161 E	34	75	6 5	16 5.30	-27 49.8	0.665	1.671	7.1	20.3	168 E	17	88
6 25	16 20.95	-11 34.3	2.493	3.414	8.4	21.7	150 E	33	76	6 10	15 42.05	-27 45.2	0.631	1.621	12.9	20.3	159 E	17	88
370785 2004 SS ₅₅										6 15	15 17.51	-27 22.5	0.607	1.569	19.4	20.4	149 E	18	89
5 6	17 8.85	+ 6 54.8	3.124	3.939	9.7	22.3	139 W	52	57	6 20	14 52.78	-26 41.6	0.592	1.514	26.1	20.4	139 E	18	89
5 16	17 2.61	+ 7 58.0	3.063	3.932	8.5	22.2	145 W	53	56	6 25	14 28.89	-25 45.4	0.585	1.458	32.8	20.5	129 E	19*	90
5 26	16 55.35	+ 8 48.5	3.027	3.924	7.8	22.1	148 W	54	55	6 30	14 6.67	-24 38.4	0.585	1.398	39.4	20.6	119 E	19*	89
6 5	16 47.56	+ 9 23.2	3.017	3.915	7.9	22.1	148 E	54	55	7 5	13 46.57	-23 26.1	0.589	1.337	45.7	20.7	110 E	18*	87
6 15	16 39.79	+ 9 40.3	3.033	3.905	8.7	22.2	145 E	55	54	7 10	13 28.75	-22 13.1	0.597	1.272	51.7	20.8	101 E	17*	86
6 25	16 32.63	+ 9 39.5	3.073	3.895	9.9	22.2	139 E	55	54	7 15	13 13.04	-21 2.4	0.606	1.205	57.5	20.9	92 E	15*	85*
349930 2009 XH ₁₇										7 20	12 59.09	-19 55.1	0.615	1.134	63.1	21.0	84 E	12*	78*
5 6	17 11.90	-25 32.9	1.467	2.373	13.7	21.5	146 W	19	90	7 25	12 46.40	-18 50.5	0.623	1.060	68.7	21.0	76 E	10*	70*
5 16	17 4.39	-25 25.9	1.379	2.346	9.5	21.2	157 W	20	89	7 30	12 34.40	-17 46.2	0.629	0.982	74.6	21.1	69 E	7*	63*
5 26	16 54.12	-25 10.6	1.315	2.318	4.7	20.8	169 W	20	89	8 4	12 22.48	-16 38.0	0.632	0.900	80.9	21.1	61 E	4*	55*
6 5	16 42.16	-24 46.2	1.275	2.289	1.4	20.5	177 E	20	89	8 9	12 9.87	-15 19.5	0.632	0.813	88.2	21.2	53 E	1*	47*
6 15	16 29.98	-24 14.2	1.262	2.260	6.5	20.8	166 E	21	88	8 14	11 55.69	-13 40.8	0.629	0.721	97.0	21.3	45 E	—	38*
6 25	16 19.18	-23 38.9	1.273	2.230	11.7	21.0	154 E	21	88	340844 2006 WK ₁₃₉									
7 5	16 11.02	-23 5.3	1.306	2.199	16.5	21.2	142 E	22	87	5 6	17 31.11	-20 57.5	1.164	2.055	17.6	21.3	142 W	24	85
7 15	16 6.28	-22 38.4	1.357	2.168	20.6	21.4	131 E	22	87	5 16	17 26.86	-20 50.0	1.077	2.029	13.2	21.0	153 W	24	85
452651 2005 UP ₂₃₁										5 26	17 19.16	-20 41.4	1.009	2.002	8.0	20.6	164 W	24	85
5 6	17 12.28	-21 37.5	1.123	2.041	15.8	21.8	146 W	23	86	6 5	17 8.82	-20 31.7	0.962	1.976	2.3	20.2	176 W	24	85
5 16	17 7.09	-21 17.6	1.038	2.009	11.2	21.4	157 W	24	85	6 10	17 3.08	-20 26.8	0.948	1.962	1.7	20.1	177 E	25	84
5 26	16 58.69	-20 52.8	0.973	1.977	5.7	21.0	169 W	24	85	6 15	16 57.27	-20 21.9	0.939	1.949	4.6	20.2	171 E	25	84
6 5	16 48.14	-20 23.9	0.931	1.945	1.2	20.6	178 E	25	84	6 20	16 51.63	-20 17.6	0.936	1.936	7.7	20.3	165 E	25	84
6 15	16 37.01	-19 53.9	0.912	1.914	7.1	20.8	167 E	25	84	6 25	16 46.39	-20 14.2	0.939	1.923	10.8	20.5	159 E	25	84
6 25	16 27.20	-19 27.4	0.914	1.884	13.3	21.1	155 E	26	83	6 30	16 41.75	-20 11.9	0.946	1.910	13.8	20.6	153 E	25	84
7 5	16 20.26	-19 9.0	0.935	1.854	19.0	21.3	144 E	26	83	7 5	16 37.87	-20 11.3	0.958	1.898	16.6	20.7	148 E	25	84
7 15	16 17.19	-19 2.2	0.971	1.825	23.9	21.5	133 E	26	83	7 10	16 34.89	-20 12.7	0.975	1.885	19.9	20.8	142 E	25	84
422757 2001 TL ₇										7 15	16 32.92	-20 16.2	0.995	1.873	21.7	20.9	137 E	25	84
5 6	17 15.56	-18 35.7	2.014	2.904	11.3	21.6	146 W	26	83	7 20	16 32.01	-20 22.0	1.019	1.860	23.9	21.0	132 E	25	84
5 16	17 8.83	-17 46.7	1.915	2.872	8.0	21.4	157 W	27	82	7 25	16 32.16	-20 30.0	1.045	1.848	25.9	21.1	127 E	24	85
5 26	17 0.14	-16 54.3	1.842	2.840	4.4	21.1	168 W	28	81	7 30	16 33.36	-20 40.1	1.074	1.836	27.6	21.2	123 E	24*	85
6 5	16 50.24	-16 1.0	1.796	2.807	2.3	20.9	173 E	29	80	8 4	16 35.59	-20 52.1	1.105	1.825	29.2	21.3	119 E	24*	85
6 15	16 40.09	-15 10.0	1.779	2.773	5.4	21.0	165 E	30	79	8 9	16 38.82	-21 5.6	1.138	1.813	30.5	21.4	115 E	24*	85
6 25	16 30.74	-14 24.9	1.789	2.738	9.4	21.2	154 E	31	78	8 14	16 43.00	-21 20.5	1.172	1.802	31.7	21.5	111 E	23*	85
7 5	16 23.09	-13 49.0	1.823	2.703	13.2	21.3	143 E	31	78	168318 1989 DA									
7 15	16 17.75	-13 24.1	1.877	2.667	16.5	21.5	132 E	32	77	5 6	17 33.22	-34 31.1	1.149	2.026	18.8	21.7	140 W	10	81
397195 2006 BO ₁₄₉										5 11	17 26.29	-34 43.5	1.146	2.060	16.1	21.6	146 W	10	81
5 6	17 17.55	+ 9 29.0	2.146	2.952	13.8	21.7	136 W	54	55	5 16	17 18.49	-34 50.4	1.148	2.093	13.4	21.6	151 W	10	81
5 11	17 14.08	+10 1.5	2.123	2.959	13.0	21.7	139 W	55	54	5 21	17 10.09	-34 51.1	1.156	2.125	10.7	21.5	157 W	10	81
5 16	17 10.16	+10 29.4	2.106	2.966	12.2	21.6	142 W	55	54	5 26	17 1.38	-34 45.4	1.170	2.157	8.2	21.5	162 W	10	81
5 21	17 5.87	+10 52.0	2.094	2.972	11.6	21.6	144 W	56	53	5 31	16 52.64	-34 33.4	1.190	2.189	6.2	21.5	166 W	10	81
5 26	17 1.30	+11 8.8	2.088	2.978	11.1	21.6	145 W	56	53	6 5	16 44.16	-34 15.7	1.217	2.220	5.4	21.5	168 E	11	82
5 31	16 56.56	+11 19.3	2.088	2.984	10.9	21.6	146 W	56	53	6 10	16 36.19	-33 53.2	1.251	2.251	6.0	21.6	167 E	11	82
6 5	16 51.74	+11 23.4	2.094	2.990	10.9	21.6	146 E	56	53	6 15	16 28.95	-33 27.0	1.291	2.281	7.6	21.8	163 E	12	83
6 10	16 46.96	+11 20.9	2.106	2.996	11.2	21.6	145 E	56	53	6 20	16 22.60	-32 58.6	1.338	2.311	9.6	22.0	158 E	12	83
6 15	16 42.33	+11 11.8	2.124	3.001	11.7	21.6	143 E	56	53	6 25	16 17.22	-32 29.2	1.390	2.340	11.5	22.2	153 E	13	84
6 20	16 37.96	+10 56.4	2.148	3.006	12.3	21.7	141 E	56	53	6 30	16 12.86	-31 59.9	1.448	2.369	13.4	22.4	147 E	13	84
6 25	16 33.92	+10 35.2	2.177	3.011	13.1	21.7	138 E	56	53	210669 2000 QK ₁₁₇									
6 30	16 30.29	+10 8.6	2.212	3.015	13.9	21.8	135 E	55	54	5 6	17 33.97	+ 4 46.6	2.392	3.182	13.0	21.4	135 W	50	59
289282 2004 XB ₁₆₇										5 16	17 27.54	+ 5 33.3	2.323	3.183	11.2	21.2	142 W	51	58
5 6	17 19.60	-14 49.7	1.983	2.864	11.8	21.4	144 W	30	79	5 26	17 19.48	+ 6 4.8	2.278	3.183	9.7	21.1	148 W	51	58
5 16	17 12.43	-14 41.2	1.894	2.844	8.5	21.1	155 W	30	79	6 5	17 10.39	+ 6 17.6	2.257	3.182	8.9	21.1	151 W	51	58
5 26	17 3.22	-14 36.0	1.830	2.823	5.0	20.9	166 W	30	79	6 15	17 1.01	+ 6 9.6	2.262	3.179	9.3	21.1	150 E	51	58
6 5	16 52.74	-14 35.2	1.793	2.801	2.9	20.7	172 W	30	79	6 25	16 52.15	+ 5 40.7	2.293	3.176	10.7	21.2	145 E	51	58
6 15	16 41.96	-14 39.8	1.785	2.779	5.4	20.8	165 E	30	79	7 5	16								

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

2021	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	$45^\circ-26^\circ$	2021	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	$45^\circ-26^\circ$				
524187 2001 OJ₇₈									453780 2011 KH₆ (continuation)												
5	6	17 38.49	-26 45.1	1.228	2.104	17.9	21.3	140 W	18	89	6	20	17 31.66	-19 35.9	0.763	1.776	3.7	19.7	174 E	25	84
5	16	17 34.94	-27 17.5	1.132	2.073	13.9	20.9	150 W	18	89	6	25	17 26.90	-19 30.0	0.758	1.765	6.8	19.8	168 E	25	84
5	26	17 27.73	-27 47.4	1.056	2.041	9.2	20.6	161 W	17	88	6	30	17 22.47	-19 25.6	0.758	1.755	10.0	20.0	163 E	26	83
6	5	17 17.50	-28 11.1	1.001	2.010	4.1	20.2	172 W	17	88	7	5	17 18.59	-19 22.9	0.763	1.745	13.1	20.1	157 E	26	83
6	10	17 11.63	-28 19.3	0.982	1.995	2.7	20.0	175 E	17	88	7	10	17 15.47	-19 22.2	0.772	1.735	16.2	20.2	152 E	26	83
6	15	17 5.56	-28 24.8	0.969	1.980	4.1	20.1	172 E	17	88	7	15	17 13.26	-19 23.8	0.785	1.726	19.1	20.3	146 E	26	83
6	20	16 59.55	-28 27.5	0.962	1.965	6.8	20.2	167 E	17	88	7	25	17 12.00	-19 33.5	0.822	1.709	24.1	20.6	137 E	25	84
6	25	16 53.84	-28 27.6	0.960	1.950	9.7	20.3	161 E	17	88	8	4	17 15.15	-19 51.0	0.871	1.695	28.2	20.8	128 E	25	84
6	30	16 48.68	-28 25.6	0.963	1.935	12.6	20.4	155 E	17	88	8	14	17 22.58	-20 13.8	0.929	1.682	31.4	21.0	120 E	25	84
7	5	16 44.24	-28 21.9	0.972	1.920	15.4	20.5	150 E	17	88	8	24	17 33.94	-20 38.3	0.994	1.673	33.8	21.2	113 E	24	85
7	10	16 40.71	-28 17.4	0.984	1.905	18.1	20.6	144 E	17	88	9	3	17 48.65	-21 0.4	1.064	1.665	35.4	21.4	107 E	24	85
7	15	16 38.22	-28 12.5	1.001	1.891	20.6	20.7	139 E	17	88	392476 2011 GD₃										
7	20	16 36.83	-28 8.0	1.022	1.877	22.9	20.8	134 E	17	88	5	6	18 20.17	-36 17.9	0.887	1.719	26.7	21.2	130 W	9	80
7	25	16 36.58	-28 4.3	1.045	1.863	24.9	20.9	129 E	17	88	5	11	18 19.14	-37 50.4	0.814	1.684	25.3	20.9	134 W	7	78
7	30	16 37.45	-28 1.5	1.071	1.849	26.8	21.0	125 E	17	88	5	16	18 16.26	-39 36.4	0.745	1.647	23.7	20.7	139 W	5	76
8	4	16 39.44	-27 59.9	1.100	1.836	28.4	21.1	120 E	17	88	5	21	18 11.04	-41 37.1	0.679	1.609	22.0	20.4	143 W	3	74
8	9	16 42.50	-27 59.4	1.130	1.823	29.9	21.2	116 E	17	88	5	26	18 2.84	-43 53.4	0.618	1.570	20.3	20.0	147 W	1	72
8	14	16 46.59	-27 59.9	1.161	1.810	31.1	21.2	113 E	17	88	5	28	17 58.52	-44 52.1	0.595	1.553	19.7	19.9	149 W	—	71
8	19	16 51.65	-28 1.2	1.194	1.798	32.2	21.3	109 E	17	88	5	30	17 53.52	-45 53.1	0.573	1.537	19.2	19.8	150 W	—	70
8	24	16 57.63	-28 2.9	1.228	1.786	33.1	21.4	105 E	17	88	6	1	17 47.74	-46 56.1	0.551	1.520	18.8	19.7	151 W	—	69
8	29	17 4.44	-28 4.7	1.262	1.774	33.8	21.5	102 E	16	88	6	3	17 41.09	-48 0.8	0.531	1.503	18.6	19.6	152 W	—	68
304088 2006 HX₅									392476 2011 GD₃												
5	6	17 40.84	-41 54.4	1.168	2.018	20.4	22.1	136 W	3	74	6	5	17 33.48	-49 6.6	0.511	1.486	18.6	19.5	152 W	—	67
5	11	17 35.25	-43 15.7	1.140	2.023	18.6	22.0	140 W	2	73	6	7	17 24.81	-50 12.9	0.493	1.468	18.9	19.4	152 W	—	66
5	16	17 28.13	-44 33.3	1.117	2.028	16.7	21.9	145 W	—	71	6	9	17 14.98	-51 18.8	0.475	1.450	19.5	19.3	152 W	—	65
5	21	17 19.55	-45 44.9	1.100	2.033	15.1	21.8	149 W	—	70	6	11	17 3.88	-52 23.3	0.458	1.432	20.4	19.2	151 E	—	64
5	26	17 9.70	-46 47.9	1.088	2.037	13.7	21.7	152 W	—	69	6	13	16 51.43	-53 25.2	0.443	1.414	21.6	19.1	149 E	—	63
5	31	16 58.86	-47 40.2	1.082	2.041	12.8	21.7	154 W	—	68	6	15	16 37.56	-54 22.8	0.428	1.395	23.2	19.1	147 E	—	62
6	5	16 47.41	-48 20.1	1.083	2.044	12.5	21.7	154 E	—	68	6	17	16 22.25	-55 14.6	0.415	1.376	25.1	19.0	145 E	—	61
6	10	16 35.80	-48 46.7	1.089	2.047	12.9	21.7	153 E	—	67	6	19	16 5.52	-55 58.7	0.403	1.357	27.3	19.0	142 E	—	60
6	15	16 24.53	-49 0.2	1.101	2.049	13.9	21.8	151 E	—	67	6	21	15 47.48	-56 33.4	0.392	1.338	29.7	19.0	139 E	—	59
6	20	16 14.06	-49 1.8	1.119	2.051	15.3	21.8	148 E	—	67	6	23	15 28.31	-56 56.8	0.382	1.318	32.4	19.0	136 E	—	59
6	25	16 4.73	-48 53.3	1.142	2.053	17.0	22.0	144 E	—	67	6	25	15 8.26	-57 7.5	0.373	1.298	35.3	19.0	133 E	—	59
6	30	15 56.80	-48 36.9	1.170	2.054	18.7	22.1	140 E	—	67	6	26	14 58.02	-57 7.7	0.369	1.288	36.8	19.0	131 E	—	59
409995 2006 WV₃									392476 2011 GD₃												
5	6	17 45.34	-11 6.0	1.514	2.359	16.8	21.4	138 W	34	75	6	27	14 47.69	-57 4.4	0.365	1.278	38.3	19.0	129 E	—	59
5	16	17 36.99	-11 8.0	1.461	2.383	12.8	21.2	149 W	34	75	6	28	14 37.31	-56 57.4	0.362	1.267	39.9	19.0	127 E	—	59
5	26	17 25.98	-11 19.6	1.429	2.405	8.5	21.0	160 W	34	75	6	29	14 26.95	-56 46.7	0.358	1.257	41.5	19.0	125 E	—	59
6	5	17 13.37	-11 41.1	1.424	2.425	5.0	20.8	168 W	33	76	6	30	14 16.65	-56 32.4	0.355	1.247	43.1	19.0	123 E	—	59
6	15	17 0.46	-12 12.3	1.445	2.445	5.6	20.9	166 E	33	76	7	1	14 6.45	-56 14.6	0.353	1.236	44.8	19.0	121 E	—	60
6	25	16 48.66	-12 51.8	1.494	2.462	9.3	21.1	157 E	32	77	7	2	13 56.40	-55 53.2	0.350	1.225	46.5	19.0	119 E	—	60
7	5	16 39.07	-13 38.1	1.568	2.479	13.2	21.4	146 E	31	78	7	3	13 46.53	-55 28.5	0.348	1.215	48.2	19.0	117 E	—	61
491007 2011 GL₆₂									392476 2011 GD₃												
5	6	17 50.81	+ 0 24.9	1.077	1.911	22.8	22.2	133 W	45	64	7	4	13 36.87	-55 0.5	0.346	1.204	50.0	19.1	115 E	—	61
5	11	17 42.95	+ 1 35.8	1.047	1.920	20.6	22.0	138 W	47	62	7	5	13 27.46	-54 29.5	0.344	1.193	51.7	19.1	113 E	—	62
5	16	17 33.86	+ 2 43.5	1.023	1.928	18.5	21.9	143 W	48	61	7	7	13 9.45	-53 19.1	0.341	1.171	55.3	19.1	109 E	—	63
5	21	17 23.69	+ 3 45.9	1.006	1.934	16.6	21.8	147 W	49	60	7	9	12 52.60	-51 58.8	0.338	1.149	58.9	19.2	105 E	—	64*
5	26	17 12.68	+ 4 41.1	0.994	1.939	15.1	21.8	150 W	50	59	7	11	12 36.93	-50 30.0	0.337	1.127	62.6	19.2	100 E	—	65*
5	31	17 1.11	+ 5 27.2	0.990	1.943	14.3	21.7	152 W	50	59	7	13	12 22.42	-48 54.4	0.335	1.104	66.3	19.3	96 E	—	65*
6	5	16 49.32	+ 6 2.9	0.993	1.945	14.4	21.7	151 E	51	58	7	15	12 9.00	-47 13.2	0.335	1.081	70.1	19.4	92 E	—	64*
6	10	16 37.66	+ 6 27.0	1.003	1.946	15.4	21.8	149 E	51	58	7	17	11 56.55	-45 27.3	0.335	1.057	73.8	19.4	88 E	—	63*
6	15	16 26.49	+ 6 39.4	1.019	1.946	17.0	21.9	146 E	52	57	7	19	11 44.98	-43 37.6	0.335	1.034	77.7	19.5	84 E	—	61*
6	20	16 16.10	+ 6 40.3	1.042	1.944	19.0	22.0	142 E	52	57	7	21	11 34.18	-41 44.6	0.336	1.010	81.6	19.6	79 E	—	58*
6	25	16 6.73	+ 6 30.9	1.071	1.940	21.0	22.1	137 E	52	57	7	23	11 24.04	-39 48.4	0.337	0.985	85.5	19.7	75 E	—	55*
6	30	15 58.51	+ 6 12.2	1.104	1.936	23.1	22.2	132 E	51	58	7	25	11 14.46	-37 49.3	0.339	0.961	89.5	19.8	71 E	—	52*
366431 2001 VB₉₉									392476 2011 GD₃												
5	6	17 53.29	+ 0 43.9	2.552	3.313	13.1	21.4	132 W	46	63	7	27	11 5.37	-35 47.1	0.340	0.936	93.6	19.9	67 E	—	49*
5	16	17 47.61	+ 0 58.5	2.441	3.288	11.2	21.2	141 W	46	63	7	29	10 56.68	-33 41.7	0.343	0.911	97.7	20.1	63 E	—	45*
5	26	17 40.00	+ 1 0.3	2.352	3.262	9.2	21.0	149 W	46	63	7	31	10 48.35	-31 32.9	0.346	0.885	102.0	20.3	59 E	—	41*
6	5	17 30.90	+ 0 46.5	2.288	3.235	7.7	20.9	155 W	46	63	8	2	10 40.31	-29 20.4	0.349	0.860	106.4	20.4	54 E	—	37*
6	15	17 20.93	+ 0 15.3	2.251	3.207	7.3	20.8	156 E	45	64	8	4	10 32.55	-27 4.0	0.353	0.834	110.9	20.7	50 E	—	33*
6	25	17 10.91	+ 0 33.7	2.243	3.178	8.5	20.9	152 E	44	65	8	9	10 14.18	-21 5.1	0.366	0.769	122.5	21.4	40 E	—	23*

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

2021										2021										
α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°		α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°		
283461 Leacipaola										483471 2002 LS₃₂										
					<i>(continuation)</i>										<i>(continuation)</i>					
<i>(h m s)</i>										<i>(h m s)</i>										
6 10	18 21.08	-33 10.6	1.020	2.009	9.1	20.1	162 W	12 83		6 20	17 57.07	-9 28.8	0.457	1.464	9.6	18.1	166 W	36 73		
6 15	18 15.72	-33 9.1	0.990	1.992	6.9	19.9	166 W	12 83		6 25	17 41.05	-7 11.9	0.408	1.410	12.9	17.9	162 E	38 71		
6 20	18 9.79	-33 3.0	0.967	1.975	5.2	19.7	170 W	12 83		6 30	17 21.64	-4 29.8	0.366	1.356	19.1	17.7	154 E	41 68		
6 25	18 3.52	-32 51.8	0.948	1.958	5.1	19.7	170 E	12 83		7 5	16 58.62	-1 20.7	0.330	1.299	27.2	17.7	144 E	44 65		
6 30	17 57.15	-32 35.3	0.936	1.941	6.6	19.7	167 E	12 83		7 10	16 32.00	+ 2 14.0	0.302	1.242	36.8	17.7	133 E	47 62		
7 5	17 50.95	-32 13.7	0.929	1.924	9.0	19.8	163 E	13 84		7 15	16 2.03	+ 6 9.0	0.280	1.183	47.7	17.7	120 E	51 58		
7 10	17 45.21	-31 47.6	0.927	1.907	11.7	19.9	158 E	13 84		7 17	15 49.18	+ 7 46.7	0.273	1.160	52.4	17.7	115 E	53* 56		
7 15	17 40.16	-31 17.8	0.931	1.890	14.5	19.9	152 E	14 85		7 19	15 35.89	+ 9 25.4	0.267	1.136	57.3	17.8	110 E	54* 55		
7 20	17 36.02	-30 45.4	0.939	1.874	17.3	20.0	147 E	14 85		7 21	15 22.18	+11 4.4	0.263	1.111	62.2	17.8	105 E	55* 53		
7 25	17 32.93	-30 11.4	0.951	1.857	19.9	20.1	142 E	15 86		7 23	15 8.07	+12 42.8	0.259	1.087	67.3	17.9	99 E	55* 51		
7 30	17 30.96	-29 36.9	0.967	1.841	22.3	20.2	137 E	15 86		7 25	14 53.59	+14 19.7	0.256	1.063	72.6	18.0	94 E	54* 50		
8 4	17 30.17	-29 2.6	0.987	1.826	24.5	20.3	132 E	16 87		7 27	14 38.74	+15 54.4	0.254	1.038	77.9	18.1	88 E	53* 48		
8 14	17 32.14	-27 56.8	1.034	1.795	28.4	20.5	123 E	17 88		7 29	14 23.55	+17 25.8	0.253	1.013	83.3	18.3	82 E	52* 47		
8 24	17 38.60	-26 56.4	1.089	1.766	31.4	20.7	114 E	18 89		7 31	14 8.05	+18 53.2	0.253	0.988	88.8	18.4	77 E	50* 45*		
9 3	17 49.03	-26 0.6	1.149	1.738	33.7	20.8	107 E	19* 90		8 2	13 52.26	+20 15.7	0.254	0.963	94.4	18.6	71 E	47* 42*		
9 13	18 2.91	-25 7.2	1.213	1.712	35.3	20.9	101 E	20* 89		8 4	13 36.19	+21 32.4	0.256	0.938	100.0	18.8	66 E	45* 39*		
9 23	18 19.70	-24 12.8	1.279	1.688	36.3	21.1	95 E	21* 88*		8 6	13 19.90	+22 42.5	0.259	0.913	105.7	19.1	60 E	42* 36*		
10 3	18 38.88	-23 14.0	1.346	1.666	36.9	21.1	89 E	22* 82*		8 8	13 3.42	+23 45.2	0.263	0.888	111.4	19.4	55 E	39* 32*		
10 13	19 0.03	-22 7.8	1.413	1.647	37.1	21.2	84 E	23* 77*		8 10	12 46.82	+24 39.6	0.268	0.863	117.1	19.7	49 E	35* 28*		
10 23	19 22.71	-20 51.6	1.480	1.631	36.9	21.3	80 E	24* 72*		8 12	12 30.18	+25 25.0	0.274	0.839	122.8	20.2	44 E	32* 24*		
11 2	19 46.57	-19 23.4	1.548	1.617	36.5	21.4	76 E	25* 66*		8 14	12 13.63	+26 0.9	0.281	0.814	128.5	20.7	39 E	29* 19*		
11 12	20 11.31	-17 42.1	1.615	1.606	35.8	21.4	72 E	27* 61*		8 16	11 57.27	+26 26.7	0.290	0.789	134.0	21.2	34 E	25* 15*		
11 22	20 36.62	-15 47.4	1.683	1.599	34.9	21.5	68 E	29* 55*												
283457 2001 MQ₃										154993 2005 EA₉₄										
5 6	18 38.83	-32 21.0	0.941	1.742	27.7	21.3	127 W	13 84		5 6	18 39.72	-15 54.4	1.412	2.160	22.4	21.3	125 W	29 80		
5 11	18 44.75	-32 33.3	0.879	1.713	26.8	21.1	130 W	12 83		5 16	18 35.49	-15 50.2	1.261	2.108	19.5	20.9	136 W	29 80		
5 16	18 50.11	-32 45.2	0.819	1.683	25.8	20.9	134 W	12 83		5 26	18 26.45	-15 54.6	1.124	2.052	15.4	20.5	148 W	29 80		
5 21	18 54.86	-32 56.6	0.762	1.654	24.5	20.6	137 W	12 83		6 5	18 12.02	-16 9.0	1.008	1.992	10.0	20.0	160 W	29 80		
5 26	18 58.93	-33 7.4	0.708	1.625	23.1	20.4	141 W	12 83		6 15	17 52.17	-16 32.7	0.917	1.928	4.3	19.4	172 W	28 81		
5 31	19 2.26	-33 17.3	0.657	1.597	21.4	20.7	145 W	12 83		6 20	17 40.54	-16 47.3	0.882	1.894	3.9	19.3	173 E	28 81		
6 5	19 4.76	-33 25.8	0.610	1.568	19.6	19.9	149 W	12 83		6 25	17 28.12	-17 3.1	0.854	1.859	6.9	19.3	167 E	28 81		
6 10	19 6.37	-33 32.1	0.565	1.540	17.5	19.6	153 W	11 82		6 30	17 15.25	-17 19.7	0.833	1.823	10.8	19.4	160 E	28 81		
6 15	19 7.06	-33 35.2	0.525	1.513	15.2	19.3	157 W	11 82		7 5	17 2.33	-17 36.6	0.819	1.785	15.1	19.5	153 E	27 82		
6 20	19 6.83	-33 34.1	0.487	1.486	12.8	19.1	161 W	11 82		7 10	16 49.80	-17 54.0	0.812	1.747	19.3	19.5	145 E	27 82		
6 25	19 5.75	-33 27.2	0.454	1.459	10.4	18.8	165 W	12 83		7 15	16 38.04	-18 12.0	0.811	1.707	23.5	19.6	138 E	27 82		
6 30	19 3.89	-33 12.9	0.423	1.434	8.3	18.5	168 W	12 83		7 20	16 27.38	-18 31.0	0.814	1.666	27.5	19.7	131 E	26 83		
7 5	19 1.39	-32 49.7	0.397	1.409	7.3	18.3	170 W	12 83		7 25	16 18.02	-18 51.3	0.821	1.624	31.3	19.8	124 E	26* 83		
7 10	18 58.50	-32 16.0	0.373	1.385	7.9	18.1	169 E	13 84		8 4	16 3.64	-19 37.7	0.842	1.535	38.1	19.9	111 E	25* 84		
7 15	18 55.54	-31 30.6	0.353	1.362	10.1	18.1	166 E	13 84		8 14	15 55.12	-20 34.0	0.866	1.441	43.9	20.0	100 E	22* 85		
7 20	18 52.89	-30 33.0	0.336	1.341	13.1	18.0	163 E	14 85		8 24	15 51.94	-21 41.5	0.885	1.340	49.0	20.0	90 E	19* 83*		
7 25	18 50.93	-29 23.1	0.323	1.321	16.6	18.0	158 E	16 87		9 3	15 53.25	-22 59.9	0.894	1.234	53.8	20.0	81 E	17* 75*		
7 30	18 49.97	-28 1.7	0.311	1.302	20.1	18.0	154 E	17 88		9 8	15 55.31	-23 43.0	0.892	1.179	56.2	19.9	76 E	15* 70*		
8 4	18 50.30	-26 30.0	0.303	1.285	23.6	18.1	150 E	19 90		9 13	15 58.15	-24 28.6	0.887	1.122	58.8	19.9	72 E	14* 66*		
8 9	18 52.17	-24 49.5	0.296	1.269	27.0	18.1	145 E	20 89		9 18	16 1.63	-25 16.5	0.876	1.063	61.5	19.8	68 E	13* 62*		
8 14	18 55.76	-23 2.0	0.292	1.255	30.0	18.1	142 E	22 87		9 23	16 5.55	-26 6.4	0.860	1.004	64.6	19.8	65 E	11* 58*		
8 19	19 1.15	-21 9.1	0.290	1.244	32.8	18.2	138 E	24 85		9 28	16 9.70	-26 58.0	0.838	0.943	68.2	19.7	61 E	10* 55*		
8 24	19 8.29	-19 12.3	0.290	1.234	35.2	18.2	135 E	26 83		10 3	16 13.76	-27 51.1	0.810	0.881	72.4	19.6	57 E	8* 51*		
8 29	19 17.09	-17 13.2	0.291	1.226	37.3	18.3	133 E	28 81		10 8	16 17.30	-28 44.7	0.776	0.819	77.7	19.5	53 E	7* 47*		
9 3	19 27.44	-15 13.0	0.295	1.221	39.0	18.3	130 E	30 79		10 13	16 19.59	-29 37.6	0.734	0.758	83.9	19.5	49 E	5* 43*		
9 8	19 39.18	-13 12.9	0.300	1.218	40.3	18.4	129 E	32 77		10 15	16 19.93	-29 57.9	0.716	0.734	86.9	19.5	47 E	5* 41*		
9 13	19 52.17	-11 14.1	0.307	1.217	41.3	18.5	129 E	34 75		10 17	16 19.81	-30 17.3	0.697	0.710	90.2	19.5	45 E	4* 39*		
9 18	20 6.19	-9 17.3	0.317	1.218	41.9	18.6	126 E	36 73		10 19	16 19.11	-30 35.4	0.677	0.686	93.9	19.5	43 E	3* 37*		
9 23	20 21.00	-7 23.6	0.328	1.222	42.3	18.7	125 E	38 71		10 21	16 17.73	-30 51.6	0.657	0.664	97.9	19.5	41 E	2* 35*		
9 28	20 36.39	-5 34.1	0.342	1.227	42.4	18.8	124 E	39 70		10 23	16 15.50	-31 5.2	0.636	0.641	102.4	19.6	39 E	1* 33*		
10 3	20 52.17	-3 49.5	0.358	1.235	42.4	18.9														

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

21/22	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45° - 26°	2021	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45° - 26°
366945 2005 VL₁₁₈ (continuation)									310429 1999 XP₁₉								
	h m	° ' "				m	°	°	h m	° ' "						°	°
7 30	17 19.57	-29 44.0	1.526	2.348	18.1	20.5	134 E	15 86	5 6	18 55.27	-28 24.1	2.850	3.504	14.0	21.5	123 W	17 88
8 4	17 16.98	-28 38.5	1.551	2.325	19.9	20.6	129 E	16 87	5 16	18 52.12	-28 47.8	2.728	3.500	12.1	21.3	133 W	16 87
8 9	17 15.37	-27 35.0	1.579	2.301	21.5	20.6	124 E	17 88	5 26	18 46.62	-29 12.8	2.624	3.495	9.8	21.2	144 W	16 87
8 14	17 14.72	-26 34.0	1.610	2.277	23.0	20.7	119 E	18 89	6 5	18 38.97	-29 36.9	2.543	3.489	7.1	21.0	155 W	15 86
8 19	17 15.00	-25 36.1	1.645	2.253	24.3	20.8	114 E	19 90	6 15	18 29.60	-29 57.2	2.488	3.482	4.1	20.8	166 W	15 86
8 24	17 16.16	-24 41.3	1.681	2.229	25.4	20.8	109 E	20 89	6 25	18 19.19	-30 11.4	2.462	3.473	2.0	20.6	173 W	15 86
8 29	17 18.16	-23 49.5	1.718	2.205	26.3	20.9	105 E	21 88	7 5	18 8.61	-30 18.0	2.466	3.464	3.8	20.7	167 E	15 86
9 3	17 20.93	-23 0.8	1.757	2.181	27.0	20.9	101 E	22 87	7 15	17 58.72	-30 17.0	2.499	3.454	6.8	20.9	156 E	15 86
9 8	17 24.44	-22 14.7	1.796	2.157	27.7	21.0	96 E	22 86	7 25	17 50.33	-30 9.5	2.559	3.443	9.7	21.1	145 E	15 86
9 13	17 28.64	-21 31.1	1.836	2.133	28.1	21.0	93 E	23 84*	8 4	17 43.98	-29 57.8	2.642	3.431	12.2	21.2	135 E	15 86
9 18	17 33.48	-20 49.5	1.875	2.109	28.5	21.0	89 E	23 81*	8 14	17 40.00	-29 43.9	2.743	3.418	14.2	21.4	124 E	15 86
9 23	17 38.91	-20 9.6	1.914	2.084	28.7	21.1	85 E	24 78*	8 24	17 38.47	-29 29.7	2.859	3.403	15.7	21.5	114 E	16 87
9 28	17 44.88	-19 30.9	1.952	2.060	28.8	21.1	82 E	24 74*									
10 3	17 51.38	-18 53.1	1.988	2.036	28.8	21.1	78 E	25 71*	506119 2016 BQ₆₁								
10 8	17 58.35	-18 15.7	2.024	2.013	28.7	21.1	75 E	25 67*	5 6	18 55.59	-50 46.7	1.149	1.879	27.4	21.5	121 W	— 65
10 13	18 5.78	-17 38.3	2.058	1.989	28.5	21.1	72 E	25 63*	5 11	18 54.87	-51 11.3	1.116	1.885	26.0	21.4	125 W	— 65
10 18	18 13.63	-17 0.6	2.090	1.965	28.2	21.1	69 E	26 60*	5 16	18 52.45	-51 32.8	1.084	1.892	24.5	21.3	129 W	— 64
10 23	18 21.87	-16 22.2	2.121	1.942	27.9	21.1	66 E	26 57*	5 21	18 48.28	-51 49.7	1.055	1.898	22.9	21.2	133 W	— 64
10 28	18 30.48	-15 42.8	2.150	1.918	27.5	21.1	63 E	27 53*	5 26	18 42.41	-52 0.2	1.030	1.904	21.1	21.1	137 W	— 64
11 2	18 39.44	-15 2.0	2.177	1.896	27.1	21.1	60 E	27 50*	5 31	18 34.95	-52 2.3	1.009	1.910	19.3	21.0	142 W	— 64
11 7	18 48.72	-14 19.5	2.202	1.873	26.6	21.1	58 E	27 46*	6 5	18 26.12	-51 53.9	0.991	1.915	17.5	20.9	145 W	— 64
11 12	18 58.32	-13 35.0	2.225	1.850	26.1	21.1	55 E	28 43*	6 10	18 16.24	-51 33.2	0.978	1.921	15.8	20.8	149 W	— 64
11 17	19 8.21	-12 48.3	2.245	1.828	25.6	21.0	53 E	28 40*	6 15	18 5.77	-50 58.9	0.971	1.926	14.5	20.8	152 W	— 65
11 22	19 18.37	-11 59.1	2.264	1.807	25.0	21.0	51 E	28 36*	6 20	17 55.22	-50 10.7	0.968	1.931	13.7	20.7	153 W	— 66
11 27	19 28.79	-11 7.2	2.281	1.785	24.4	21.0	48 E	29 33*	6 25	17 45.06	-49 9.4	0.971	1.935	13.5	20.8	154 E	— 67
12 2	19 39.46	-10 12.4	2.296	1.765	23.8	21.0	46 E	29 30*	6 30	17 35.73	-47 56.6	0.980	1.940	14.0	20.8	153 E	— 68
12 7	19 50.37	-9 14.6	2.309	1.744	23.2	20.9	44 E	29 26*	7 5	17 27.52	-46 34.7	0.994	1.944	15.0	20.9	150 E	— 69
12 12	20 1.51	-8 13.6	2.320	1.725	22.6	20.9	42 E	29 23*	7 10	17 20.68	-45 6.2	1.014	1.948	16.5	21.0	147 E	— 71
12 17	20 12.87	-7 9.3	2.329	1.705	22.0	20.9	41 E	29 20*	7 15	17 15.30	-43 34.2	1.039	1.951	18.1	21.1	143 E	1 72
12 22	20 24.43	-6 1.7	2.337	1.687	21.4	20.8	39 E	29 17*	7 20	17 11.43	-42 1.1	1.069	1.955	19.8	21.2	139 E	3 74
12 27	20 36.20	-4 50.7	2.343	1.669	20.9	20.8	37 E	28 14*	7 25	17 8.99	-40 29.2	1.103	1.958	21.5	21.3	135 E	5 76
1 1	20 48.17	-3 36.4	2.349	1.652	20.3	20.8	36 E	28 12*	7 30	17 7.90	-39 0.1	1.142	1.961	23.1	21.4	131 E	6 77
1 6	21 0.35	-2 18.7	2.353	1.636	19.8	20.7	34 E	27 9*									
1 11	21 12.72	-1 05.8	2.356	1.621	19.3	20.7	33 E	26 7*	529670 2010 JT₃₄								
1 16	21 25.29	+ 0 26.1	2.358	1.606	18.8	20.7	32 E	25 5*	5 6	19 1.67	-44 41.9	0.913	1.673	31.1	21.3	121 W	— 71
1 21	21 38.05	+ 1 53.0	2.360	1.593	18.3	20.6	31 E	25 3*	5 11	19 5.80	-48 36.6	0.857	1.648	30.6	21.1	124 W	— 67
									5 16	19 9.17	-52 57.7	0.807	1.623	30.2	20.9	126 W	— 63
									5 21	19 11.48	-57 44.4	0.764	1.598	30.1	20.7	128 W	— 58
									5 26	19 12.19	-62 53.5	0.728	1.572	30.4	20.6	128 W	— 53
									5 31	19 10.24	-68 19.3	0.701	1.545	31.4	20.5	128 W	— 48
									6 5	19 3.10	-73 53.3	0.682	1.517	32.9	20.5	126 W	— 42
5 6	18 49.45	-31 38.8	1.046	1.817	27.3	21.3	124 W	13 84	6 6	19 0.58	-75 0.0	0.679	1.512	33.3	20.5	125 W	— 41
5 11	18 54.89	-31 38.3	0.979	1.787	26.5	21.1	128 W	13 84	6 7	18 57.51	-76 6.5	0.677	1.506	33.7	20.4	125 W	— 40
5 16	18 59.71	-31 36.4	0.914	1.757	25.5	20.9	132 W	13 84	6 8	18 53.74	-77 12.5	0.674	1.500	34.1	20.4	124 W	— 39
5 21	19 3.85	-31 33.0	0.853	1.727	24.3	20.7	135 W	13 84	6 9	18 49.12	-78 18.0	0.673	1.495	34.6	20.4	123 W	— 38
5 26	19 7.26	-31 27.8	0.795	1.697	22.9	20.4	139 W	14 85	6 10	18 43.40	-79 22.7	0.671	1.489	35.0	20.4	123 W	— 37
5 31	19 9.86	-31 20.4	0.740	1.668	21.2	20.2	144 W	14 85	6 11	18 36.23	-80 26.4	0.670	1.483	35.5	20.4	122 W	— 36
6 5	19 11.56	-31 10.2	0.688	1.638	19.3	19.9	148 W	14 85	6 12	18 27.14	-81 28.9	0.669	1.478	36.0	20.4	121 W	— 35
6 10	19 12.29	-30 56.4	0.640	1.609	17.1	19.7	152 W	14 85	6 13	18 15.41	-82 29.6	0.668	1.472	36.5	20.4	121 W	— 34
6 15	19 12.02	-30 38.2	0.595	1.580	14.6	19.4	157 W	14 85	6 14	18 0.00	-83 28.1	0.668	1.466	37.0	20.5	120 W	— 33
6 20	19 10.75	-30 14.3	0.554	1.552	11.9	19.1	162 W	15 86	6 15	17 39.30	-84 23.4	0.668	1.460	37.5	20.5	119 W	— 32
6 25	19 8.53	-29 43.6	0.517	1.524	9.0	18.8	166 W	15 86	6 16	17 10.89	-85 14.1	0.668	1.455	38.0	20.5	118 E	— 31
6 30	19 5.43	-29 4.7	0.484	1.497	6.1	18.5	171 W	16 87	6 17	16 31.50	-85 57.7	0.668	1.449	38.6	20.5	117 E	— 30
7 5	19 1.61	-28 16.5	0.455	1.470	3.9	18.2	174 W	17 88	6 18	15 37.89	-86 30.6	0.669	1.443	39.1	20.5	116 E	— 29
7 10	18 57.29	-27 18.0	0.429	1.444	4.7	18.1	173 E	18 89	6 19	14 30.62	-86 48.0	0.669	1.437	39.7	20.5	115 E	— 29
7 15	18 52.79	-26 8.9	0.408	1.419	7.9	18.1	169 W	19 90	6 20	13 18.73	-86 46.4	0.670	1.431	40.2	20.5	115 E	— 29
7 20	18 48.49	-24 49.5	0.390	1.395	11.8	18.1	164 W	20 89	6 21	12 15.20	-86 27.2	0.672	1.425	40.8	20.5	114 E	— 30
7 25	18 44.75	-23 20.7	0.376	1.372	15.9	18.1	158 E	22 87	6 22	11 26.24	-85 55.1	0.673	1.419	41.3	20.5	113 E	— 30*
7 30	18 41.89	-21 44.2	0.365	1.351	20.0	18.2	153 E	23 86	6 23	10 50.62	-85 15.1	0.675	1.414	41.9	20.5	112 E	— 31*
8 4	18 40.20	-20 1.9	0.357	1.330	24.0	18.2	148 E	25 84	6 24	10 24.86	-84 30.6	0.677	1.408	42.4	20.5	111 E	— 31*
8 9	18 39.94	-18 15.9	0.352	1.311	27.8												

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

21/22	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°-26°	21/22	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°-26°											
529670 2010 JT₃₄ (continuation)									529670 2010 JT₃₄ (continuation)																			
7 17	8 51.53	-68 36.5	0.745	1.267	53.3	20.8	91 E	- 31*	1 17	17 41.89	+68 45.3	0.855	1.334	47.4	21.1	93 W	57*	-	1 19	17 46.45	+69 8.4	0.871	1.346	46.9	21.1	93 W	58*	-
7 19	8 50.88	-67 36.2	0.751	1.255	54.1	20.8	89 E	- 31*	452658 2005 UN₄₇₂																			
7 21	8 50.38	-66 39.1	0.757	1.242	54.8	20.9	88 E	- 30*	5 6	19 3.53	-19 8.7	1.138	1.863	27.9	21.5	120 W	26	83	5 16	19 11.30	-17 59.3	1.033	1.837	25.7	21.2	128 W	27	82
7 23	8 49.99	-65 45.2	0.763	1.230	55.5	20.9	86 E	- 29*	5 26	19 15.84	-16 47.1	0.939	1.812	22.8	20.8	136 W	28	81	5 26	19 15.84	-16 47.1	0.939	1.812	22.8	20.8	136 W	28	81
7 25	8 49.69	-64 54.2	0.768	1.217	56.2	20.9	85 E	- 28*	6 5	19 16.82	-15 34.8	0.859	1.788	18.9	20.5	145 W	29	80	6 5	19 16.82	-15 34.8	0.859	1.788	18.9	20.5	145 W	29	80
7 27	8 49.46	-64 6.1	0.773	1.205	56.9	20.9	84 E	- 27*	6 15	19 14.11	-14 26.4	0.793	1.765	14.3	20.1	155 W	31	78	6 15	19 14.11	-14 26.4	0.793	1.765	14.3	20.1	155 W	31	78
7 29	8 49.28	-63 20.4	0.778	1.193	57.5	20.9	82 E	- 26*	6 20	19 11.49	-13 54.9	0.767	1.755	11.8	20.0	159 W	31	78	6 20	19 11.49	-13 54.9	0.767	1.755	11.8	20.0	159 W	31	78
7 31	8 49.13	-62 37.2	0.782	1.180	58.1	20.9	81 E	- 25*	6 25	19 8.17	-13 26.0	0.745	1.745	9.3	19.8	164 W	32	77	6 25	19 8.17	-13 26.0	0.745	1.745	9.3	19.8	164 W	32	77
8 2	8 49.00	-61 56.3	0.786	1.168	58.8	20.9	80 E	- 24*	6 30	19 4.29	-13 0.2	0.728	1.735	7.2	19.6	168 W	32	77	6 30	19 4.29	-13 0.2	0.728	1.735	7.2	19.6	168 W	32	77
8 4	8 48.88	-61 17.3	0.789	1.156	59.4	20.9	79 W	- 24*	7 5	19 0.04	-12 37.9	0.716	1.726	6.0	19.5	170 W	32	77	7 5	19 0.04	-12 37.9	0.716	1.726	6.0	19.5	170 W	32	77
8 9	8 48.57	-59 47.8	0.794	1.125	60.9	20.9	76 W	- 26*	7 10	18 55.65	-12 19.7	0.708	1.717	6.0	19.5	169 E	33	76	7 10	18 55.65	-12 19.7	0.708	1.717	6.0	19.5	169 E	33	76
8 14	8 48.17	-58 27.1	0.795	1.096	62.4	20.9	74 W	- 28*	7 15	18 51.36	-12 5.8	0.706	1.709	8.5	19.6	166 E	33	76	7 15	18 51.36	-12 5.8	0.706	1.709	8.5	19.6	166 E	33	76
8 19	8 47.63	-57 12.3	0.791	1.067	64.0	20.9	71 W	- 30*	7 20	18 47.43	-11 56.2	0.708	1.701	11.1	19.7	161 E	33	76	7 20	18 47.43	-11 56.2	0.708	1.701	11.1	19.7	161 E	33	76
8 24	8 46.95	-56 0.4	0.783	1.039	65.7	20.9	69 W	- 32*	7 25	18 44.07	-11 51.0	0.714	1.694	13.9	19.8	156 E	33	76	7 25	18 44.07	-11 51.0	0.714	1.694	13.9	19.8	156 E	33	76
8 29	8 46.21	-54 48.6	0.769	1.013	67.5	20.8	68 W	- 35*	8 4	18 39.74	-11 52.2	0.739	1.682	19.4	20.1	147 E	33	76	8 4	18 39.74	-11 52.2	0.739	1.682	19.4	20.1	147 E	33	76
9 3	8 45.49	-53 34.0	0.751	0.988	69.4	20.8	66 W	- 37*	8 14	18 39.37	-12 6.0	0.778	1.672	24.2	20.3	137 E	33	76	8 14	18 39.37	-12 6.0	0.778	1.672	24.2	20.3	137 E	33	76
9 8	8 44.90	-52 13.5	0.727	0.965	71.5	20.7	65 W	- 39*	8 24	18 43.29	-12 27.2	0.829	1.664	28.1	20.5	129 E	33	76	8 24	18 43.29	-12 27.2	0.829	1.664	28.1	20.5	129 E	33	76
9 13	8 44.59	-50 43.7	0.698	0.945	73.8	20.7	64 W	- 42*	9 3	18 51.28	-12 50.3	0.890	1.659	31.1	20.8	122 E	32	77	9 3	18 51.28	-12 50.3	0.890	1.659	31.1	20.8	122 E	32	77
9 18	8 44.78	-49 0.2	0.664	0.927	76.4	20.6	64 W	- 44*	9 13	19 2.92	-13 10.4	0.958	1.657	33.4	21.0	115 E	32	77	9 13	19 2.92	-13 10.4	0.958	1.657	33.4	21.0	115 E	32	77
9 23	8 45.72	-46 58.4	0.626	0.912	79.1	20.5	63 W	- 47*	9 23	19 17.67	-13 23.0	1.033	1.658	34.9	21.2	109 E	32	77	9 23	19 17.67	-13 23.0	1.033	1.658	34.9	21.2	109 E	32	77
9 28	8 47.74	-44 32.8	0.584	0.900	82.0	20.5	63 W	- 49*	10 3	19 34.92	-13 24.9	1.113	1.661	35.9	21.4	103 E	32	77	10 3	19 34.92	-13 24.9	1.113	1.661	35.9	21.4	103 E	32	77
10 3	8 51.15	-41 36.0	0.538	0.892	85.0	20.4	63 W	- 52*	390521 1995 YU₃																			
10 5	8 52.99	-40 14.5	0.519	0.889	86.3	20.3	63 W	- 53*	5 6	19 5.01	-11 4.1	1.076	1.792	29.7	21.4	118 W	34*	75	5 6	19 5.01	-11 4.1	1.076	1.792	29.7	21.4	118 W	34*	75
10 7	8 55.13	-38 45.6	0.500	0.888	87.5	20.3	63 W	1* 54*	5 16	19 6.59	-11 11.0	1.005	1.808	26.3	21.2	128 W	34	75	5 16	19 6.59	-11 11.0	1.005	1.808	26.3	21.2	128 W	34	75
10 9	8 57.59	-37 8.5	0.480	0.887	88.7	20.3	63 W	3* 55*	5 26	19 3.89	-11 37.2	0.943	1.824	22.0	20.9	138 W	33	76	5 26	19 3.89	-11 37.2	0.943	1.824	22.0	20.9	138 W	33	76
10 11	9 0.42	-35 22.0	0.461	0.886	89.9	20.2	63 W	5* 55*	6 5	18 56.87	-12 25.9	0.895	1.839	16.7	20.7	149 W	33	76	6 5	18 56.87	-12 25.9	0.895	1.839	16.7	20.7	149 W	33	76
10 13	9 3.63	-33 25.0	0.441	0.886	91.1	20.2	63 W	7* 56*	6 15	18 45.99	-13 37.1	0.865	1.853	10.7	20.4	160 W	31	78	6 15	18 45.99	-13 37.1	0.865	1.853	10.7	20.4	160 W	31	78
10 15	9 7.25	-31 16.2	0.421	0.887	92.3	20.1	63 W	10* 57*	6 20	18 39.50	-14 20.0	0.857	1.860	7.6	20.3	166 W	31	78	6 20	18 39.50	-14 20.0	0.857	1.860	7.6	20.3	166 W	31	78
10 17	9 11.33	-28 53.9	0.402	0.888	93.4	20.1	63 W	13* 57*	6 25	18 32.60	-15 6.6	0.856	1.866	5.0	20.1	171 W	30	79	6 25	18 32.60	-15 6.6	0.856	1.866	5.0	20.1	171 W	30	79
10 19	9 15.90	-26 16.6	0.383	0.890	94.4	20.0	63 W	15* 57*	6 30	18 25.56	-15 55.7	0.860	1.872	4.1	20.1	172 E	29	80	6 30	18 25.56	-15 55.7	0.860	1.872	4.1	20.1	172 E	29	80
10 21	9 21.00	-23 22.5	0.365	0.893	95.3	20.0	63 W	19* 57*	7 5	18 18.62	-16 46.2	0.870	1.879	5.8	20.2	169 E	28	81	7 5	18 18.62	-16 46.2	0.870	1.879	5.8	20.2	169 E	28	81
10 23	9 26.65	-20 9.9	0.348	0.896	96.1	19.9	64 W	22* 56*	7 10	18 12.07	-17 36.9	0.886	1.884	8.5	20.4	164 E	27	82	7 10	18 12.07	-17 36.9	0.886	1.884	8.5	20.4	164 E	27	82
10 25	9 32.92	-16 36.9	0.331	0.900	96.7	19.8	64 W	26* 55*	7 15	18 6.15	-18 26.9	0.907	1.890	11.4	20.6	158 E	27	82	7 15	18 6.15	-18 26.9	0.907	1.890	11.4	20.6	158 E	27	82
10 27	9 39.82	-12 42.4	0.316	0.904	97.1	19.8	64 W	30* 53*	7 20	18 1.05	-19 15.5	0.934	1.895	14.2	20.7	153 E	26	83	7 20	18 1.05	-19 15.5	0.934	1.895	14.2	20.7	153 E	26	83
10 29	9 47.42	- 8 25.4	0.303	0.909	97.3	19.7	65 W	34* 51*	7 25	17 56.91	-20 2.1	0.966	1.901	16.9	20.9	147 E	25	84	7 25	17 56.91	-20 2.1	0.966	1.901	16.9	20.9	147 E	25	84
10 31	9 55.75	- 3 46.4	0.291	0.914	97.1	19.6	66 W	39* 48*	7 30	17 53.81	-20 46.3	1.002	1.906	19.3	21.1	142 E	24	85	7 30	17 53.81	-20 46.3	1.002	1.906	19.3	21.1	142 E	24	85
11 2	10 4.85	+ 1 13.1	0.282	0.920	96.6	19.5	67 W	43* 44*	8 4	17 51.79	-21 28.1	1.042	1.910	21.4	21.2	137 E	24	85	8 4	17 51.79	-21 28.1	1.042	1.910	21.4	21.2	137 E	24	85
11 4	10 14.77	+ 6 29.5	0.274	0.926	95.7	19.5	68 W	49* 40*	8 9	17 50.87	-22 7.2	1.086	1.915	23.4	21.4	132 E	23	86	8 9	17 50.87	-22 7.2	1.086	1.915	23.4	21.4	132 E	23	86
11 6	10 25.55	+11 57.5	0.270	0.933	94.5	19.4	70 W	54* 35*	481790 2008 TF₄																			
11 8	10 37.20	+17 30.1	0.269	0.940	92.9	19.3	71 W	59* 31*	5 6	19 37.17	+ 8 19.4	0.898	1.516	39.9	21.5	105 W	53*	56	5 6	19 37.17	+ 8 19.4	0.898	1.516	39.9	21.5	105 W	53*	56
11 10	10 49.75																											

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

21/22	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°	2021	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°										
481790 2008 TF ₄ (continuation)										543523 2014 MD ₂₇ (continuation)																			
10 28	23 35.50	+11 44.1	0.516	1.438	24.8	19.7	143 E	57	52	5 26	20 31.09	+11 35.1	0.891	1.545	38.5	20.8	108 W	56*	52										
11 2	23 44.06	+8 16.1	0.551	1.456	26.4	19.9	139 E	53	56	5 31	20 36.99	+11 36.5	0.846	1.537	38.0	20.7	111 W	56*	52										
11 7	23 52.66	+5 18.5	0.592	1.474	28.0	20.1	136 E	50	59	6 5	20 42.32	+11 27.9	0.802	1.529	37.3	20.5	114 W	56*	53										
11 12	0 1.30	+2 50.5	0.637	1.492	29.6	20.4	132 E	48	61	6 10	20 47.03	+11 6.9	0.758	1.521	36.3	20.4	117 W	56	53										
11 17	0 9.97	+0 49.8	0.686	1.512	31.0	20.6	128 E	46	63	6 15	20 51.07	+10 31.3	0.716	1.514	35.1	20.2	121 W	56	53										
11 22	0 18.66	+0 46.2	0.739	1.531	32.2	20.8	124	44	65	6 20	20 54.38	+9 38.4	0.675	1.507	33.6	20.0	125 W	55	54										
11 27	0 27.35	-2 0.8	0.795	1.551	33.2	21.0	121 E	43	66	6 25	20 56.93	+8 25.2	0.635	1.501	31.7	19.8	129 W	53	56										
12 2	0 36.05	-2 56.7	0.853	1.571	33.9	21.2	117 E	42	67	6 30	20 58.65	+6 48.6	0.598	1.495	29.3	19.6	134 W	52	57										
12 7	0 44.77	-3 36.4	0.914	1.592	34.5	21.4	114 E	41	68	7 5	20 59.50	+4 45.4	0.563	1.489	26.5	19.4	139 W	50	59										
385580 2004 XO ₁₄										137671 1999 XP ₃₅																			
5 6	19 37.36	-3 20.7	2.470	2.954	18.9	21.4	109 W	41*	67	5 6	20 9.76	-19 8.4	1.112	1.683	35.4	21.3	105 W	24*	83										
5 16	19 38.66	-2 56.7	2.293	2.901	18.0	21.2	117 W	42*	67	5 16	20 15.49	-16 15.4	1.020	1.690	33.5	21.1	113 W	28*	80										
5 26	19 37.67	-2 42.4	2.126	2.847	16.6	20.9	127 W	42	67	5 26	20 16.98	-13 8.0	0.934	1.695	30.8	20.8	121 W	32*	77										
6 5	19 34.18	-2 41.7	1.973	2.793	14.6	20.6	136 W	42	67	6 5	20 13.70	-9 47.3	0.856	1.698	27.2	20.5	130 W	35	74										
6 15	19 28.09	-2 58.5	1.837	2.736	12.1	20.3	146 W	42	67	6 15	20 5.20	-6 17.3	0.792	1.699	22.8	20.2	140 W	39	70										
6 25	19 19.52	-3 36.8	1.724	2.679	9.3	20.0	155 W	41	68	6 20	19 59.02	-4 31.6	0.766	1.699	20.4	20.1	144 W	40	69										
7 5	19 8.91	-4 38.7	1.636	2.620	7.0	19.8	162 W	40	69	6 25	19 51.66	-2 47.7	0.745	1.698	18.1	19.9	149 W	42	67										
7 15	18 57.02	-6 4.1	1.575	2.560	7.1	19.7	162 E	39	70	6 30	19 43.29	-1 7.6	0.729	1.697	16.1	19.8	152 W	44	65										
7 25	18 45.01	-7 49.7	1.542	2.499	10.0	19.7	155 E	37	72	7 5	19 34.13	+0 26.1	0.719	1.695	14.7	19.8	155 W	45	64										
8 4	18 34.06	-9 49.7	1.536	2.436	13.9	19.8	145 E	35	74	7 10	19 24.49	+1 51.1	0.714	1.693	14.2	19.7	156 W	47	62										
8 14	18 25.28	-11 57.2	1.554	2.372	17.9	19.9	134 E	33	76	7 15	19 14.73	+3 5.2	0.715	1.691	14.9	19.7	155 E	48	61										
8 19	18 21.97	-13 1.7	1.570	2.340	19.7	19.9	129 E	32	77	7 20	19 5.22	+4 7.0	0.722	1.688	16.4	19.8	152 E	49	60										
8 24	18 19.47	-14 5.8	1.590	2.308	21.4	20.0	124 E	31	78	7 25	18 56.31	+4 56.1	0.733	1.685	18.4	19.9	148 E	50	59										
9 3	18 17.05	-16 10.8	1.639	2.242	24.4	20.1	114 E	29	80	8 4	18 41.31	+5 56.6	0.770	1.676	23.2	20.2	139 E	51	58										
9 13	18 18.18	-18 9.1	1.698	2.175	26.7	20.1	104 E	27	82	8 14	18 31.21	+6 14.0	0.822	1.666	27.7	20.4	130 E	51	58										
9 23	18 22.79	-19 58.6	1.759	2.107	28.3	20.2	95 E	25*	84*	8 24	18 26.47	+6 1.1	0.884	1.654	31.4	20.7	121 E	51	58										
10 3	18 30.69	-21 38.2	1.821	2.038	29.4	20.2	87 E	23*	80*	9 3	18 26.74	+5 29.8	0.952	1.641	34.3	20.9	114 E	50	59										
10 13	18 41.70	-23 6.9	1.879	1.969	29.9	20.2	80 E	21*	73*	9 13	18 31.49	+4 49.5	1.022	1.625	36.4	21.1	106 E	50	59										
10 23	18 55.60	-24 23.5	1.931	1.899	30.1	20.2	73 E	20*	66*	9 23	18 40.09	+4 8.0	1.093	1.608	37.9	21.2	100 E	49	60										
11 2	19 12.18	-25 27.1	1.976	1.829	29.9	20.2	67 E	19*	60*	10 3	18 51.93	+3 30.0	1.163	1.590	38.9	21.4	94 E	48*	60*										
11 12	19 31.30	-26 16.2	2.011	1.759	29.5	20.1	61 E	17*	54*	10 13	19 6.57	+2 59.4	1.230	1.570	39.5	21.5	89 E	48*	59*										
11 22	19 52.78	-26 49.1	2.036	1.689	28.9	20.1	56 E	16*	48*	399628 2004 NM ₂₃																			
12 2	20 16.48	-27 4.0	2.052	1.621	28.2	20.0	51 E	16*	43*	5 6	20 11.20	-17 46.9	1.379	1.900	31.0	21.3	104 W	25*	82										
12 12	20 42.26	-26 58.7	2.057	1.554	27.4	19.8	47 E	15*	39*	5 16	20 24.85	-16 26.6	1.258	1.869	30.4	21.1	110 W	27*	80										
12 22	21 9.95	-26 31.1	2.052	1.490	26.7	19.7	43	14*	35*	5 26	20 36.50	-15 3.7	1.143	1.840	29.4	20.8	117 W	29*	79										
1 1	21 39.40	-25 38.9	2.039	1.429	26.1	19.6	40	14*	31*	6 5	20 45.80	-13 41.0	1.037	1.812	27.7	20.5	124 W	31*	78										
1 11	22 10.43	-24 20.0	2.020	1.372	25.7	19.5	37 E	14*	29*	6 15	20 52.32	-12 21.7	0.941	1.785	25.2	20.2	132 W	33	76										
1 21	22 42.84	-22 32.7	1.995	1.321	25.5	19.4	35 E	13*	27*	6 25	20 55.66	-11 9.6	0.856	1.760	21.9	19.8	140 W	34	75										
162793 2000 YY ₄₃										543523 2014 MD ₂₇																			
5 6	20 1.29	-19 4.7	2.169	2.645	21.4	21.3	107 W	25*	83	5 6	20 2.71	+10 17.9	1.075	1.580	39.1	21.3	99 W	53*	54										
5 16	20 5.81	-18 52.6	2.018	2.618	20.4	21.1	115 W	26*	83	5 11	20 10.46	+10 45.3	1.028	1.571	39.2	21.2	101 W	54*	53										
5 26	20 7.93	-18 48.2	1.877	2.590	18.8	20.9	125 W	26*	83	5 16	20 17.79	+11 8.1	0.982	1.562	39.1	21.1	103 W	55*	53										
6 5	20 7.39	-18 53.0	1.747	2.561	16.5	20.6	134 W	26	83	5 21	20 24.68	+11 25.1	0.937	1.553	38.9	21.0	106 W	55*	53										
6 15	20 3.97	-19 7.7	1.634	2.532	13.4	20.4	145 W	26	83																				
6 25	19 57.70	-19 32.0	1.540	2.502	9.6	20.1	156 W	25	84																				
7 5	19 48.93	-20 3.9	1.469	2.471	5.1	19.7	167 W	25	84																				
7 10	19 43.82	-20 21.6	1.443	2.456	2.7	19.5	173 W	25	84																				
7 15	19 38.40	-20 39.9	1.424	2.440	0.4	19.3	179 W	24	85																				
7 20	19 32.83	-20 58.2	1.411	2.424	2.4	19.4	174 E	24	85																				
7 25	19 27.28	-21 16.0	1.405	2.408	4.9	19.6	168 E	24	85																				
7 30	19 21.92	-21 32.9	1.405	2.392	7.4	19.7	162 E	23	86																				
8 4	19 16.92	-21 48.6	1.412	2.376	9.9	19.8	156 E	23	86																				
8 9	19 12.42	-22 2.9	1.424	2.359	12.3	19.9	150 E	23	86																				
8 14	19 8.56	-22 15.6	1.442	2.343	14.5	20.0	145 E	23	86																				
8 24	19 3.16	-22 36.0	1.492	2.310	18.4	20.1	134 E	22	87																				
9 3	19 1.15	-22 50.1	1.557	2.276	21.7	20.3	124 E	22	87																				
9 13	19 2.66	-22 58.0	1.632	2.242	24.2	20.4	114 E	22	87																				
9 23	19 7.52	-22 59.4	1.715	2.208	26.0	20.6	106 E	22	87																				
10 3	19 15.43	-22 54.1	1.801	2.173	27.2	20.7	98 E	22	87																				
10 13	19 26.04	-22 41.0	1.888	2.139	27.8	20.8	90 E	22	83*																				
10 23	19 38.98	-22 19.1	1.974	2.104	28.0	20.8	83 E	23	76*																				
11 2	19 53.92	-21 47.4	2.057	2.070	27.8	20.9	77 E	23*	69*																				
11 12	20 10.55	-21 4.9	2.136	2.036	27.3	20.9	71 E	24*	62*																				
11 22	20 28.59	-20 10.7	2.210	2.003	26.5	20.9	65 E	24*	55*																				
12 2	20 47.79	-19 4.3	2.278	1.970	25.5	20.9	59 E	25*	48*																				
12 12	21 7.96	-17 45.5	2.339	1.937	24.4	20.9	54 E	25*	42*																				
12 22	21 28.89	-16 14.1	2.394	1.906	23.1	20.9	49 E	26*	36*																				
1 1	21 50.46	-14 30.5	2.443	1.875	21.6	20.9	45 E	25*	30*																				
1 11	22 12.57	-12 35.3	2.485	1.846	20.1	20.8	40 E	24*	25*																				
1 21	22 35.10	-10 29.4	2.522	1.819	18.5	20.8	36 E	23*	21*																				
8 9	20 34.59	-8 48.5	0.666	1.671	7.4	18.7	168 E	36	73																				
8 14	20 31.09	-8 54.0	0.667	1.664	9.9	18.8	164 E	36	73																				
8 19	20 28.14	-9 2.3	0.673	1.658	12.7	18.9	159 E	36	73																				
8 24	20 25.93	-9 12.4	0.683	1.652	15.6	19.0	154 E	36	73																				

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

21/22	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°	21/22	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°
491240 2011 UU₂₀₄										385497 2004 DD									
<i>(continuation)</i>										<i>(continuation)</i>									
8 14	22 56.54	+2 47.1	0.613	1.585	16.7	18.6	153 W	48	61	7 20	3 29.24	+7 40.9	0.563	0.938	81.0	20.2	66 W	29*	51*
8 24	22 56.65	+0 41.3	0.579	1.575	10.4	18.3	164 W	46	63	7 25	3 54.86	+11 36.1	0.582	0.916	82.2	20.3	63 W	32*	47*
9 3	22 55.09	+2 2.8	0.561	1.568	3.8	17.9	174 W	43	66	7 30	4 20.22	+15 10.5	0.605	0.896	82.6	20.4	61 W	35*	43*
9 8	22 54.08	+3 33.2	0.559	1.566	2.4	17.8	176 E	41	68	8 4	4 45.31	+18 20.7	0.633	0.881	82.4	20.4	59 W	37*	39*
9 13	22 53.18	+5 4.7	0.562	1.565	4.9	17.9	172 E	40	69	8 14	5 34.62	+23 23.1	0.699	0.862	80.2	20.5	57 W	41*	33*
9 18	22 52.59	+6 33.8	0.570	1.565	8.3	18.1	167 E	38	71	8 24	6 22.46	+26 42.6	0.773	0.861	76.3	20.6	56 W	44*	28*
9 23	22 52.48	+7 57.5	0.581	1.566	11.7	18.3	161 E	37	72	9 3	7 8.16	+28 30.1	0.848	0.878	71.5	20.7	56 W	46*	24*
9 28	22 52.98	+9 13.1	0.598	1.568	15.0	18.5	156 E	36	73	9 13	7 50.80	+29 2.8	0.919	0.911	66.7	20.8	56 W	48*	22*
10 3	22 54.17	+10 18.9	0.618	1.570	18.0	18.7	151 E	35	74	9 23	8 29.72	+28 40.0	0.983	0.958	62.2	20.9	58 W	50*	21*
10 8	22 56.14	+11 13.4	0.642	1.574	20.7	18.8	146 E	34	75	10 3	9 4.69	+27 40.1	1.036	1.015	58.4	21.0	60 W	53*	21*
10 13	22 58.92	+11 56.0	0.670	1.578	23.2	19.0	141 E	33	76	10 13	9 35.71	+26 18.7	1.076	1.078	55.2	21.1	63 W	55*	21*
10 23	23 6.83	+12 45.7	0.735	1.590	27.3	19.4	133 E	32	77	10 23	10 2.99	+24 48.0	1.103	1.146	52.5	21.2	66 W	58*	23*
11 2	23 17.54	+12 51.9	0.811	1.604	30.3	19.7	125 E	32	77	11 2	10 26.80	+23 17.1	1.116	1.216	50.1	21.3	70 W	61*	25*
11 12	23 30.60	+12 20.7	0.897	1.622	32.4	20.0	118 E	33	76	11 12	10 47.27	+21 53.3	1.115	1.286	48.0	21.4	75 W	64*	28*
11 17	23 37.85	+11 53.3	0.943	1.632	33.2	20.1	115 E	33	76	11 22	11 4.46	+20 42.2	1.102	1.357	45.9	21.4	81 W	65*	32*
11 22	23 45.49	+11 19.2	0.991	1.643	33.8	20.3	112 E	34	75	12 2	11 18.30	+19 48.3	1.078	1.425	43.7	21.4	87 W	65	36*
11 27	23 53.47	+10 39.3	1.041	1.654	34.3	20.4	109 W	34	75	12 12	11 28.46	+19 16.0	1.044	1.493	41.1	21.4	95 W	64	40*
12 2	0 1.74	+9 54.4	1.093	1.667	34.6	20.5	106 E	35	74	12 22	11 34.51	+19 8.3	1.005	1.558	38.0	21.3	103 W	64	43*
12 7	0 10.28	+9 5.0	1.146	1.679	34.7	20.7	104 E	36	73*	1 1	11 35.86	+19 27.3	0.963	1.620	34.0	21.2	113 W	64	44*
12 12	0 19.04	+8 11.8	1.200	1.692	34.8	20.8	101 E	37	72*	1 11	11 31.80	+20 12.5	0.923	1.680	29.2	21.0	124 W	65	44
12 17	0 27.98	+7 15.6	1.257	1.706	34.8	20.9	98 E	38	70*	1 21	11 21.95	+21 18.0	0.893	1.738	23.4	20.9	136 W	66	43
12 22	0 37.09	+6 16.8	1.314	1.720	34.7	21.0	96 E	39	68*	510996 2013 KA₃									
12 27	0 46.34	+5 16.1	1.373	1.735	34.5	21.1	93 W	40	65*	5 6	21 25.24	+20 25.6	1.075	1.450	44.0	21.5	88 W	17*	81*
1 1	0 55.71	+4 13.8	1.432	1.750	34.2	21.2	91 E	41	63*	5 11	21 36.07	+18 10.3	1.030	1.441	44.5	21.4	90 W	19*	81*
1 6	1 5.19	+3 10.4	1.493	1.766	33.8	21.3	88 E	42	60*	5 16	21 46.48	+15 46.0	0.986	1.431	44.9	21.3	92 W	22*	80*
1 11	1 14.78	+2 6.3	1.555	1.782	33.4	21.4	86 E	43	58*	5 21	21 56.45	+13 12.3	0.944	1.422	45.3	21.2	93 W	25*	77
5 6	21 17.19	+31 17.9	2.386	2.643	22.4	21.5	93 W	8*	83*	5 26	22 6.00	+10 29.0	0.903	1.413	45.6	21.1	95 W	28*	74
5 16	21 25.50	+30 37.8	2.212	2.597	22.5	21.3	101 W	10*	85	5 31	22 15.12	+7 35.7	0.864	1.405	45.8	21.0	97 W	31*	72
5 26	21 31.75	+30 1.5	2.041	2.550	22.1	21.0	109 W	12*	86	6 5	22 23.79	+4 32.4	0.826	1.397	46.0	20.9	98 W	34*	69
6 5	21 35.57	+29 29.3	1.876	2.503	21.2	20.8	117 W	14*	87	6 10	22 32.00	+1 18.9	0.791	1.389	46.1	20.8	100 W	38*	65
6 15	21 36.48	+29 0.8	1.720	2.455	19.6	20.5	126 W	16*	87	6 15	22 39.72	+2 4.5	0.757	1.382	46.1	20.7	101 W	43*	62
6 25	21 34.03	+28 34.2	1.576	2.406	17.3	20.2	135 W	16	87	6 20	22 46.94	+5 37.5	0.727	1.375	46.1	20.5	103 W	47*	58
7 5	21 27.83	+28 6.0	1.448	2.357	14.1	19.9	145 W	17	88	6 25	22 53.63	+9 19.4	0.698	1.369	46.0	20.4	104 W	52*	55
7 15	21 17.72	+27 30.9	1.340	2.307	10.2	19.5	156 W	17	88	6 30	22 59.76	+13 9.4	0.672	1.363	45.8	20.4	106 W	57*	51
7 20	21 11.30	+27 8.6	1.295	2.282	8.0	19.3	162 W	18	89	7 5	23 5.27	+17 5.9	0.649	1.358	45.6	20.3	107 W	61*	47
7 25	21 4.10	+26 41.8	1.256	2.257	5.8	19.1	167 W	18	89	7 10	23 10.08	+21 7.1	0.628	1.354	45.4	20.2	108 W	66*	43
7 30	20 56.29	+26 10.0	1.224	2.232	4.0	18.9	171 W	19	90	7 15	23 14.12	+25 10.6	0.611	1.350	45.2	20.1	110 W	70	39
8 4	20 48.07	+25 32.5	1.198	2.207	3.9	18.9	172 E	19	90	7 20	23 17.32	+29 13.6	0.596	1.346	45.0	20.0	111 W	74	35
8 9	20 39.69	+24 49.1	1.180	2.182	5.6	18.9	168 E	20	89	7 25	23 19.57	+33 13.3	0.583	1.344	44.7	20.0	111 W	78	31
8 14	20 31.40	+24 0.0	1.169	2.156	8.2	19.0	162 E	21	88	7 30	23 20.78	+37 6.6	0.574	1.342	44.5	19.9	112 W	82	27
8 19	20 23.48	+23 5.8	1.164	2.131	10.9	19.1	156 E	22	87	8 4	23 20.79	+40 50.2	0.566	1.340	44.2	19.9	113 W	86	23
8 24	20 16.17	+22 7.2	1.166	2.106	13.7	19.1	150 E	23	86	8 9	23 19.47	+44 20.6	0.561	1.339	44.0	19.9	113 W	89	20
8 29	20 9.65	+21 5.3	1.174	2.080	16.4	19.2	144 E	24	85	8 14	23 16.73	+47 34.7	0.557	1.339	43.8	19.9	114 W	87	16
9 3	20 4.08	+20 1.2	1.187	2.055	19.0	19.3	139 E	25	84	8 19	23 12.53	+50 29.6	0.555	1.340	43.5	19.8	114 W	85	14
9 8	19 59.56	+18 55.9	1.205	2.030	21.3	19.4	133 E	26	83	8 24	23 6.87	+53 3.0	0.555	1.341	43.3	19.8	115 W	82	11
9 13	19 56.16	+17 50.1	1.228	2.005	23.5	19.5	127 E	27	82	8 29	22 59.86	+55 12.8	0.555	1.343	43.0	19.8	115 W	80	9
9 23	19 52.72	+15 39.3	1.281	1.955	27.2	19.6	117 E	29	80	9 3	22 51.72	+56 57.4	0.557	1.345	42.7	19.8	115 W	78	7
10 3	19 53.55	+13 31.5	1.343	1.906	30.0	19.7	108 E	31	78	9 5	22 48.24	+57 31.9	0.557	1.346	42.5	19.8	116 E	77	6
10 13	19 58.23	+11 26.4	1.409	1.858	32.0	19.8	100 E	34	75	9 7	22 44.68	+58 2.2	0.558	1.347	42.4	19.8	116 E	77	6
10 23	20 6.26	+9 22.1	1.476	1.811	33.3	19.9	92 E	36	72*	9 9	22 41.08	+58 28.1	0.559	1.349	42.2	19.8	116 E	77	6
11 2	20 17.15	+7 16.1	1.541	1.766	34.1	20.0	85 E	38	65*	9 11	22 37.47	+58 49.9	0.560	1.350	42.1	19.8	116 E	76	5
11 12	20 30.52	+5 5.9	1.602	1.722	34.4	20.0	79 W	40*	58*	9 13	22 33.91	+59 7.5	0.562	1.352	41.9	19.8	116 E	76	5
11 22	20 46.04	+2 49.2	1.658	1.682	34.4	20.1	74 W	42*	50*	9 15	22 30.44	+59 21.0	0.563	1.353	41.7	19.8	116 E	76	5
12 2	21 3.45	+0 24.2	1.709	1.644	34.1	20.1	69 E	44*	43*	9 17	22 27.09	+59 30.5	0.564	1.355	41.6	19.8	117 E	75	4
12 12	21 22.60	+2 10.3	1.754	1.609	33.7	20.1	65 E	46*	36*	9 19	22 23.91	+59 36.2	0.566	1.357	41.4	19.8	117 E	75	4
12 22	21 43.34	+4 55.0	1.793	1.578	33.2	20.0	61 E	47*	29*	9 21	22 20.92	+59 38.1	0.567	1.359	41.2	19.8	117 E	75	4

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

21/22	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°	21/22	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°				
510996 2013 KA₃ (continuation)										216639 2003 GK₂₁ (continuation)													
1	1	1	h m	° ' "	° ' "		°	°		8	24	23	h m	° ' "	° ' "		°	°					
1	6	1	2.62	+30 35.1	0.954	1.539	38.1	21.2	105 E	76	32*	8	24	23	23.68	-21 6.1	0.749	1.734	11.5	18.3	160 W	24	85
1	11	1	16.10	+29 33.1	0.999	1.550	38.2	21.3	103 E	75	32*	8	29	23	19.67	-21 52.6	0.727	1.717	10.1	18.1	163 W	23	86
1	11	1	29.48	+28 37.7	1.046	1.561	38.3	21.4	101 E	74	33*	9	3	23	14.95	-22 35.5	0.709	1.701	9.6	18.0	164 W	22	87
302119 2001 PF₄₃																							
5	6	21	37.45	-15 23.6	1.526	1.736	35.3	21.4	84 W	20*	76*	9	8	23	9.73	-23 12.5	0.697	1.685	10.3	18.0	163 W	22	87
5	16	21	59.93	-14 19.3	1.425	1.718	36.0	21.2	88 W	22*	78*	9	13	23	4.28	-23 41.3	0.689	1.669	12.1	18.0	160 E	21	88
5	26	22	21.68	-13 17.8	1.328	1.702	36.5	21.1	92 W	23*	77	9	23	22	58.89	-24 0.1	0.686	1.654	14.5	18.1	156 E	21	88
6	5	22	42.56	-12 22.3	1.235	1.688	36.6	20.9	97 W	25*	76	9	28	22	53.86	-24 7.9	0.687	1.639	17.2	18.2	151 E	21	88
6	15	23	2.33	-11 36.6	1.147	1.677	36.4	20.7	102 W	28*	76	10	3	22	49.45	-24 4.1	0.692	1.624	20.0	18.3	146 E	21	88
6	25	23	20.71	-11 4.5	1.064	1.669	35.7	20.5	107 W	30*	75	10	8	22	45.88	-23 48.8	0.701	1.609	22.8	18.3	142 E	21	88
7	5	23	37.38	-10 49.9	0.986	1.663	34.5	20.3	112 W	32*	75	10	13	22	41.93	-22 45.6	0.728	1.582	27.8	18.5	132 E	22	87
7	15	23	51.83	-10 56.4	0.915	1.659	32.6	20.1	118 W	34*	75	10	18	22	41.73	-21 59.4	0.745	1.569	30.1	18.6	128 E	23	86
7	25	0	3.55	-11 26.8	0.852	1.659	30.1	19.9	125 W	34	75	10	23	22	42.72	-21 4.8	0.765	1.556	32.1	18.7	124 E	24	85
8	4	0	11.99	-12 21.7	0.797	1.661	26.8	19.6	133 W	33	76	10	28	22	44.86	-20 2.9	0.786	1.543	33.9	18.8	120 E	25	84
8	9	0	14.80	-12 57.9	0.774	1.663	24.8	19.5	136 W	32	77	11	2	22	48.09	-18 54.4	0.810	1.533	35.5	18.9	116 E	26	83
8	14	0	16.60	-13 39.1	0.754	1.666	22.7	19.4	141 W	31	78	11	7	22	52.35	-17 40.0	0.834	1.523	36.9	19.0	113 E	27	82
8	19	0	17.38	-14 24.0	0.737	1.669	20.4	19.3	145 W	31	78	11	12	22	57.57	-16 20.4	0.859	1.513	38.1	19.1	110 E	29	80
8	24	0	17.14	-15 11.3	0.723	1.674	18.1	19.2	149 W	30	79	11	17	23	3.64	-14 56.2	0.886	1.503	39.1	19.2	107 E	30	79
8	29	0	15.94	-15 59.3	0.714	1.678	15.7	19.0	153 W	29	80	11	22	23	10.48	-13 28.0	0.913	1.495	39.9	19.3	104 E	32	77
9	3	0	13.85	-16 46.0	0.708	1.684	13.5	19.0	157 W	28	81	11	27	23	18.02	-11 56.1	0.941	1.487	40.7	19.3	101 E	33	76*
9	8	0	11.00	-17 29.2	0.707	1.690	11.6	18.9	160 W	28	81	12	2	23	26.19	-10 21.1	0.970	1.480	41.2	19.4	98 E	35	74*
9	13	0	7.60	-18 6.9	0.710	1.696	10.5	18.9	162 W	27	82	12	12	23	44.21	-7 3.0	1.029	1.469	42.0	19.5	94 E	38	68*
9	18	0	3.87	-18 36.9	0.718	1.704	10.2	18.9	163 W	26	83	12	22	0	4.10	-3 37.0	1.090	1.461	42.3	19.7	89 E	41	61*
9	23	0	0.05	-18 58.0	0.731	1.711	11.0	19.0	161 W	26	83	1	1	0	25.55	-0 6.7	1.154	1.458	42.3	19.8	86 E	45	55*
9	28	23	56.36	-19 9.3	0.748	1.720	12.4	19.1	158 E	26	83	1	11	0	48.38	+3 24.6	1.220	1.457	41.9	19.9	82 E	48	50*
10	3	23	53.02	-19 10.4	0.770	1.728	14.3	19.2	155 E	26	83	1	21	1	12.43	+6 53.2	1.289	1.461	41.3	20.0	79 E	52*	45*
10	8	23	50.22	-19 1.4	0.796	1.738	16.4	19.4	151 E	26	83	203272 2001 RL₆											
10	13	23	48.09	-18 42.7	0.827	1.748	18.4	19.5	146 E	26	83	5	6	21	55.84	-17 21.3	2.024	2.105	28.2	21.5	80 W	17*	74*
10	18	23	46.75	-18 15.0	0.861	1.758	20.3	19.7	142 E	27	82	5	16	22	12.19	-15 57.2	1.885	2.073	29.1	21.3	86 W	19*	78*
10	23	23	46.24	-17 39.5	0.899	1.769	22.1	19.9	138 E	27	82	5	26	22	27.64	-14 33.0	1.747	2.041	29.7	21.2	91 W	22*	79*
10	28	23	46.54	-16 57.1	0.941	1.780	23.8	20.0	134 E	28	81	6	5	22	42.06	-13 10.3	1.612	2.009	30.1	21.0	97 W	25*	77
11	2	23	47.67	-16 8.9	0.986	1.791	25.2	20.2	130 E	29	80	6	15	22	55.23	-11 50.9	1.480	1.978	30.0	20.7	103 W	28*	76
11	7	23	49.57	-15 15.6	1.034	1.803	26.4	20.3	126 E	30	79	6	25	23	6.91	-10 36.4	1.353	1.947	29.5	20.5	110 W	32*	75
11	12	23	52.22	-14 18.1	1.085	1.816	27.5	20.5	122 E	31	78	7	5	23	16.77	-9 28.6	1.233	1.916	28.4	20.2	116 W	35*	73
11	17	23	55.55	-13 17.1	1.138	1.828	28.4	20.6	118 E	32	77	7	15	23	24.39	-8 29.7	1.120	1.886	26.6	19.9	124 W	37*	72
11	22	23	59.50	-12 13.4	1.193	1.841	29.1	20.8	115 E	33	76	7	25	23	29.31	-7 41.3	1.018	1.857	24.0	19.6	132 W	37	72
11	27	0	4.01	-11 7.4	1.251	1.854	29.7	20.9	111 E	34	75	8	4	23	31.08	-7 4.8	0.927	1.829	20.5	19.3	141 W	38	71
12	2	0	9.02	-9 59.7	1.310	1.868	30.1	21.0	108 E	35	74	8	14	23	29.31	-6 40.7	0.850	1.803	16.0	18.9	151 W	38	71
12	7	0	14.49	-8 50.5	1.371	1.881	30.4	21.2	105 E	36	73	8	24	23	24.03	-6 27.7	0.789	1.777	10.4	18.5	161 W	39	70
12	12	0	20.37	-7 40.3	1.434	1.895	30.6	21.3	102 E	37	71*	9	3	23	15.81	-6 22.0	0.748	1.753	4.1	18.1	173 W	39	70
12	17	0	26.62	-6 29.3	1.498	1.910	30.6	21.4	98 E	39	69*	9	8	23	10.97	-6 20.2	0.735	1.742	0.8	17.8	179 W	39	70
517594 2014 WX₁₉₉																							
5	6	21	51.26	-31 28.2	4.234	4.291	13.6	21.5	86 W	5*	77*	9	13	23	5.96	-6 18.0	0.727	1.731	2.9	17.9	175 E	39	70
5	16	21	57.43	-31 36.0	4.087	4.286	13.6	21.4	94 W	6*	83*	9	18	23	1.02	-6 14.3	0.724	1.721	6.4	18.1	169 E	39	70
5	26	22	2.24	-31 51.7	3.943	4.281	13.3	21.3	103 W	8*	84	9	23	22	56.42	-6 8.4	0.726	1.711	9.8	18.2	163 E	39	70
6	5	22	5.57	-32 15.5	3.804	4.276	12.8	21.2	111 W	10*	84	9	28	22	52.37	-5 59.6	0.733	1.702	13.1	18.3	157 E	39	70
6	15	22	7.28	-32 46.7	3.675	4.271	11.9	21.1	120 W	11*	83	10	3	22	49.08	-5 47.6	0.745	1.693	16.3	18.5	152 E	39	70
6	25	22	7.26	-33 24.1	3.559	4.267	10.7	21.0	129 W	11*	83	10	13	22	45.33	-5 11.9	0.780	1.678	21.9	18.7	141 E	40	69
7	5	22	5.49	-34 5.6	3.459	4.262	9.3	20.9	137 W	11	82	10	23	22	45.85	-4 19.7	0.828	1.665	26.5	19.0	132 E	41	68
7	15	22	2.02	-34 48.3	3.380	4.258	7.7	20.7	146 W	10	81	11	2	22	50.55	-3 11.6	0.888	1.655	30.1	19.2	123 E	42	67
7	25	21	57.03	-35 28.3	3.324	4.254	6.2	20.6	153 W	10	81	11	12	22	59.06	-1 48.3	0.955	1.647	32.8	19.5	116 E	43	66
8	4	21	50.86	-36 2.0	3.294	4.250	5.2	20.6	158 W	9	80	11	22	23	10.83	-0 11.3	1.030	1.642	34.7	19.7	109 E	45	64
8	14	21	44.00	-36 25.7	3.290	4.246	5.1	20.6	158 W	9	80	12	2	23	25.27	+1 37.3	1.109	1.640	35.9	19.9	103 E	47	62*
8	24	21	37.04	-36 36.6	3.314	4.243	6.1	20.6	153 E	8	79	12	12	23	41.90	+3 35.9	1.193	1.641	36.5	20.0	97 E	49	58*
9	3	21	30.56	-36 33.7	3.364	4.239	7.6	20.7	146 E	8	79	12	22	0	0.31	+5 42.2	1.280	1.645	36.7	20.2	92 E	51	53*
9	13	21	25.12	-36 16.9	3.437	4.236	9.2	20.8	138 E	9	80	1	1	0	20.16	+7 53.5	1.371	1.652	36.5	20.4	88 E	53	48*
9	23	21	21.13	-35 47.3	3.532	4.233	10.7	20.9	129 E	9	80	1	11	0	41.23	+10 7.6	1.464	1.662	36.0	20.5	83 E	55	43*
10	3	21	18.83	-35 6.8	3.645	4.230	11.9	21.1	120 E	10	81	1	21	1	3.31	+12 21.8	1.560	1.674	35.2	20.6	79 E	57*	39*
10	13	21	18.34	-34 17.4	3.771	4.227	12.8	21.2	111 E	11	82	488602 2002											

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

21/22	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°	21/22	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°	-26°
488602 2002 RV₄₉										337228 2000 FL₁									
<i>(continuation)</i>										<i>(continuation)</i>									
11 2	0 3.26	+5 51.8	0.824	1.725	20.1	19.7	143 E	51	58	9 19	22 35.05	-71 38.4	2.025	2.538	22.0	20.0	109 E	-	44
11 12	0 4.66	+6 39.5	0.913	1.751	24.0	20.0	134 E	52	57	9 21	22 30.65	-71 33.3	2.027	2.526	22.2	20.0	108 E	-	44
11 22	0 9.67	+7 36.9	1.015	1.780	26.9	20.4	125 E	53	56	9 23	22 26.44	-71 26.1	2.030	2.514	22.4	20.0	107 E	-	45
12 2	0 17.70	+8 43.5	1.127	1.809	28.9	20.7	118 E	54	55	9 25	22 22.46	-71 17.0	2.033	2.502	22.7	20.0	106 E	-	45
12 12	0 28.23	+9 58.4	1.247	1.839	30.1	21.0	110 E	55	54*	9 27	22 18.72	-71 6.0	2.035	2.491	22.9	20.0	105 E	-	45
12 22	0 40.77	+11 20.1	1.374	1.870	30.7	21.3	104 E	56	52*	9 29	22 15.24	-70 53.2	2.039	2.479	23.1	20.0	104 E	-	45
396810 2004 PS₁₀₀										495848 2002 QD₇									
5 6	22 28.73	-11 31.7	1.767	1.723	33.6	21.4	71 W	17*	64*	5 6	22 44.64	+2 53.1	1.582	1.424	38.8	21.3	62 W	26*	51*
5 16	22 51.78	-8 40.1	1.658	1.689	35.1	21.3	74 W	20*	66*	5 16	23 20.35	+6 23.5	1.459	1.331	42.2	21.1	62 W	27*	50*
5 26	23 14.59	-5 38.2	1.554	1.658	36.6	21.1	77 W	23*	66*	5 26	0 0.28	+10 6.4	1.356	1.238	45.7	20.9	61 W	28*	47*
6 5	23 37.20	-2 27.2	1.454	1.629	37.9	21.0	80 W	27*	66*	6 5	0 45.12	+13 50.1	1.276	1.148	49.2	20.7	59 W	28*	44*
6 15	23 59.61	+0 51.2	1.359	1.603	39.0	20.8	84 W	32*	63*	6 15	1 35.04	+17 16.1	1.222	1.063	52.2	20.5	56 W	28*	40*
6 25	0 21.77	+4 15.1	1.269	1.580	40.0	20.7	87 W	37*	60	6 20	2 1.75	+18 45.1	1.206	1.023	53.5	20.4	54 W	28*	38*
7 5	0 43.67	+7 42.6	1.185	1.560	40.7	20.5	90 W	43*	56	6 25	2 29.42	+20 0.9	1.198	0.987	54.4	20.3	52 W	28*	36*
7 15	1 5.18	+11 10.9	1.106	1.543	41.1	20.4	93 W	50*	53	6 30	2 57.80	+21 1.1	1.197	0.953	55.0	20.3	50 W	27*	34*
7 25	1 26.11	+14 37.6	1.033	1.530	41.2	20.2	97 W	56*	49	7 5	3 26.62	+21 43.9	1.204	0.923	55.2	20.2	48 W	27*	32*
7 30	1 36.30	+16 19.5	0.999	1.525	41.2	20.1	98 W	59*	48	7 10	3 55.53	+22 8.4	1.218	0.898	55.0	20.2	46 W	26*	31*
8 4	1 46.24	+18 0.0	0.966	1.522	41.0	20.0	100 W	62*	46	7 15	4 24.21	+22 14.8	1.237	0.878	54.3	20.2	45 W	26*	29*
8 9	1 55.86	+19 38.7	0.933	1.519	40.7	20.0	102 W	64*	44	7 20	4 52.38	+22 3.8	1.263	0.864	53.1	20.1	43 W	25*	28*
8 14	2 5.12	+21 15.2	0.903	1.517	40.3	19.9	105 W	66*	43	7 25	5 19.78	+21 37.1	1.293	0.856	51.7	20.1	41 W	24*	27*
8 19	2 13.93	+22 49.1	0.873	1.516	39.7	19.8	107 W	68	41	7 30	5 46.23	+20 56.7	1.328	0.854	49.9	20.1	40 W	24*	26*
8 24	2 22.23	+24 20.3	0.845	1.516	39.0	19.7	109 W	69	40	8 4	6 11.59	+20 4.8	1.365	0.859	47.9	20.1	39 W	23*	25*
8 29	2 29.93	+25 48.2	0.818	1.518	38.2	19.6	112 W	71	38	8 9	6 35.78	+19 3.5	1.404	0.871	45.9	20.2	38 W	23*	24*
9 3	2 36.91	+27 12.4	0.793	1.520	37.1	19.5	115 W	72	37	8 14	6 58.75	+17 54.8	1.445	0.888	43.8	20.2	37 W	23*	24*
9 8	2 43.06	+28 32.5	0.769	1.524	35.9	19.4	117 W	74	35	8 19	7 20.50	+16 40.7	1.487	0.911	41.9	20.3	37 W	23*	24*
9 13	2 48.27	+29 47.9	0.746	1.528	34.5	19.3	121 W	75	34	8 24	7 41.04	+15 22.7	1.528	0.939	40.1	20.4	37 W	23*	23*
9 18	2 54.44	+30 57.9	0.726	1.533	32.9	19.2	124 W	76	33	8 29	8 0.43	+14 2.3	1.569	0.971	38.5	20.5	37 W	23*	23*
9 23	2 55.47	+32 1.9	0.707	1.540	31.1	19.1	128 W	77	32	9 3	8 18.71	+12 40.5	1.608	1.006	37.1	20.5	37 W	24*	23*
9 28	2 57.27	+32 59.0	0.690	1.547	29.1	19.0	131 W	78	31	9 8	8 35.96	+11 18.2	1.646	1.044	35.9	20.6	37 W	24*	24*
10 3	2 57.79	+33 48.1	0.675	1.556	26.9	18.9	135 W	79	30	9 13	8 52.22	+9 56.2	1.682	1.085	34.9	20.7	38 W	25*	24*
10 8	2 57.00	+34 27.9	0.664	1.565	24.4	18.8	140 W	79	30	9 18	9 7.56	+8 35.0	1.716	1.128	34.0	20.8	39 W	26*	25*
10 13	2 54.99	+34 57.3	0.655	1.575	21.9	18.7	144 W	80	29	9 23	9 22.04	+7 15.1	1.748	1.172	33.4	21.0	40 W	27*	25*
10 18	2 51.90	+35 15.3	0.649	1.586	19.3	18.6	148 W	80	29	9 28	9 35.73	+5 56.9	1.777	1.217	32.8	21.1	41 W	28*	26*
10 23	2 47.93	+35 21.4	0.647	1.598	16.7	18.6	153 W	80	29	10 3	9 48.68	+4 40.5	1.803	1.263	32.4	21.2	43 W	29*	27*
10 28	2 43.37	+35 15.3	0.649	1.610	14.3	18.5	156 W	80	29	10 8	10 0.92	+3 26.2	1.825	1.309	32.1	21.3	44 W	30*	28*
11 2	2 38.52	+34 57.4	0.656	1.623	12.3	18.5	160 W	80	29	10 13	10 12.50	+2 14.1	1.845	1.356	31.9	21.3	46 W	31*	29*
11 7	2 33.72	+34 28.8	0.667	1.637	11.1	18.5	161 E	79	30	10 18	10 23.45	+1 4.5	1.861	1.403	31.8	21.4	48 W	33*	31*
11 12	2 29.32	+33 51.4	0.683	1.652	10.9	18.5	162 E	79	30	387826 2004 GD₃₉									
11 17	2 25.60	+33 7.7	0.703	1.667	11.7	18.7	160 E	78	31	5 6	22 46.64	-13 59.0	1.836	1.728	32.7	21.5	68 W	13*	62*
11 22	2 22.75	+32 20.1	0.728	1.682	13.2	18.8	157 E	77	32	5 16	23 8.00	-12 24.7	1.772	1.747	33.4	21.5	72 W	14*	65*
11 27	2 20.89	+31 30.8	0.758	1.698	15.1	19.0	153 E	77	32	5 26	23 27.97	-10 56.1	1.706	1.768	33.8	21.4	76 W	17*	69*
12 2	2 20.08	+30 42.1	0.792	1.715	17.1	19.2	149 E	76	33	6 5	23 46.45	-9 35.6	1.638	1.791	34.0	21.4	81 W	20*	71*
12 7	2 20.35	+29 55.7	0.830	1.732	19.1	19.4	145 E	75	34	6 15	0 3.28	-8 25.9	1.568	1.815	33.9	21.3	86 W	24*	72*
12 12	2 21.67	+29 12.8	0.873	1.749	20.9	19.5	141 E	74	35	6 25	0 18.26	-7 29.2	1.497	1.841	33.5	21.2	92 W	28*	71*
12 17	2 23.98	+28 34.5	0.919	1.767	22.6	19.7	136 E	74	35	7 5	0 31.16	-6 47.7	1.426	1.868	32.6	21.1	98 W	32*	71*
12 22	2 27.20	+28 1.1	0.969	1.785	24.1	19.9	132 E	73	36	7 15	0 41.63	-6 23.5	1.355	1.895	31.2	21.0	105 W	36*	70*
12 27	2 31.24	+27 32.6	1.022	1.804	25.4	20.1	128 E	73	36	7 25	0 49.29	-6 18.0	1.287	1.924	29.1	20.8	113 W	38*	70*
1 1	2 36.02	+27 9.0	1.079	1.823	26.5	20.3	124 E	72	37	8 4	0 53.78	-6 31.8	1.225	1.953	26.4	20.7	121 W	38	71
1 6	2 41.49	+26 50.1	1.138	1.841	27.4	20.4	120 E	72	37	8 14	0 54.71	-7 4.4	1.170	1.982	22.9	20.5	130 W	38	71
1 11	2 47.55	+26 35.6	1.199	1.861	28.2	20.6	117 E	72	37	8 24	0 51.93	-7 52.8	1.128	2.012	18.7	20.3	140 W	37	72
1 16	2 54.15	+26 24.9	1.263	1.880	28.8	20.7	113 E	71	38*	8 29	0 49.19	-8 21.1	1.112	2.027	16.4	20.2	146 W	37	72
1 21	3 1.22	+26 17.6	1.329	1.899	29.2	20.9	110 E	71	37*	9 3	0 45.61	-8 51.0	1.101	2.042	13.9	20.2	151 W	36	73
337228 2000 FL₁										387826 2004 GD₃₉									
5 6	22 34.56	-44 44.1	3.168	3.231	18.1	21.4	84 W	-	63*	5 16	23 8.00	-12 24.7	1.772	1.747	33.4	21.5	72 W	14*	65*
5 16	22 48.94	-45 55.3	3.007	3.187	18.5	21.3	91 W	-	66*	5 26	23 27.97	-10 56.1	1.706	1.768	33.8	21.4	76 W	17*	69*
5 26	23 2.72	-47 22.8	2.852	3.142	18.7	21.1	97 W	-	67*	6 5	23 46.45	-9 35.6	1.638	1.791	34.0	21.4	81 W	20*	71*
6 5	23 15.75	-49 7.8	2.704	3.095	18.6	21.0	103 W	-	67*	6 15	0 3.28	-8 25.9	1.568	1.815	33.9	21.3	86 W	24*	72*
6 15	23 27.77	-51 11.3	2.565	3.048	18.4	20.8	109 W	-	65	6 25	0 18.26	-7 29.2	1.497	1.841	33.5	21.2	92 W	28*	71*
6 25	23 38.43	-53 32.7	2.440	2.999	18.0	20.7	114 W	-	62	7 5	0 31.16	-6 47.7	1.426	1.868	32.6	21.1	98 W	32*	71*
7 5	23 47.26	-56 10.1	2.329	2.950	17.7	20.5	118 W	-	60	7 15	0 41.63	-6 23.5	1.355	1.895	31.2	21.0	105 W	36*	70*
7 15	23 53.56	-58 59.7	2.234	2.899	17.4	20.4	122 W	-	57	7 25	0 49.29	-6 18.0	1.287	1.924	29.1	20.8	113 W	38*	70*
7 20	23 55.49	-60 27.1	2.194	2.873	17.3	20.3	123 W	-	56	8 4	0 53.78	-6 31.8	1.225	1.953	26.4	20.7	121 W	38	71
7 25	23 56.44	-61 54.9	2.157	2.847	17.3	20.3	124 W	-	54	8 14	0 54.71	-7 4.4	1.170	1.982	22.9	20.5	13		

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

2021	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°-26°	21/22	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45°-26°	
387826 2004 GD₃₉ (continuation)									100004 1983 VA (continuation)									
9 18	0 31.09	-10 17.1	1.100	2.087	7.1	19.9	165 W	35 74	11 22	12 46.11	+ 4 56.8	0.811	0.798	75.7	18.0	52 W	41* 23*	
9 23	0 25.56	-10 40.3	1.111	2.102	5.9	19.9	168 W	34 75	11 27	13 5.02	+ 4 25.3	0.867	0.822	71.4	18.1	52 W	41* 23*	
9 28	0 20.00	-10 58.9	1.128	2.117	6.1	20.0	167 W	34 75	12 2	13 22.60	+ 3 47.5	0.920	0.853	67.4	18.1	53 W	42* 24*	
10 3	0 14.62	-11 12.1	1.152	2.132	7.4	20.1	164 E	34 75	12 7	13 38.96	+ 3 6.5	0.970	0.889	63.8	18.2	54 W	42* 25*	
10 13	0 5.06	-11 20.7	1.218	2.162	11.4	20.4	155 E	34 75	12 12	13 54.18	+ 2 24.7	1.016	0.929	60.6	18.3	55 W	42* 26*	
10 23	23 58.02	-11 5.0	1.305	2.192	15.3	20.7	144 E	34 75	12 17	14 8.33	+ 1 43.8	1.058	0.973	57.8	18.4	57 W	43* 28*	
11 2	23 54.00	-10 27.5	1.412	2.221	18.7	21.0	134 E	35 74	12 22	14 21.50	+ 1 5.1	1.096	1.020	55.3	18.6	58 W	43* 30*	
11 12	23 53.10	- 9 31.9	1.534	2.250	21.2	21.3	125 E	35 74	12 27	14 33.73	+ 0 29.6	1.128	1.069	53.1	18.7	60 W	43* 33*	
187040 2005 JS₁₀₈									316934 2001 AA₅₂									
5 6	22 51.78	- 6 38.2	1.056	1.090	56.1	21.4	64 W	18* 56*	5 6	23 11.85	- 9 19.9	2.461	2.146	24.1	21.4	60 W	12* 54*	
5 11	23 14.24	- 4 51.2	1.041	1.067	57.3	21.4	63 W	18* 55*	5 16	23 29.24	- 7 13.1	2.330	2.112	25.7	21.3	65 W	15* 58*	
5 16	23 36.94	- 2 59.9	1.030	1.044	58.3	21.4	62 W	17* 54*	5 26	23 46.31	- 5 3.9	2.197	2.079	27.2	21.2	70 W	19* 61*	
5 21	23 59.83	- 1 5.8	1.023	1.023	59.3	21.3	60 W	17* 53*	6 5	0 3.06	+ 2 52.8	2.063	2.045	28.6	21.1	75 W	23* 64*	
5 26	0 22.85	+ 0 49.7	1.021	1.003	60.1	21.3	59 W	17* 51*	6 15	0 19.43	- 0 40.3	1.929	2.012	29.8	20.9	80 W	28* 64*	
5 31	0 45.94	+ 2 45.1	1.022	0.985	60.6	21.3	58 W	18* 49*	6 25	0 35.35	+ 1 33.1	1.796	1.979	30.8	20.8	85 W	33* 62*	
6 5	1 9.06	+ 4 38.7	1.028	0.969	61.0	21.3	57 W	18* 48*	7 5	0 50.72	+ 3 47.1	1.664	1.947	31.5	20.6	90 W	39* 60	
6 10	1 32.15	+ 6 29.2	1.037	0.954	61.1	21.3	55 W	19* 46*	7 15	1 5.38	+ 6 1.4	1.536	1.916	31.9	20.4	95 W	45* 58	
6 15	1 55.15	+ 8 14.9	1.050	0.942	61.0	21.3	54 W	19* 45*	7 25	1 19.14	+ 8 15.7	1.412	1.885	32.0	20.2	101 W	51* 56	
6 20	2 18.01	+ 9 54.9	1.066	0.932	60.7	21.3	53 W	19* 43*	8 4	1 31.71	+ 10 30.1	1.292	1.856	31.6	19.9	106 W	55* 53	
6 25	2 40.71	+ 11 27.9	1.084	0.925	60.2	21.3	52 W	20* 41*	8 14	1 42.71	+ 12 44.2	1.179	1.827	30.8	19.7	113 W	58 51	
6 30	3 2.21	+ 12 53.4	1.105	0.921	59.4	21.3	51 W	21* 40*	8 24	1 51.67	+ 14 57.9	1.074	1.801	29.3	19.4	119 W	60 49	
7 5	3 25.48	+ 14 10.7	1.127	0.919	58.5	21.3	50 W	22* 39*	9 3	1 58.04	+ 17 10.3	0.977	1.776	27.0	19.1	127 W	62 47	
7 10	3 47.48	+ 15 19.2	1.151	0.920	57.5	21.3	50 W	23* 37*	9 13	2 1.14	+ 19 19.6	0.891	1.753	24.0	18.8	135 W	64 45	
7 15	4 9.16	+ 16 18.7	1.175	0.924	56.4	21.3	49 W	24* 36*	9 18	2 1.29	+ 20 21.9	0.853	1.742	22.2	18.6	139 W	65 44	
7 20	4 30.49	+ 17 9.0	1.200	0.930	55.3	21.3	49 W	26* 35*	9 23	2 0.46	+ 21 21.9	0.819	1.732	20.1	18.5	144 W	66 43	
7 25	4 51.44	+ 17 50.3	1.224	0.940	54.1	21.4	49 W	27* 34*	9 28	1 58.60	+ 22 18.8	0.788	1.722	17.9	18.3	148 W	67 42	
7 30	5 11.98	+ 18 22.7	1.248	0.951	52.9	21.4	48 W	28* 33*	10 3	1 55.75	+ 23 11.5	0.761	1.713	15.6	18.1	153 W	68 41	
8 4	5 32.08	+ 18 46.4	1.272	0.965	51.7	21.5	48 W	29* 32*	10 8	1 51.98	+ 23 58.8	0.739	1.704	13.2	18.0	157 W	69 40	
8 9	5 51.71	+ 19 1.8	1.294	0.981	50.7	21.5	48 W	31* 32*	10 13	1 47.44	+ 24 39.8	0.722	1.697	11.0	17.8	161 W	70 39	
408751 1987 SF₃									314005 2004 UK									
5 6	23 6.37	- 2 33.9	1.190	1.090	52.3	21.5	59 W	19* 51*	5 6	23 16.59	+ 2 16.0	2.760	2.328	20.7	21.5	55 W	20* 46*	
5 11	23 27.69	- 0 26.8	1.189	1.075	52.7	21.5	58 W	19* 50*	5 16	23 33.06	+ 3 27.0	2.616	2.286	22.5	21.4	60 W	23* 50*	
5 16	23 48.77	+ 1 39.2	1.192	1.063	52.9	21.5	57 W	19* 49*	5 26	23 49.52	+ 4 34.2	2.468	2.243	24.2	21.2	65 W	26* 53*	
5 21	0 9.56	+ 3 42.4	1.198	1.055	52.9	21.5	56 W	19* 47*	6 5	0 5.98	+ 5 36.1	2.315	2.200	25.8	21.1	71 W	29* 56*	
5 26	0 30.04	+ 5 41.4	1.208	1.050	52.8	21.5	56 W	20* 46*	6 15	0 22.42	+ 6 30.4	2.160	2.156	27.2	21.0	76 W	33* 57*	
5 31	0 50.18	+ 7 35.0	1.220	1.048	52.4	21.5	55 W	20* 45*	6 25	0 38.81	+ 7 14.7	2.004	2.111	28.4	20.8	82 W	37* 57*	
6 5	1 9.96	+ 9 22.2	1.235	1.050	52.0	21.5	55 W	21* 44*	7 5	0 55.14	+ 7 46.1	1.848	2.066	29.4	20.6	87 W	42* 56	
100004 1983 VA									310005 2004 UK									
5 6	23 11.83	- 18 53.7	2.667	2.413	22.2	21.4	65 W	5* 58*	7 15	1 11.30	+ 8 1.1	1.694	2.020	30.2	20.4	93 W	46* 56	
5 16	23 28.42	- 18 0.4	2.473	2.332	24.1	21.2	70 W	7* 64*	7 20	1 19.29	+ 8 1.1	1.618	1.998	30.4	20.3	96 W	48* 56	
5 26	23 45.36	- 17 10.3	2.277	2.248	25.9	21.0	75 W	9* 69*	7 25	1 27.20	+ 7 55.4	1.544	1.975	30.5	20.1	99 W	50* 56	
6 5	0 2.77	- 16 24.3	2.081	2.162	27.6	20.8	81 W	12* 74*	7 30	1 35.01	+ 7 43.3	1.470	1.952	30.6	20.0	102 W	51* 56	
6 15	0 20.77	- 15 43.7	1.886	2.073	29.2	20.5	86 W	15* 78*	8 4	1 42.69	+ 7 24.2	1.398	1.929	30.5	19.9	105 W	52* 57	
6 25	0 39.56	- 15 9.5	1.694	1.982	30.8	20.3	90 W	19* 79*	8 9	1 50.21	+ 6 57.1	1.328	1.906	30.3	19.7	108 W	53* 57	
7 5	0 59.43	- 14 42.8	1.507	1.889	32.4	19.9	95 W	22* 79	8 14	1 57.53	+ 6 21.3	1.259	1.883	30.0	19.6	111 W	51* 58	
7 15	1 20.73	- 14 24.8	1.327	1.792	34.1	19.6	99 W	25* 78	8 19	2 4.62	+ 5 36.0	1.193	1.861	29.6	19.4	115 W	51 58	
7 25	1 44.01	- 14 15.9	1.155	1.694	35.9	19.2	102 W	27* 78	8 24	2 11.43	+ 4 40.3	1.130	1.838	29.0	19.3	118 W	50 59	
7 30	1 56.65	- 14 14.8	1.073	1.644	36.9	19.0	104 W	28* 78	8 29	2 17.92	+ 3 33.4	1.069	1.816	28.3	19.1	122 W	49 60	
8 4	2 10.13	- 14 15.8	0.994	1.593	38.0	18.8	105 W	29* 78	9 3	2 24.02	+ 2 14.5	1.011	1.793	27.4	18.9	125 W	47 62	
8 9	2 24.60	- 14 18.5	0.918	1.542	39.3	18.6	106 W	29* 78	9 13	2 34.80	- 1 2.0	0.907	1.750	25.2	18.6	132 W	44 65	
8 14	2 40.28	- 14 22.4	0.845	1.490	40.7	18.4	106 W	30* 78	9 23	2 43.26	- 5 10.0	0.818	1.707	22.8	18.2	139 W	40 69	
8 19	2 57.43	- 14 26.5	0.775	1.438	42.5	18.2	106 W	30* 78	10 3	2 48.92	- 10 3.1	0.749	1.666	20.7	17.9	144 W	35 74	
8 24	3 16.38	- 14 29.1	0.710	1.385	44.6	18.0	106 W	30* 78										
8 29	3 37.51	- 14 28.4	0.649	1.333	47.1	17.8	105 W	30* 78										
9 3	4 1.27	- 14 21.4	0.592	1.280	50.1	17.6	103 W	30* 78										
9 8	4 28.12	- 14 4.1	0.541	1.228	53.8	17.4	101 W	31* 78										
9 13	4 58.51	- 13 31.1	0.497	1.175	58.2	17.2	97 W	31* 78										
9 18	5 32.72	- 12 36.1	0.459	1.124	63.3	17.1	93 W	32* 76*										
9 23	6 10.69	- 11 13.6	0.431	1.073	69.1	17.1	87 W	33* 73*										
9 28	6 51.77	- 9 21.6	0.413	1.024	75.3	17.1	81 W	34* 67*										
10 3	7 34.63	- 7 3.9	0.406	0.977	81.4	17.1	75 W	35* 61*										
10 5	7 51.90	- 6 3.8	0.407	0.959	83.8	17.2	72 W	36* 58*										
10 7	8 9.06	- 5 2.2	0.409	0.941	85.9	17.2	70 W	36* 55*										
10 9	8 26.01	- 4 0.1	0.413	0.924	88.0	17.3	68 W	36* 52*										
10 11	8 42.64	- 2 58.4	0.419	0.908	89.8	17.4	65 W	37* 50*										
10 13	8 58.89	- 1 58.2	0.427	0.892	91.3	17.4	63 W	37* 47*										
10 15	9 14.68	- 1 0.2	0.437	0.877	92.6	17.5	61 W	37* 44*										
10 17	9 29.97	- 0 5.2	0.448	0.862	93.6	17.6	60 W	38* 42*										
10 19	9 44.74	- 0 46.1	0.461	0.849	94.3	17.6	58 W	38* 40*										
10 21	9 58.97	+ 1 33.4	0.475	0.836	94.8	17.7												

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

2021	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45° - 26°	21/22	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45° - 26°		
454177 2013 GJ ₃₅ (continuation)									454177 2013 GJ ₃₅ (continuation)										
7 5	1 19.08	+49 31.7	2.704	2.529	22.1	21.0	69 W	62*	14*	12 20	0 10.61	+66 28.2	0.876	1.554	35.6	17.9	113 E	69	—
7 15	1 34.38	+52 36.8	2.574	2.483	23.1	20.9	73 W	67*	11	12 22	0 16.07	+65 20.8	0.864	1.541	36.0	17.9	113 E	70	—
7 25	1 49.78	+55 45.0	2.443	2.435	24.0	20.8	78 W	71*	8	12 24	0 21.71	+64 11.4	0.854	1.528	36.6	17.9	112 E	71	—
8 4	2 5.19	+58 55.7	2.313	2.386	24.9	20.7	82 W	73*	5	12 26	0 27.51	+62 59.8	0.844	1.515	37.1	17.8	112 E	72	—
8 14	2 20.40	+62 8.1	2.183	2.335	25.6	20.5	86 W	73*	2	12 28	0 33.45	+61 46.2	0.834	1.502	37.6	17.8	111 E	73	1*
8 24	2 35.08	+65 20.9	2.056	2.282	26.3	20.3	89 W	70	—	12 30	0 39.50	+60 30.4	0.825	1.489	38.2	17.8	111 E	74	2*
8 29	2 42.06	+66 57.0	1.993	2.255	26.6	20.3	91 W	68	—	1 1	0 45.66	+59 12.6	0.816	1.476	38.8	17.8	110 E	76	3*
9 3	2 48.66	+68 32.7	1.930	2.227	26.9	20.2	93 W	66	—	1 6	1 1.39	+55 49.6	0.798	1.443	40.4	17.7	108 E	79	6*
9 8	2 54.70	+70 7.7	1.869	2.200	27.1	20.1	95 W	65	—	1 11	1 17.43	+52 15.6	0.783	1.411	42.2	17.7	106 E	83	10*
9 13	2 59.98	+71 41.6	1.808	2.171	27.4	20.0	97 W	63	—	1 16	1 33.59	+48 32.0	0.772	1.380	44.0	17.6	103 E	86	13*
9 15	3 1.81	+72 18.7	1.784	2.160	27.5	20.0	98 W	63	—	1 21	1 49.73	+44 41.0	0.765	1.350	45.8	17.6	100 E	90	16*
9 17	3 3.47	+72 55.6	1.760	2.149	27.6	19.9	98 W	62	—	363027 1998 ST ₂₇									
9 19	3 4.91	+73 32.2	1.736	2.137	27.7	19.9	99 W	61	—	5 6	23 53.26	+20 34.5	0.680	0.683	95.4	21.2	42 W	27*	27*
9 21	3 6.11	+74 8.4	1.713	2.125	27.8	19.8	100 W	61	—	5 11	23 51.17	+21 59.9	0.717	0.739	87.8	21.2	47 W	30*	30*
9 23	3 7.03	+74 44.3	1.689	2.114	27.8	19.8	100 W	60	—	5 16	23 51.96	+23 20.2	0.749	0.793	81.9	21.2	51 W	33*	31*
9 25	3 7.64	+75 19.7	1.666	2.102	27.9	19.8	101 W	60	—	5 21	23 54.67	+24 37.1	0.775	0.843	77.3	21.3	54 W	36*	33*
9 27	3 7.90	+75 54.7	1.643	2.090	28.0	19.7	102 W	59	—	5 26	23 58.63	+25 51.8	0.795	0.890	73.7	21.3	58 W	39*	33*
9 29	3 7.74	+76 29.1	1.620	2.079	28.1	19.7	102 W	59	—	5 31	0 3.43	+27 4.9	0.809	0.935	70.7	21.4	60 W	42*	34*
10 1	3 7.12	+77 2.9	1.597	2.067	28.2	19.6	103 W	58	—	6 5	0 8.75	+28 16.7	0.817	0.976	68.3	21.4	63 W	44*	34*
10 3	3 5.97	+77 36.0	1.574	2.055	28.3	19.6	104 W	57	—	6 10	0 14.37	+29 27.5	0.820	1.014	66.3	21.4	66 W	47*	34*
10 5	3 4.22	+78 8.2	1.552	2.043	28.3	19.6	104 W	57	—	6 15	0 20.12	+30 37.2	0.818	1.048	64.6	21.5	69 W	50*	33*
10 7	3 1.79	+78 39.5	1.530	2.031	28.4	19.5	105 W	56	—	6 20	0 25.87	+31 46.1	0.812	1.080	63.1	21.5	71 W	53*	32*
10 9	2 58.59	+79 9.7	1.508	2.019	28.5	19.5	105 W	56	—	6 25	0 31.53	+32 54.0	0.800	1.110	61.8	21.4	74 W	57*	31
10 11	2 54.54	+79 38.6	1.486	2.006	28.6	19.4	106 W	55	—	6 30	0 37.01	+34 1.2	0.785	1.136	60.7	21.4	77 W	60*	30
10 13	2 49.56	+80 6.1	1.464	1.994	28.6	19.4	107 W	55	—	7 5	0 42.22	+35 7.7	0.766	1.159	59.7	21.4	80 W	64*	29
10 14	2 46.68	+80 19.2	1.453	1.988	28.7	19.4	107 W	55	—	7 10	0 47.06	+36 13.5	0.743	1.180	58.7	21.3	83 W	68*	28
10 15	2 43.54	+80 31.9	1.443	1.982	28.7	19.3	107 W	54	—	7 15	0 51.40	+37 18.3	0.717	1.198	57.8	21.3	86 W	72*	27
10 16	2 40.12	+80 44.1	1.432	1.976	28.8	19.3	108 W	54	—	7 20	0 55.14	+38 21.9	0.688	1.214	56.8	21.2	89 W	76*	26
10 17	2 36.41	+80 55.8	1.421	1.969	28.8	19.3	108 W	54	—	7 25	0 58.16	+39 24.3	0.657	1.227	55.9	21.1	92 W	80*	25
10 18	2 32.40	+81 6.9	1.411	1.963	28.9	19.3	108 W	54	—	7 30	1 0.28	+40 25.3	0.623	1.237	54.8	20.9	95 W	84*	24
10 19	2 28.10	+81 17.4	1.400	1.957	28.9	19.3	108 W	54	—	8 4	1 1.28	+41 24.1	0.588	1.245	53.7	20.8	98 W	86	23
10 20	2 23.50	+81 27.4	1.390	1.951	28.9	19.2	109 W	54	—	8 9	1 0.88	+42 19.9	0.550	1.250	52.5	20.6	102 W	87	22
10 21	2 18.59	+81 36.6	1.379	1.945	29.0	19.2	109 W	53	—	8 14	0 58.74	+43 11.1	0.512	1.253	51.1	20.4	106 W	88	21
10 22	2 13.38	+81 45.2	1.369	1.938	29.0	19.2	109 W	53	—	8 19	0 54.46	+43 55.4	0.472	1.253	49.4	20.2	110 W	89	20
10 23	2 7.88	+81 53.0	1.359	1.932	29.1	19.2	109 W	53	—	8 24	0 47.56	+44 29.5	0.433	1.251	47.6	20.0	114 W	89	20
10 24	2 2.10	+82 0.0	1.348	1.926	29.1	19.1	110 W	53	—	8 26	0 43.92	+44 39.2	0.417	1.250	46.7	19.9	116 W	90	19
10 25	1 56.06	+82 6.2	1.338	1.920	29.2	19.1	110 E	53	—	8 28	0 39.73	+44 46.0	0.401	1.248	45.8	19.7	118 W	90	19
10 26	1 49.77	+82 11.5	1.328	1.913	29.2	19.1	110 E	53	—	8 30	0 34.93	+44 49.2	0.385	1.245	44.9	19.6	119 W	90	19
10 27	1 43.27	+82 16.0	1.318	1.907	29.2	19.1	110 E	53	—	9 1	0 29.47	+44 48.3	0.370	1.243	43.9	19.5	121 W	90	19
10 28	1 36.58	+82 19.4	1.308	1.901	29.3	19.1	111 E	53	—	9 3	0 23.32	+44 42.3	0.354	1.240	42.8	19.4	123 W	90	19
10 29	1 29.75	+82 21.9	1.298	1.894	29.3	19.0	111 E	53	—	9 5	0 16.44	+44 30.3	0.339	1.236	41.7	19.2	125 W	90	19
10 30	1 22.82	+82 23.4	1.288	1.888	29.4	19.0	111 E	53	—	9 7	0 8.80	+44 11.2	0.324	1.232	40.5	19.1	127 W	89	20
10 31	1 15.82	+82 23.9	1.278	1.882	29.5	19.0	111 E	53	—	9 9	0 0.38	+43 43.6	0.309	1.228	39.3	19.0	130 W	89	20
11 1	1 8.81	+82 23.3	1.268	1.875	29.5	19.0	112 E	53	—	9 11	23 51.18	+43 6.2	0.295	1.223	38.0	18.8	132 W	88	21
11 2	1 1.83	+82 21.7	1.258	1.869	29.6	18.9	112 E	53	—	9 13	23 41.22	+42 17.2	0.281	1.218	36.7	18.7	134 W	87	22
11 3	0 54.93	+82 19.0	1.249	1.862	29.6	18.9	112 E	53	—	9 15	23 30.54	+41 14.9	0.268	1.212	35.5	18.5	136 E	86	23
11 4	0 48.17	+82 15.3	1.239	1.856	29.7	18.9	112 E	53	—	9 17	23 19.20	+39 57.6	0.256	1.206	34.3	18.4	137 E	85	24
11 5	0 41.57	+82 10.5	1.229	1.850	29.7	18.9	112 E	53	—	9 19	23 7.29	+38 23.4	0.244	1.199	33.3	18.2	139 E	83	26
11 6	0 35.18	+82 4.7	1.220	1.843	29.8	18.9	113 E	53	—	9 21	22 54.92	+36 30.6	0.233	1.193	32.5	18.1	140 E	82	27
11 7	0 29.04	+81 57.9	1.210	1.837	29.8	18.8	113 E	53	—	9 23	22 42.22	+34 17.8	0.223	1.185	32.1	18.0	141 E	79	30
11 8	0 23.18	+81 50.1	1.201	1.830	29.9	18.8	113 E	53	—	9 25	22 29.34	+31 44.0	0.214	1.178	32.1	17.9	141 E	77	32
11 9	0 17.62	+81 41.4	1.192	1.824	30.0	18.8	113 E	53	—	9 27	22 16.43	+28 49.1	0.206	1.169	32.7	17.8	141 E	74	35
11 10	0 12.38	+81 31.8	1.182	1.817	30.0	18.8	113 E	53	—	9 29	22 3.65	+25 33.9	0.200	1.161	34.0	17.7	140 W	71	38
11 11	0 7.47	+81 21.3	1.173	1.811	30.1	18.7	113 E	54	—	10 1	21 51.15	+22 0.3	0.194	1.152	36.0	17.7	137 E	67	42
11 12	0 2.91	+81 9.9	1.164	1.804	30.2	18.7	114 E	54	—	10 3	21 39.05	+18 11.4	0.191	1.142	38.7	17.7	135 E	63	46
11 14	23 54.83	+80 44.7	1.146	1.792	30.3	18.7	114 E	54	—	10 5	21 27.46	+14 11.4	0.188	1.133	41.8	17.8	131 E	59	50
11 16	23 48.14	+80 16.5	1.128	1.778	30.5	18.6	114 E	55	—										

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

Main table containing ephemerides for minor planets 523595, 136818, 140158, and 351545. Each section lists dates (21/22), coordinates (alpha, delta), and various parameters (Delta, r, beta, V, psi, 45, -26) in columns. Data is presented in rows for specific dates and times.

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

2021	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45° - 26°	2021	α_{2000}	δ_{2000}	Δ	r	β	V	ψ	45° - 26°		
351545 2005 TE₁₅ (continuation)									408980 2002 RB₁₂₆										
6 25	2 23.26	0 36.2	0.715	0.917	75.9	21.4	61 W	15* 53*	5 16	2 18.00	4 14.2	0.732	0.444	116.4	20.7	23 W	—	17*	
6 30	2 32.58	1 20.5	0.737	0.943	73.3	21.5	63 W	18* 54*	5 18	2 13.83	3 52.1	0.767	0.465	107.8	20.4	26 W	—	20*	
456537 2007 BG									514596 2003 FG										
5 16	1 18.87	+16 28.3	0.797	0.532	97.0	21.1	31 W	14* 22*	5 16	2 20.62	+ 6 28.4	0.827	0.383	107.4	21.1	21 W	—	15*	
5 21	1 39.59	+16 22.7	0.887	0.527	87.5	20.9	31 W	12* 22*	5 21	2 35.94	+10 29.1	0.979	0.355	85.0	20.3	20 W	—	14*	
5 26	2 1.93	+16 27.1	0.977	0.530	78.4	20.8	31 W	11* 22*	5 26	2 57.19	+14 43.9	1.131	0.366	62.1	19.9	19 W	—	12*	
5 31	2 25.40	+16 38.9	1.064	0.542	69.8	20.8	30 W	10* 22*	5 31	3 22.23	+18 40.7	1.268	0.413	44.2	19.9	16 W	2*	10*	
6 5	2 49.46	+16 55.0	1.147	0.561	62.2	20.8	29 W	9* 21*	6 5	3 48.47	+21 59.9	1.388	0.480	32.3	20.1	15 W	3*	7*	
6 10	3 13.69	+17 12.4	1.224	0.586	55.6	20.8	28 W	8* 21*	6 10	4 14.39	+24 38.6	1.493	0.557	24.9	20.3	13 W	4*	5*	
6 15	3 37.76	+17 28.5	1.296	0.615	50.0	20.9	28 W	7* 20*	6 15	4 39.33	+26 41.4	1.586	0.635	20.5	20.6	13 W	4*	5*	
6 20	4 1.43	+17 41.4	1.361	0.647	45.3	21.0	27 W	7* 19*	6 20	5 3.07	+28 14.2	1.672	0.714	17.8	20.9	12 W	5*	2*	
6 25	4 24.58	+17 49.8	1.421	0.680	41.5	21.0	26 W	6* 19*	6 25	5 25.54	+29 22.5	1.750	0.790	16.2	21.2	13 W	5*	1*	
6 30	4 47.14	+17 53.1	1.474	0.714	38.4	21.1	26 W	6* 18*	6 30	5 46.78	+30 10.9	1.823	0.863	15.3	21.4	13 W	6*	—	
7 5	5 9.09	+17 50.8	1.523	0.748	35.9	21.3	26 W	7* 18*	496230 2012 CL₂										
7 10	5 30.41	+17 42.7	1.567	0.781	33.9	21.3	25 W	7* 18*	5 16	2 26.33	- 2 56.4	2.065	1.253	21.6	21.4	27 W	—	18*	
7 15	5 51.12	+17 28.9	1.606	0.812	32.2	21.4	25 W	7* 18*	5 26	3 4.81	- 1 21.8	2.004	1.202	23.0	21.3	28 W	—	19*	
310442 2000 CH₅₉									190788 2001 RT₁₇										
5 16	1 27.27	+11 13.3	0.863	0.518	90.6	21.3	31 W	8* 24*	5 16	2 31.85	+ 3 20.9	0.742	0.418	118.5	20.5	21 W	—	14*	
5 21	1 51.61	+13 16.3	0.962	0.502	80.9	21.0	29 W	8* 22*	5 18	2 24.06	+ 2 13.3	0.759	0.458	110.1	20.2	25 W	—	18*	
5 26	2 17.09	+15 12.6	1.062	0.498	70.7	20.9	28 W	8* 20*	5 20	2 17.64	+ 1 23.7	0.777	0.497	103.0	20.0	29 W	—	22*	
5 31	2 43.48	+16 59.5	1.160	0.506	60.8	20.8	26 W	7* 18*	5 22	2 12.39	+ 0 48.1	0.795	0.537	97.0	19.9	32 W	—	25*	
6 5	3 10.34	+18 33.9	1.252	0.526	51.7	20.8	24 W	6* 16*	5 24	2 8.15	+ 0 23.6	0.814	0.575	91.9	19.9	35 W	—	28*	
6 10	3 37.21	+19 53.5	1.338	0.555	44.0	20.8	22 W	6* 15*	5 26	2 4.72	+ 0 7.5	0.832	0.614	87.6	19.9	37 W	—	31*	
6 15	4 3.67	+20 57.0	1.417	0.591	37.7	20.9	21 W	5* 13*	5 28	2 1.98	+ 0 2.0	0.849	0.651	83.8	19.9	40 W	1*	34*	
6 20	4 29.45	+21 44.3	1.489	0.631	32.6	21.0	20 W	5* 12*	5 30	1 59.78	+ 0 6.5	0.866	0.688	80.6	20.0	42 W	2*	36*	
6 25	4 54.38	+22 16.3	1.555	0.673	28.7	21.2	19 W	5* 11*	6 1	1 58.03	+ 0 7.1	0.881	0.724	77.7	20.0	44 W	3*	38*	
6 30	5 18.36	+22 34.1	1.614	0.717	25.6	21.3	18 W	5* 10*	6 3	1 56.64	+ 0 4.8	0.894	0.759	75.2	20.1	46 W	5*	40*	
7 5	5 41.38	+22 39.2	1.669	0.760	23.3	21.4	17 W	5* 9*	6 5	1 55.54	+ 0 0.2	0.907	0.794	72.9	20.1	48 W	6*	42*	
368664 2005 JA₂₂									339715 2005 SS₄										
5 16	2 5.75	+ 9 7.0	2.018	1.155	19.9	21.4	23 W	—	17*	5 16	2 13.76	+ 4 59.3	0.742	0.443	114.7	21.2	23 W	—	17*
5 21	2 24.55	+10 13.4	2.001	1.141	20.3	21.4	23 W	—	17*	5 18	2 9.91	+ 4 5.3	0.774	0.471	106.0	20.9	27 W	—	20*
5 26	2 43.68	+11 16.0	1.986	1.127	20.6	21.4	23 W	—	17*	5 20	2 7.42	+ 3 27.6	0.808	0.501	98.6	20.7	29 W	—	23*
5 31	3 1.13	+12 14.2	1.974	1.115	20.9	21.3	23 W	—	17*	5 22	2 6.03	+ 3 2.7	0.841	0.531	92.2	20.6	32 W	—	26*
6 5	3 22.88	+13 7.3	1.963	1.104	21.1	21.3	23 W	1*	17*	5 24	2 5.52	+ 2 47.8	0.874	0.563	86.8	20.6	34 W	—	28*
6 10	3 42.89	+13 54.6	1.955	1.095	21.3	21.3	23 W	1*	17*	5 26	2 5.68	+ 2 40.6	0.905	0.595	82.1	20.6	36 W	1*	30*
6 15	4 3.12	+14 35.6	1.948	1.088	21.4	21.3	23 W	1*	17*	5 28	2 6.38	+ 2 39.2	0.935	0.628	78.1	20.7	37 W	2*	31*
6 20	4 23.52	+15 9.9	1.944	1.082	21.4	21.3	23 W	1*	17*	5 30	2 7.49	+ 2 42.3	0.964	0.660	74.6	20.7	39 W	3*	33*
6 25	4 44.02	+15 36.9	1.942	1.079	21.3	21.2	23 W	2*	16*	6 1	2 8.90	+ 2 48.8	0.991	0.692	71.6	20.8	40 W	4*	34*
6 30	5 4.57	+15 56.6	1.942	1.077	21.2	21.2	23 W	2*	16*	6 3	2 10.56	+ 2 57.7	1.016	0.724	69.0	20.9	42 W	5*	36*
7 5	5 25.10	+16 8.6	1.944	1.077	21.1	21.2	22 W	3*	16*	6 5	2 12.39	+ 3 8.4	1.040	0.756	66.6	20.9	43 W	6*	37*
7 10	5 45.56	+16 13.0	1.948	1.079	21.0	21.2	22 W	3*	16*	6 10	2 17.46	+ 3 40.4	1.092	0.834	61.9	21.1	46 W	8*	40*
7 15	6 5.87	+16 9.9	1.954	1.083	20.8	21.3	22 W	4*	15*	6 15	2 22.86	+ 4 15.6	1.135	0.910	58.3	21.3	50 W	11*	43*
7 20	6 25.97	+15 59.4	1.960	1.089	20.6	21.3	22 W	5*	15*	6 20	2 28.28	+ 4 51.3	1.170	0.983	55.5	21.4	53 W	14*	45*
7 25	6 45.80	+15 41.8	1.969	1.096	20.4	21.3	22 W	5*	15*	6 25	2 33.53	+ 5 25.7	1.197	1.053	53.2	21.6	56 W	17*	47*
7 30	7 5.33	+15 17.7	1.978	1.105	20.2	21.3	22 W	6*	15*										
8 4	7 24.52	+14 47.3	1.988	1.116	20.0	21.3	22 W	7*	14*										
8 9	7 43.33	+14 11.3	1.999	1.128	19.9	21.4	22 W	8*	14*										
8 14	8 1.73	+13 30.1	2.011	1.142	19.8	21.4	22 W	9*	14*										
8 19	8 19.71	+12 44.4	2.023	1.157	19.7	21.4	23 W	10*	14*										
8 24	8 37.27	+11 54.8	2.035	1.173	19.7	21.5	23 W	11*	14*										
462238 2008 CN₁									9 8 23 40.06 - 2 41.1 0.838 1.840 5.0 19.7 171 W 42 67										
5 16	2 8.24	+13 55.1	1.309	0.505	44.3	21.4	20 W	3* 14*	9 13	23 24.83	- 3 31.0	0.867	1.873	0.3 19.4 180 W 41 68					
5 21	2 37.25	+16 58.0	1.380	0.518	36.5	21.4	18 W	3* 11*	9 18	23 10.70	- 4 16.5	0.905	1.905	4.2 19.9 172 E 41 68					
5 26	3 6.62	+19 36.3	1.447	0.538	29.4	21.3	15 W	3* 8*	9 23	22 58.01	- 4 56.1	0.952	1.936	8.3 20.2 164 E 40 69					
5 31	3 36.07	+21 47.6	1.507	0.565	23.4	21.4	13 W	2* 5*											
6 5	4 5.29	+23 31.5	1.563	0.597	18.4	21.4	11 W	1* 3*											
6 10	4 34.04	+24 48.4	1.615	0.632	14.5	21.5	9 W	1* 1*											

