

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

2021	$\alpha_{2000}$	$\delta_{2000}$	$\Delta$	$r$	$\beta$	$V$	$\psi$	45°	-26°	21/22	$\alpha_{2000}$	$\delta_{2000}$	$\Delta$	$r$	$\beta$	$V$	$\psi$	45°	-26°
<b>437844 1999 MN</b>										<b>237566 2001 BW<sub>1</sub></b> (continuation)									
4 6	0 36.76	+3 18.9	1.386	0.407	15.9	21.0	6 W	—	—	7 15	4 7.57	+40 56.8	3.781	3.191	13.7	21.3	48 W	39*	16*
4 11	1 15.26	+7 29.5	1.316	0.315	3.0	19.8	1 W	—	—	7 25	4 23.01	+41 44.3	3.656	3.163	15.0	21.2	54 W	46*	17*
4 16	1 59.71	+12 2.4	1.213	0.240	26.5	19.9	6 E	—	—	8 4	4 38.05	+42 29.4	3.520	3.133	16.2	21.2	60 W	52*	18*
4 21	2 44.44	+16 10.8	1.052	0.234	72.2	20.9	13 E	5*	3*	8 14	4 52.50	+43 12.7	3.375	3.103	17.3	21.1	66 W	59*	19*
4 26	3 19.30	+19 2.2	0.874	0.303	107.1	22.5	17 E	9*	5*	8 24	5 6.15	+43 54.2	3.223	3.072	18.3	21.0	72 W	66*	19*
<b>284152 2005 XC<sub>4</sub></b>										<b>30997 1995 UO<sub>5</sub></b>									
4 6	0 44.56	+26 44.4	4.501	3.583	5.7	21.5	21 W	11*	—	10 8	5 49.43	+46 54.6	2.497	2.923	19.3	20.4	105 W	88	17
4 16	0 57.10	+28 5.6	4.509	3.585	5.6	21.5	20 W	13*	—	10 13	5 51.37	+47 14.4	2.419	2.905	18.9	20.3	109 W	88	17
4 26	1 9.68	+29 29.1	4.500	3.586	6.0	21.5	22 W	16*	—	10 18	5 52.51	+47 33.6	2.342	2.888	18.4	20.2	114 W	87	16
5 6	1 22.26	+30 54.4	4.475	3.586	6.8	21.5	25 W	19*	5*	10 23	5 52.78	+47 52.1	2.267	2.870	17.9	20.1	118 W	87	16
5 16	1 34.78	+32 21.2	4.434	3.586	7.9	21.6	29 W	22*	9*	10 28	5 52.11	+48 9.3	2.195	2.851	17.1	20.0	122 W	87	16
<b>369984 1998 QR<sub>52</sub></b>										<b>348053 2003 UA<sub>206</sub></b>									
4 6	1 8.10	+17 7.8	2.153	1.186	9.3	21.5	11 E	3*	—	4 6	1 59.68	+13 4.4	2.981	2.040	7.9	21.5	16 E	9*	4*
4 11	1 24.02	+18 46.6	2.136	1.166	9.2	21.4	11 E	3*	—	4 16	2 15.25	+15 23.3	2.955	1.978	5.5	21.3	11 E	4*	—
4 16	1 40.52	+20 22.5	2.119	1.146	9.1	21.3	10 E	2*	—	4 26	2 31.91	+17 43.9	2.910	1.913	3.2	21.0	6 E	—	—
4 21	1 57.65	+21 54.6	2.100	1.125	9.1	21.3	10 E	2*	—	5 6	2 49.81	+20 6.2	2.849	1.843	2.0	20.8	4 W	—	—
4 26	2 15.48	+23 22.1	2.080	1.103	9.1	21.2	10 E	2*	—	5 16	3 9.19	+22 30.0	2.771	1.769	3.5	20.8	6 W	—	—
5 1	2 34.04	+24 43.8	2.059	1.080	9.1	21.1	10 E	2*	—	5 26	3 30.34	+24 55.0	2.678	1.690	6.0	20.8	10 W	3*	1*
5 5	2 53.39	+25 58.5	2.038	1.056	9.1	21.1	10 E	2*	—	6 5	3 53.66	+27 20.2	2.572	1.607	8.8	20.7	14 W	6*	3*
5 11	3 13.57	+27 5.0	2.016	1.032	9.1	21.0	9 E	2*	—	6 15	4 19.72	+29 43.8	2.455	1.518	11.7	20.6	18 W	9*	5*
5 16	3 34.58	+28 1.8	1.993	1.008	9.1	20.9	9 E	2*	—	6 25	4 49.21	+32 2.2	2.329	1.425	14.6	20.4	21 W	13*	6*
5 21	3 56.41	+28 47.2	1.971	0.982	9.0	20.8	9 E	2*	—	6 30	5 5.52	+33 7.7	2.263	1.376	16.1	20.3	22 W	14*	6*
5 26	4 19.03	+29 19.7	1.948	0.957	9.0	20.8	8 E	2*	—	7 5	5 23.05	+34 9.1	2.197	1.326	17.7	20.2	23 W	16*	6*
5 31	4 42.38	+29 37.6	1.924	0.932	8.9	20.7	8 E	2*	—	7 10	5 41.93	+35 5.0	2.130	1.275	19.2	20.1	24 W	17*	5*
6 5	5 6.37	+29 39.6	1.901	0.907	8.8	20.6	8 E	2*	—	7 15	6 2.27	+35 53.3	2.064	1.222	20.7	20.0	25 W	18*	5*
6 10	5 30.87	+29 24.2	1.878	0.882	8.8	20.5	8 E	2*	—	7 20	6 24.21	+36 31.6	1.998	1.168	22.1	19.9	26 W	19*	4*
6 15	5 55.74	+28 50.4	1.855	0.859	8.9	20.4	8 E	1*	—	7 25	6 47.82	+36 56.6	1.933	1.113	23.6	19.8	26 W	20*	2*
6 20	6 20.82	+27 57.4	1.833	0.836	9.2	20.3	8 E	1*	—	7 30	7 13.12	+37 4.7	1.871	1.057	24.9	19.6	26 W	20*	1*
6 25	6 45.93	+26 45.0	1.810	0.815	9.8	20.3	8 E	1*	—	8 4	7 40.06	+36 51.5	1.812	1.000	26.1	19.5	26 W	20*	—
6 30	7 10.95	+25 13.4	1.788	0.796	10.7	20.2	8 E	1*	—	8 9	8 8.46	+36 12.4	1.756	0.942	27.2	19.3	25 W	19*	—
7 5	7 35.74	+23 23.2	1.766	0.779	11.9	20.2	9 E	—	—	8 14	8 38.01	+35 2.7	1.706	0.884	27.9	19.1	24 W	18*	—
7 10	8 0.20	+21 15.6	1.745	0.765	13.6	20.2	10 E	—	—	8 19	9 8.32	+33 18.1	1.661	0.827	28.3	18.9	23 W	16*	—
7 15	8 24.28	+18 52.0	1.724	0.754	15.5	20.2	11 E	—	—	8 24	9 38.91	+30 55.3	1.623	0.771	28.2	18.7	21 W	14*	—
7 20	8 47.95	+16 14.5	1.703	0.747	17.6	20.2	13 E	—	—	8 29	10 9.28	+27 52.2	1.591	0.717	27.3	18.5	19 W	11*	—
7 25	9 11.21	+13 25.4	1.683	0.744	19.9	20.3	14 E	—	—	9 3	10 39.01	+24 8.9	1.568	0.677	25.6	18.3	17 W	7*	—
7 30	9 34.10	+10 26.9	1.664	0.744	22.2	20.3	16 E	—	—	9 8	11 7.76	+19 47.5	1.551	0.623	23.0	18.0	14 E	5*	—
8 4	9 56.70	+7 21.8	1.646	0.748	24.5	20.4	18 E	—	—	9 13	11 35.32	+14 52.3	1.541	0.588	19.6	17.8	11 E	4*	—
8 9	10 19.06	+4 12.5	1.630	0.756	26.7	20.5	20 E	—	—	9 18	12 1.64	+9 30.1	1.535	0.565	16.2	17.6	9 E	3*	—
8 14	10 41.29	+1 1.7	1.616	0.767	28.7	20.5	21 E	—	—	9 23	12 26.79	+3 49.8	1.534	0.557	14.1	17.5	8 E	1*	—
8 19	11 3.45	+2 8.1	1.604	0.781	30.5	20.6	23 E	—	—	9 25	12 36.56	+1 30.9	1.534	0.557	14.1	17.5	8 E	1*	—
8 24	11 25.62	+5 14.4	1.595	0.798	32.0	20.7	25 E	—	—	9 27	12 46.21	+0 48.6	1.535	0.560	14.6	17.5	8 E	—	1*
8 29	11 47.89	+8 15.2	1.589	0.818	33.2	20.8	26 E	—	—	9 29	12 55.73	+3 8.1	1.536	0.566	15.5	17.5	9 E	—	2*
9 3	12 10.32	+11 8.2	1.586	0.839	34.2	20.8	28 E	—	—	10 1	13 5.17	+5 26.8	1.537	0.574	16.7	17.6	9 E	—	3*
9 8	12 32.94	+13 51.6	1.587	0.862	34.8	20.9	29 E	—	—	10 3	13 14.53	+7 44.2	1.539	0.584	18.1	17.7	10 E	—	4*
9 13	12 55.77	+16 23.7	1.591	0.885	35.2	21.0	30 E	—	—	10 8	13 37.80	+13 18.7	1.546	0.617	21.7	18.0	13 E	—	7*
9 18	13 18.79	+18 43.0	1.598	0.910	35.4	21.1	32 E	—	—	10 13	14 1.15	+18 35.0	1.557	0.659	24.9	18.2	16 E	—	9*
9 23	13 41.99	+20 48.4	1.609	0.935	35.3	21.1	33 E	—	—	10 18	14 24.92	+23 28.1	1.572	0.709	27.3	18.5	19 E	—	12*
9 28	14 5.32	+22 39.0	1.623	0.960	35.0	21.2	33 E	—	—	10 23	14 49.36	+27 54.6	1.592	0.762	28.9	18.7	22 E	—	14*
10 3	14 28.70	+24 14.2	1.641	0.986	34.6	21.3	34 E	—	—	10 28	15 14.65	+31 51.9	1.617	0.818	29.8	18.9	24 E	—	16*
10 8	14 52.06	+25 33.9	1.661	1.011	34.1	21.3	34 E	—	—	11 2	15 40.85	+35 18.4	1.647	0.875	30.2	19.1	26 E	—	18*
10 13	15 15.30	+26 38.0	1.684	1.035	33.4	21.4	35 E	—	—	11 7	16 7.91	+38 13.3	1.681	0.933	30.1	19.3	28 E	—	19*
10 18	15 38.32	+27 26.9	1.709	1.059	32.6	21.5	35 E	1*	—	11 12	16 35.67	+40 36.3	1.721	0.991	29.7	19.4	30 E	—	21*
<b>98891 2001 BK<sub>41</sub></b>										<b>237566 2001 BW<sub>1</sub></b>									
4 6	1 21.32	+11 54.5	4.113	3.125	2.5	21.4	8 E	2*	—	4 6	1 33.20	+31 36.7	4.295	3.428	7.5	21.5	26 E	18*	—
4 16	1 34.61	+13 3.7	4.141	3.139	1.0	21.3	3 W	—	—	4 16	1 47.68	+32 32.1	4.312	3.408	6.5	21.4	23 E	12*	—
4 26	1 47.89	+14 11.0	4.150	3.152	2.0	21.4	6 W	—	—	4 26	2 2.48	+33 29.6	4.314	3.388	5.9	21.4	20 W	11*	—
5 6	2 1.12	+15 15.7	4.143	3.164	3.9	21.5	12 W	1*	5*	5 6	2 17.59	+34 28.3	4.299	3.366	5.8	21.4	20 W	13*	—
5 16	2 14.24	+16 17.5	4.118	3.175	5.8	21.6	18 W	4*	11*	5 16	2 32.95	+35 27.4	4.269	3.344	6.2	21.4	21 W	15*	—
4 6	1 33.20	+31 36.7	4.295	3.428	7.5	21.5	26 E	18*	—	5 26	2 48.52	+36 26.2	4.224	3.320	7.0	21.4	24 W	17*	2*
4 16	1 47.68	+32 32.1	4.312	3.408	6.5	21.4	23 E	12*	—	6 5</									

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

21/22	$\alpha_{2000}$	$\delta_{2000}$	$\Delta$	$r$	$\beta$	$V$	$\psi$	$45^\circ$	$-26^\circ$	2021	$\alpha_{2000}$	$\delta_{2000}$	$\Delta$	$r$	$\beta$	$V$	$\psi$	$45^\circ$	$-26^\circ$
<b>30997 1995 UO<sub>5</sub></b>										<b>139211 2001 GN<sub>2</sub></b>									
<i>(continuation)</i>																			
12 17	19 42.40	-44 31.7	2.083	1.368	23.1	20.4	33 E	—	26*	4 6	4 13.45	+ 1 48.0	1.831	1.389	32.7	21.4	49 E	24*	38*
12 22	20 4.69	-43 48.6	2.142	1.417	22.0	20.5	33 E	—	26*	4 16	4 39.82	+ 4 11.3	1.812	1.326	32.9	21.3	46 E	22*	36*
12 27	20 25.55	-42 55.0	2.202	1.465	20.9	20.6	32 E	—	25*	4 26	5 8.52	+ 6 30.3	1.788	1.266	33.2	21.2	44 E	19*	34*
1 1	20 45.06	-41 53.2	2.261	1.511	19.8	20.7	31 E	—	25*	5 6	5 39.62	+ 8 42.6	1.760	1.208	33.7	21.0	42 E	17*	33*
1 6	21 3.29	-40 45.3	2.320	1.556	18.7	20.7	31 E	—	24*	5 16	6 13.21	+10 44.8	1.730	1.155	34.2	20.9	40 E	15*	31*
1 11	21 20.34	-39 32.9	2.379	1.600	17.7	20.8	30 E	—	23*	5 26	6 49.24	+12 32.8	1.699	1.108	34.9	20.8	39 E	14*	30*
1 16	21 36.32	-38 17.4	2.436	1.642	16.7	20.9	29 E	—	22*	6 5	7 27.58	+14 2.5	1.671	1.070	35.6	20.7	38 E	13*	29*
1 21	21 51.32	-36 59.8	2.492	1.684	15.7	21.0	28 E	—	21*	6 15	8 7.98	+15 9.0	1.647	1.041	36.3	20.6	37 E	12*	29*
<b>468541 2006 QA<sub>31</sub></b>																			
4 6	2 7.78	+ 9 31.2	1.583	0.693	25.3	21.5	17 E	8*	8*	7 5	9 33.03	+15 56.4	1.615	1.019	37.4	20.6	38 E	14*	29*
4 11	2 32.31	+12 25.5	1.538	0.672	28.8	21.4	19 E	10*	8*	7 15	10 16.51	+15 32.2	1.611	1.027	37.7	20.6	38 E	15*	29*
4 16	2 58.04	+15 18.8	1.493	0.657	32.6	21.4	21 E	12*	9*	7 25	10 59.77	+14 36.1	1.616	1.047	37.8	20.7	39 E	17*	29*
4 21	3 25.03	+18 7.4	1.449	0.650	36.6	21.5	23 E	14*	10*	8 4	11 42.27	+13 10.8	1.631	1.078	37.4	20.7	40 E	19*	30*
4 26	3 53.29	+20 46.9	1.407	0.651	40.6	21.5	25 E	16*	11*	8 14	12 23.60	+11 21.1	1.657	1.119	36.7	20.8	41 E	21*	31*
<b>337248 2000 RH<sub>60</sub></b>																			
4 6	2 25.53	+ 5 49.0	1.464	0.646	34.5	21.4	21 E	9*	13*	8 24	13 3.48	+ 9 13.8	1.695	1.168	35.7	20.9	42 E	22*	31*
4 11	2 45.38	+ 7 29.4	1.382	0.584	39.4	21.2	22 E	9*	14*	9 3	13 41.80	+ 6 55.9	1.744	1.222	34.4	21.1	43 E	24*	32*
4 16	3 6.11	+ 9 21.5	1.288	0.522	46.5	21.0	22 E	9*	14*	9 13	14 18.53	+ 4 34.5	1.805	1.280	32.8	21.2	44 E	25*	32*
4 21	3 27.24	+11 30.7	1.181	0.462	56.8	20.8	23 E	10*	14*	9 23	15 53.71	+ 2 16.5	1.877	1.342	31.0	21.3	44 E	26*	31*
4 26	3 47.47	+14 5.7	1.060	0.412	71.3	20.8	23 E	10*	14*	10 3	15 27.40	+ 0 7.2	1.958	1.405	29.1	21.5	43 E	26*	30*
5 1	4 4.00	+17 19.0	0.928	0.379	90.8	21.0	22 E	11*	12*										
<b>187746 1976 DC</b>										<b>216523 2001 HY<sub>7</sub></b>									
4 6	2 56.39	+33 53.3	3.104	2.404	15.1	21.5	39 E	33*	5*	4 6	6 1.39	+16 9.2	0.319	0.965	87.1	21.1	74 E	52*	44*
4 16	3 17.27	+34 27.6	3.136	2.367	13.6	21.4	34 E	28*	3*	4 11	6 45.31	+16 50.2	0.330	0.999	81.1	21.0	80 E	55*	46*
4 26	3 39.07	+34 58.3	3.158	2.328	12.1	21.4	29 E	23*	1*	4 16	7 25.54	+16 57.2	0.349	1.031	75.7	21.0	85 E	57*	47*
5 6	4 1.74	+35 23.0	3.169	2.289	10.5	21.3	25 E	18*	—	4 21	8 1.30	+16 37.8	0.374	1.061	71.2	21.1	88 E	57*	47*
5 16	4 25.21	+35 39.8	3.169	2.250	9.1	21.2	20 E	14*	—	4 26	8 32.59	+16 0.5	0.405	1.090	67.4	21.2	91 E	57*	48*
5 26	4 49.39	+35 46.9	3.159	2.210	7.7	21.1	17 E	11*	—	5 1	8 59.86	+15 12.1	0.439	1.116	64.4	21.3	92 E	57*	49*
6 5	5 14.18	+35 42.2	3.139	2.169	6.5	21.0	14 E	7*	—	5 6	9 23.76	+14 17.2	0.476	1.141	62.0	21.5	93 E	55*	50*
6 15	5 39.46	+35 24.3	3.110	2.128	5.8	20.9	12 E	5*	—	<b>422637 1985 WA</b>									
6 25	6 5.08	+34 51.8	3.072	2.087	5.6	20.8	12 W	5*	—	4 6	13 47.15	- 6 42.7	3.454	4.439	2.7	24.2	168 W	38	71
7 5	6 30.90	+34 3.4	3.026	2.045	6.2	20.7	13 W	6*	—	4 16	13 39.50	- 6 6.7	3.451	4.452	0.9	24.1	176 W	39	70
7 15	6 56.77	+32 58.4	2.972	2.004	7.3	20.7	14 W	8*	—	4 26	13 31.90	- 5 32.5	3.479	4.465	2.9	24.3	167 E	39	70
7 25	7 22.55	+31 36.0	2.911	1.963	8.7	20.7	17 W	11*	—	5 6	13 24.82	- 5 2.7	3.537	4.477	5.3	24.4	156 E	40	69
8 4	7 48.13	+29 56.0	2.844	1.922	10.4	20.7	20 W	14*	2*	5 16	13 18.68	- 4 39.4	3.624	4.488	7.5	24.6	145 E	40	69
8 14	8 13.41	+27 58.0	2.770	1.881	12.2	20.6	23 W	17*	4*	<b>455554 2004 MQ<sub>1</sub></b>									
8 24	8 38.31	+25 42.4	2.692	1.841	14.1	20.6	26 W	20*	6*	4 6	13 47.73	- 2 20.7	3.067	4.049	3.1	23.8	167 W	43	66
9 3	9 2.81	+23 9.1	2.610	1.802	16.0	20.5	30 W	23*	9*	4 16	13 38.84	- 1 36.3	3.065	4.060	2.1	23.7	172 W	43	66
9 13	9 26.90	+20 18.6	2.524	1.765	18.0	20.5	33 W	26*	11*	4 26	13 30.02	- 0 56.9	3.095	4.070	4.0	23.9	164 E	44	65
9 23	9 50.59	+17 11.3	2.435	1.729	20.0	20.4	36 W	29*	14*	5 6	13 21.84	- 0 25.4	3.156	4.079	6.5	24.0	153 E	45	64
10 3	10 13.96	+13 47.7	2.345	1.694	22.0	20.4	39 W	31*	17*	5 16	13 14.78	- 0 3.6	3.245	4.086	8.8	24.2	142 E	45	64
10 13	10 37.05	+10 8.5	2.254	1.662	23.9	20.3	43 W	34*	20*	<b>529752 2010 MR</b>									
10 23	10 59.97	+ 6 14.5	2.163	1.632	25.9	20.2	46 W	35*	23*	4 6	13 49.16	-16 13.5	2.369	3.344	4.6	23.5	164 W	29	80
11 2	11 22.82	+ 2 6.6	2.073	1.605	27.8	20.1	49 W	36*	27*	4 16	13 39.69	-15 24.7	2.312	3.312	1.7	23.2	175 W	30	79
11 12	11 45.74	- 2 13.8	1.985	1.581	29.5	20.1	52 W	36*	32*	4 26	13 29.92	-14 28.5	2.286	3.280	3.2	23.3	169 E	31	78
11 22	12 8.86	- 6 45.0	1.900	1.561	31.2	20.0	55 W	34*	37*	5 6	13 20.67	-13 29.7	2.290	3.246	6.7	23.5	158 E	32	77
12 2	12 32.35	-11 24.8	1.819	1.544	32.8	19.9	58 W	32*	42*	5 16	13 12.68	-12 33.6	2.321	3.211	10.1	23.6	146 E	32	77
12 12	12 56.35	-16 10.4	1.743	1.531	34.2	19.9	61 W	28*	47*	<b>461911 2006 QS<sub>123</sub></b>									
12 17	13 8.60	-18 34.2	1.706	1.527	34.9	19.8	63 W	26*	50*	4 6	13 49.39	- 3 48.6	2.624	3.607	3.5	22.4	167 W	41	68
12 22	13 21.04	-20 58.1	1.671	1.523	35.5	19.8	64 W	24*	53*	4 16	13 41.44	- 2 47.7	2.608	3.606	2.0	22.3	173 W	42	67
12 27	13 33.70	-23 21.6	1.637	1.520	36.1	19.8	65 W	22*	56*	4 26	13 33.45	- 1 51.4	2.623	3.603	4.2	22.5	165 E	43	66
1 1	13 46.60	-25 44.0	1.605	1.519	36.6	19.7	67 W	19*	59*	5 6	13 26.06	- 1 3.6	2.667	3.600	7.1	22.6	154 E	44	65
1 6	13 59.74	-28 4.7	1.574	1.518	37.0	19.7	68 W	17	61*	5 16	13 19.80	- 0 27.2	2.737	3.596	9.8	22.8	143 E	45	64
1 11	14 13.13	-30 23.2	1.544	1.519	37.4	19.7	70 W	15	63*	<b>483563 2004 BD<sub>68</sub></b>									
1 16	14 26.80	-32 38.6	1.516	1.521	37.8	19.6	71 W	12	65*	4 6	13 50.59	+ 3 33.6	2.370	3.343	4.8	23.5	164 W	49	60
1 21	14 40.74	-34 50.6	1.488	1.523	38.1	19.6	73 W	10	67*	4 11	13 44.91	+ 4 20.4	2.351	3.331	4.2	23.4	166 W	49	60
<b>445775 2011 YA</b>																			
4 6	4 0.88	+23 50.1	1.477	1.079	42.6	21.3	47 E	38*	22*	4 16	13 39.06	+ 5 5.4	2.339	3.318	4.5	23.4	165 W	50	59
4 11	4 12.94	+24 4.7	1.437	1.011	44.2	21.1	45 E	35*	21*	4 21	13 33.15	+ 5 47.7	2.336	3.305	5.5	23.5	162 E	51	58
4 16	4 25.82	+24 16.4	1.390	0.944	46.2	20.9	43 E	33*	21*	4 26	13 27.30	+ 6 26.5	2.341	3.291	6.8	23.5	157 E	51	58
4 21	4 39.52	+24 24.0	1.336	0.875	48.8	20.8	41 E	31*	20*	5 1	13 21.62	+ 7 1.4	2.354	3.277	8.3	23.6	152 E	52	57
4 26	4 54.00	+24 26.0	1.274	0.808	52.2	20.6													

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

2021	$\alpha_{2000}$	$\delta_{2000}$	$\Delta$	$r$	$\beta$	$V$	$\psi$	$45^\circ$ - $26^\circ$	2021	$\alpha_{2000}$	$\delta_{2000}$	$\Delta$	$r$	$\beta$	$V$	$\psi$	$45^\circ$ - $26^\circ$				
<b>363084</b> 2000 RD <sub>53</sub> (continuation)									<b>139359</b> 2001 ME <sub>1</sub>												
5	1	13 22.39	+ 0 4.0	1.488	2.448	9.2	23.3	157 E	45	64	4	6	14 13.93	- 7 2.6	3.920	4.879	3.7	23.2	161 W	38	71
5	6	13 17.09	+ 0 42.6	1.506	2.438	11.6	23.4	151 E	46	63	4	16	14 6.24	- 6 19.4	3.874	4.869	1.7	23.0	172 W	39	70
<b>530101</b> 2010 XD <sub>52</sub>									4 26 13 58.23 - 5 36.7 3.860 4.857 1.8 23.0 171 E 39 70												
4	6	13 52.37	-23 29.7	2.339	3.291	6.4	22.4	159 W	22	87	5	6	13 50.37	- 4 57.3	3.880	4.845	3.9	23.1	161 E	40	69
4	11	13 48.15	-22 59.8	2.310	3.283	5.0	22.3	164 W	22	87	5	16	13 43.07	- 4 23.2	3.930	4.831	6.0	23.3	150 E	41	68
4	16	13 43.77	-22 26.0	2.287	3.274	3.8	22.2	167 W	23	86	<b>509935</b> 2009 QL <sub>8</sub>										
4	21	13 39.33	-21 48.9	2.272	3.265	3.3	22.2	169 E	23	86	4	6	14 16.79	- 7 19.5	1.429	2.397	7.9	22.6	161 W	38	71
4	26	13 34.95	-21 9.1	2.265	3.256	3.7	22.2	168 E	24	85	4	11	14 10.11	- 6 46.0	1.434	2.421	5.4	22.5	167 W	38	71
5	1	13 30.71	-18 27.4	2.265	3.246	4.8	22.2	164 E	25	84	4	16	14 3.28	- 6 13.0	1.446	2.444	3.2	22.5	172 W	39	70
5	6	13 26.72	-19 44.6	2.272	3.237	6.3	22.3	160 E	25	84	4	21	13 56.48	- 5 41.5	1.465	2.467	2.5	22.5	174 W	39	70
5	11	13 23.05	-19 1.4	2.287	3.227	7.8	22.4	154 E	26	83	4	26	13 49.90	- 5 12.3	1.492	2.489	4.1	22.6	170 E	40	69
5	16	13 19.80	-18 18.9	2.308	3.217	9.3	22.5	149 E	27	82	5	1	13 43.70	- 4 46.3	1.526	2.511	6.3	22.8	164 E	40	69
<b>436037</b> 2009 NJ									5 6 13 38.00 - 4 24.0 1.567 2.532 8.5 23.0 158 E 41 68												
4	6	13 53.87	-20 53.3	2.141	3.102	6.2	23.1	160 W	24	85	5 11 13 32.91 - 4 5.8 1.615 2.553 10.6 23.1 152 E 41 68										
4	11	13 48.01	-20 22.5	2.119	3.101	4.5	23.0	166 W	25	84	<b>488645</b> 2003 OV										
4	16	13 41.99	-19 48.0	2.106	3.099	3.2	22.9	170 W	25	84	4	6	14 20.90	-25 12.8	2.450	3.372	7.8	23.5	153 W	20	89
4	21	13 35.94	-19 10.5	2.100	3.097	2.8	22.9	171 E	26	83	4	11	14 14.73	-24 46.2	2.445	3.398	6.2	23.5	159 W	20	89
4	26	13 30.00	-18 30.7	2.103	3.095	3.8	22.9	168 E	26	83	4	16	14 8.42	-24 15.8	2.448	3.424	4.7	23.4	164 W	21	88
5	1	13 24.28	-17 49.5	2.113	3.092	5.3	23.0	163 E	27	82	4	21	14 2.11	-23 42.2	2.460	3.449	3.5	23.4	168 W	21	88
5	6	13 18.91	-17 7.9	2.131	3.088	7.1	23.1	158 E	28	81	4	26	13 55.90	-23 6.0	2.479	3.473	3.0	23.4	169 E	22	87
<b>529032</b> 2009 NA									5 1 13 49.93 -22 28.1 2.507 3.497 3.6 23.5 167 E 23 86												
4	6	13 57.79	-24 15.8	2.844	3.787	5.9	23.1	157 W	21	88	5 6 13 44.27 -21 49.1 2.543 3.521 4.8 23.6 163 E 23 86										
4	16	13 49.10	-23 34.8	2.778	3.760	3.7	22.9	166 W	21	88	5 11 13 39.03 -21 9.9 2.587 3.544 6.1 23.7 158 E 24 85										
4	26	13 40.04	-22 41.9	2.742	3.732	3.3	22.9	168 E	22	87	<b>401979</b> 2002 UC <sub>32</sub>										
5	6	13 31.35	-21 40.7	2.737	3.702	5.3	23.0	160 E	23	86	4	6	14 22.47	-20 43.8	2.454	3.389	7.1	23.8	155 W	24	85
5	16	13 23.66	-20 35.9	2.761	3.672	7.9	23.1	150 E	24	85	4	16	14 13.88	-20 17.7	2.392	3.375	4.0	23.6	166 W	25	84
<b>145485</b> 2005 UN <sub>398</sub>									4 26 14 4.53 -19 41.6 2.360 3.361 2.0 23.4 173 E 25 84												
4	6	14 0.33	+ 0 47.0	5.854	6.818	2.4	22.5	163 W	46	63	5 6 13 55.24 -18 58.6 2.357 3.346 4.1 23.6 166 E 26 83										
4	16	13 55.89	+ 1 17.5	5.824	6.808	1.8	22.4	168 W	46	63	5 16 13 46.78 -18 13.1 2.384 3.330 7.3 23.7 155 E 27 82										
4	26	13 51.34	+ 1 44.8	5.825	6.798	2.4	22.5	164 E	47	62	<b>452376</b> 2002 AC <sub>5</sub>										
5	6	13 46.91	+ 2 7.4	5.856	6.787	3.5	22.5	155 E	47	62	4	6	14 23.72	+11 47.9	1.360	2.294	11.7	23.2	152 W	57	52
5	16	13 42.85	+ 2 24.3	5.915	6.776	4.8	22.6	146 E	47	62	4	11	14 16.48	+12 16.7	1.366	2.313	10.6	23.2	155 W	57	52
<b>394130</b> 2006 HY <sub>51</sub>									4 16 14 9.02 +12 38.6 1.379 2.331 10.1 23.2 156 W 58 51												
4	6	14 1.83	+ 0 13.3	4.124	5.089	3.3	24.0	163 W	45	64	4	21	14 1.55	+12 52.8	1.398	2.349	10.3	23.2	155 W	58	51
4	16	13 53.50	+ 0 58.1	4.098	5.085	2.3	24.0	168 W	46	63	4	26	13 54.29	+12 59.0	1.424	2.366	11.1	23.3	153 E	58	51
4	26	13 45.02	+ 1 38.3	4.107	5.079	3.3	24.0	163 E	47	62	5 1 13 47.41 +12 57.2 1.457 2.383 12.2 23.4 150 E 58 51										
5	6	13 36.82	+ 2 11.7	4.149	5.073	5.0	24.1	154 E	47	62	5 6 13 41.06 +12 47.7 1.496 2.399 13.6 23.6 146 E 58 51										
5	16	13 29.32	+ 2 36.7	4.220	5.065	6.9	24.3	143 E	48	61	5 11 13 35.36 +12 31.1 1.540 2.414 15.1 23.7 142 E 58 51										
<b>542192</b> 2013 AY <sub>50</sub>									<b>530121</b> 2011 AV <sub>2</sub>												
4	6	14 4.88	+21 54.8	2.171	3.063	10.1	22.5	148 W	67	42	4	6	14 24.42	-21 44.6	2.506	3.435	7.2	23.3	154 W	23	86
4	11	14 0.08	+22 21.2	2.172	3.066	10.0	22.5	148 W	67	42	4	16	14 16.13	-21 16.5	2.444	3.423	4.3	23.1	165 W	24	85
4	16	13 55.13	+22 41.3	2.180	3.070	10.3	22.5	147 W	68	41	4	26	14 7.08	-20 38.0	2.410	3.411	2.2	22.9	173 E	24	85
4	21	13 50.14	+22 54.6	2.194	3.074	10.7	22.5	145 E	68	41	5 6 13 58.07 -19 52.0 2.407 3.397 3.9 23.0 167 E 25 84										
4	26	13 45.23	+23 0.9	2.214	3.077	11.4	22.6	143 E	68	41	5 16 13 49.84 -19 2.8 2.433 3.383 6.9 23.2 156 E 26 83										
5	1	13 40.52	+23 0.2	2.240	3.080	12.2	22.6	140 E	68	41	<b>536531</b> 2015 DV <sub>215</sub>										
5	6	13 36.10	+22 52.6	2.271	3.082	13.0	22.7	137 E	68	41	4	6	14 25.75	-21 23.3	1.072	2.021	12.4	22.8	154 W	24	85
<b>459683</b> 2013 MY <sub>5</sub>									4 11 14 17.07 -21 25.0 1.061 2.034 9.5 22.7 161 W 24 85												
4	6	14 6.18	- 7 33.2	1.435	2.411	6.8	22.9	163 W	37	72	4 16 14 7.88 -21 20.3 1.057 2.046 6.6 22.6 166 W 24 85										
4	11	13 59.78	- 6 55.8	1.416	2.408	4.3	22.7	170 W	38	71	4	21	13 58.50	-21 9.7	1.060	2.058	4.6	22.5	171 W	24	85
4	16	13 53.05	- 6 17.6	1.405	2.405	2.3	22.6	174 W	39	70	4	26	13 49.24	-20 53.9	1.070	2.069	4.6	22.5	171 E	24	85
4	21	13 46.18	- 5 39.8	1.401	2.402	2.7	22.6	174 E	39	70	5 1 13 40.39 -20 34.2 1.086 2.079 6.5 22.7 166 E 24 85										
4	26	13 39.38	- 5 3.5	1.404	2.398	5.0	22.8	168 E	40	69	5 6 13 32.20 -20 11.8 1.110 2.089 9.2 22.8 161 E 25 84										
5	1	13 32.81	- 4 29.7	1.415	2.393	7.5	22.9	162 E	41	68	5 11 13 24.88 -19 48.3 1.140 2.098 11.8 23.0 155 E 25 84										
5	6	13 26.64	- 3 59.3	1.432	2.388	10.0	23.0	156 E	41	68	<b>453270</b> 2008 SJ <sub>290</sub>										
<b>456701</b> 2007 RV <sub>241</sub>									4 6 14 26.25 - 7 4.2 1.879 2.833 7.5 22.9 158 W 38 71												
4	6	14 8.47	-12 45.9	2.005	2.972	6.0	22.2	162 W	32	77	4 11 14 22.19 - 6 30.6 1.850 2.826 5.6 22.7 164 W 38 71										
4	16	13 59.54	-11 56.2	1.954	2.954	2.0	21.9	174 W	33	76	4 16 14 17.79 - 5 56.4 1.827 2.819 3.9 22.6 169 W 39 70										
4	26	13 50.00	-11 1.9	1.933	2.935	2.1	21.9	174 E	34	75	4 21 14 13.14 - 5 22.3 1.812 2.811 2.8 22.5 172 W 40 69										
5	6	13 40.79	-10 8.2	1.940	2.915	6.3	22.1	162 E	35	74	4 26 14 8.38 - 4 49.2 1.805 2.804 3.1 22.5 171 E 40 69										
5	16	13 32.77	- 9 20.5	1.975	2.894	10.1	22.3	150 E	36	73	5 1 14 3.63 - 4 17.8 1.804 2.796 4.6 22.6 167 E 41 68										
<b>401968</b> 2002 TE <sub>138</sub>									5 6 13 59.01 - 3 48.8 1.811 2.787 6.5 22.7 162 E 41 68												
4	6	14 9.54	-19 58.5	2.545	3.494	6.1	23.9	158 W	25	84	5 11 13 54.62 - 3 22.9 1.824 2.779 8.4 22.8 156 E 42 67										
4	16	14 0.73	-19 27.3	2.488	3.478	3.2	23.7	169 W	26	83	<b>518847</b> 2010 DM										
4	26	13 51.40	-18 46.8	2.461	3.461	2.2	23.6	172 E	26	83	4	6	14 28.93	- 6 38.7	1.484	2.440	8.9	22.3	158 W	38	71
5	6	13 42.33	-18 0.6	2.465	3.444	4.8	23.8	163 E	27	82	4	16	14 14.04	+ 4 51.5	1.361	2.354	4.5	21.8	169 W	40	69
5	16	13 34.24	-17 13.1	2.498	3.425	7.9	23.9	152 E	28	81	4	26	13 55.95	- 2 51.3	1.270	2.265	5.1	21.6	169 E	42	67
<b>429073</b> 2009 ND <sub>1</sub>									5 6 13 36.08 - 0 48.9 1.212 2.171 11.0 21.7 156 E 44 65												
4	6	14 10.28	+ 2 18.3	3.324	4.279	4.5	23.5	160 W	47	62	5 16 13 16.37 + 1 2.2 1.185 2.073 17.7 21.8 141 E 46 63										
4	16	14 2.84	+ 3 2.2	3.305	4.284	3.4	23.4	165 W	48	61	<b>467475</b> 2006 RG <sub>7</sub>										
4	26	13 55.16	+ 3 39.1	3.318	4.288	4.1	23.4	162 E	49	60	4	6	14 29.05	+ 2 28.8	1.548	2.496	9.4	22.4	156 W	47	62
5	6	13 47.75	+ 4 6.6	3.361	4.291	5.9	23.6	154 E	49	60	4	11	14 24.43	+ 3 42.9</							

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

2021	$\alpha_{2000}$	$\delta_{2000}$	$\Delta$	$r$	$\beta$	$V$	$\psi$	$45^\circ$ - $26^\circ$	2021	$\alpha_{2000}$	$\delta_{2000}$	$\Delta$	$r$	$\beta$	$V$	$\psi$	$45^\circ$ - $26^\circ$
<b>467475 2006 RG<sub>7</sub></b>									<b>185746 1999 LO<sub>1</sub></b>								
<i>(continuation)</i>									<i>(continuation)</i>								
4 26	14 8.56	+ 7 10.3	1.500	2.467	8.3	22.2	159 E	52   57	5 16	13 55.91	- 8 40.5	1.808	2.757	9.0	21.3	155 E	36   73
5 1	14 3.09	+ 8 9.5	1.506	2.459	9.7	22.3	156 E	53   56	5 26	13 47.88	- 8 12.6	1.860	2.739	12.8	21.5	143 E	37   72
5 6	13 57.79	+ 9 1.8	1.518	2.451	11.4	22.4	151 E	54   55	<b>393657 2004 RS<sub>9</sub></b>								
5 11	13 52.80	+ 9 46.3	1.537	2.442	13.3	22.4	146 E	55   54	4 6	14 37.16	-20 29.7	1.422	2.355	11.4	21.3	152 W	25   84
<b>524114 2000 SB<sub>1</sub></b>									4 16	14 29.74	-18 30.7	1.341	2.323	6.6	21.0	165 W	26   83
4 6	14 29.57	-38 53.3	3.881	4.706	7.6	22.0	142 W	6   77	4 26	14 20.61	-16 7.7	1.286	2.292	1.4	20.5	177 W	29   80
4 11	14 25.87	-38 45.7	3.855	4.718	6.9	21.9	146 W	6   77	5 6	14 10.98	-13 30.5	1.260	2.259	4.6	20.7	170 E	31   78
4 16	14 21.98	-38 34.3	3.836	4.729	6.2	21.9	150 W	6   77	5 16	14 2.18	-10 52.6	1.260	2.227	10.2	20.9	157 E	34   75
4 21	14 17.98	-38 19.3	3.824	4.741	5.5	21.8	153 W	7   78	5 26	13 55.41	- 8 28.2	1.286	2.194	15.4	21.1	145 E	37   72
4 26	14 13.93	-38 0.7	3.819	4.752	5.1	21.8	155 W	7   78	6 5	13 51.40	- 6 27.3	1.331	2.161	19.8	21.3	134 E	39   70
5 1	14 9.92	-37 39.0	3.821	4.763	4.8	21.8	157 E	7   78	6 15	13 50.50	- 4 55.0	1.392	2.128	23.5	21.5	123 E	40*   69
5 6	14 6.01	-37 14.4	3.830	4.774	4.8	21.8	157 E	8   79	<b>523596 2002 PH<sub>80</sub></b>								
5 11	14 2.27	-36 47.2	3.846	4.785	5.0	21.8	156 E	8   79	4 6	14 37.79	-23 21.5	1.122	2.055	13.7	22.2	151 W	22   87
5 16	13 58.77	-36 18.0	3.870	4.795	5.4	21.9	153 E	9   80	4 16	14 27.90	-23 42.5	1.021	1.998	9.1	21.8	162 W	21   88
5 21	13 55.55	-35 47.3	3.901	4.806	6.0	21.9	150 E	9   80	4 26	14 14.60	-23 42.7	0.942	1.941	5.3	21.3	170 W	21   88
5 26	13 52.66	-35 15.6	3.938	4.816	6.6	22.0	147 E	10   81	5 6	13 59.31	-23 20.4	0.887	1.882	7.5	21.3	166 E	22   87
<b>359170 2009 CN<sub>5</sub></b>									5 16	13 44.13	-22 39.0	0.856	1.823	13.6	21.4	155 E	22   87
4 6	14 30.57	-29 24.7	1.318	2.234	13.5	23.1	148 W	16   87	5 26	13 31.36	-21 48.6	0.845	1.763	20.3	21.5	143 E	23   86
4 11	14 22.68	-29 25.1	1.296	2.240	11.4	23.0	154 W	16   87	<b>513126 1998 QP</b>								
4 16	14 14.18	-29 17.4	1.280	2.245	9.3	22.9	159 W	16   87	4 6	14 38.59	-29 7.0	1.884	2.779	11.2	25.5	147 W	16   87
4 21	14 5.32	-29 1.6	1.271	2.250	7.7	22.8	163 W	16   87	4 11	14 32.35	-28 57.6	1.857	2.786	9.5	25.4	153 W	16   87
4 26	13 56.39	-28 38.2	1.269	2.254	7.0	22.8	164 E	16   87	4 16	14 25.66	-28 42.4	1.836	2.792	7.7	25.3	158 W	16   87
5 1	13 47.65	-28 8.0	1.274	2.257	7.4	22.8	163 E	17   88	4 21	14 18.67	-28 21.6	1.823	2.798	6.2	25.2	162 W	17   88
5 6	13 39.35	-27 32.3	1.286	2.260	8.8	22.9	160 E	17   88	4 26	14 11.57	-27 55.5	1.818	2.803	5.2	25.2	165 E	17   88
5 11	13 31.73	-26 52.8	1.304	2.262	10.7	23.0	155 E	18   89	5 1	14 4.53	-27 24.7	1.820	2.808	5.0	25.2	166 E	18   89
<b>532777 2013 WL<sub>64</sub></b>									5 6	13 57.71	-26 50.0	1.829	2.812	5.8	25.2	164 E	18   89
4 6	14 31.35	-48 45.0	2.837	3.598	11.7	22.5	133 W	-   67	5 11	13 51.27	-26 12.5	1.846	2.815	7.2	25.3	160 E	19   90
4 11	14 26.56	-48 48.2	2.788	3.585	11.0	22.4	137 W	-   67	<b>537098 2015 GZ<sub>45</sub></b>								
4 16	14 21.33	-48 45.0	2.744	3.573	10.4	22.3	140 W	-   67	4 6	14 40.11	-17 7.6	0.959	1.906	13.7	21.4	153 W	28   81
4 21	14 15.80	-48 35.2	2.707	3.560	9.8	22.3	143 W	-   67	4 16	14 30.16	-17 15.6	0.855	1.843	8.1	20.9	165 W	28   81
4 26	14 10.09	-48 18.7	2.675	3.547	9.3	22.2	145 E	-   68	4 26	14 16.06	-17 9.6	0.773	1.778	2.1	20.2	176 W	28   81
5 1	14 4.35	-47 55.5	2.649	3.534	9.0	22.2	147 E	-   68	5 6	13 59.14	-16 50.2	0.714	1.713	7.4	20.3	167 E	28   81
5 6	13 58.71	-47 25.8	2.630	3.520	8.9	22.1	147 E	-   69	5 11	13 50.29	-16 36.8	0.693	1.680	11.5	20.3	161 E	28   81
5 11	13 53.32	-46 50.1	2.618	3.507	9.1	22.1	147 E	-   69	5 16	13 41.65	-16 22.2	0.678	1.647	15.7	20.4	154 E	29   80
5 16	13 48.30	-46 9.0	2.611	3.493	9.4	22.1	146 E	-   70	5 21	13 33.56	-16 8.0	0.666	1.613	19.9	20.5	147 E	29   80
5 21	13 43.77	-45 23.5	2.611	3.479	9.9	22.1	144 E	-   71	5 26	13 26.31	-15 55.8	0.660	1.580	23.9	20.5	141 E	29   80
<b>163760 2003 OR<sub>14</sub></b>									5 31	13 20.13	-15 46.7	0.656	1.546	27.9	20.6	135 E	29   80
4 6	14 32.72	-14 23.0	2.383	3.321	7.1	21.6	156 W	31   78	6 5	13 15.20	-15 42.1	0.655	1.513	31.6	20.6	129 E	29   80
4 16	14 24.15	-13 16.0	2.365	3.352	3.6	21.4	168 W	32   77	6 10	13 11.63	-15 43.0	0.656	1.480	35.1	20.7	123 E	29*   80
4 26	14 15.06	-12 5.6	2.376	3.382	0.4	21.2	179 W	33   76	6 15	13 9.49	-15 50.1	0.659	1.446	38.3	20.7	118 E	28*   80
5 6	14 6.23	-10 56.6	2.419	3.411	3.6	21.5	168 E	34   75	6 20	13 8.78	-16 4.0	0.662	1.414	41.4	20.8	113 E	27*   80
5 16	13 58.37	- 9 53.8	2.491	3.439	6.9	21.8	156 E	35   74	6 25	13 9.49	-16 24.8	0.665	1.381	44.2	20.8	109 E	25*   80
5 26	13 52.01	- 9 1.2	2.591	3.466	9.8	22.0	144 E	36   73	6 30	13 11.56	-16 52.4	0.667	1.349	46.8	20.8	105 E	23*   81
<b>529819 2010 PM<sub>58</sub></b>									7 5	13 14.95	-17 26.6	0.669	1.318	49.3	20.9	101 E	22*   81
4 6	14 33.26	-37 55.9	1.104	1.989	18.1	23.4	142 W	7   78	7 10	13 19.64	-18 7.2	0.669	1.288	51.5	20.9	97 E	20*   82
4 11	14 24.14	-38 16.7	1.071	1.984	16.2	23.3	146 W	7   78	7 15	13 25.59	-18 54.1	0.669	1.258	53.7	20.9	94 E	18*   83
4 16	14 13.90	-38 25.6	1.043	1.979	14.5	23.2	150 W	7   78	7 20	13 32.79	-19 46.7	0.666	1.230	55.7	20.9	92 E	16*   83*
4 21	14 2.88	-38 21.0	1.021	1.972	13.2	23.1	153 W	7   78	7 25	13 41.21	-20 44.4	0.662	1.203	57.6	20.9	89 E	15*   82*
4 26	13 51.45	-38 2.6	1.006	1.964	12.6	23.0	155 E	7   78	7 30	13 50.85	-21 46.6	0.656	1.177	59.4	20.9	87 E	14*   81*
5 1	13 40.05	-37 30.6	0.997	1.956	12.7	23.0	155 E	7   78	8 4	14 1.76	-22 52.6	0.649	1.154	61.2	20.9	85 E	12*   79*
5 6	13 29.10	-36 46.2	0.994	1.946	13.8	23.0	153 E	8   79	8 9	14 13.99	-24 1.6	0.639	1.132	62.8	20.8	83 E	11*   77*
5 11	13 18.99	-35 51.6	0.998	1.936	15.4	23.1	149 E	9   80	8 14	14 27.62	-25 12.8	0.629	1.112	64.3	20.8	82 E	11*   75*
<b>306798 2001 OW<sub>94</sub></b>									8 19	14 42.71	-26 24.7	0.616	1.095	65.7	20.8	81 E	10*   74*
4 6	14 33.59	-19 7.9	2.770	3.694	6.9	22.0	154 W	26   83	8 24	14 59.36	-27 35.8	0.603	1.081	67.0	20.7	80 E	9*   73*
4 16	14 25.53	-18 48.7	2.707	3.686	4.0	21.8	165 W	26   83	8 29	15 17.70	-28 44.0	0.589	1.069	68.1	20.7	79 E	9*   72*
4 26	14 16.67	-18 22.1	2.673	3.677	1.4	21.6	175 W	27   82	9 3	15 37.85	-29 47.1	0.575	1.061	68.9	20.6	79 E	9*   72*
5 6	14 7.72	-17 50.3	2.671	3.667	2.9	21.7	169 E	27   82	9 8	15 59.92	-30 42.3	0.561	1.055	69.6	20.6	79 E	9*   72*
5 16	13 59.35	-17 16.7	2.698	3.656	5.9	21.8	158 E	28   81	9 13	16 23.98	-31 26.0	0.547	1.053	69.9	20.6	79 E	10*   72*
5 26	13 52.20	-16 44.9	2.753	3.644	8.7	22.0	147 E	28   81	9 18	16 50.02	-31 54.4	0.534	1.054	69.9	20.5	80 E	10*   73*
<b>484506 2008 ER<sub>7</sub></b>									9 23	17 17.87	-32 3.1	0.524	1.058	69.5	20.5	81 E	11*   74*
4 6	14 33.85	-18 46.1	1.370	2.311	11.0	23.2	154 W	26   83	9 28	17 47.27	-31 48.3	0.516	1.066	68.8	20.4	83 E	12*   76*
4 11	14 26.00	-18 14.1	1.354	2.323	8.2	23.1	161 W	27   82	10 3	18 17.79	-31 6.7	0.510	1.076	67.7	20.4	84 E	13*   77*
4 16	14 17.71	-17 37.4	1.346	2.335	5.4	22.9	167 W	27   82	10 8	18 48.86	-29 56.8	0.509	1.090	66.2	20.4	86 E	15*   80*
4 21	14 9.20	-16 57.0	1.345	2.346	2.7	22.8	174 W	28   81	10 13	19 19.86	-28 18.9	0.512	1.106	64.4	20.3	88 E	17   82*
4 26	14 0.73	-16 13.8	1.351	2.356	1.8	22.7	176 E	29   80	10 18	19 50.16	-26 16.0	0.520	1.124	62.4	20.4	90 E	19   84*
5 1	13 52.51	-15 29.4	1.366	2.365	4.1	22.9	170 E	30   79	10 23	20 19.22	-23 52.8	0.533	1.145	60.2	20.4	92 E	21   85*
5 6	13 44.76	-14 44.9	1.388</														

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

2021	$\alpha_{2000}$	$\delta_{2000}$	$\Delta$	$r$	$\beta$	$V$	$\psi$	$45^\circ$ - $26^\circ$	2021	$\alpha_{2000}$	$\delta_{2000}$	$\Delta$	$r$	$\beta$	$V$	$\psi$	$45^\circ$ - $26^\circ$
<b>58325 1994 RE<sub>11</sub></b>									<b>445024 2008 NT</b>								
4 6	14 43.18	-2 17.7	2.498	3.424	7.4	21.5	154 W	43   66	4 6	15 0.29	-24 12.1	1.710	2.600	12.4	21.9	146 W	21   88
4 16	14 36.01	-1 5.5	2.444	3.415	5.0	21.3	163 W	44   65	4 16	14 52.47	-23 52.7	1.622	2.577	8.7	21.6	157 W	21   88
4 26	14 27.94	+ 0 2.7	2.419	3.405	4.1	21.2	166 W	45   64	4 26	14 42.53	-23 16.2	1.559	2.552	4.7	21.3	168 W	22   87
5 6	14 19.64	+ 1 2.2	2.424	3.393	5.6	21.3	161 E	46   63	5 6	14 31.52	-22 24.4	1.523	2.526	3.0	21.1	172 E	23   86
5 16	14 11.81	+ 1 48.7	2.458	3.381	8.2	21.5	152 E	47   62	5 16	14 20.69	-21 21.7	1.514	2.499	6.6	21.3	163 E	24   85
5 26	14 5.09	+ 2 19.9	2.517	3.368	10.8	21.6	141 E	47   62	5 26	14 11.32	-20 15.7	1.531	2.472	11.1	21.5	152 E	25   84
<b>440174 2003 YF<sub>136</sub></b>									<b>414287 2008 OB<sub>9</sub></b>								
4 6	14 43.27	-20 15.0	1.704	2.626	10.6	22.2	151 W	25   84	4 6	15 0.41	-12 10.3	2.061	2.968	9.8	22.3	150 W	33   76
4 16	14 34.42	-19 36.7	1.632	2.609	6.5	21.9	163 W	25   84	4 11	14 55.34	-11 31.5	2.065	3.007	7.9	22.2	156 W	33   76
4 26	14 23.96	-18 44.2	1.587	2.590	2.3	21.6	174 W	26   83	4 16	14 50.00	-10 52.2	2.076	3.045	5.9	22.2	162 W	34   75
5 6	14 13.03	-17 41.8	1.570	2.571	3.6	21.7	171 E	27   82	4 21	14 44.52	-10 13.0	2.094	3.083	4.0	22.1	168 W	35   74
5 16	14 2.84	-16 35.9	1.581	2.550	8.2	21.9	159 E	28   81	4 26	14 39.01	-9 34.7	2.120	3.121	2.4	22.1	173 W	35   74
5 26	13 54.48	-15 33.9	1.617	2.529	12.5	22.1	147 E	29   80	5 1	14 33.60	-8 57.9	2.154	3.158	1.9	22.1	174 W	36   73
									5 6	14 28.39	-8 23.2	2.196	3.195	3.1	22.2	170 E	37   72
									5 11	14 23.47	-7 51.2	2.246	3.231	4.7	22.4	165 E	37   72
									5 16	14 18.92	-7 22.4	2.303	3.267	6.4	22.6	159 E	38   71
									5 21	14 14.83	-6 57.0	2.367	3.303	7.9	22.7	153 E	38   71
<b>533849 2014 OH<sub>338</sub></b>									<b>452337 2001 RB<sub>22</sub></b>								
4 6	14 43.39	-12 59.1	2.601	3.525	7.3	22.3	154 W	32   77	4 6	15 1.76	-12 52.5	1.773	2.682	11.0	22.5	149 W	32   77
4 16	14 36.20	-12 7.8	2.536	3.515	4.2	22.1	165 W	33   76	4 16	14 54.43	-12 0.4	1.691	2.659	7.2	22.2	161 W	33   76
4 26	14 28.09	-11 12.5	2.501	3.505	1.2	21.9	176 W	34   75	4 26	14 45.23	-11 1.6	1.635	2.635	3.1	21.9	172 W	34   75
5 6	14 19.75	-10 17.0	2.496	3.494	2.9	22.0	170 E	35   74	5 6	14 35.09	-10 1.2	1.608	2.611	2.9	21.8	172 E	35   74
5 16	14 11.86	-9 25.4	2.521	3.482	6.1	22.2	159 E	36   73	5 16	14 25.10	-9 5.1	1.608	2.585	7.2	22.0	161 E	36   73
5 26	14 5.06	-8 41.4	2.574	3.469	9.1	22.4	147 E	36   73	5 26	14 16.35	-8 19.3	1.634	2.559	11.6	22.2	150 E	37   72
<b>399356 2000 WG<sub>12</sub></b>									<b>194212 2001 TH<sub>114</sub></b>								
4 6	14 43.91	-18 45.8	2.072	2.991	9.1	21.9	152 W	26   83	4 6	15 2.13	-22 19.6	1.964	2.852	11.2	21.5	146 W	23   86
4 16	14 35.78	-18 8.8	1.995	2.970	5.5	21.6	163 W	27   82	4 16	14 54.18	-22 3.3	1.882	2.836	7.7	21.3	158 W	23   86
4 26	14 26.30	-17 21.4	1.945	2.949	1.7	21.3	175 W	28   81	4 26	14 44.43	-21 34.0	1.825	2.820	3.9	21.0	169 W	23   86
5 6	14 16.39	-16 27.1	1.924	2.926	2.9	21.4	172 E	29   80	5 6	14 33.81	-20 53.6	1.797	2.802	2.2	20.9	174 E	24   85
5 16	14 7.00	-15 30.9	1.933	2.902	6.9	21.6	160 E	29   80	5 16	14 23.40	-20 6.1	1.797	2.783	5.7	21.1	164 E	25   84
5 26	13 59.03	-14 38.5	1.968	2.878	10.7	21.7	148 E	30   79	5 26	14 14.27	-19 17.0	1.825	2.764	9.7	21.2	153 E	26   83
<b>244977 2004 BE<sub>68</sub></b>									<b>143381 2003 BC<sub>21</sub></b>								
4 6	14 46.12	-15 0.6	1.588	2.518	10.6	22.0	152 W	30   79	4 6	15 2.42	-24 7.3	3.041	3.908	8.3	22.0	146 W	21   88
4 11	14 40.93	-14 10.3	1.563	2.523	8.3	21.9	159 W	31   78	4 16	14 55.06	-23 45.4	2.970	3.912	5.8	21.8	157 W	21   88
4 16	14 35.26	-13 16.7	1.544	2.527	5.8	21.7	165 W	32   77	4 26	14 46.65	-23 13.8	2.927	3.916	3.2	21.6	167 W	22   87
4 21	14 29.26	-12 20.9	1.533	2.531	3.3	21.6	172 W	33   76	5 6	14 37.82	-22 34.3	2.915	3.918	1.8	21.5	173 E	22   87
4 26	14 23.09	-11 23.9	1.529	2.534	1.2	21.4	177 W	34   75	5 16	14 29.23	-21 49.5	2.933	3.920	3.8	21.7	165 E	23   86
5 1	14 16.92	-10 27.0	1.533	2.537	2.3	21.5	174 E	35   74	5 26	14 21.51	-21 3.1	2.981	3.920	6.4	21.8	155 E	24   85
5 6	14 10.92	-9 31.3	1.544	2.539	4.8	21.7	168 E	35   74									
5 11	14 5.22	-8 38.3	1.563	2.541	7.2	21.8	162 E	36   73									
5 16	13 59.98	-7 48.8	1.588	2.542	9.6	22.0	155 E	37   72									
5 21	13 55.30	-7 3.8	1.620	2.543	11.8	22.1	149 E	38   71									
5 26	13 51.27	-6 24.0	1.658	2.543	13.8	22.2	143 E	39   70									
<b>451896 2014 JN<sub>54</sub></b>									<b>496962 2002 GP<sub>186</sub></b>								
4 6	14 46.64	+ 8 21.9	1.909	2.818	10.4	21.3	149 W	53   56	4 6	15 3.03	-16 29.2	0.684	1.622	19.0	21.4	148 W	29   80
4 11	14 41.90	+ 8 37.5	1.876	2.807	9.3	21.2	153 W	54   55	4 11	14 53.85	-16 31.7	0.670	1.634	14.9	21.2	155 W	28   81
4 16	14 36.70	+ 8 49.7	1.850	2.796	8.4	21.2	156 W	54   55	4 16	14 43.49	-16 28.9	0.660	1.645	10.6	21.1	162 W	29   80
4 21	14 31.13	+ 8 57.8	1.830	2.785	8.0	21.1	157 W	54   55	4 21	14 32.36	-16 21.0	0.656	1.655	6.2	20.9	170 W	29   80
4 26	14 25.32	+ 9 0.9	1.818	2.773	8.0	21.1	157 W	54   55	4 26	14 20.89	-16 8.7	0.659	1.664	2.0	20.6	177 W	29   80
5 1	14 19.41	+ 8 58.8	1.812	2.762	8.6	21.1	156 E	54   55	5 1	14 9.58	-15 52.9	0.667	1.672	3.4	20.8	174 E	29   80
5 6	14 13.53	+ 8 50.9	1.813	2.750	9.6	21.1	153 E	54   55	5 6	13 58.86	-15 35.2	0.681	1.680	7.6	21.0	167 E	29   80
5 11	14 7.83	+ 8 37.3	1.820	2.738	10.9	21.2	149 E	54   55	5 11	13 49.11	-15 17.1	0.701	1.687	11.7	21.3	160 E	30   79
5 16	14 2.42	+ 8 17.8	1.834	2.725	12.3	21.2	145 E	53   56	5 16	13 40.62	-15 0.5	0.727	1.693	15.5	21.5	153 E	30   79
5 21	13 57.44	+ 7 52.7	1.854	2.713	13.7	21.3	140 E	53   56	5 21	13 33.56	-14 46.7	0.757	1.698	19.0	21.7	147 E	30   79
5 26	13 52.96	+ 7 22.3	1.880	2.700	15.2	21.4	136 E	52   57	5 26	13 28.00	-14 36.8	0.792	1.702	22.1	21.9	141 E	30   79
5 31	13 49.06	+ 6 47.1	1.910	2.687	16.5	21.4	131 E	52   57									
<b>483535 2003 UM<sub>86</sub></b>									<b>413949 2007 AH<sub>14</sub></b>								
4 6	14 48.76	-11 41.0	1.774	2.701	9.9	22.2	152 W	33   76	4 6	15 3.61	-21 9.2	2.554	3.434	9.3	22.4	147 W	24   85
4 16	14 40.18	-10 51.3	1.713	2.692	5.8	22.0	164 W	34   75	4 16	14 56.55	-20 42.5	2.473	3.423	6.3	22.2	158 W	24   85
4 26	14 30.13	-9 57.3	1.679	2.682	2.0	21.7	175 W	35   74	4 26	14 48.18	-20 6.3	2.418	3.412	3.1	22.0	169 W	25   84
5 6	14 19.63	-9 4.3	1.673	2.671	4.0	21.8	169 E	36   73	5 6	14 39.18	-19 22.7	2.394	3.401	1.2	21.8	176 E	26   83
5 16	14 9.78	-8 18.0	1.696	2.659	8.3	22.0	158 E	37   72	5 16	14 30.34	-18 35.1	2.399	3.388	4.2	22.0	166 E	26   83
5 26	14 1.56	-7 43.4	1.744	2.646	12.3	22.3	146 E	37   72	5 26	14 22.41	-17 47.6	2.433	3.374	7.5	22.2	154 E	27   82
<b>47576 2000 AW<sub>172</sub></b>									<b>243298 2008 EN<sub>82</sub></b>								
4 6	14 52.03	-16 27.6	2.034	2.948	9.6	21.8	151 W	29   80	4 6	15 3.62	-13 40.0	2.996	3.886	7.7	21.4	149 W	31   78
4 16	14 43.73	-15 36.2	1.977	2.950	5.8	21.6	163 W	29   80	4 16	14 56.57	-12 50.2	2.929	3.887	5.0	21.2	160 W	32   77
4 26	14 34.17	-14 36.9	1.948	2.951	1.7	21.3	175 W	30   79	4 26	14 48.51	-11 56.5	2.890	3.888	2.2	21.0	171 W	33   76
5 6	14 24.27	-13 34.3	1.948	2.951	2.5	21.4	173 E	31   78	5 6	14 40.05	-11 2.0	2.883	3.888	1.6	21.0	174 E	34   75
5 16	14 14.96	-12 33.6	1.977	2.950	6.5	21.6	161 E	32   77	5 16	14 31.79	-10 10.1	2.907	3.886	4.3	21.1	163 E	35   74
5 26	14 7.11	-11 40.4	2.034	2.948	10.2	21.8	149 E	33   76	5 26	1							

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

2021	$\alpha_{2000}$	$\delta_{2000}$	$\Delta$	$r$	$\beta$	$V$	$\psi$	$45^\circ$ - $26^\circ$	2021	$\alpha_{2000}$	$\delta_{2000}$	$\Delta$	$r$	$\beta$	$V$	$\psi$	$45^\circ$ - $26^\circ$
<b>288638</b> 2004 PJ <sub>32</sub>									<b>306664</b> 2000 SP <sub>266</sub> (continuation)								
4 6	15 7.07	-22 1.4	1.660	2.548	12.9	21.3	145 W	23 86	6 10	14 15.67	-5 59.7	1.357	2.189	19.4	21.0	134 E	39 70
4 16	14 59.67	-21 55.3	1.567	2.520	9.1	21.0	157 W	23 86	6 15	14 13.89	-6 2.4	1.382	2.171	21.3	21.1	129 E	39 70
4 26	14 49.91	-21 35.4	1.498	2.491	4.8	20.7	168 W	23 86	6 20	14 12.91	-6 10.1	1.410	2.152	23.0	21.2	124 E	39* 70
5 6	14 38.76	-21 2.6	1.456	2.462	2.3	20.4	174 E	24 85	6 25	14 12.75	-6 22.7	1.441	2.134	24.5	21.3	120 E	38* 70
5 11	14 33.06	-20 42.4	1.445	2.447	3.9	20.5	171 E	24 85	6 30	14 13.38	-6 39.9	1.474	2.115	25.8	21.3	115 E	37* 71
5 16	14 27.51	-20 20.5	1.441	2.431	6.2	20.6	165 E	25 84	7 5	14 14.81	-7 1.3	1.508	2.097	26.9	21.4	111 E	36* 71
5 21	14 22.27	-19 57.8	1.443	2.416	8.5	20.7	159 E	25 84	7 10	14 16.99	-7 26.6	1.544	2.079	27.9	21.5	107 E	35* 71
5 26	14 17.49	-19 35.2	1.451	2.400	10.9	20.8	153 E	25 84	<b>369995</b> 1999 RV <sub>195</sub>								
5 31	14 13.30	-19 13.5	1.466	2.385	13.1	20.9	148 E	26 83	4 6	15 11.27	-23 25.4	2.790	3.648	9.3	21.4	144 W	22 87
6 5	14 9.79	-18 53.5	1.485	2.369	15.3	21.0	142 E	26 83	4 16	15 4.84	-22 59.0	2.693	3.628	6.7	21.2	155 W	22 87
6 10	14 7.02	-18 35.9	1.509	2.353	17.2	21.1	137 E	26 83	4 26	14 57.04	-22 22.3	2.622	3.608	3.8	20.9	166 W	23 86
6 15	14 5.05	-18 21.3	1.538	2.337	19.0	21.1	131 E	27 82	5 6	14 48.49	-21 36.8	2.581	3.587	1.5	20.7	175 E	23 86
6 20	14 3.89	-18 10.1	1.569	2.320	20.7	21.2	126 E	27* 82	5 16	14 39.89	-20 45.3	2.570	3.565	3.4	20.8	168 E	24 85
6 25	14 3.55	-18 2.5	1.604	2.304	22.1	21.3	121 E	26* 82	5 26	14 31.97	-19 51.6	2.588	3.542	6.5	21.0	157 E	25 84
6 30	14 4.01	-17 58.6	1.641	2.287	23.4	21.4	117 E	26* 82	6 5	14 25.34	-19 0.0	2.633	3.518	9.4	21.2	146 E	26 83
7 5	14 5.23	-17 58.3	1.681	2.271	24.5	21.4	112 E	25* 82	6 15	14 20.42	-18 14.2	2.702	3.494	11.9	21.3	135 E	27 82
<b>488883</b> 2005 SK <sub>222</sub>									<b>306678</b> 2000 UK								
4 6	15 7.13	-7 25.4	1.900	2.801	10.8	21.8	148 W	38 71	4 6	15 14.47	-51 34.1	2.892	3.583	12.9	21.5	127 W	- 64
4 16	14 59.95	-6 20.6	1.827	2.787	7.4	21.6	159 W	39 70	4 11	15 9.45	-52 2.4	2.862	3.595	12.2	21.5	131 W	- 64
4 26	14 51.05	-5 14.8	1.782	2.773	4.4	21.4	168 W	40 69	4 16	15 3.79	-52 24.9	2.836	3.607	11.5	21.5	134 W	- 64
5 6	14 41.30	-4 14.0	1.764	2.757	4.5	21.3	168 E	41 68	4 21	14 57.59	-52 41.3	2.816	3.618	10.9	21.4	137 W	- 63
5 16	14 31.68	-3 23.7	1.774	2.741	7.7	21.5	159 E	42 67	4 26	14 51.01	-52 51.1	2.801	3.629	10.3	21.4	140 W	- 63
5 26	14 23.17	-2 48.6	1.811	2.724	11.4	21.7	148 E	42 67	5 1	14 44.18	-52 54.1	2.793	3.640	9.8	21.4	142 W	- 63
<b>258325</b> 2001 VB <sub>2</sub>									<b>459462</b> 2013 AV <sub>52</sub>								
4 6	15 7.83	-13 55.0	1.353	2.262	13.7	22.0	148 W	31 78	4 6	15 15.27	+19 43.1	0.986	1.853	21.4	22.3	138 W	65 44
4 16	14 57.29	-13 33.0	1.268	2.237	8.9	21.7	160 W	31 78	4 11	15 9.15	+21 16.0	0.956	1.839	20.6	22.1	140 W	66 43
4 26	14 43.77	-13 2.5	1.209	2.211	3.3	21.3	173 W	32 77	4 16	15 1.77	+22 43.1	0.932	1.825	20.2	22.1	141 W	68 41
5 6	14 28.60	-12 27.2	1.177	2.182	3.2	21.2	173 E	33 76	4 21	14 53.27	+24 0.9	0.912	1.810	20.2	22.0	141 W	69 40
5 16	14 13.51	-11 53.0	1.172	2.151	9.2	21.4	160 E	33 76	4 26	14 43.87	+25 6.4	0.897	1.794	20.8	22.0	141 W	70 39
5 26	14 0.29	-11 26.7	1.193	2.117	15.0	21.6	147 E	34 75	5 1	14 33.85	+25 56.9	0.888	1.776	21.8	21.9	139 W	71 38
<b>357153</b> 2002 CO <sub>23</sub>									<b>220452</b> 2003 YN <sub>117</sub>								
4 6	15 8.01	-16 2.2	2.198	3.086	10.2	21.7	147 W	29 80	4 6	15 15.32	-24 13.8	1.788	2.655	13.2	21.3	143 W	21 88
4 16	15 0.72	-15 17.4	2.121	3.078	6.8	21.5	159 W	30 79	4 16	15 7.30	-24 18.4	1.698	2.637	9.6	21.1	154 W	21 88
4 26	14 51.90	-14 25.2	2.071	3.068	3.1	21.2	171 W	31 78	4 26	14 56.89	-24 8.7	1.633	2.618	5.6	20.8	165 W	21 88
5 6	14 42.33	-13 29.2	2.050	3.057	1.2	21.1	176 E	32 77	5 6	14 45.08	-23 44.7	1.595	2.598	2.9	20.6	173 E	21 88
5 16	14 32.89	-12 33.9	2.059	3.045	5.0	21.3	165 E	32 77	5 16	14 33.11	-23 8.9	1.585	2.578	5.5	20.7	166 E	22 87
5 26	14 24.46	-11 44.3	2.096	3.032	8.8	21.5	153 E	33 76	5 26	14 23.27	+26 45.8	0.884	1.739	25.0	22.0	133 E	72 37
<b>461432</b> 2001 WT <sub>15</sub>									<b>524198</b> 2001 QC <sub>333</sub>								
4 6	15 9.25	-43 56.8	2.858	3.614	11.7	21.6	133 W	1 72	4 6	15 19.06	-19 34.1	1.324	2.211	15.6	21.5	144 W	25 84
4 11	15 5.31	-43 57.1	2.805	3.606	10.9	21.5	137 W	1 72	4 16	15 13.29	-19 41.5	1.231	2.180	11.4	21.1	155 W	25 84
4 16	15 0.85	-43 52.1	2.757	3.597	10.0	21.4	142 W	1 72	4 26	15 4.44	-19 38.0	1.158	2.149	6.4	20.8	166 W	25 84
4 21	14 55.96	-43 41.5	2.714	3.588	9.1	21.4	145 W	1 72	5 6	14 53.42	-19 23.8	1.110	2.118	1.4	20.3	177 W	26 83
4 26	14 50.76	-43 25.2	2.678	3.578	8.3	21.3	149 W	2 73	5 11	14 47.53	-19 13.4	1.095	2.102	2.8	20.4	174 E	26 83
5 1	14 45.35	-43 3.0	2.649	3.569	7.7	21.2	152 W	2 73	5 16	14 41.66	-19 1.6	1.086	2.087	5.6	20.5	168 E	26 83
5 6	14 39.86	-42 35.1	2.626	3.559	7.2	21.2	154 E	2 73	5 21	14 36.04	-18 49.2	1.084	2.071	8.5	20.6	162 E	26 83
5 11	14 34.42	-42 1.6	2.610	3.549	7.0	21.2	155 E	3 74	5 26	14 30.86	-18 37.0	1.087	2.055	11.4	20.7	156 E	26 83
5 16	14 29.16	-41 23.1	2.602	3.539	7.2	21.1	154 E	4 75	5 31	14 26.31	-18 25.9	1.095	2.040	14.2	20.8	151 E	27 82
5 21	14 24.19	-40 40.2	2.600	3.528	7.6	21.2	152 E	4 75	6 5	14 22.50	-18 16.6	1.108	2.024	16.8	20.9	145 E	27 82
5 26	14 19.63	-39 53.8	2.605	3.517	8.3	21.2	150 E	5 76	6 10	14 19.56	-18 9.9	1.126	2.009	19.2	21.0	139 E	27 82
5 31	14 15.54	-39 4.8	2.617	3.506	9.2	21.2	146 E	6 77	6 15	14 17.54	-18 6.3	1.148	1.993	21.4	21.1	134 E	27 82
6 5	14 11.99	-38 14.1	2.635	3.495	10.2	21.3	142 E	7 78	6 20	14 16.51	-18 6.3	1.172	1.978	23.5	21.2	129 E	27* 82
6 10	14 9.03	-37 22.5	2.660	3.484	11.2	21.3	138 E	8 79	6 25	14 16.44	-18 10.1	1.200	1.963	25.3	21.3	124 E	27* 82
6 15	14 6.68	-36 31.1	2.689	3.472	12.2	21.4	134 E	8 79	6 30	14 17.33	-18 17.6	1.230	1.948	26.9	21.4	120 E	26* 82
6 20	14 4.97	-35 40.6	2.724	3.460	13.1	21.4	129 E	9* 80	7 5	14 19.15	-18 28.9	1.262	1.933	28.3	21.5	116 E	25* 82
6 25	14 3.88	-34 51.7	2.764	3.448	14.0	21.5	125 E	10* 81	<b>316781</b> 1999 TJ <sub>150</sub>								
4 6	15 9.94	-24 59.2	1.822	2.694	12.7	21.7	144 W	20 89	4 6	15 20.73	-15 34.1	1.428	2.315	14.7	21.2	144 W	29 80
4 16	15 2.02	-24 51.4	1.734	2.676	9.2	21.4	155 W	20 89	4 16	15 15.06	-14 45.2	1.337	2.288	10.5	20.9	155 W	30 79
4 26	14 51.92	-24 27.7	1.670	2.657	5.4	21.2	166 W	21 88	4 26	15 6.68	-13 45.0	1.270	2.262	5.7	20.5	167 W	31 78
5 6	14 40.61	-23 49.0	1.634	2.637	3.0	21.0	172 E	21 88	5 6	14 56.51	-12 38.1	1.227	2.235	1.8	20.2	176 W	32 77
5 16	14 29.30	-22 58.6	1.626	2.616	5.7	21.1	165 E	22 87									
5 26	14 19.26	-22 2.8	1.645	2.594	9.8	21.3	154 E	23 86									
6 5	14 11.43	-21 8.6	1.688	2.571	13.8	21.5	143 E	24 85									
<b>306664</b> 2000 SP <sub>266</sub>																	
4 6	15 10.22	-10 45.0	1.517	2.420	12.9	21.3	147 W	34 75									
4 16	15 4.00	-9 51.9	1.424	2.386	8.9	21.0</											

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

2021	$\alpha_{2000}$	$\delta_{2000}$	$\Delta$	$r$	$\beta$	$V$	$\psi$	45°-26°	2021	$\alpha_{2000}$	$\delta_{2000}$	$\Delta$	$r$	$\beta$	$V$	$\psi$	45°-26°
<b>316781 1999 TJ<sub>150</sub></b> (continuation)									<b>455211 2001 MS<sub>18</sub></b> (continuation)								
5 11	14 51.13	-12 4.2	1.216	2.221	3.4	20.3	172 E	33 76	5 21	14 49.02	-17 8.8	1.227	2.221	6.7	20.5	165 E	28 81
5 16	14 45.81	-11 31.3	1.210	2.207	6.0	20.4	167 E	33 76	5 26	14 43.89	-16 35.0	1.227	2.203	9.5	20.6	159 E	28 81
5 21	14 40.72	-11 0.4	1.212	2.193	8.7	20.5	161 E	34 75	5 31	14 39.25	-16 2.6	1.232	2.184	12.2	20.7	153 E	29 80
5 26	14 36.05	-10 32.6	1.219	2.179	11.4	20.6	155 E	34 75	6 5	14 35.22	-15 32.6	1.243	2.166	14.8	20.8	147 E	29 80
5 31	14 31.92	-10 8.5	1.231	2.165	13.9	20.7	149 E	35 74	6 10	14 31.92	-15 5.9	1.259	2.148	17.2	20.9	141 E	30 79
6 5	14 28.44	-9 48.8	1.249	2.150	16.3	20.8	143 E	35 74	6 15	14 29.43	-14 43.1	1.279	2.129	19.4	21.0	136 E	30 79
6 10	14 25.72	-9 33.9	1.271	2.136	18.6	20.9	138 E	35 74	6 20	14 27.81	-14 24.8	1.303	2.111	21.4	21.0	131 E	31 78
6 15	14 23.80	-9 24.2	1.297	2.121	20.6	21.0	133 E	36 73	6 25	14 27.07	-14 11.2	1.330	2.092	23.2	21.1	126 E	31 78
6 20	14 22.73	-9 19.6	1.326	2.107	22.4	21.1	128 E	36 73	6 30	14 27.20	-14 2.3	1.359	2.074	24.9	21.2	121 E	30 78
6 25	14 22.50	-9 20.1	1.358	2.092	24.1	21.2	123 E	36 73	7 5	14 28.19	-13 58.1	1.391	2.055	26.3	21.3	116 E	30 78
6 30	14 23.09	-9 25.5	1.393	2.078	25.5	21.3	118 E	35 73	7 10	14 30.02	-13 58.5	1.425	2.036	27.6	21.3	112 E	29 78
7 5	14 24.50	-9 35.4	1.429	2.063	26.8	21.4	114 E	34 74	7 15	14 32.66	-14 3.1	1.459	2.018	28.7	21.4	108 E	28 78
7 10	14 26.69	-9 49.6	1.467	2.049	27.8	21.4	110 E	33 74	7 20	14 36.08	-14 11.8	1.495	1.999	29.6	21.5	104 E	27 78
7 15	14 29.63	-10 7.6	1.506	2.034	28.7	21.5	106 E	32 74									
<b>399575 2003 ST<sub>258</sub></b>									<b>471323 2011 KW<sub>15</sub></b>								
4 6	15 22.29	-15 41.3	1.588	2.467	13.9	21.4	144 W	29 80	4 6	15 37.29	-60 53.7	0.970	1.689	31.5	21.8	118 W	- 55
4 16	15 16.68	-15 13.4	1.487	2.433	10.1	21.0	155 W	30 79	4 8	15 34.36	-61 23.3	0.951	1.684	31.2	21.8	119 W	- 55
4 26	15 8.48	-14 36.6	1.409	2.399	5.6	20.7	167 W	30 79	4 10	15 30.91	-61 51.5	0.932	1.679	31.0	21.7	120 W	- 54
5 6	14 58.47	-13 54.1	1.357	2.365	1.3	20.3	177 W	31 78	4 12	15 26.94	-62 18.2	0.914	1.674	30.7	21.6	122 W	- 54
5 11	14 53.12	-13 32.0	1.341	2.347	2.6	20.4	174 E	31 78	4 14	15 22.43	-62 43.0	0.897	1.668	30.4	21.6	123 W	- 53
5 16	14 47.78	-13 10.3	1.331	2.330	5.1	20.5	168 E	32 77	4 16	15 17.35	-63 5.7	0.879	1.663	30.1	21.5	124 W	- 53
5 21	14 42.62	-12 49.9	1.328	2.312	7.7	20.6	162 E	32 77	4 21	15 2.23	-63 50.6	0.838	1.648	29.3	21.4	127 W	- 52
5 26	14 37.79	-12 31.4	1.331	2.294	10.3	20.7	156 E	32 77	4 26	14 43.88	-64 14.1	0.799	1.631	28.7	21.2	129 W	- 52
5 31	14 33.44	-12 15.7	1.340	2.277	12.7	20.8	150 E	33 76	5 1	14 23.02	-64 10.3	0.764	1.614	28.2	21.1	131 E	- 52
6 5	14 29.69	-12 3.1	1.354	2.259	15.1	20.9	145 E	33 76	5 6	14 0.92	-63 34.2	0.732	1.595	28.0	21.0	132 E	- 52
6 10	14 26.62	-11 54.2	1.373	2.241	17.3	21.0	139 E	33 76	5 11	13 39.18	-62 22.9	0.705	1.575	28.2	20.9	133 E	- 54
6 15	14 24.32	-11 49.4	1.396	2.223	19.3	21.0	134 E	33 76	5 16	13 19.34	-60 36.8	0.681	1.553	28.8	20.8	132 E	- 55
6 20	14 22.82	-11 48.7	1.422	2.205	21.1	21.1	129 E	33 76	5 21	13 2.48	-58 19.5	0.661	1.531	29.8	20.7	131 E	- 58
6 25	14 22.14	-11 52.3	1.452	2.187	22.7	21.2	124 E	33 76	5 26	12 49.08	-55 36.7	0.646	1.507	31.4	20.7	129 E	- 60
6 30	14 22.28	-12 0.1	1.484	2.169	24.2	21.3	119 E	32 76	5 31	12 39.13	-52 34.8	0.634	1.481	33.4	20.7	126 E	- 63
7 5	14 23.22	-12 11.8	1.519	2.151	25.5	21.3	115 E	31 76	6 5	12 32.38	-49 20.4	0.626	1.454	35.8	20.7	123 E	- 67
7 10	14 24.95	-12 27.2	1.555	2.133	26.6	21.4	110 E	30 76	6 10	12 28.47	-45 59.6	0.621	1.426	38.4	20.7	119 E	- 70
7 15	14 27.44	-12 46.3	1.592	2.114	27.5	21.5	106 E	29 77	6 15	12 26.99	-42 37.9	0.619	1.397	41.2	20.7	115 E	- 73
<b>364762 2007 XC<sub>10</sub></b>									<b>430973 2005 WT<sub>91</sub></b>								
4 6	15 25.24	-69 41.9	1.321	1.937	28.5	22.5	112 W	- 46	4 6	15 38.26	-13 39.1	1.346	2.210	16.8	21.3	140 W	31 78
4 11	15 14.54	-69 36.8	1.271	1.931	27.9	22.4	116 W	- 46	4 16	15 31.72	-13 45.6	1.259	2.194	12.6	21.0	152 W	31 78
4 16	15 1.60	-69 14.7	1.223	1.924	27.1	22.3	119 W	- 47	4 26	15 21.84	-13 49.0	1.194	2.177	7.6	20.6	163 W	31 78
4 21	14 47.10	-68 31.8	1.178	1.917	26.2	22.2	123 W	- 47	5 6	15 9.52	-13 51.1	1.153	2.159	2.3	20.2	175 W	31 78
4 26	14 31.99	-67 25.1	1.136	1.909	25.3	22.0	126 W	- 49	5 11	15 2.86	-13 52.3	1.142	2.150	2.1	20.2	176 E	31 78
5 1	14 17.22	-65 52.4	1.098	1.901	24.3	21.9	129 E	- 50	5 16	14 56.16	-13 54.2	1.138	2.141	4.6	20.3	170 E	31 78
5 6	14 3.63	-63 52.9	1.064	1.892	23.4	21.8	132 E	- 52	5 21	14 49.64	-13 57.3	1.140	2.131	7.5	20.5	164 E	31 78
5 11	13 51.88	-61 27.1	1.035	1.883	22.6	21.7	134 E	- 55	5 26	14 43.52	-14 1.9	1.148	2.122	10.3	20.6	158 E	31 78
5 16	13 42.29	-58 37.1	1.012	1.874	22.1	21.7	136 E	- 57	5 31	14 37.95	-14 8.7	1.162	2.112	13.0	20.7	152 E	31 78
5 21	13 34.98	-55 26.7	0.995	1.864	22.0	21.6	136 E	- 61	6 5	14 33.10	-14 17.7	1.182	2.102	15.6	20.8	146 E	31 78
5 26	13 29.84	-52 0.7	0.986	1.854	22.2	21.6	136 E	- 64	6 10	14 29.07	-14 29.5	1.206	2.092	18.0	20.9	141 E	31 78
<b>509985 2009 UE<sub>51</sub></b>									<b>523668 2012 UV<sub>27</sub></b>								
4 6	15 25.66	-20 48.7	1.160	2.042	17.7	21.4	142 W	24 85	4 6	15 40.68	-31 27.4	0.714	1.587	26.6	21.2	135 W	14 85
4 16	15 18.44	-19 13.5	1.110	2.058	12.5	21.1	154 W	26 83	4 11	15 45.23	-32 25.2	0.661	1.558	25.4	20.9	138 W	13 84
4 26	15 8.43	-17 19.4	1.083	2.074	6.6	20.9	166 W	28 81	4 16	15 49.21	-33 22.9	0.611	1.530	24.1	20.7	142 W	12 83
5 6	14 57.06	-15 15.1	1.080	2.089	0.8	20.5	178 W	30 79	4 21	15 52.58	-34 20.2	0.564	1.502	22.6	20.4	145 W	11 82
5 16	14 45.98	-13 12.7	1.104	2.103	5.9	20.9	168 E	32 77	4 26	15 55.31	-35 16.6	0.520	1.474	21.0	20.2	148 W	10 81
5 26	14 36.74	-11 24.7	1.152	2.116	11.5	21.2	155 E	34 75	5 1	15 57.38	-36 11.4	0.480	1.447	19.3	19.9	152 W	9 80
6 5	14 30.30	-9 59.6	1.223	2.129	16.3	21.6	144 E	35 74	5 6	15 58.76	-37 3.7	0.442	1.421	17.7	19.6	155 W	8 79
<b>333358 2001 WN<sub>1</sub></b>									<b>455211 2001 MS<sub>18</sub></b>								
4 6	15 26.57	-31 16.5	1.017	1.881	21.1	21.9	138 W	14 85	4 6	15 29.04	-20 55.1	1.514	2.377	15.4	21.4	141 W	24 85
4 11	15 22.99	-30 53.4	0.971	1.871	18.8	21.8	143 W	14 85	4 16	15 23.88	-20 27.6	1.409	2.343	11.6	21.1	152 W	25 84
4 16	15 18.17	-30 20.3	0.929	1.861	16.2	21.6	149 W	15 86	4 26	15 15.82	-19 45.1	1.325	2.309	7.0	20.7	164 W	25 84
4 21	15 12.22	-29 36.2	0.892	1.850	13.4	21.4	155 W	15 86	5 6	15 5.62	-18 48.9	1.267	2.274	1.8	20.3	176 W	26 83
4 26	15 5.29	-28 40.5	0.859	1.839	10.5	21.2	161 W	16 87	5 11	15 0.07	-18 16.8	1.247	2.256	1.2	20.2	177 E	27 82
5 1	14 57.62	-27 33.1	0.833	1.827	7.6	21.0	166 W	17 88	5 16	14 54.48	-17 43.1	1.234	2.239	0.9	20.4	171 E	27 82
5 6	14 49.47	-26 14.5	0.812	1.815	5.4	20.8	170 E	19 90									
5 11	14 41.17	-24 46.2	0.798	1.802	5.5	20.7	170 E	20 89									
5 16	14 33.08	-23 10.7	0.790	1.788	7.9	20.8	166 E	22 87									
5 21	14 25.53	-21 31.0	0.788	1.774	11.2	20.9	160 E	23 86									
5 26	14 18.80	-19 50.5	0.793	1.759	14.8	21.0	154 E	25 84									
5 31	14 13.08	-18 12.4	0.802	1.744	18.2	21.2	147 E	27 82									
6 5	14 8.52	-16 39.3	0.816	1.728	21.6	21.3	141 E	28 81									
6 10	14 5.17	-15 13.4	0.834	1.712	24.7	21.4	135 E	30 79									

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

2021	$\alpha_{2000}$	$\delta_{2000}$	$\Delta$	$r$	$\beta$	$V$	$\psi$	$45^\circ$ - $26^\circ$	2021	$\alpha_{2000}$	$\delta_{2000}$	$\Delta$	$r$	$\beta$	$V$	$\psi$	$45^\circ$ - $26^\circ$
<b>523668</b> 2012 UV <sub>27</sub> (continuation)									<b>541071</b> 2018 NB <sub>15</sub> (continuation)								
5 21	15 59.38	-39 11.7	0.349	1.347	14.3	18.9	161 W	6 77	5 11	15 33.51	-18 39.0	0.934	1.942	2.8	20.0	175 W	26 83
5 26	15 58.99	-39 39.7	0.324	1.324	14.2	18.7	161 E	5 76	5 16	15 27.36	-18 47.6	0.913	1.924	0.5	19.7	179 E	26 83
5 31	15 58.73	-39 57.9	0.302	1.302	15.0	18.5	161 E	5 76	5 21	15 20.99	-18 55.8	0.897	1.906	3.8	19.9	173 E	26 83
6 5	15 58.91	-40 4.7	0.282	1.282	16.3	18.4	159 E	5 76	5 26	15 14.63	-19 4.0	0.888	1.888	7.1	20.0	167 E	26 83
6 10	15 59.96	-39 58.7	0.264	1.263	18.2	18.3	157 E	5 76	5 31	15 8.55	-19 12.6	0.884	1.870	10.4	20.2	160 E	26 83
6 15	16 2.32	-39 39.2	0.249	1.246	20.3	18.2	155 E	5 76	6 5	15 2.96	-19 22.0	0.885	1.853	13.7	20.3	154 E	26 83
6 20	16 6.42	-39 5.8	0.236	1.230	22.5	18.1	152 E	6 77	6 10	14 58.10	-19 32.8	0.891	1.835	16.8	20.4	149 E	25 84
6 25	16 12.59	-38 18.2	0.225	1.217	24.7	18.0	150 E	7 78	6 15	14 54.14	-19 45.6	0.901	1.818	19.7	20.5	143 E	25 84
6 30	16 21.01	-37 15.9	0.216	1.205	26.6	18.0	148 E	8 79	6 25	14 49.37	-20 18.7	0.932	1.784	24.8	20.7	132 E	25 84
7 5	16 31.76	-35 58.2	0.208	1.195	28.3	17.9	146 E	9 80	7 5	14 49.11	-21 3.2	0.975	1.752	29.1	20.8	123 E	24* 85
7 10	16 44.83	-34 25.0	0.203	1.188	29.6	17.9	145 E	11 82	7 15	14 53.37	-21 59.3	1.025	1.720	32.4	21.0	115 E	22* 86
7 15	17 0.07	-32 36.5	0.199	1.183	30.7	17.9	144 E	12 83	7 25	15 1.88	-23 5.3	1.080	1.691	35.0	21.1	108 E	20* 87
7 20	17 17.16	-30 34.1	0.198	1.180	31.4	17.9	143 E	14 85	8 4	15 14.24	-24 18.3	1.138	1.663	36.8	21.3	101 E	18* 88
7 25	17 35.62	-28 19.6	0.199	1.179	31.8	17.9	142 E	17 88	8 14	15 30.12	-25 34.8	1.196	1.637	38.0	21.4	95 E	16* 89*
7 30	17 54.87	-25 56.4	0.202	1.181	32.0	17.9	142 E	19 90	8 24	15 49.19	-26 50.6	1.255	1.614	38.8	21.5	90 E	14* 84*
8 4	18 14.40	-23 29.0	0.208	1.185	32.0	18.0	142 E	22 87	<b>310435</b> 2000 AV <sub>156</sub>								
8 9	18 33.78	-21 2.4	0.217	1.191	32.0	18.1	141 E	24 85	4 6	15 56.81	-12 51.3	2.208	3.008	13.4	21.4	136 W	32 77
8 14	18 52.67	-18 41.2	0.229	1.200	32.0	18.3	141 E	26 83	4 16	15 51.98	-12 28.3	2.097	2.987	10.6	21.2	147 W	33 76
8 19	19 10.85	-16 29.1	0.244	1.211	31.9	18.4	141 E	29 80	4 26	15 44.89	-12 2.3	2.008	2.964	7.4	20.9	158 W	33 76
8 24	19 28.14	-14 28.3	0.262	1.223	32.0	18.6	140 E	31 78	5 6	15 36.00	-11 35.4	1.946	2.941	4.0	20.7	168 W	33 76
8 29	19 44.46	-12 40.0	0.282	1.238	32.1	18.8	139 E	32 77	5 16	15 26.05	-11 10.3	1.912	2.916	2.7	20.5	172 E	34 75
9 3	19 59.85	-11 4.1	0.306	1.255	32.2	19.0	138 E	34 75	5 26	15 16.00	-10 50.3	1.906	2.891	5.8	20.7	163 E	34 75
9 13	20 28.18	-8 26.0	0.362	1.292	32.6	19.4	136 E	37 72	6 5	15 6.78	-10 38.2	1.928	2.865	9.5	20.8	152 E	34 75
9 23	20 53.84	-6 22.7	0.430	1.336	33.2	19.9	133 E	39 70	6 15	14 59.21	-10 36.5	1.975	2.838	13.0	21.0	141 E	34 75
10 3	21 17.45	-4 42.7	0.510	1.383	33.8	20.3	130 E	40 69	6 25	14 53.85	-10 46.1	2.041	2.811	15.9	21.1	131 E	34 75
10 8	21 28.68	-3 58.2	0.554	1.409	34.1	20.6	128 E	41 68	7 5	14 50.96	-11 7.2	2.123	2.782	18.3	21.3	121 E	34* 75
10 13	21 39.62	-3 16.1	0.601	1.435	34.3	20.8	126 E	42 67	7 15	14 50.61	-11 39.0	2.217	2.753	20.1	21.4	111 E	32* 76
10 18	21 50.31	-2 35.3	0.650	1.461	34.5	21.0	124 E	42 67	<b>285631</b> 2000 RB <sub>84</sub>								
10 23	22 0.78	-1 55.4	0.703	1.489	34.7	21.2	122 E	43 66	4 6	16 6.39	-18 10.9	2.124	2.900	14.6	21.5	133 W	27 82
10 28	22 11.05	-1 16.0	0.758	1.516	34.8	21.4	119 E	44 65	4 16	16 2.33	-17 36.9	2.012	2.884	11.9	21.2	144 W	27 82
<b>187737</b> 2153 P-L									4 26	15 55.82	-16 55.0	1.922	2.866	8.5	21.0	155 W	28 81
4 6	15 48.25	-21 58.6	1.447	2.279	17.6	21.2	136 W	23 86	5 6	15 47.32	-16 6.9	1.857	2.848	4.7	20.7	167 W	29 80
4 16	15 44.59	-21 53.1	1.340	2.250	14.1	20.9	147 W	23 86	5 16	15 37.58	-15 15.2	1.819	2.829	1.5	20.5	176 W	30 79
4 26	15 37.62	-21 35.1	1.253	2.220	9.6	20.6	158 W	23 86	5 21	15 32.54	-14 49.2	1.811	2.819	2.5	20.5	173 E	30 79
5 6	15 27.91	-21 4.2	1.189	2.190	4.5	20.2	170 W	24 85	5 26	15 27.57	-14 24.0	1.810	2.808	4.4	20.6	168 E	31 78
5 11	15 22.35	-20 44.2	1.166	2.175	1.8	19.9	176 W	24 85	5 31	15 22.79	-14 0.0	1.816	2.798	6.5	20.7	162 E	31 78
5 16	15 16.55	-20 21.8	1.149	2.159	1.7	19.9	176 E	25 84	6 5	15 18.31	-13 37.8	1.829	2.787	8.5	20.8	156 E	31 78
5 21	15 10.74	-19 57.7	1.139	2.144	4.4	20.0	171 E	25 84	6 10	15 14.24	-13 17.9	1.848	2.777	10.4	20.9	150 E	32 77
5 26	15 5.11	-19 32.9	1.135	2.128	7.3	20.1	165 E	25 84	6 15	15 10.66	-13 0.8	1.873	2.766	12.2	21.0	145 E	32 77
5 31	14 59.86	-19 8.1	1.137	2.113	10.2	20.3	158 E	26 83	6 20	15 7.65	-12 46.6	1.904	2.754	13.9	21.1	139 E	32 77
6 5	14 55.17	-18 44.4	1.144	2.097	12.9	20.4	153 E	26 83	6 25	15 5.25	-12 35.7	1.939	2.743	15.5	21.2	134 E	32 77
6 10	14 51.16	-18 22.6	1.157	2.082	15.5	20.5	147 E	27 82	6 30	15 3.48	-12 28.1	1.978	2.731	16.9	21.3	129 E	33 76
6 15	14 47.98	-18 3.6	1.174	2.066	18.0	20.6	141 E	27 82	7 5	15 2.36	-12 23.8	2.020	2.719	18.1	21.3	124 E	32* 76
6 20	14 45.68	-17 48.1	1.196	2.050	20.2	20.7	136 E	27 82	7 10	15 1.89	-12 22.8	2.066	2.707	19.2	21.4	119 E	32* 76
6 25	14 44.31	-17 36.5	1.221	2.035	22.3	20.7	131 E	27 82	7 15	15 2.07	-12 24.9	2.115	2.695	20.1	21.5	114 E	31* 76
6 30	14 43.87	-17 28.9	1.249	2.019	24.1	20.8	126 E	27* 81	<b>482084</b> 2010 FL <sub>6</sub>								
7 5	14 44.36	-17 25.4	1.279	2.003	25.8	20.9	121 E	27* 81	4 6	16 13.03	-15 38.1	1.231	2.039	21.5	21.4	132 W	29 80
7 10	14 45.76	-17 26.1	1.312	1.988	27.2	21.0	117 E	27* 81	4 16	16 8.58	-15 53.0	1.185	2.073	17.2	21.3	142 W	29 80
7 15	14 48.05	-17 30.8	1.346	1.972	28.5	21.1	112 E	26* 82	4 26	16 0.58	-16 4.8	1.157	2.108	12.1	21.1	154 W	29 80
7 20	14 51.18	-17 39.2	1.382	1.956	29.5	21.1	108 E	25* 82	5 6	15 49.97	-16 14.0	1.150	2.143	6.5	20.9	166 W	29 80
7 25	14 55.10	-17 51.0	1.418	1.941	30.4	21.2	105 E	24* 82	5 16	15 38.13	-16 21.8	1.167	2.177	1.5	20.6	177 W	29 80
7 30	14 59.78	-18 5.7	1.455	1.926	31.2	21.3	101 E	23* 82	5 26	15 26.73	-16 30.4	1.210	2.212	5.2	21.0	169 E	28 81
8 4	15 5.17	-18 23.1	1.492	1.910	31.8	21.3	97 E	22* 82	6 5	15 17.16	-16 42.3	1.277	2.247	10.2	21.3	157 E	28 81
8 9	15 11.24	-18 42.7	1.530	1.895	32.2	21.4	94 E	22* 83	6 15	15 10.35	-16 59.7	1.367	2.281	14.4	21.7	146 E	28 81
8 14	15 17.95	-19 4.2	1.567	1.880	32.6	21.4	91 E	21* 82*	<b>138937</b> 2001 BK <sub>16</sub>								
8 19	15 25.27	-19 27.1	1.604	1.865	32.8	21.5	88 E	20* 81*	4 6	16 15.98	+24 3.7	1.546	2.256	21.8	21.4	123 W	69 40
8 24	15 33.17	-19 50.9	1.640	1.851	33.0	21.5	85 E	20* 78*	4 11	16 13.60	+25 18.7	1.479	2.218	21.5	21.2	126 W	70 39
<b>524395</b> 2002 AW <sub>17</sub>									4 16	16 10.12	+26 33.2	1.417	2.180	21.3	21.1	128 W	72 37
4 6	15 52.95	+10 49.5	2.334	3.109	13.5	21.5	134 W	56 53	4 21	16 5.47	+27 45.5	1.358	2.142	21.3	21.0	129 W	73 36
4 11	15 50.59	+11 37.7	2.292	3.102	12.7	21.4	137 W	57 52	4 26	15 59.62	+28 53.4	1.304	2.102	21.3	20.8	131 W	74 35
4 16	15 47.67	+12 24.3	2.256	3.096	11.9	21.3	140 W	57 52	5 1	15 52.56	+29 54.7	1.254	2.062	21.6	20.7	131 W	75 34
4 21	15 44.25	+13 8.4	2.225	3.089	11.2	21.3	143 W	58 51	5 6	15 44.33	+30 46.8	1.209	2.021	22.1	20.6	131 W	76 33
4 26	15 40.39	+13 49.0	2.200	3.081	10.7	21.2	145 W	59 50	5 11	15 35.02	+31 27.0	1.168	1.979	22.9	20.5	130 W	76 33
5 1	15 36.15	+14 25.2	2.182	3.074	10.4	21.2	147 W	59 50	5 16	15 24.82	+31 52.5	1.132	1.936	23.9	20.4	129 E	77 32
5 6	15 31.63	+14 56.3	2.170	3.066	10.3	21.2	147 W	60 49	5 21	15 13.97	+32 1.2	1.101	1.892	25.2	20.4	127 E	77 32



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21/22	$\alpha_{2000}$	$\delta_{2000}$	$\Delta$	$r$	$\beta$	$V$	$\psi$	45°	-26°	21/22	$\alpha_{2000}$	$\delta_{2000}$	$\Delta$	$r$	$\beta$	$V$	$\psi$	45°	-26°
<b>138937 2001 BK<sub>16</sub></b>										<b>366733 2004 BG<sub>121</sub></b>									
<i>(continuation)</i>										<i>(continuation)</i>									
7 25	13 44.33	+ 8 44.5	0.936	1.249	53.1	19.9	79 E	40*	55*	7 5	14 56.59	+19 37.7	0.556	1.299	48.2	20.2	108 E	64*	44
8 4	13 44.60	+ 2 27.5	0.913	1.139	58.0	19.8	72 E	32*	58*	7 10	14 55.80	+16 56.6	0.550	1.276	50.3	20.2	105 E	61*	47
8 14	13 46.86	- 4 22.4	0.881	1.029	63.5	19.6	65 E	23*	57*	7 15	14 56.31	+14 1.2	0.544	1.253	52.4	20.2	103 E	57*	50
8 19	13 48.31	- 8 1.1	0.861	0.975	66.6	19.6	62 E	19*	55*	7 20	14 58.10	+10 52.8	0.538	1.230	54.4	20.2	100 E	53*	53
8 24	13 49.64	-11 49.8	0.838	0.922	70.0	19.5	59 E	14*	53*	7 25	15 1.11	+ 7 32.7	0.533	1.209	56.4	20.2	98 E	49*	56
8 29	13 50.54	-15 49.0	0.813	0.870	73.7	19.4	56 E	10*	50*	7 30	15 5.28	+ 4 1.7	0.528	1.188	58.3	20.2	95 E	45*	60
9 3	13 50.58	-19 58.6	0.784	0.822	77.8	19.4	53 E	5*	46*	8 4	15 10.61	+ 0 20.6	0.523	1.168	60.1	20.2	93 E	40*	64
9 8	13 49.18	-24 17.4	0.754	0.778	82.3	19.3	50 E	—	42*	8 9	15 17.08	- 3 29.6	0.518	1.150	61.8	20.2	91 E	36*	67
9 13	13 45.55	-28 42.3	0.721	0.739	87.2	19.3	47 E	—	38*	8 14	15 24.71	- 7 27.8	0.514	1.133	63.4	20.2	90 E	32*	71*
9 15	13 43.25	-30 28.6	0.708	0.725	89.2	19.3	46 E	—	36*	8 19	15 33.52	-11 32.5	0.510	1.117	64.9	20.2	88 E	28*	75*
9 17	13 40.35	-32 14.2	0.694	0.712	91.2	19.3	45 E	—	34*	8 24	15 43.54	-15 42.2	0.507	1.103	66.2	20.2	86 E	24*	77*
9 19	13 36.78	-33 58.4	0.681	0.701	93.2	19.3	44 E	—	32*	8 29	15 54.86	-19 54.9	0.505	1.091	67.3	20.2	85 E	21*	78*
9 21	13 32.46	-35 40.2	0.667	0.691	95.3	19.3	43 E	—	29*	9 3	16 7.61	-24 8.3	0.504	1.080	68.3	20.2	84 E	17*	78*
9 23	13 27.32	-37 18.6	0.654	0.683	97.2	19.3	42 E	—	27*	9 8	16 21.95	-28 19.6	0.504	1.072	69.0	20.2	83 E	13*	77*
9 25	13 21.31	-38 52.4	0.641	0.677	99.1	19.4	42 E	—	25*	9 13	16 38.09	-32 25.6	0.505	1.066	69.4	20.2	83 E	10*	74*
9 27	13 14.36	-40 20.1	0.628	0.672	100.9	19.4	41 E	—	22*	9 18	16 56.25	-36 22.5	0.508	1.061	69.7	20.2	82 E	6*	72*
9 29	13 6.48	-41 40.4	0.616	0.669	102.4	19.4	41 E	—	19*	9 23	17 16.68	-40 6.1	0.511	1.060	69.6	20.2	82 E	3*	70*
10 1	12 57.67	-42 51.8	0.604	0.667	103.8	19.4	40 E	—	17*	9 28	17 39.65	-43 31.8	0.516	1.060	69.4	20.2	82 E	—	68*
10 3	12 47.99	-43 52.9	0.592	0.668	105.0	19.5	40 E	—	14*	10 3	18 5.37	-46 34.3	0.523	1.063	68.9	20.2	82 E	—	66*
10 5	12 37.53	-44 42.3	0.581	0.670	105.9	19.5	40 W	—	13*	10 8	18 33.95	-49 8.6	0.530	1.067	68.1	20.3	82 E	—	64*
10 7	12 26.45	-45 19.1	0.571	0.674	106.5	19.5	40 W	—	10*	10 13	19 5.23	-51 9.5	0.539	1.074	67.2	20.3	83 E	—	63*
10 9	12 14.93	-45 42.6	0.561	0.680	106.9	19.5	41 W	—	16*	10 15	19 18.40	-51 47.4	0.543	1.078	66.7	20.3	83 E	—	63*
10 11	12 3.17	-45 52.3	0.552	0.687	106.9	19.5	41 W	—	22*	10 17	19 31.88	-52 19.1	0.548	1.081	66.3	20.3	83 E	—	63*
10 13	11 51.38	-45 48.3	0.543	0.696	106.6	19.5	42 W	—	25*	10 19	19 45.60	-52 44.3	0.552	1.086	65.8	20.3	84 E	—	62*
10 15	11 39.78	-45 31.1	0.535	0.706	106.1	19.4	43 W	—	28*	10 21	19 59.50	-53 2.9	0.557	1.090	65.3	20.3	84 E	—	62*
10 17	11 28.54	-45 1.5	0.527	0.718	105.3	19.4	44 W	—	31*	10 23	20 13.52	-53 14.8	0.562	1.095	64.8	20.3	84 E	—	62*
10 19	11 17.81	-44 10.5	0.520	0.731	104.3	19.3	45 W	—	34*	10 25	20 27.58	-53 20.0	0.567	1.099	64.3	20.3	85 E	—	62*
10 21	11 7.68	-43 29.1	0.513	0.746	103.0	19.3	47 W	—	36*	10 27	20 41.60	-53 18.5	0.572	1.105	63.7	20.4	85 E	—	63*
10 23	10 58.22	-42 28.7	0.506	0.761	101.6	19.2	49 W	—	39*	10 29	20 55.51	-53 10.5	0.578	1.110	63.1	20.4	86 E	—	63*
10 25	10 49.44	-41 20.5	0.499	0.777	100.0	19.2	50 W	—	42*	10 31	21 9.24	-52 56.1	0.583	1.116	62.6	20.4	86 E	—	63*
10 27	10 41.33	-40 5.7	0.493	0.795	98.3	19.1	52 W	—	45*	11 2	21 22.74	-52 35.6	0.589	1.122	62.0	20.4	86 E	—	63*
10 29	10 33.84	-38 45.1	0.487	0.813	96.5	19.0	54 W	2*	47*	11 4	21 35.94	-52 9.2	0.596	1.128	61.4	20.4	87 E	—	64
10 31	10 26.93	-37 19.5	0.481	0.831	94.6	19.0	57 W	4*	50*	11 6	21 48.80	-51 37.2	0.602	1.135	60.8	20.4	87 E	—	64
11 2	10 20.54	-35 49.7	0.475	0.850	92.6	18.9	59 W	7*	53*	11 8	22 1.30	-50 59.9	0.609	1.142	60.1	20.5	88 E	—	65
11 4	10 14.58	-34 16.1	0.469	0.870	90.5	18.9	61 W	9*	55*	11 10	22 13.39	-50 17.8	0.616	1.149	59.5	20.5	88 E	—	66
11 6	10 8.98	-32 39.0	0.463	0.890	88.3	18.8	64 W	11*	58*	11 12	22 25.07	-49 31.2	0.624	1.156	58.9	20.5	88 E	—	66
11 8	10 3.69	-30 58.5	0.457	0.911	86.1	18.7	67 W	14*	60*	11 17	22 52.39	-47 17.5	0.643	1.175	57.3	20.6	89 E	—	69
11 10	9 58.62	-29 14.8	0.451	0.932	83.8	18.7	69 W	16*	63*	11 22	23 17.08	-44 43.4	0.665	1.195	55.8	20.6	90 E	—	71
11 12	9 53.72	-27 27.7	0.445	0.953	81.4	18.6	72 W	18*	66*	11 27	23 39.37	-41 54.1	0.689	1.216	54.2	20.7	91 E	3	74
11 17	9 41.82	-22 44.9	0.430	1.007	75.2	18.4	80 W	22	71*	12 2	23 59.54	-38 53.9	0.715	1.238	52.8	20.8	92 E	6	77
11 22	9 29.78	-17 38.0	0.416	1.062	68.5	18.2	88 W	27	76*	12 7	0 17.92	-35 46.7	0.744	1.260	51.4	20.9	93 E	9	80
11 27	9 16.94	-12 4.4	0.404	1.117	61.1	18.1	98 W	33	75*	12 12	0 34.80	-32 35.8	0.775	1.283	50.0	20.9	93 E	12	83
12 2	9 2.77	- 6 3.5	0.396	1.172	53.1	17.9	108 W	39	70	12 17	0 50.44	-29 23.9	0.809	1.307	48.7	21.0	93 E	16	86*
12 7	8 46.99	+ 0 19.9	0.394	1.227	44.5	17.7	119 W	45	64	12 22	1 5.05	-26 13.3	0.845	1.331	47.6	21.1	93 E	19	87*
12 12	8 29.59	+ 6 53.4	0.398	1.281	35.6	17.6	131 W	52	57	12 27	1 18.82	-23 5.7	0.884	1.355	46.4	21.3	93 E	22	84*
12 14	8 22.24	+ 9 29.4	0.403	1.303	32.0	17.6	135 W	54	55	1 1	1 31.93	-20 2.6	0.926	1.380	45.4	21.4	92 E	25	81*
12 16	8 14.72	+12 2.6	0.409	1.324	28.4	17.5	140 W	57	52	1 6	1 44.50	-17 5.0	0.971	1.405	44.4	21.5	92 E	28	77*
12 18	8 7.05	+14 31.5	0.416	1.345	24.9	17.5	145 W	60	49	<b>134863 2000 PX<sub>5</sub></b>									
12 20	7 59.30	+16 54.9	0.425	1.367	21.5	17.5	149 W	62	47	4 6	16 20.18	-25 30.8	1.550	2.310	19.8	21.4	128 W	19	90
12 22	7 51.50	+19 11.8	0.436	1.388	18.3	17.5	154 W	64	45	4 16	16 18.40	-26 0.2	1.421	2.272	17.0	21.0	138 W	19	90
12 24	7 43.71	+21 21.0	0.448	1.409	15.1	17.4	158 W	66	43	4 26	16 12.93	-26 22.5	1.309	2.233	13.3	20.7	149 W	19	90
12 26	7 35.99	+23 22.1	0.462	1.430	12.2	17.4	162 W	68	41	5 6	16 3.82	-26 34.7	1.216	2.193	8.9	20.3	160 W	18	89
12 28	7 28.39	+25 14.5	0.477	1.451	9.5	17.4	166 W	70	39	5 11	15 58.05	-26 35.7	1.179	2.173	6.4	20.1	166 W	18	89
12 30	7 20.96	+26 58.1	0.494	1.472	7.3	17.4	169 W	72	37	5 16	15 51.65	-26 33.1	1.148	2.152	4.2	19.9	171 W	18	89
1 1	7 13.76	+28 32.8	0.512	1.492	5.6	17.5	171 W	74	35	5 21	15 44.82	-26 26.5	1.123	2.132	3.1	19.8	174 E	19	90
1 6	6 57.02	+31 52.6	0.565	1.543	6.1	17.8	170 E	77	32	5 26	15 37.78	-26 16.3	1.104	2.110	4.4	19.8	171 E	19	90
1 11	6 42.51	+34 25.0	0.624	1.593	9.8	18.2	164 E	79	30	5 31	15 30.77	-26 2.7	1.092	2.089	6.9	19.9	166 E	19	90
1 16	6 30.47	+36 18.6	0.691	1.642	13.6	18.7	157 E	81	28	6 5	15 24.03	-25 46.5	1.086	2.068	9.8	20.0	160 E	19	90
1 21	6 20.94	+37 42.0	0.764	1.690	16.8	19.0	150 E	83	26	6 10	15 17.78	-25 28.5	1.085	2.046	12.7	20.1	154 E	20	89
4 6	16 19.67	+16 40.5	0.941	1.726	28.2	21.4	125 W	62	47	6 15	15 12.24	-25 9.8	1.090	2.024	15.5	20.2	148 E	20	89
4 11	16 20.88	+18 21.4	0.897	1.704	27.8	21.3	128 W	63	46	6 20	15 7.57	-24 51.5	1.100	2.002	18.1	20.3	142 E	20	89
4 16	16 21.04	+20 4.0																	

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

21/22	$\alpha_{2000}$	$\delta_{2000}$	$\Delta$	$r$	$\beta$	$V$	$\psi$	$45^\circ$	$-26^\circ$	21/22	$\alpha_{2000}$	$\delta_{2000}$	$\Delta$	$r$	$\beta$	$V$	$\psi$	$45^\circ$	$-26^\circ$
<b>134863 2000 PX<sub>5</sub></b>										<b>357126 2001 XR<sub>246</sub></b>									
<i>(continuation)</i>										<i>(continuation)</i>									
12 2	20 10.69	-22 16.8	1.769	1.369	33.7	20.9	50 E	20*	41*	12 22	20 34.94	-16 4.7	2.347	1.670	20.8	21.4	37 E	21*	24*
12 12	20 43.89	-19 57.5	1.796	1.356	32.8	20.9	48 E	22*	37*	12 27	20 48.40	-15 8.6	2.367	1.664	20.0	21.4	35 E	21*	21*
12 22	21 16.83	-17 13.9	1.826	1.349	31.8	20.9	46 E	24*	33*	1 1	21 1.85	-14 8.7	2.386	1.659	19.2	21.4	34 E	20*	19*
1 1	21 49.31	-14 9.5	1.860	1.348	30.7	20.9	44 E	25*	30*	1 6	21 15.27	-13 5.4	2.405	1.655	18.4	21.3	32 E	20*	17*
1 11	22 21.22	-10 48.8	1.899	1.353	29.6	20.9	43 E	27*	27*	1 11	21 28.67	-11 58.7	2.423	1.651	17.5	21.3	30 E	20*	15*
1 21	22 52.51	-7 16.8	1.942	1.363	28.3	21.0	41 E	28*	24*	1 16	21 42.01	-10 49.1	2.441	1.648	16.7	21.3	29 E	19*	13*
1 21	21 55.31	-9 36.6	2.459	1.646	15.8	21.3	27 E	18*	12*										
<b>285574 2000 QG<sub>20</sub></b>										<b>387505 1998 KN<sub>3</sub></b>									
4 6	16 25.52	-20 18.3	1.546	2.303	20.0	21.5	128 W	25	84	4 6	16 52.92	-26 19.0	1.135	1.861	27.4	21.2	121 W	19	90
4 16	16 25.56	-20 10.0	1.422	2.269	17.2	21.2	138 W	25	84	4 11	16 53.12	-26 35.1	1.032	1.811	26.6	21.0	126 W	18	89
4 26	16 22.31	-19 54.1	1.314	2.235	13.6	20.8	149 W	25	84	4 16	16 52.02	-26 51.7	0.931	1.760	25.5	20.6	131 W	18	89
5 6	16 15.84	-19 30.4	1.225	2.200	9.1	20.5	160 W	25	84	4 21	16 49.28	-27 8.8	0.832	1.707	24.0	20.3	136 W	18	89
5 16	16 6.64	-18 59.7	1.160	2.165	3.9	20.1	172 W	26	83	4 26	16 44.42	-27 26.1	0.737	1.652	21.9	19.9	142 W	18	89
5 21	16 1.35	-18 42.3	1.136	2.147	1.4	19.8	177 W	26	83	5 1	16 36.80	-27 42.8	0.646	1.594	19.3	19.4	149 W	17	88
5 26	15 55.82	-18 24.3	1.118	2.130	2.1	19.8	176 E	27	82	5 6	16 25.41	-27 56.9	0.558	1.535	15.8	18.9	156 W	17	88
5 31	15 50.26	-18 6.1	1.107	2.112	4.9	20.0	170 E	27	82	5 8	16 19.50	-28 0.8	0.525	1.510	14.2	18.7	159 W	17	88
6 5	15 44.85	-17 48.4	1.101	2.094	7.9	20.1	164 E	27	82	5 10	16 12.65	-28 3.2	0.492	1.485	12.3	18.5	162 W	17	88
6 10	15 39.80	-17 32.0	1.102	2.077	10.7	20.2	158 E	27	82	5 12	16 4.71	-28 3.4	0.461	1.460	10.4	18.2	165 W	17	88
6 15	15 35.29	-17 17.5	1.107	2.059	13.5	20.3	152 E	28	81	5 14	15 55.54	-28 0.4	0.430	1.434	8.5	17.9	168 W	17	88
6 20	15 31.48	-17 5.7	1.118	2.042	16.1	20.4	146 E	28	81	5 16	15 44.94	-27 53.1	0.401	1.408	6.8	17.7	171 W	17	88
6 25	15 28.47	-16 57.0	1.133	2.024	18.6	20.5	141 E	28	81	5 18	15 32.73	-27 40.0	0.373	1.381	6.1	17.4	172 E	17	88
7 5	15 25.14	-16 50.2	1.175	1.990	22.9	20.6	130 E	28	81	5 20	15 18.68	-27 18.7	0.346	1.354	7.3	17.3	170 E	18	89
7 15	15 25.61	-16 58.4	1.229	1.956	26.5	20.8	121 E	28*	81	5 22	15 2.57	-26 46.7	0.321	1.327	10.3	17.2	166 E	18	89
7 25	15 29.83	-17 20.6	1.290	1.922	29.2	21.0	112 E	27*	81	5 24	14 44.23	-26 0.4	0.299	1.299	14.5	17.2	161 W	19	90
8 4	15 37.53	-17 54.4	1.357	1.890	31.3	21.1	105 E	25*	82	5 26	14 23.50	-24 55.9	0.278	1.270	19.7	17.1	155 E	20	89
8 14	15 48.42	-18 36.9	1.426	1.858	32.7	21.2	98 E	24*	83	5 28	14 0.39	-23 28.7	0.260	1.241	25.7	17.1	148 E	22	87
8 24	16 2.19	-19 24.5	1.495	1.828	33.6	21.3	92 E	22*	83*	5 30	13 35.06	-21 34.9	0.245	1.212	32.4	17.1	140 E	23	86
9 3	16 18.52	-20 13.7	1.564	1.799	34.0	21.4	86 E	21*	79*	6 1	13 7.92	-19 12.2	0.233	1.182	39.9	17.2	132 E	26	83
9 13	16 37.18	-21 1.0	1.632	1.772	34.1	21.4	81 E	20*	74*	6 3	12 39.61	-16 21.7	0.225	1.151	48.0	17.3	123 E	28*	80
9 23	16 57.93	-21 42.9	1.698	1.747	33.8	21.5	76 E	20*	69*	6 5	12 10.92	-13 8.2	0.221	1.120	56.5	17.4	113 E	30*	77
4 6	16 42.58	-27 11.7	1.716	2.414	20.3	21.5	123 W	18	89	6 6	11 56.70	-11 25.3	0.220	1.104	60.8	17.5	108 E	31*	75
4 16	16 43.11	-27 20.1	1.586	2.384	18.0	21.2	133 W	18	89	6 7	11 42.69	-9 40.1	0.220	1.088	65.2	17.6	103 E	31*	74
4 26	16 40.32	-27 19.9	1.471	2.354	14.9	20.9	143 W	18	89	6 8	11 28.99	-7 53.9	0.222	1.071	69.5	17.7	99 E	31*	72
5 6	16 34.19	-27 8.9	1.374	2.323	11.0	20.6	154 W	18	89	6 9	11 15.66	-6 8.0	0.224	1.055	73.7	17.8	94 E	31*	70
5 16	16 25.09	-26 44.7	1.299	2.292	6.4	20.3	165 W	18	89	6 10	11 2.75	-4 23.6	0.227	1.038	77.9	18.0	89 E	30*	68
5 21	16 19.70	-26 27.2	1.271	2.276	4.1	20.1	171 W	19	90	6 11	10 50.32	-2 41.7	0.231	1.022	82.0	18.1	85 E	29*	67*
5 26	16 13.97	-26 6.4	1.249	2.260	2.3	19.9	175 W	19	90	6 12	10 38.38	-1 3.2	0.236	1.005	85.9	18.3	81 E	28*	64*
5 31	16 8.10	-25 42.4	1.234	2.244	2.9	19.9	173 E	19	90	6 13	10 26.95	+ 0 31.4	0.241	0.988	89.8	18.5	76 E	27*	62*
6 5	16 2.26	-25 15.8	1.224	2.228	5.3	20.0	168 E	20	89	6 14	10 16.03	+ 2 1.7	0.247	0.970	93.5	18.6	72 E	26*	59*
6 10	15 56.68	-24 47.4	1.222	2.211	7.9	20.1	163 E	20	89	6 15	10 5.61	+ 3 27.3	0.254	0.953	97.1	18.8	69 E	25*	56*
6 15	15 51.54	-24 18.1	1.225	2.195	10.5	20.2	157 E	21	88	6 20	9 20.41	+ 9 26.2	0.296	0.862	113.4	19.8	51 E	17*	42*
6 20	15 47.00	-23 48.8	1.233	2.179	13.1	20.3	151 E	21	88	6 25	8 44.31	+13 46.7	0.348	0.766	127.7	21.0	37 E	10*	29*
6 25	15 43.22	-23 20.6	1.247	2.162	15.5	20.4	145 E	22	87	6 30	8 14.42	+16 57.4	0.411	0.663	141.4	22.6	24 E	4*	17*
6 30	15 40.25	-22 54.2	1.266	2.146	17.8	20.5	140 E	22	87	7 5	7 48.88	+19 19.4	0.487	0.552	156.0	25.3	13 E	—	6*
7 5	15 38.18	-22 30.2	1.289	2.129	19.9	20.6	135 E	22	87	<b>401146 2011 VD<sub>9</sub></b>									
7 10	15 37.04	-22 9.2	1.315	2.112	21.8	20.7	129 E	23	86	4 6	16 59.61	-17 17.2	1.989	2.641	19.1	21.4	120 W	28	81
7 15	15 36.83	-21 51.5	1.344	2.096	23.5	20.8	125 E	23*	86	4 16	16 59.66	-15 45.3	1.851	2.614	17.1	21.1	130 W	29	80
7 20	15 37.56	-21 37.2	1.376	2.079	25.1	20.8	120 E	23*	86	4 26	16 56.82	-13 59.5	1.730	2.587	14.4	20.9	140 W	31	78
7 25	15 39.19	-21 26.4	1.410	2.063	26.4	20.9	116 E	23*	85	5 6	16 51.16	-12 1.8	1.630	2.558	11.1	20.6	151 W	33	76
7 30	15 41.67	-21 19.0	1.446	2.046	27.5	21.0	111 E	23*	85	5 16	16 42.99	-9 56.3	1.554	2.529	7.7	20.3	160 W	35	74
8 4	15 44.98	-21 14.6	1.483	2.030	28.5	21.0	107 E	22*	85	5 21	16 38.18	-8 52.7	1.526	2.515	6.4	20.2	164 W	36	73
8 9	15 49.07	-21 13.0	1.521	2.013	29.3	21.1	103 E	22*	85	5 26	16 33.04	-7 49.8	1.505	2.500	5.7	20.1	166 W	37	72
8 14	15 53.91	-21 13.9	1.559	1.997	30.0	21.2	100 E	21*	85	5 31	16 27.72	-6 48.7	1.491	2.484	6.1	20.1	165 E	38	71
8 19	15 59.44	-21 16.9	1.598	1.981	30.5	21.2	96 E	21*	85	6 5	16 22.36	-5 50.5	1.485	2.469	7.3	20.2	162 E	39	70
8 24	16 5.64	-21 21.7	1.637	1.965	30.9	21.3	93 E	21*	85*	6 10	16 17.10	-4 56.4	1.485	2.454	9.1	20.2	158 E	40	69
8 29	16 12.45	-21 27.7	1.675	1.949	31.2	21.3	90 E	20*	83*	6 15	16 12.12	-4 7.1	1.491	2.438	11.1	20.3	153 E	41	68
9 3	16 19.85	-21 34.5	1.713	1.933	31.4	21.3	86 E	20*	80*	6 25	16 3.45	-2 45.9	1.522	2.406	15.0	20.5	142 E	42	67
9 8	16 27.81	-21 41.9	1.751	1.917	31.5	21.4	83 E	20*	77*	7 5	15 57.16	-1 49.3	1.572	2.374	18.6	20.6	132 E	43	66
9 13	16 36.29	-21 49.3	1.789	1.902	31.5	21.4	80 E	20*	74*	7 15	15 53.71	-1 16.9	1.638	2.341	21.6	20.8	122 E	44	65
9 18	16 45.27	-21 56.3	1.825	1.887	31.4	21.4	78 E	19*	71*	7 25	15 53.26	-1 6.0	1.714	2.308	23.9	20.9	113 E	43*	65
9 23	16 54.70	-22 2.6	1.861	1.872	31.2	21.4	75 E	19*	69*	8 4	15 55.70	-1 12.5	1.796	2.274	25.6	21.0	105 E	42*	65
9 28	17 4.58	-22 7.8	1.896	1.857	31.0	21.5	72 E	19*	66*	8 14	16 0.87	-1 32.5	1.881	2.240	26.7	21.1	97 E	41*	66
10 3	1																		

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

21/22	$\alpha_{2000}$	$\delta_{2000}$	$\Delta$	$r$	$\beta$	$V$	$\psi$	45°	-26°	21/22	$\alpha_{2000}$	$\delta_{2000}$	$\Delta$	$r$	$\beta$	$V$	$\psi$	45°	-26°
<b>401146 2011 VD<sub>9</sub></b>										<b>380546 2004 NB<sub>25</sub></b>									
<i>(continuation)</i>										<i>(continuation)</i>									
1 11	20 39.93	-1 52.0	2.583	1.759	14.5	20.9	27 E	21*	—	5 16	17 0.17	-10 15.8	1.379	2.342	9.8	20.2	157 W	35	74
1 21	21 6.04	-0 26.4	2.591	1.736	13.2	20.8	24 E	17*	—	5 26	16 51.89	-9 40.5	1.305	2.298	6.6	19.9	165 W	35	74
<b>100452 1996 RY<sub>27</sub></b>										<b>220428 2003 UJ<sub>3</sub></b>									
4 6	17 0.95	-22 58.3	1.497	2.174	23.6	21.3	120 W	22	87	4 6	17 8.53	-19 27.3	1.232	1.919	27.3	21.3	118 W	26	83
4 16	17 4.94	-23 0.3	1.361	2.137	21.5	21.0	129 W	22	87	4 16	17 16.34	-19 14.6	1.119	1.893	25.3	21.0	126 W	26	83
4 26	17 5.65	-22 56.9	1.239	2.099	18.6	20.6	138 W	22	87	4 26	17 22.98	-18 56.3	1.016	1.867	22.5	20.7	135 W	26	83
5 6	17 2.73	-22 47.8	1.131	2.060	14.8	20.3	149 W	22	87	5 6	17 20.02	-18 34.4	0.927	1.842	18.7	20.3	144 W	26	83
5 16	16 56.09	-22 31.9	1.042	2.022	9.9	19.9	160 W	22	87	5 16	17 19.22	-18 10.7	0.853	1.818	13.9	19.9	154 W	27	82
5 26	16 46.22	-22 8.5	0.975	1.983	4.2	19.4	172 W	23	86	5 26	17 12.87	-17 47.5	0.796	1.794	8.4	19.6	165 W	27	82
5 31	16 40.42	-21 54.1	0.949	1.963	1.1	19.1	178 W	23	86	5 31	17 8.64	-17 36.9	0.775	1.783	5.5	19.4	170 W	27	82
6 5	16 34.29	-21 38.2	0.930	1.943	2.2	19.1	176 E	23	86	6 5	17 3.92	-17 27.5	0.759	1.772	3.3	19.2	174 W	28	81
6 10	16 28.07	-21 21.1	0.916	1.924	5.5	19.3	170 E	24	85	6 10	16 58.94	-17 19.6	0.749	1.761	3.7	19.2	174 E	28	81
6 15	16 22.02	-21 3.6	0.908	1.904	8.8	19.4	163 E	24	85	6 15	16 53.96	-17 13.8	0.743	1.751	6.4	19.3	169 E	28	81
6 20	16 16.40	-20 46.4	0.906	1.884	12.0	19.5	157 E	24	85	6 20	16 49.23	-17 10.4	0.742	1.741	9.5	19.4	164 E	28	81
6 25	16 11.42	-20 30.4	0.908	1.865	15.2	19.6	151 E	24	85	6 25	16 45.01	-17 9.9	0.746	1.731	12.7	19.5	158 E	28	81
6 30	16 7.25	-20 16.2	0.915	1.845	18.2	19.7	146 E	25	84	6 30	16 41.49	-17 12.4	0.754	1.722	15.7	19.6	153 E	28	81
7 5	16 4.04	-20 4.5	0.926	1.826	21.0	19.8	140 E	25	84	7 5	16 38.83	-17 18.1	0.767	1.713	18.7	19.7	147 E	28	81
7 15	16 0.84	-19 50.6	0.958	1.788	26.0	20.0	130 E	25	84	7 15	16 36.58	-17 39.3	0.803	1.697	23.9	20.0	137 E	27	82
7 25	16 2.18	-19 50.5	1.000	1.750	30.0	20.1	120 E	25*	84	7 25	16 38.75	-18 12.1	0.850	1.683	28.1	20.2	129 E	27	82
8 4	16 7.90	-20 3.2	1.049	1.713	33.2	20.3	112 E	24*	84	8 4	16 45.24	-18 53.3	0.906	1.670	31.5	20.4	121 E	26*	83
8 14	16 17.70	-20 26.1	1.101	1.678	35.7	20.4	105 E	23*	84	8 14	16 55.72	-19 39.0	0.970	1.660	34.0	20.6	114 E	25*	84
8 24	16 31.21	-20 55.4	1.155	1.645	37.4	20.5	99 E	23*	85	8 24	17 9.72	-20 24.8	1.039	1.653	35.7	20.8	107 E	24*	84
9 3	16 47.98	-21 26.7	1.209	1.613	38.7	20.6	93 E	22*	85*	9 3	17 26.70	-21 6.4	1.112	1.647	36.8	21.0	102 E	24*	85
9 13	17 7.71	-21 55.5	1.263	1.583	39.4	20.7	88 E	21*	81*	9 13	17 46.21	-21 40.0	1.189	1.644	37.4	21.2	97 E	23*	86
9 23	17 30.02	-22 17.4	1.315	1.556	39.8	20.7	83 E	21*	77*	9 23	18 7.79	-22 2.1	1.269	1.644	37.6	21.3	92 E	23*	84*
10 3	17 54.58	-22 28.0	1.366	1.533	39.9	20.8	79 E	21*	72*	10 3	18 30.98	-22 10.0	1.351	1.645	37.4	21.4	87 E	23*	80*
10 13	18 21.07	-22 23.7	1.417	1.512	39.7	20.8	75 E	21*	68*	<b>165464 2001 AY<sub>19</sub></b>									
10 23	18 49.10	-22 1.0	1.468	1.495	39.2	20.9	72 E	22*	64*	4 6	17 13.31	-18 1.5	2.378	2.971	17.4	21.5	117 W	27	82
11 2	19 18.29	-21 17.8	1.518	1.482	38.6	20.9	69 E	23*	61*	4 16	17 13.05	-17 55.5	2.238	2.952	15.8	21.3	127 W	27	82
11 12	19 48.27	-20 12.7	1.570	1.473	37.8	20.9	66 E	24*	56*	4 26	17 10.19	-17 48.3	2.112	2.933	13.4	21.0	137 W	27	82
11 22	20 18.67	-18 45.5	1.624	1.468	36.8	21.0	63 E	25*	52*	5 6	17 4.75	-17 40.2	2.006	2.912	10.5	20.8	148 W	27	82
12 2	20 49.15	-16 57.1	1.679	1.468	35.7	21.0	60 E	27*	48*	5 16	16 56.93	-17 31.7	1.922	2.891	7.0	20.5	160 W	27	82
12 12	21 19.47	-14 49.6	1.738	1.472	34.5	21.1	58 E	29*	43*	5 26	16 47.30	-17 23.4	1.864	2.868	3.3	20.3	171 W	28	81
12 22	21 49.41	-12 25.6	1.800	1.480	33.1	21.1	55 E	31*	39*	6 5	16 36.69	-17 16.3	1.835	2.845	2.3	20.1	174 E	28	81
1 1	22 18.84	-9 48.6	1.865	1.492	31.6	21.2	53 E	32*	35*	6 15	16 26.13	-17 11.6	1.833	2.821	6.0	20.3	163 E	28	81
1 11	22 47.73	-7 2.2	1.935	1.509	30.1	21.2	50 E	33*	31*	6 25	16 16.66	-17 11.1	1.859	2.796	9.9	20.5	152 E	28	81
1 21	23 16.04	-4 10.1	2.007	1.529	28.4	21.3	48 E	33*	27*	7 5	16 9.09	-17 16.4	1.909	2.770	13.5	20.7	141 E	28	81
<b>440904 2006 VA</b>										<b>139622 2001 QQ<sub>142</sub></b>									
4 6	17 4.99	-29 9.2	0.965	1.685	31.6	21.2	118 W	16	87	4 6	17 19.97	-15 16.3	1.184	1.851	29.2	21.3	116 W	30	79
4 11	17 13.12	-29 28.0	0.907	1.663	31.1	21.0	121 W	16	87	4 16	17 20.61	-15 20.6	1.090	1.859	26.2	21.0	125 W	30	79
4 16	17 20.84	-29 44.3	0.852	1.642	30.4	20.8	124 W	15	86	4 26	17 16.58	-15 27.6	1.005	1.863	22.1	20.7	136 W	30	79
4 21	17 28.12	-29 58.2	0.800	1.621	29.5	20.6	127 W	15	86	5 6	17 7.53	-15 38.7	0.934	1.865	16.9	20.4	147 W	29	80
4 26	17 34.89	-30 9.6	0.750	1.600	28.4	20.4	131 W	15	86	5 16	16 53.63	-15 54.4	0.882	1.865	10.7	20.1	160 W	29	80
5 1	17 41.08	-30 18.2	0.702	1.580	27.2	20.2	134 W	15	86	<b>380546 2004 NB<sub>25</sub></b>									
5 6	17 46.61	-30 24.0	0.658	1.560	25.7	20.0	138 W	15	86	4 6	17 6.44	-12 57.0	1.877	2.518	20.4	21.4	119 W	32	77
5 11	17 51.39	-30 26.6	0.616	1.541	24.0	19.8	142 W	15	86	4 16	17 9.07	-12 20.1	1.729	2.474	18.7	21.1	128 W	33	76
5 16	17 55.35	-30 25.7	0.578	1.523	22.1	19.6	145 W	15	86	4 26	17 8.98	-11 39.3	1.594	2.431	16.3	20.8	137 W	33	76
5 21	17 58.46	-30 20.8	0.542	1.505	20.0	19.4	149 W	15	86	5 6	17 6.01	-10 56.8	1.477	2.387	13.3	20.5	147 W	34	75
5 26	18 0.69	-30 11.5	0.510	1.487	17.6	19.1	154 W	15	86	<b>100452 1996 RY<sub>27</sub></b>									
5 31	18 2.05	-29 57.2	0.481	1.471	14.9	18.9	158 W	15	86	4 6	17 0.95	-22 58.3	1.497	2.174	23.6	21.3	120 W	22	87
6 5	18 2.54	-29 37.3	0.455	1.455	12.0	18.6	163 W	15	86	4 16	17 4.94	-23 0.3	1.361	2.137	21.5	21.0	129 W	22	87
6 10	18 2.26	-29 11.3	0.433	1.441	9.0	18.4	167 W	16	87	4 26	17 5.65	-22 56.9	1.239	2.099	18.6	20.6	138 W	22	87
6 15	18 1.36	-28 39.0	0.415	1.427	5.9	18.1	172 W	16	87	5 6	17 2.73	-22 47.8	1.131	2.060	14.8	20.3	149 W	22	87
6 20	18 0.07	-28 0.4	0.399	1.415	3.4	17.9	175 W	17	88	5 16	16 56.09	-22 31.9	1.042	2.022	9.9	19.9	160 W	22	87
6 25	17 58.66	-27 16.0	0.388	1.403	3.8	17.8	175 E	18	89	5 26	16 46.22	-22 8.5	0.975	1.983	4.2	19.4	172 W	23	86
6 30	17 57.39	-26 26.5	0.380	1.393	6.7	17.9	171 E	19	90	5 31	16 40.42	-21 54.1	0.949	1.963	1.1	19.1	178 W	23	86
7 5	17 56.52	-25 33.2	0.375	1.384	10.1	18.0	166 E	19	90	6 5	16 34.29	-21 38.2	0.930	1.943	2.2	19.1	176 E	23	86
7 10	17 56.33	-24 37.6	0.373	1.376	13.6	18.1	161 E	20	89	6 10	16 28.07	-21 21.1	0.916	1.924	5.5	19.3	170 E	24	85
7 15	17 57.04	-23 41.4	0.375	1.369	17.0	18.3	157 E	21	88	6 15	16 22.02	-21 3.6	0.908	1.904	8.8	19.4	163 E	24	85
7 20	17 58.85	-22 45.9	0.380	1.364	20.1	18.4	153 E	22	87	6 20	16 16.40	-20 46.4	0.906	1.884	12.0	19.5	157 E	24	85
7 25	18 1.83	-21 52.5	0.387	1.360	23.0	18.5	148 E	23	86	6 25	16 11.42	-20 30.4	0.908	1.865	15.2	19.6	151 E	24	85
7 30	18 5.99	-21 1.7	0.397	1.358	25.7	18.6	145 E	24	85	6 30	16 7.25	-20 16.2	0.915	1.845	18.2	19.7	146 E	25	84
8 4	18 11.30	-20 14.2	0.409	1.357	28.1	18.8	141 E	25	84	7 5	16 4.04	-20 4.5	0.926	1.826	21.0	19.8	140 E	25	

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

21/22	$\alpha_{2000}$	$\delta_{2000}$	$\Delta$	$r$	$\beta$	$V$	$\psi$	45°-26°	21/22	$\alpha_{2000}$	$\delta_{2000}$	$\Delta$	$r$	$\beta$	$V$	$\psi$	45°-26°	
<b>139622 2001 QQ<sub>142</sub></b> (continuation)									<b>445900 2012 VH<sub>82</sub></b> (continuation)									
5 21	16 45.19	-16 3.8	0.864	1.863	7.3	19.9	166 W	29 80	11 22	20 38.01	-12 21.4	1.556	1.518	37.5	21.1	69 E	32*	54*
5 26	16 36.08	-16 14.2	0.852	1.861	4.2	19.7	172 W	29 80	12 2	21 6.08	-10 27.4	1.626	1.525	36.3	21.2	66 E	34*	49*
5 31	16 26.59	-16 25.3	0.847	1.859	3.0	19.6	174 E	29 80	12 12	21 34.08	-8 20.6	1.700	1.536	35.0	21.2	63 E	36*	44*
6 5	16 17.06	-16 37.1	0.848	1.855	5.5	19.7	170 E	28 81	12 22	22 1.84	-6 3.2	1.776	1.550	33.5	21.3	61 E	37*	39*
6 10	16 7.83	-16 49.8	0.855	1.851	8.9	19.9	164 E	28 81	1 1	22 29.28	-3 37.8	1.856	1.567	32.0	21.4	58 E	39*	34*
6 15	15 59.21	-17 3.6	0.868	1.847	12.3	20.1	157 E	28 81	1 11	22 56.37	-1 7.1	1.939	1.588	30.3	21.5	55 E	39*	30*
6 20	15 51.48	-17 18.7	0.887	1.841	15.7	20.2	151 E	28 81	<b>270659 2002 PU<sub>178</sub></b>									
6 25	15 44.84	-17 35.5	0.910	1.835	18.7	20.4	145 E	27 82	4 6	17 28.46	-19 33.1	1.312	1.941	28.2	21.3	114 W	25	84
7 5	15 35.17	-18 14.7	0.970	1.822	24.1	20.7	133 E	27 82	4 16	17 38.01	-19 56.9	1.190	1.912	26.7	21.0	121 W	25	84
7 15	15 30.54	-19 2.2	1.042	1.805	28.3	20.9	123 E	26* 83	4 26	17 44.79	-20 24.0	1.079	1.884	24.5	20.7	129 W	25	84
7 25	15 30.69	-19 57.8	1.122	1.786	31.5	21.2	113 E	24* 84	5 6	17 48.33	-20 57.4	0.979	1.856	21.3	20.3	138 W	24	85
8 4	15 35.04	-20 59.9	1.205	1.764	33.8	21.3	105 E	22* 85	5 16	17 48.11	-21 39.2	0.892	1.829	17.1	20.0	148 W	23	86
<b>187828 1999 VX<sub>21</sub></b>									5 26	17 44.00	-22 30.4	0.822	1.803	12.0	19.6	158 W	22	87
4 6	17 20.34	-20 44.8	1.850	2.451	21.6	21.4	115 W	24 85	6 5	17 36.36	-23 29.1	0.770	1.778	5.9	19.1	170 W	22	87
4 16	17 23.05	-20 26.8	1.714	2.428	19.9	21.2	125 W	25 84	6 10	17 31.51	-24 0.1	0.752	1.766	2.6	18.9	176 W	21	88
4 26	17 22.75	-20 4.2	1.591	2.405	17.4	20.9	134 W	25 84	6 15	17 26.26	-24 31.3	0.739	1.755	1.2	18.7	178 E	20	89
5 6	17 19.24	-19 37.5	1.484	2.381	14.1	20.6	145 W	25 84	6 20	17 20.89	-25 2.2	0.731	1.743	4.5	18.9	172 E	20	89
5 16	17 12.58	-19 7.0	1.396	2.356	10.1	20.3	156 W	26 83	6 25	17 15.66	-25 32.2	0.728	1.733	7.9	19.1	166 E	19	90
5 26	17 3.23	-18 33.6	1.331	2.330	5.4	20.0	167 W	26 83	6 30	17 10.84	-26 0.9	0.730	1.722	11.3	19.2	161 E	19	90
5 31	16 57.84	-18 16.3	1.308	2.317	3.1	19.8	173 W	27 82	7 5	17 6.69	-26 28.2	0.736	1.712	14.6	19.3	155 E	19	90
6 5	16 52.16	-17 59.0	1.291	2.304	2.0	19.7	175 W	27 82	7 10	17 3.41	-26 54.0	0.747	1.703	17.7	19.4	149 E	18	89
6 10	16 46.37	-17 42.1	1.281	2.290	3.6	19.8	172 E	27 82	7 15	17 1.20	-27 18.5	0.762	1.694	20.5	19.6	144 E	18	89
6 15	16 40.67	-17 25.9	1.277	2.277	6.0	19.9	166 E	28 81	7 25	17 0.36	-28 3.9	0.801	1.678	25.5	19.8	135 E	17	88
6 20	16 35.24	-17 11.2	1.279	2.263	8.6	20.0	161 E	28 81	8 4	17 4.44	-28 45.0	0.851	1.664	29.6	20.0	126 E	16	87
6 25	16 30.25	-16 58.2	1.288	2.249	11.1	20.1	155 E	28 81	8 14	17 13.27	-29 21.3	0.909	1.652	32.6	20.3	118 E	16	87
6 30	16 25.83	-16 47.5	1.302	2.235	13.6	20.2	149 E	28 81	8 24	17 26.37	-29 51.2	0.974	1.643	34.9	20.5	112 E	15*	86
7 5	16 22.10	-16 39.2	1.321	2.221	15.9	20.3	143 E	28 81	8 29	17 34.32	-30 2.9	1.008	1.640	35.7	20.6	109 E	15*	86
7 15	16 17.05	-16 31.2	1.372	2.193	19.9	20.5	133 E	28 81	9 3	17 43.10	-30 11.9	1.043	1.637	36.4	20.6	106 E	15*	86
7 25	16 15.48	-16 35.0	1.438	2.164	23.2	20.7	123 E	28* 81	9 8	17 52.64	-30 18.0	1.080	1.634	36.9	20.7	103 E	15*	86
8 4	16 17.35	-16 49.3	1.513	2.134	25.8	20.8	114 E	28* 81	9 13	18 2.86	-30 20.7	1.117	1.633	37.3	20.8	100 E	15*	86
8 14	16 22.51	-17 12.5	1.594	2.105	27.6	21.0	106 E	27* 81	9 18	18 13.68	-30 19.8	1.155	1.632	37.6	20.9	98 E	15*	86
8 24	16 30.65	-17 41.8	1.678	2.075	28.9	21.1	98 E	26* 82	9 23	18 25.03	-30 14.8	1.194	1.632	37.7	21.0	96 E	15*	86*
9 3	16 41.46	-18 14.6	1.763	2.045	29.5	21.2	91 E	25* 81*	9 28	18 36.82	-30 5.7	1.234	1.632	37.8	21.0	93 E	15*	85*
9 13	16 54.66	-18 48.1	1.848	2.016	29.8	21.2	84 E	24* 77*	10 3	18 48.99	-29 52.0	1.274	1.634	37.8	21.1	91 E	15*	84*
9 23	17 10.00	-19 19.6	1.929	1.986	29.7	21.3	78 E	23* 71*	10 8	19 1.49	-29 33.7	1.316	1.635	37.7	21.2	89 E	15*	82*
10 3	17 27.22	-19 46.4	2.007	1.957	29.2	21.3	73 E	22* 66*	10 13	19 14.24	-29 10.7	1.358	1.638	37.5	21.2	87 E	16*	81*
10 13	17 46.13	-20 6.3	2.081	1.928	28.5	21.4	67 E	22* 60*	10 18	19 27.19	-28 43.0	1.400	1.641	37.2	21.3	85 E	16	79*
10 23	18 6.53	-20 16.9	2.149	1.899	27.6	21.4	62 E	21* 54*	10 23	19 40.28	-28 10.4	1.444	1.645	36.9	21.4	83 E	17	77*
11 2	18 28.21	-20 16.3	2.213	1.871	26.5	21.4	57 E	21* 49*	10 28	19 53.44	-27 33.2	1.488	1.650	36.5	21.4	81 E	17	75*
11 12	18 51.02	-20 2.8	2.271	1.844	25.2	21.4	53 E	21* 44*	11 2	20 6.65	-26 51.4	1.533	1.655	36.0	21.5	79 E	18	72*
11 22	19 14.74	-19 34.9	2.323	1.818	23.8	21.3	48 E	21* 38*	<b>526111 2005 UJ<sub>456</sub></b>									
12 2	19 39.21	-18 51.9	2.371	1.793	22.4	21.3	44 E	21* 33*	4 6	17 47.90	-27 9.7	1.391	1.958	28.9	21.4	109 W	18	89
12 12	20 4.25	-17 53.1	2.413	1.770	20.8	21.3	40 E	20* 28*	4 16	18 0.51	-27 11.5	1.259	1.921	28.1	21.2	116 W	18	89
12 22	20 29.70	-16 38.4	2.450	1.747	19.2	21.2	36 E	20* 23*	4 26	18 10.82	-27 7.5	1.134	1.884	26.5	20.8	123 W	18	89
1	20 55.42	-15 8.3	2.483	1.727	17.5	21.2	32 E	19* 18*	5 6	18 18.33	-26 58.6	1.020	1.848	24.3	20.5	131 W	18	89
1 11	21 21.31	-13 23.6	2.511	1.708	15.8	21.1	28 E	17* 14*	5 16	18 22.45	-26 44.7	0.918	1.812	21.1	20.1	140 W	18	89
1 21	21 47.25	-11 25.4	2.536	1.692	14.0	21.1	25 E	15* 11*	5 26	18 22.76	-26 25.4	0.829	1.777	16.8	19.7	149 W	19	90
<b>445900 2012 VH<sub>82</sub></b>									6 5	18 19.14	-25 58.9	0.756	1.744	11.6	19.3	160 W	19	90
4 6	17 26.34	-29 6.0	1.475	2.085	26.1	21.3	113 W	16 87	6 10	18 15.94	-25 42.3	0.726	1.728	8.6	19.1	165 W	19	90
4 16	17 34.32	-29 14.2	1.339	2.050	24.7	21.0	121 W	16 87	6 15	18 11.99	-25 23.2	0.701	1.712	5.4	18.8	171 W	20	89
4 26	17 39.28	-29 16.0	1.214	2.014	22.5	20.7	130 W	16 87	6 20	18 7.48	-25 1.5	0.681	1.696	2.1	18.6	177 W	20	89
5 6	17 40.70	-29 10.4	1.100	1.978	19.4	20.4	139 W	16 87	6 25	18 2.65	-24 37.2	0.665	1.681	1.8	18.5	177 E	20	89
5 16	17 38.15	-28 54.8	1.002	1.941	15.4	20.0	149 W	16 87	6 30	17 57.76	-24 10.8	0.655	1.667	5.3	18.6	171 E	21	88
5 26	17 31.63	-28 26.0	0.921	1.905	10.3	19.6	160 W	17 88	7 5	17 53.10	-23 42.7	0.649	1.653	8.9	18.8	166 E	21	88
5 31	17 27.06	-28 5.5	0.888	1.887	7.5	19.4	166 W	17 88	7 10	17 48.93	-23 13.8	0.647	1.639	12.4	18.9	160 E	22	87
6 5	17 21.77	-27 40.6	0.860	1.870	4.6	19.1	171 W	17 88	7 15	17 45.52	-22 44.8	0.650	1.626	15.8	19.0	154 E	22	87
6 10	17 15.99	-27 11.2	0.838	1.852	2.3	18.9	176 W	18 89	7 20	17 43.09	-22 16.7	0.656	1.614	19.0	19.1	149 E	23	86
6 15	17 9.96	-26 37.5	0.821	1.834	3.4	18.9	174 E	18 89	7 25	17 41.77	-21 50.1	0.666	1.602	22.0	19.2	144 E	23	86
6 20	17 3.96	-26 0.4	0.810	1.817	6.5	19.0	168 E	19 90	8 4	17 42.71	-21 3.1	0.696	1.581	27.3	19.4	134 E	24	85
6 25	16 58.29	-25 20.7	0.804	1.799	9.8	19.1	162 E	20 89	8 14	17 48.57	-20 25.0	0.735	1.563	31.6	19.6	126 E	25	84
6 30	16 53.17	-24 39.6	0.803	1.782	13.1	19.2	157 E	20 89	8 24	17 59.03	-19 53.9	0.782	1.549	34.8	19.9	119 E	25	84
7 5	16 48.84	-23 58.4	0.807	1.765	16.3	19.3	151 E	21 88	9 3	18 13.46	-19 26.0	0.835	1.538	37.2	20.0	113 E	26	83
7 10	16 45.48	-23 18.2	0.815	1.749	19.4	19.4	145 E	22 87	9 13	18 31.26	-18 56.9	0.893	1.530	38.9	20.2	107 E	26	83
7 15	16 43.21	-22 40.3	0.															

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

21/22	$\alpha_{2000}$	$\delta_{2000}$	$\Delta$	$r$	$\beta$	$V$	$\psi$	45°	-26°	21/22	$\alpha_{2000}$	$\delta_{2000}$	$\Delta$	$r$	$\beta$	$V$	$\psi$	45°	-26°
<b>194264 2001 UY</b>										<b>357060 2001 OC<sub>99</sub></b>									
<i>(continuation)</i>										<i>(continuation)</i>									
5 16	17 38.44	0 8.5	2.028	2.904	12.0	20.9	143 W	45	64	11 22	18 55.94	-19 22.7	2.651	2.054	19.4	21.2	44 E	20*	34*
5 26	17 30.18	+ 1 18.5	1.992	2.916	9.9	20.8	150 W	46	63	11 27	19 6.48	-19 38.8	2.675	2.037	18.6	21.1	41 E	19*	31*
6 5	17 20.71	+ 2 29.2	1.982	2.928	8.7	20.7	154 W	47	62	12 2	19 17.27	-19 51.2	2.696	2.020	17.7	21.1	38 E	18*	28*
6 15	17 10.88	+ 3 19.5	1.999	2.939	9.1	20.8	153 E	48	61	12 7	19 28.29	-20 0.1	2.716	2.003	16.8	21.1	36 E	17*	25*
6 25	17 1.61	+ 3 47.3	2.041	2.949	10.7	20.9	147 E	49	60	12 12	19 39.53	-20 5.2	2.733	1.987	15.9	21.0	33 E	16*	23*
7 5	16 53.66	+ 3 53.1	2.107	2.958	12.8	21.0	140 E	49	60	12 17	19 50.96	-20 6.7	2.747	1.970	14.9	21.0	31 E	15*	20*
7 15	16 47.61	+ 3 39.3	2.194	2.967	14.9	21.2	131 E	49	60	12 22	20 2.58	-20 4.5	2.760	1.953	13.9	21.0	29 E	14*	18*
7 25	16 43.80	+ 3 9.7	2.297	2.974	16.7	21.4	123 E	48	61	12 27	20 14.36	-19 58.6	2.770	1.937	13.0	20.9	26 E	13*	16*
<b>240565 2004 SD<sub>5</sub></b>										<b>363369 2002 TU<sub>53</sub></b>									
4 6	17 50.63	-11 21.1	2.411	2.882	19.3	21.5	108 W	34	75	4 6	17 53.45	-18 28.4	2.045	2.534	22.1	21.3	108 W	27	82
4 16	17 52.08	-11 29.0	2.264	2.866	18.1	21.3	117 W	34	75	4 16	17 59.00	-17 35.6	1.888	2.497	21.2	21.1	116 W	27	81
4 26	17 50.98	-11 41.8	2.127	2.849	16.4	21.1	127 W	33	76	4 26	18 2.07	-16 35.6	1.741	2.460	19.6	20.8	125 W	28	81
5 5	17 47.18	-12 1.6	2.005	2.830	14.0	20.9	137 W	33	76	5 6	18 2.36	-15 29.1	1.607	2.422	17.4	20.6	134 W	30	79
5 16	17 40.62	-12 29.9	1.901	2.811	10.9	20.6	148 W	32	77	5 16	17 59.66	-14 17.5	1.489	2.383	14.4	20.3	144 W	31	78
5 26	17 31.57	-13 7.9	1.821	2.791	7.4	20.4	159 W	32	77	5 26	17 54.00	-13 3.1	1.391	2.344	10.9	19.9	154 W	32	77
6 5	17 20.61	-13 55.2	1.767	2.770	4.0	20.1	169 W	31	78	6 5	17 45.74	-11 49.2	1.315	2.305	7.3	19.6	163 W	33	76
6 15	17 8.62	-14 50.7	1.742	2.748	3.8	20.1	170 E	30	79	6 10	17 40.86	-11 13.7	1.286	2.285	6.0	19.5	166 W	34	75
6 25	16 56.75	-15 52.5	1.747	2.725	7.3	20.2	160 E	29	80	6 15	17 35.67	-10 40.2	1.263	2.266	5.6	19.4	167 W	34	75
7 5	16 46.12	-16 58.4	1.779	2.701	11.2	20.4	149 E	28	81	6 20	17 30.32	-10 9.3	1.247	2.246	6.5	19.4	166 E	35	74
7 15	16 37.64	-18 6.8	1.835	2.677	14.8	20.6	138 E	27	82	6 25	17 25.01	-9 41.5	1.237	2.226	8.2	19.5	162 E	35	74
7 25	16 31.90	-19 16.6	1.910	2.651	17.8	20.8	127 E	26	83	7 5	17 15.11	-8 57.5	1.235	2.186	12.6	19.6	152 E	36	73
8 4	16 29.13	-20 26.9	2.001	2.625	20.1	20.9	117 E	24*	84	7 15	17 7.23	-8 31.1	1.254	2.146	17.1	19.8	142 E	36	73
8 14	16 29.36	-21 37.3	2.101	2.597	21.8	21.0	108 E	23*	86	7 25	17 2.32	-8 22.8	1.290	2.106	21.1	19.9	132 E	37	72
8 24	16 32.44	-22 47.2	2.207	2.569	22.9	21.2	99 E	21*	87	8 4	17 0.81	-8 30.7	1.340	2.067	24.5	20.1	122 E	36	73
9 3	16 38.15	-23 56.0	2.316	2.541	23.4	21.3	91 E	19*	85*	8 14	17 2.84	-8 51.7	1.398	2.028	27.3	20.2	114 E	36*	73
9 13	16 46.25	-25 2.8	2.423	2.511	23.4	21.3	83 E	17*	77*	8 24	17 8.30	-9 22.1	1.462	1.990	29.3	20.3	106 E	35*	73
9 23	16 56.53	-26 6.8	2.526	2.481	23.1	21.4	76 E	16*	70*	9 3	17 16.93	-9 57.8	1.529	1.952	30.7	20.4	98 E	34*	74
10 3	17 8.77	-27 7.0	2.624	2.450	22.4	21.4	69 E	14*	63*	9 13	17 28.46	-10 35.4	1.597	1.915	31.7	20.5	92 E	33*	74*
10 13	17 22.80	-28 2.4	2.715	2.418	21.4	21.4	62 E	13*	56*	9 23	17 42.59	-11 11.3	1.664	1.879	32.2	20.5	86 E	33*	72*
10 23	17 38.46	-28 51.8	2.796	2.386	20.2	21.4	56 E	11*	50*	10 3	17 59.05	-11 42.3	1.729	1.845	32.3	20.6	80 E	32*	68*
11 2	17 55.60	-29 34.1	2.867	2.353	18.8	21.4	50 E	10*	44*	10 13	18 17.59	-12 5.7	1.791	1.813	32.1	20.6	75 E	31*	63*
11 12	18 14.09	-30 8.2	2.928	2.319	17.2	21.4	44 E	9*	38*	10 23	18 37.96	-12 18.9	1.851	1.782	31.7	20.6	70 E	31*	58*
11 22	18 33.80	-30 33.1	2.976	2.285	15.6	21.3	38 E	7*	32*	11 2	18 59.93	-12 19.7	1.908	1.753	31.1	20.7	66 E	31*	53*
12 2	18 54.60	-30 47.7	3.013	2.251	13.8	21.2	33 E	6*	27*	11 12	19 23.29	-12 6.3	1.962	1.727	30.3	20.7	62 E	31*	48*
12 12	19 16.37	-30 51.1	3.038	2.216	12.0	21.2	28 E	4*	22*	11 22	19 47.79	-11 37.5	2.014	1.703	29.3	20.7	58 E	31*	43*
12 22	19 38.96	-30 42.7	3.051	2.181	10.2	21.1	23 E	2*	17*	12 2	20 13.20	-10 52.6	2.064	1.683	28.2	20.7	54 E	31*	37*
1 1	20 2.26	-30 21.8	3.053	2.146	8.5	21.0	19 E	—	13*	12 12	20 39.35	-9 51.3	2.112	1.665	27.0	20.6	50 E	31*	32*
1 11	20 26.14	-29 48.1	3.044	2.111	7.0	20.9	15 E	—	9*	12 22	21 6.00	-8 34.3	2.160	1.651	25.8	20.6	47 E	31*	28*
1 21	20 50.48	-29 1.4	3.024	2.075	6.0	20.8	13 E	—	6*	1 1	21 33.00	-7 2.6	2.207	1.640	24.4	20.6	44 E	30*	23*
<b>357060 2001 OC<sub>99</sub></b>										<b>168728 2000 OZ<sub>33</sub></b>									
4 6	17 52.08	+ 1 9.3	2.249	2.710	20.7	21.4	107 W	46	63	4 6	18 1.10	-24 36.1	2.031	2.498	22.7	21.4	106 W	20*	89
4 16	17 54.86	+ 2 14.5	2.115	2.690	19.8	21.3	114 W	47	62	4 16	18 7.34	-24 26.2	1.878	2.466	21.8	21.2	114 W	21	88
4 26	17 55.15	+ 3 19.0	1.989	2.669	18.5	21.1	123 W	48	61	4 26	18 11.03	-24 14.2	1.732	2.434	20.2	20.9	123 W	21	88
5 5	17 52.78	+ 4 18.3	1.877	2.647	16.8	20.9	131 W	49	60	5 6	18 11.79	-24 0.3	1.599	2.400	18.0	20.7	133 W	21	88
5 16	17 47.71	+ 5 7.0	1.780	2.625	14.8	20.7	139 W	50	59	5 16	18 9.33	-23 44.5	1.480	2.367	14.9	20.4	143 W	21	88
5 26	17 40.14	+ 5 38.6	1.702	2.601	12.8	20.5	145 W	51	58	5 26	18 3.59	-23 26.1	1.380	2.332	11.0	20.0	154 W	22	87
5 31	17 35.58	+ 5 46.2	1.671	2.589	11.9	20.4	148 W	51	58	6 5	17 54.87	-23 4.0	1.301	2.297	6.4	19.7	165 W	22	87
6 5	17 30.62	+ 5 47.4	1.646	2.576	11.3	20.3	150 W	51	58	6 10	17 49.61	-22 51.2	1.271	2.280	3.8	19.5	171 W	22	87
6 10	17 25.37	+ 5 41.7	1.627	2.564	11.0	20.3	151 W	51	58	6 15	17 43.94	-22 37.3	1.247	2.262	1.2	19.2	177 W	22	87
6 15	17 19.97	+ 5 28.9	1.614	2.551	11.1	20.3	151 E	50	59	6 20	17 38.05	-22 22.4	1.229	2.244	1.7	19.2	176 E	23	86
6 25	17 9.29	+ 4 41.5	1.606	2.525	12.4	20.3	148 E	50	59	6 25	17 32.14	-22 6.7	1.218	2.226	4.5	19.4	170 E	23	86
7 5	16 59.66	+ 3 27.4	1.622	2.498	14.7	20.4	141 E	48	61	6 30	17 26.39	-21 50.5	1.213	2.208	7.3	19.5	164 E	23	86
7 15	16 52.00	+ 1 51.2	1.658	2.470	17.4	20.5	133 E	47	62	7 5	17 20.99	-21 34.2	1.214	2.190	10.0	19.6	158 E	23	86
7 20	16 49.13	+ 0 56.7	1.684	2.456	18.7	20.5	129 E	46	63	7 10	17 16.13	-21 18.4	1.221	2.172	12.7	19.7	152 E	24	85
7 25	16 46.96	+ 0 0.8	1.713	2.441	19.9	20.6	125 E	45	64	7 15	17 11.95	-21 3.4	1.233	2.153	15.2	19.8	146 E	24	85
7 30	16 45.52	+ 1 0.7	1.746	2.427	21.1	20.7	121 E	44	65	7 25	17 6.10	-20 37.9	1.270	2.117	19.7	19.9	135 E	24	85
8 4	16 44.81	+ 2 2.3	1.781	2.412	22.1	20.7	117 E	43*	66	8 4	17 3.93	-20 19.9	1.322	2.080	23.5	20.1	125 E	25	84
8 9	16 44.85	+ 3 4.9	1.820	2.397	23.0	20.8	112 E	42*	67	8 14	17 5.57	-20 9.7	1.385	2.044	26.4	20.3	116 E	25*	84
8 14	16 45.61	+ 4 8.0	1.861	2.382	23.8	20.9	108 E	41*	68	8 24	17 10.85	-20 6.5	1.454	2.007	28.7	20.4	108 E	25*	84
8 19	16 47.09	+ 5 11.1	1.903	2.366	24.5	20.9	104 E	39*	69	9 3	17 19.45	-20 7.8	1.527	1.971	30.3	20.5	100 E	25*	84
8 24	16 49.26	+ 6 13.7	1.947	2.351	25.0	21.0	100 E	38*	70	9 13	17 31.03	-20 11.2	1.601	1.936	31.3	20.6	93 E	24*	84*
8 29	16 52.07	+ 7 15.5	1.991	2.335	25.4	21.0	97 E	36*	71	9 23	17 45.25	-20 13.6	1.674	1.901	31.8	20.7	87 E	24*	79*
9																			

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

21/22	$\alpha_{2000}$	$\delta_{2000}$	$\Delta$	$r$	$\beta$	$V$	$\psi$	45°-26°	21/22	$\alpha_{2000}$	$\delta_{2000}$	$\Delta$	$r$	$\beta$	$V$	$\psi$	45°-26°
<b>168728 2000 OZ<sub>33</sub></b> (continuation)									<b>452314 1999 LN<sub>28</sub></b> (continuation)								
12 22	21 5.90	-13 9.7	2.194	1.653	24.9	20.7	45 E	27* 30*	5 31	21 45.33	-2 54.3	0.458	1.194	56.2	19.9	102 W	38* 67
1 1	21 32.12	-11 10.7	2.236	1.637	23.5	20.7	42 E	27* 25*	6 5	22 9.72	-2 20.6	0.443	1.179	57.7	19.9	101 W	38* 66
1 11	21 58.53	-8 58.4	2.277	1.624	22.0	20.7	38 E	26* 21*	6 10	22 34.35	-1 51.1	0.431	1.166	59.1	19.8	99 W	38* 66
1 21	22 25.03	-6 34.9	2.317	1.614	20.5	20.7	35 E	25* 17*	6 15	22 58.93	-1 26.5	0.423	1.156	60.4	19.8	98 W	37* 65
<b>329338 2001 JW<sub>2</sub></b>									<b>452314 1999 LN<sub>28</sub></b> (continuation)								
4 6	18 3.64	-28 19.8	0.862	1.483	40.6	21.1	105 W	17* 88	6 25	23 46.72	-0 55.0	0.415	1.142	62.1	19.8	97 W	37* 65
4 11	18 19.44	-27 46.9	0.795	1.447	41.6	20.9	107 W	17* 88	7 5	0 30.89	-0 48.1	0.417	1.139	62.5	19.8	96 W	37* 65
4 16	18 36.19	-27 0.6	0.731	1.411	42.6	20.7	108 W	18* 89	7 15	1 9.79	-1 5.9	0.425	1.147	61.7	19.8	97 W	38* 65
4 21	18 54.05	-25 57.9	0.670	1.374	43.8	20.5	109 W	19* 90	7 25	1 42.64	-1 46.5	0.436	1.165	59.6	19.9	99 W	39* 66
4 26	19 13.23	-24 35.1	0.612	1.338	45.3	20.3	109 W	20* 89	8 4	2 9.20	-2 47.3	0.449	1.192	56.4	19.9	102 W	40* 67
5 1	19 33.96	-22 47.6	0.558	1.301	47.1	20.1	109 W	22* 87	8 14	2 29.25	-4 7.2	0.460	1.227	52.2	19.9	107 W	40* 68
5 6	19 56.47	-20 29.8	0.508	1.264	49.3	19.9	108 W	23* 84	8 24	2 42.67	-5 42.8	0.471	1.270	47.2	19.9	113 W	39 70
5 11	20 20.96	-17 35.7	0.463	1.227	52.0	19.7	107 W	26* 82	8 29	2 46.88	-6 35.0	0.477	1.294	44.4	19.9	116 W	38 71
5 16	20 47.63	-13 59.5	0.424	1.190	55.3	19.5	105 W	28* 78	9 3	2 49.38	-7 29.0	0.482	1.319	41.4	19.8	120 W	38 71
5 21	21 16.57	-9 37.7	0.391	1.154	59.3	19.4	101 W	32* 74	9 8	2 50.18	-8 23.8	0.488	1.345	38.2	19.8	124 W	37 72
5 26	21 47.77	-4 31.6	0.367	1.119	64.0	19.3	97 W	35* 69	9 13	2 49.32	-9 17.6	0.496	1.372	34.9	19.8	129 W	36 73
5 28	22 0.84	-2 18.7	0.359	1.105	66.0	19.3	95 W	36* 66	9 18	2 46.90	-10 8.6	0.504	1.400	31.5	19.8	133 W	35 74
5 30	22 14.20	-0 1.1	0.353	1.091	68.1	19.3	93 W	37* 64	9 23	2 43.07	-10 54.7	0.515	1.428	28.1	19.8	138 W	34 75
6 1	22 27.82	+2 19.7	0.349	1.077	70.2	19.3	91 W	39* 62	9 28	2 38.01	-11 34.1	0.529	1.458	24.7	19.8	143 W	33 76
6 3	22 41.66	+4 42.4	0.346	1.064	72.4	19.4	89 W	40* 59	10 3	2 31.97	-12 4.9	0.545	1.488	21.5	19.8	147 W	33 76
6 5	22 55.68	+7 5.2	0.345	1.051	74.5	19.4	86 W	41* 57	10 8	2 25.25	-12 25.4	0.565	1.518	18.7	19.8	151 W	33 76
6 7	23 9.83	+9 26.6	0.345	1.038	76.6	19.4	84 W	42* 55	10 13	2 18.20	-12 34.6	0.588	1.548	16.4	19.9	154 W	32 77
6 9	23 24.04	+11 44.9	0.346	1.025	78.6	19.5	82 W	43* 52	10 18	2 11.17	-12 32.1	0.617	1.579	15.0	20.0	156 W	32 77
6 11	23 38.28	+13 58.6	0.349	1.013	80.5	19.6	80 W	43* 50*	10 23	2 4.47	-12 18.2	0.649	1.610	14.5	20.1	156 W	33 76
6 13	23 52.49	+16 6.4	0.354	1.001	82.3	19.6	78 W	44* 48*	10 28	1 58.33	-11 53.8	0.686	1.641	14.9	20.3	155 E	33 76
6 15	0 6.62	+18 7.4	0.359	0.989	83.9	19.7	76 W	44* 46*	11 2	1 52.95	-11 20.1	0.728	1.672	15.9	20.5	153 E	34 75
6 20	0 41.30	+22 35.2	0.379	0.962	87.2	19.9	71 W	45* 41*	11 7	1 48.46	-10 38.4	0.774	1.703	17.2	20.7	149 W	34 75
6 25	1 14.66	+26 10.9	0.405	0.937	89.4	20.0	67 W	45* 37*	11 12	1 44.95	-9 50.2	0.824	1.734	18.8	20.9	146 E	35 74
6 30	1 46.35	+28 57.0	0.435	0.915	90.5	20.2	64 W	45* 34*	11 17	1 42.43	-8 56.8	0.879	1.765	20.3	21.2	142 E	36 73
7 5	2 16.26	+30 59.9	0.470	0.897	90.5	20.3	62 W	45* 31*	11 22	1 40.88	-7 59.5	0.938	1.796	21.7	21.4	138 E	37 72
7 10	2 44.38	+32 26.6	0.507	0.883	89.8	20.4	60 W	45* 29*	<b>360521 2003 QD<sub>62</sub></b>								
7 15	3 10.83	+33 24.0	0.546	0.874	88.3	20.5	59 W	45* 28*	4 6	18 13.24	-26 0.2	1.801	2.250	25.7	21.3	103 W	19* 90
7 20	3 35.76	+33 57.5	0.585	0.869	86.3	20.6	59 W	46* 27*	4 16	18 23.76	-26 23.1	1.649	2.211	25.1	21.1	111 W	19* 90
7 25	3 59.32	+34 11.9	0.625	0.869	84.0	20.6	58 W	46* 26*	4 26	18 32.19	-26 49.1	1.504	2.172	24.0	20.8	118 W	18 89
7 30	4 21.63	+34 10.6	0.665	0.874	81.4	20.7	58 W	47* 26*	5 6	18 38.10	-27 20.1	1.370	2.133	22.3	20.5	127 W	18 89
8 4	4 42.79	+33 56.5	0.703	0.883	78.6	20.7	59 W	47* 26*	5 16	18 40.95	-27 57.5	1.247	2.094	19.7	20.2	136 W	17 88
8 9	5 2.84	+33 31.9	0.740	0.896	75.9	20.8	59 W	48* 26*	5 26	18 40.34	-28 41.5	1.138	2.054	16.3	19.8	145 W	16 87
8 14	5 21.79	+32 58.3	0.774	0.914	73.2	20.8	60 W	49* 26*	6 5	18 36.00	-29 30.2	1.047	2.015	12.0	19.4	156 W	15 86
8 19	5 39.69	+32 17.5	0.806	0.936	70.6	20.9	61 W	50* 26*	6 10	18 32.45	-29 55.0	1.009	1.996	9.6	19.3	161 W	15 86
8 24	5 56.56	+31 30.6	0.835	0.960	68.1	20.9	62 W	52* 27*	6 15	18 28.08	-30 19.1	0.976	1.977	7.2	19.1	166 W	15 86
8 29	6 12.41	+30 38.9	0.861	0.988	65.8	21.0	63 W	53* 27*	6 20	18 23.01	-30 41.7	0.948	1.958	5.0	18.9	170 W	14 85
9 3	6 27.26	+29 43.4	0.884	1.017	63.6	21.0	65 W	54* 28*	6 25	18 17.43	-31 1.8	0.926	1.939	4.0	18.7	172 W	14 85
9 8	6 41.11	+28 44.8	0.903	1.049	61.6	21.1	66 W	55* 29*	6 30	18 11.57	-31 18.8	0.910	1.920	5.1	18.7	170 E	14 85
9 13	6 53.95	+27 43.8	0.918	1.082	59.7	21.1	68 W	57* 30*	7 5	18 5.65	-31 32.0	0.899	1.901	7.5	18.8	166 E	13 84
9 18	7 5.81	+26 41.3	0.931	1.117	57.9	21.2	70 W	59* 31*	7 10	17 59.96	-31 41.2	0.893	1.883	10.4	18.9	161 E	13 84
9 23	7 16.70	+25 37.8	0.939	1.152	56.2	21.2	73 W	60* 33*	7 15	17 54.78	-31 46.4	0.893	1.865	13.3	19.0	155 E	13 84
9 28	7 26.62	+24 33.7	0.945	1.188	54.6	21.2	75 W	62* 34*	7 20	17 50.34	-31 48.0	0.897	1.847	16.2	19.1	150 E	13 84
10 3	7 35.56	+23 29.5	0.947	1.225	53.0	21.3	78 W	63* 36*	7 25	17 46.84	-31 46.4	0.905	1.829	18.9	19.2	144 E	13 84
10 8	7 43.49	+22 25.7	0.946	1.262	51.4	21.3	81 W	64* 37*	7 30	17 44.42	-31 42.2	0.918	1.812	21.5	19.3	139 E	13 84
10 13	7 50.39	+21 22.7	0.942	1.299	49.8	21.3	84 W	65* 39*	8 4	17 43.17	-31 35.9	0.933	1.795	23.9	19.3	134 E	13 84
10 18	7 56.24	+20 20.8	0.935	1.336	48.2	21.3	87 W	65* 41*	8 14	17 44.37	-31 19.4	0.973	1.763	28.1	19.5	125 E	14 85
10 23	8 0.99	+19 20.4	0.926	1.372	46.5	21.3	91 W	64* 42*	8 24	17 50.46	-30 59.2	1.021	1.732	31.4	19.7	117 E	14 85
10 28	8 4.59	+18 21.7	0.915	1.409	44.6	21.3	95 W	63* 44*	9 3	18 1.01	-30 35.5	1.075	1.704	33.9	19.8	110 E	14 85
11 2	8 7.00	+17 25.2	0.903	1.445	42.7	21.2	99 W	62* 46*	9 8	18 7.80	-30 21.8	1.104	1.690	34.9	19.9	106 E	15 86
11 7	8 8.12	+16 31.1	0.889	1.481	40.5	21.2	104 W	62* 47*	9 13	18 15.51	-30 6.5	1.133	1.678	35.7	20.0	103 E	15 86
11 12	8 7.91	+15 39.9	0.875	1.517	38.2	21.1	109 W	61* 48*	9 18	18 24.05	-29 49.3	1.163	1.666	36.4	20.0	100 E	15 86
11 17	8 6.31	+14 51.8	0.861	1.552	35.6	21.1	114 W	60 49	9 23	18 33.35	-29 29.8	1.193	1.655	37.0	20.1	97 E	16* 87
11 22	8 3.31	+14 7.3	0.847	1.586	32.9	21.0	119 W	59 50	9 28	18 43.32	-29 7.5	1.224	1.644	37.4	20.1	95 E	16* 87*
11 27	7 58.87	+13 26.6	0.836	1.620	29.8	21.0	125 W	58 51	10 3	18 53.91	-28 42.2	1.255	1.634	37.7	20.2	92 E	16* 86*
12 2	7 53.03	+12 50.1	0.826	1.653	26.6	20.9	131 W	58 51	10 8	19 5.04	-28 13.4	1.287	1.625	37.9	20.2	90 E	17 84*
12 7	7 45.88	+12 18.2	0.820	1.686	23.1	20.8	138 W	57 52	10 13	19 16.65	-27 40.9	1.319	1.617	38.0	20.3	87 E	17 81*
12 12	7 37.60	+11 51.2	0.819	1.718	19.4	20.7	145 W	57 52	10 18	19 28.67	-27 4.5	1.351	1.610	38.1	20.3	85 E	18 79*
12 17	7 28.42	+11 29.1	0.822	1.750	15.7	20.6	151 W	56 53	10 23	19 41.02	-26 23.9	1.383	1.604	38.0	20.4	83 E	19 77*
12 22	7 18.66	+11 12.0	0.831	1.781	12.1	20.6	158 W	56 53	10 28	19 53.66	-25 39.0	1.416	1.598	37.9	20.4	81 E	19 75*
12 27	7 8.65	+11 0.0	0.847	1.811	8												

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

21/22	$\alpha_{2000}$	$\delta_{2000}$	$\Delta$	$r$	$\beta$	$V$	$\psi$	45°	-26°	2021	$\alpha_{2000}$	$\delta_{2000}$	$\Delta$	$r$	$\beta$	$V$	$\psi$	45°	-26°
<b>360521 2003 QD<sub>62</sub></b>										<b>391852 2008 SB<sub>294</sub></b>									
<i>(continuation)</i>										<i>(continuation)</i>									
1 16	23 22.93	-5 28.8	2.017	1.641	28.9	21.0	54 E	35*	34*	5 16	19 7.66	-13 7.4	0.979	1.787	26.6	20.3	128 W	32	77
1 21	23 35.48	-3 56.8	2.060	1.651	28.1	21.0	52 E	35*	32*	5 26	19 13.55	-12 53.0	0.884	1.758	23.7	20.0	136 W	32	77
<b>306614 2000 QL<sub>2</sub></b>										<b>489512 2007 PT<sub>22</sub></b>									
4 6	18 15.15	-40 28.1	2.644	3.023	18.9	21.5	103 W	4*	76	4 6	18 21.06	-39 21.3	1.481	1.944	30.3	21.3	101 W	6*	77
4 16	18 18.48	-40 50.7	2.499	3.011	18.1	21.3	111 W	4	75	4 11	18 30.82	-40 7.6	1.416	1.925	30.3	21.2	104 W	5*	76
4 26	18 18.86	-41 12.3	2.362	2.998	16.9	21.1	120 W	4	75	4 16	18 40.36	-40 54.8	1.353	1.906	30.2	21.1	107 W	4*	75
5 6	18 16.03	-41 30.6	2.237	2.984	15.1	21.0	130 W	3	74	4 21	18 49.65	-41 43.0	1.292	1.888	30.0	20.9	110 W	3*	74
5 16	18 9.85	-41 41.8	2.127	2.969	12.8	20.8	139 W	3	74	4 26	18 58.63	-42 32.6	1.233	1.869	29.8	20.8	113 W	2*	73
5 26	18 0.53	-41 40.7	2.038	2.953	10.2	20.6	149 W	3	74	5 1	19 7.25	-43 23.6	1.177	1.851	29.4	20.7	116 W	2*	73
6 5	17 48.69	-41 22.1	1.973	2.937	7.5	20.4	158 W	4	75	5 6	19 15.43	-44 16.2	1.122	1.833	28.9	20.5	119 W	1*	72
6 10	17 42.15	-41 5.0	1.950	2.928	6.5	20.3	161 W	4	75	5 11	19 23.07	-45 10.6	1.071	1.815	28.3	20.4	121 W	—	71
6 15	17 35.41	-40 42.4	1.934	2.919	6.0	20.2	163 W	4	75	5 16	19 30.09	-46 6.6	1.021	1.798	27.7	20.3	124 W	—	70
6 20	17 28.66	-40 14.3	1.925	2.910	6.1	20.2	162 E	5	76	5 21	19 36.39	-47 4.1	0.975	1.781	26.9	20.1	127 W	—	69
6 25	17 22.09	-39 41.1	1.923	2.900	6.8	20.2	160 E	5	76	5 26	19 41.86	-48 2.7	0.932	1.764	26.0	20.0	130 W	—	68
6 30	17 15.86	-39 3.5	1.928	2.891	8.0	20.3	157 E	6	77	6 1	19 46.39	-49 2.0	0.891	1.748	25.1	19.8	133 W	—	67
7 5	17 10.12	-38 22.1	1.940	2.881	9.4	20.4	153 E	7	78	6 5	19 49.85	-50 1.1	0.854	1.732	24.1	19.7	136 W	—	66
7 10	17 4.99	-37 37.9	1.958	2.870	10.9	20.4	148 E	7	78	6 10	19 52.09	-50 58.8	0.820	1.717	23.1	19.5	138 W	—	65
7 15	17 0.57	-36 51.9	1.983	2.860	12.4	20.5	143 E	8	79	6 15	19 53.03	-51 53.7	0.789	1.702	22.1	19.4	141 W	—	64
7 20	16 56.92	-36 5.0	2.013	2.849	13.8	20.6	138 E	9	80	6 20	19 52.61	-52 43.8	0.761	1.688	21.2	19.3	143 W	—	63
7 25	16 54.08	-35 18.1	2.048	2.839	15.2	20.7	133 E	10	81	6 25	19 50.84	-53 27.0	0.737	1.674	20.4	19.2	145 W	—	63
7 30	16 52.06	-34 31.9	2.087	2.828	16.4	20.7	128 E	10	81	6 30	19 47.77	-54 1.2	0.717	1.661	19.8	19.1	146 W	—	62
8 4	16 50.84	-33 47.0	2.131	2.816	17.6	20.8	123 E	11	82	7 5	19 43.57	-54 24.0	0.700	1.649	19.5	19.0	147 W	—	62
8 9	16 50.42	-33 3.9	2.178	2.805	18.5	20.9	118 E	12*	83	7 10	19 38.51	-54 33.1	0.686	1.637	19.5	18.9	147 W	—	61
8 14	16 50.75	-32 22.8	2.227	2.793	19.4	20.9	114 E	12*	84	7 15	19 32.98	-54 26.9	0.676	1.626	19.8	18.9	147 E	—	62
8 19	16 51.81	-31 44.0	2.279	2.781	20.1	21.0	109 E	13*	84	7 20	19 27.46	-54 4.5	0.670	1.616	20.5	18.9	146 E	—	62
8 24	16 53.56	-31 7.5	2.333	2.769	20.7	21.1	105 E	13*	85	7 25	19 22.38	-53 25.9	0.667	1.607	21.4	18.9	145 E	—	63
8 29	16 55.93	-30 33.2	2.389	2.757	21.1	21.1	100 E	14*	85	8 4	19 15.02	-51 23.6	0.671	1.599	22.6	18.9	143 E	—	63
9 3	16 58.90	-30 1.1	2.445	2.744	21.4	21.2	96 E	14*	86*	8 9	19 13.24	-50 3.0	0.678	1.584	25.4	19.0	138 E	—	66
9 8	17 2.44	-29 31.1	2.501	2.731	21.6	21.2	92 E	14*	85*	8 14	19 12.92	-48 32.2	0.689	1.578	26.9	19.1	135 E	—	67
9 13	17 6.49	-29 2.8	2.558	2.718	21.7	21.3	88 E	14*	81*	8 19	19 14.06	-46 53.3	0.702	1.574	28.3	19.2	132 E	—	69
9 18	17 11.02	-28 36.2	2.614	2.705	21.7	21.3	84 E	15*	78*	8 24	19 16.59	-45 8.4	0.718	1.570	29.7	19.3	130 E	—	71
9 23	17 15.99	-28 10.8	2.670	2.691	21.6	21.3	80 E	15*	74*	8 29	19 20.37	-43 19.0	0.737	1.567	31.1	19.3	127 E	2	73
9 28	17 21.37	-27 46.6	2.724	2.677	21.4	21.4	77 E	15*	71*	9 3	19 25.28	-41 26.7	0.758	1.565	32.3	19.4	124 E	4	75
10 3	17 27.14	-27 23.2	2.778	2.664	21.1	21.4	73 E	15*	67*	9 8	19 31.19	-39 32.5	0.782	1.564	33.4	19.5	121 E	5	76
10 8	17 33.26	-27 0.4	2.830	2.649	20.7	21.4	69 E	15*	63*	9 13	19 37.97	-37 37.5	0.809	1.564	34.4	19.6	119 E	7	78
10 13	17 39.71	-26 38.0	2.880	2.635	20.2	21.4	66 E	15*	60*	9 18	19 45.50	-35 42.3	0.838	1.565	35.3	19.7	116 E	9	80
10 18	17 46.46	-26 15.6	2.928	2.621	19.7	21.4	62 E	15*	56*	9 23	19 53.63	-33 47.5	0.869	1.567	36.0	19.8	113 E	11	82
10 23	17 53.48	-25 53.1	2.974	2.606	19.1	21.4	59 E	15*	53*	9 28	20 2.26	-31 53.4	0.903	1.570	36.6	19.9	111 E	13	84
10 28	18 0.77	-25 30.2	3.017	2.591	18.5	21.4	56 E	15*	49*	10 3	20 11.31	-30 0.4	0.939	1.574	37.1	20.0	108 E	15	86
11 2	18 8.29	-25 6.7	3.058	2.576	17.8	21.4	52 E	15*	46*	10 8	20 20.70	-28 8.5	0.977	1.579	37.5	20.2	106 E	17	88
11 7	18 16.02	-24 42.4	3.096	2.560	17.0	21.4	49 E	15*	42*	10 13	20 30.37	-26 17.8	1.016	1.585	37.7	20.3	104 E	19	90
11 12	18 23.96	-24 17.2	3.132	2.545	16.2	21.4	46 E	15*	39*	10 18	20 40.26	-24 28.5	1.058	1.591	37.8	20.4	101 E	21	88
11 17	18 32.08	-23 50.7	3.164	2.529	15.4	21.4	43 E	15*	35*	10 23	20 50.30	-22 40.6	1.102	1.599	37.9	20.5	99 E	22	87
11 22	18 40.37	-23 23.0	3.193	2.513	14.5	21.3	40 E	14*	32*										
11 27	18 48.80	-22 53.7	3.220	2.497	13.6	21.3	37 E	14*	28*										
12 2	18 57.37	-22 22.8	3.242	2.481	12.7	21.3	34 E	14*	25*										
12 7	19 6.06	-21 50.2	3.262	2.465	11.7	21.2	31 E	13*	21*										
12 12	19 14.86	-21 15.7	3.278	2.448	10.7	21.2	28 E	12*	18*										
12 17	19 23.75	-20 39.2	3.291	2.431	9.7	21.2	25 E	11*	15*										
12 22	19 32.72	-20 0.7	3.301	2.414	8.7	21.1	22 E	10*	12*										
12 27	19 41.76	-19 20.0	3.307	2.397	7.6	21.0	19 E	9*	8*										
1 1	19 50.87	-18 37.0	3.309	2.380	6.6	21.0	16 E	7*	6*										
1 6	20 0.04	-17 51.8	3.309	2.363	5.5	20.9	13 E	6*	3*										
1 11	20 9.24	-17 4.3	3.304	2.345	4.5	20.8	11 E	4*	—										
1 16	20 18.48	-16 14.3	3.297	2.328	3.5	20.8	8 E	2*	—										
1 21	20 27.75	-15 22.0	3.286	2.310	2.6	20.7	6 E	—	—										
<b>495195 2013 BX<sub>22</sub></b>										<b>391852 2008 SB<sub>294</sub></b>									
4 6	18 19.52	-24 0.8	1.954	2.369	24.4	21.5	102 W	21*	88	4 6	18 19.55	-15 6.1	1.446	1.912	30.9	21.4	101 W	30*	79
4 16	18 23.55	-22 51.3	1.860	2.403	23.0	21.3	111 W	22*	87	4 16	18 34.44	-14 36.2	1.318	1.879	30.7	21.2	107 W	30*	79
4 26	18 24.37	-21 36.6	1.772	2.437	20.9	21.2	120 W	23	86	4 26	18 47.67	-14 4.0	1.197	1.847	29.9	20.9	114 W	31*	78
5 6	18 21.89	-20 17.4	1.696	2.470	18.2	21.1													

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

21/22	$\alpha_{2000}$	$\delta_{2000}$	$\Delta$	$r$	$\beta$	$V$	$\psi$	$45^\circ$ - $26^\circ$	2021	$\alpha_{2000}$	$\delta_{2000}$	$\Delta$	$r$	$\beta$	$V$	$\psi$	$45^\circ$ - $26^\circ$		
<b>489512 2007 PT<sub>22</sub></b> (continuation)									<b>24443 2000 OG</b>										
11 2	21 10.73	-19 8.8	1.195	1.617	37.7	20.6	95 E	26 82*	4 6	18 41.59	+5 19.3	2.402	2.663	22.0	21.5	94 W	49*	59	
11 12	21 31.45	-15 42.4	1.294	1.638	37.2	20.8	91 E	29 76*	4 16	18 46.95	+7 23.6	2.200	2.582	22.5	21.2	101 W	52*	57	
11 22	21 52.29	-12 21.1	1.400	1.662	36.4	21.0	86 E	33 69*	4 26	18 50.34	+9 43.0	2.003	2.498	22.6	21.0	108 W	55*	54	
12 2	22 13.14	-9 4.7	1.511	1.689	35.3	21.2	82 E	36 62*	5 6	18 51.33	+12 17.0	1.815	2.411	22.4	20.7	114 W	57	52	
12 12	22 33.97	-5 53.2	1.626	1.718	34.1	21.3	78 E	39 55*	5 16	18 49.32	+15 4.1	1.637	2.320	22.1	20.4	120 W	60	49	
12 22	22 54.74	-2 46.5	1.744	1.749	32.7	21.5	74 E	42*	48*	5 21	18 46.99	+16 31.4	1.554	2.273	21.8	20.2	123 W	62	47
<b>274834 2009 QR<sub>9</sub></b>									<b>484549 2008 GW<sub>73</sub></b>										
4 6	18 25.89	-14 36.1	2.291	2.650	21.9	21.4	100 W	30*	79	4 6	18 44.12	-24 14.3	4.463	4.676	12.3	21.4	96 W	20*	88
4 16	18 32.90	-14 1.0	2.123	2.608	21.5	21.2	108 W	31*	78	4 16	18 47.11	-24 25.0	4.310	4.675	12.0	21.3	105 W	20*	88
4 26	18 37.89	-13 24.4	1.960	2.566	20.7	20.9	116 W	32	77	4 26	18 48.62	-24 38.1	4.164	4.674	11.3	21.2	115 W	20*	89
5 6	18 40.58	-12 48.1	1.808	2.522	19.2	20.7	125 W	32	77	5 6	18 48.62	-24 53.7	4.029	4.673	10.3	21.1	124 W	20	89
5 16	18 40.63	-12 14.4	1.667	2.478	17.1	20.4	134 W	33	76	5 16	18 47.07	-25 11.5	3.909	4.672	8.9	21.0	134 W	20	89
5 26	18 37.84	-11 45.8	1.543	2.434	14.3	20.1	144 W	33	76	5 26	18 44.07	-25 31.0	3.808	4.671	7.2	20.9	145 W	19	90
6 5	18 32.21	-11 25.2	1.437	2.389	10.9	19.8	154 W	34	75	6 5	18 39.78	-25 51.4	3.730	4.671	5.2	20.7	155 W	19	90
6 15	18 23.98	-11 15.0	1.353	2.343	7.3	19.4	163 W	34	75	6 15	18 34.49	-26 11.4	3.679	4.670	3.1	20.6	166 W	19	90
6 25	18 13.90	-11 17.6	1.293	2.297	5.3	19.2	168 W	34	75	6 25	18 28.58	-26 30.1	3.656	4.670	1.0	20.4	176 W	18	89
7 5	18 3.07	-11 33.8	1.259	2.251	7.6	19.2	163 W	33	76	7 5	18 22.50	-26 46.5	3.662	4.669	1.9	20.5	171 E	18	89
7 15	17 52.82	-12 3.4	1.248	2.204	11.9	19.3	153 W	33	76	7 15	18 16.72	-27 0.1	3.697	4.669	4.1	20.7	161 E	18	89
7 25	17 44.52	-12 44.9	1.259	2.158	16.5	19.5	143 W	32	77	7 25	18 11.70	-27 10.8	3.759	4.669	6.2	20.8	150 E	18	89
8 4	17 39.15	-13 35.7	1.288	2.111	20.7	19.6	133 W	31	78	8 4	18 7.79	-27 18.9	3.846	4.669	8.0	20.9	140 E	18	89
8 14	17 37.30	-14 33.0	1.332	2.065	24.3	19.7	123 W	30	79	8 14	18 5.24	-27 24.8	3.954	4.669	9.6	21.1	130 E	18	89
8 24	17 39.20	-15 33.5	1.384	2.019	27.2	19.9	114 W	29	80	8 24	18 4.23	-27 29.0	4.080	4.669	10.8	21.2	120 E	18	89
9 3	17 44.77	-16 34.4	1.443	1.973	29.5	20.0	106 W	28*	81	9 3	18 4.78	-27 31.9	4.218	4.670	11.7	21.3	111 E	17	88
9 13	17 53.80	-17 32.8	1.506	1.928	31.1	20.0	98 W	27*	82	9 13	18 6.89	-27 33.9	4.366	4.670	12.2	21.4	101 E	17*	88
9 23	18 6.01	-18 25.8	1.569	1.885	32.2	20.1	92 E	26*	81*	9 23	18 10.48	-27 34.9	4.519	4.670	12.4	21.5	92 E	17*	86*
10 3	18 21.08	-19 10.7	1.631	1.842	32.8	20.2	85 E	25*	77*	<b>340093 2005 WR<sub>56</sub></b>									
10 13	18 38.74	-19 45.0	1.691	1.801	33.0	20.2	80 W	25*	72*	4 6	19 9.28	-21 26.9	1.962	2.203	27.0	21.4	90 W	22*	83*
10 23	18 58.69	-20 6.0	1.748	1.762	32.9	20.2	74 W	24*	66*	4 16	19 23.18	-21 14.9	1.816	2.174	27.3	21.2	97 W	22*	85
11 2	19 20.62	-20 11.7	1.802	1.725	32.6	20.2	69 W	24*	61*	4 26	19 35.60	-21 4.3	1.673	2.144	27.2	21.0	103 W	23*	85
11 12	19 44.26	-20 0.0	1.853	1.690	32.0	20.2	65 W	24*	55*	5 6	19 46.28	-20 57.8	1.535	2.114	26.5	20.8	111 W	23*	85
11 22	20 9.32	-19 29.4	1.901	1.659	31.3	20.2	61 E	24*	50*	5 16	19 54.83	-20 58.4	1.403	2.084	25.3	20.5	118 W	24*	85
12 2	20 35.50	-18 39.1	1.947	1.631	30.4	20.2	57 E	25*	45*	5 26	20 0.84	-21 9.3	1.281	2.054	23.3	20.2	127 W	24*	85
12 12	21 2.54	-17 28.7	1.990	1.606	29.4	20.2	53 E	25*	40*	6 5	20 3.90	-21 33.2	1.169	2.023	20.5	19.9	136 W	23	86
12 22	21 30.19	-15 58.8	2.032	1.585	28.3	20.2	50 E	26*	36*	6 15	20 3.59	-22 12.0	1.072	1.994	16.8	19.5	145 W	23	86
1 1	21 58.22	-14 10.6	2.074	1.569	27.1	20.2	47 E	26*	32*	6 25	19 59.72	-23 5.4	0.992	1.964	12.2	19.2	156 W	22	87
1 11	22 26.47	-12 6.0	2.115	1.557	25.8	20.2	44 E	26*	28*	6 30	19 56.51	-23 36.7	0.958	1.949	9.6	19.0	161 W	21	88
1 21	22 54.77	-9 47.5	2.158	1.551	24.4	20.2	41 E	26*	25*	7 5	19 52.52	-24 10.0	0.930	1.935	6.8	18.8	167 W	21	88
<b>394420 2007 HH<sub>69</sub></b>									<b>484549 2008 GW<sub>73</sub></b>										
4 6	18 31.61	-15 22.9	1.115	1.602	38.2	21.5	98 W	29*	79	4 6	18 44.12	-24 14.3	4.463	4.676	12.3	21.4	96 W	20*	88
4 16	18 53.02	-13 36.0	1.035	1.592	37.9	21.3	103 W	31*	78	4 16	18 47.11	-24 25.0	4.310	4.675	12.0	21.3	105 W	20*	88
4 26	19 12.27	-11 35.1	0.961	1.585	37.3	21.1	107 W	33*	76	4 26	18 48.62	-24 38.1	4.164	4.674	11.3	21.2	115 W	20*	89
5 6	19 28.95	-9 25.4	0.894	1.582	36.1	20.9	112 W	35*	73	5 6	18 48.62	-24 53.7	4.029	4.673	10.3	21.1	124 W	20	89
5 16	19 42.56	-7 12.8	0.833	1.583	34.4	20.7	118 W	38*	71	5 16	18 47.07	-25 11.5	3.909	4.672	8.9	21.0	134 W	20	89
5 26	19 52.71	-5 5.2	0.780	1.587	32.0	20.5	124 W	40	69	5 26	18 44.07	-25 31.0	3.808	4.671	7.2	20.9	145 W	19	90
6 5	19 59.06	-3 10.8	0.735	1.595	28.8	20.3	131 W	42	67	6 5	18 39.78	-25 51.4	3.730	4.671	5.2	20.7	155 W	19	90
6 10	20 0.73	-2 21.6	0.716	1.600	27.0	20.2	134 W	43	66	6 15	18 34.49	-26 11.4	3.679	4.670	3.1	20.6	166 W	19	90
6 15	20 1.39	-1 39.5	0.699	1.606	25.0	20.1	138 W	43	66	6 25	18 28.58	-26 30.1	3.656	4.670	1.0	20.4	176 W	18	89
6 20	20 1.09	-1 5.6	0.686	1.613	22.9	20.0	142 W	44	65	7 5	18 22.50	-26 46.5	3.662	4.669	1.9	20.5	171 E	18	89
6 25	19 59.91	0 40.9	0.675	1.620	20.6	19.9	146 W	44	65	7 15	18 16.72	-27 0.1	3.697	4.669	4.1	20.7	161 E	18	89
6 30	19 57.96	0 26.2	0.668	1.629	18.4	19.8	150 W	45	64	7 25	18 11.70	-27 10.8	3.759	4.669	6.2	20.8	150 E	18	89
7 5	19 55.36	0 22.1	0.664	1.638	16.2	19.8	153 W	45	64	8 4	18 7.79	-27 18.9	3.846	4.669	8.0	20.9	140 E	18	89
7 15	19 48.98	-0 45.9	0.669	1.658	12.7	19.7	159 W	44	65	8 14	18 5.24	-27 24.8	3.954	4.669	9.6	21.1	130 E	18	89
7 25	19 42.51	-1 47.7	0.690	1.681	11.8	19.7	160 E	43	66	8 24	18 4.23	-27 29.0	4.080	4.669	10.8	21.2	120 E	18	89
8 4	19 37.55	-3 16.6	0.729	1.707	13.9	20.0	156 E	42	67	9 3	18 4.78	-27 31.9	4.218	4.670	11.7	21.3	111 E	17	88
8 9	19 36.03	-4 7.0	0.755	1.721	15.6	20.1	153 E	41	68	9 13	18 6.89	-27 33.9	4.366	4.670	12.2	21.4	101 E	17*	88
8 14	19 35.29	-4 59.2	0.785	1.735	17.4	20.3	149 E	40	69	9 23	18 10.48	-27 34.9	4.519	4.670	12.4	21.5	92 E	17*	86*
8 19	19 35.40	-5 51.5	0.819	1.749	19.2	20.5	145 E	39	70	<b>340093 2005 WR<sub>56</sub></b>									
8 24	19 36.37	-6 42.6	0.857	1.764	20.9	20.6	142 E	38	71	4 6	19 9.28	-21 26.9	1.962	2.203	27.0	21.4	90 W	22*	83*
8 29	19 38.17	-7 31.5	0.899	1.780	22.5	20.8	138 E	37	72	4 16	19 23.18	-21 14.9	1.816	2.174	27.3	21.2	97 W	22*	85
9 3	19 40.78	-8 17.4	0.944	1.796	23.9	21.0	134 E	37	72	4 26	19 35.60	-21 4.3	1.673	2.144	27.2	21.0	103 W	23*	85
9 8	19 44.17	-8 59.6	0.992	1.812	25.2	21.1	130 E	36	73	5 6	19 46.28	-20 57.8	1.535	2.114	26.5	20.8	111 W	23*	85
9 13	19 48.28	-9 37.6	1.043	1.828	26.3	21.3	126 E	35	74	5 16	19 54.83	-20 58.4	1.403	2.084	25.3	20.5	118 W	24*	85
9 18	19 53.05	-10 11.1	1.097	1.845	27.3	21.5	123 E	35	74	5 26	20 0.84	-21 9.3	1.281	2.054	23.3	20.2	127 W	24*	



EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

21/22	$\alpha_{2000}$	$\delta_{2000}$	$\Delta$	$r$	$\beta$	$V$	$\psi$	45°	-26°	21/22	$\alpha_{2000}$	$\delta_{2000}$	$\Delta$	$r$	$\beta$	$V$	$\psi$	45°	-26°
<b>340093 2005 WR<sub>56</sub></b> (continuation)										<b>278327 2007 HA<sub>59</sub></b> (continuation)									
9 28	19 36.72	-27 31.6	1.147	1.725	33.8	19.9	107 E	17	88	6 26	17 56.04	-77 14.5	2.377	3.086	15.4	20.4	126 E	-	39
10 3	19 43.97	-27 12.2	1.183	1.716	34.6	20.0	103 E	18	89	6 27	17 50.47	-77 20.6	2.373	3.080	15.5	20.4	126 E	-	39
10 8	19 51.95	-26 49.1	1.219	1.708	35.2	20.0	100 E	18	89	6 28	17 44.81	-77 25.9	2.369	3.074	15.6	20.4	126 E	-	39
10 13	20 05.8	-26 22.4	1.256	1.700	35.6	20.1	97 E	19	90	6 29	17 39.08	-77 30.4	2.366	3.068	15.7	20.4	125 E	-	38
10 18	20 9.79	-25 51.8	1.293	1.693	35.9	20.2	94 E	19	88*	6 30	17 33.30	-77 34.2	2.362	3.062	15.8	20.4	125 E	-	38
10 23	20 19.49	-25 17.3	1.330	1.686	36.2	20.2	92 E	20	85*	7 1	17 27.47	-77 37.3	2.359	3.056	15.9	20.4	125 E	-	38
10 28	20 29.62	-24 38.9	1.368	1.680	36.3	20.3	89 E	20	82*	7 2	17 21.63	-77 39.5	2.356	3.050	15.9	20.3	125 E	-	38
11 2	20 40.13	-23 56.5	1.406	1.674	36.3	20.3	87 E	21	79*	7 3	17 15.78	-77 41.0	2.353	3.043	16.0	20.3	124 E	-	38
11 12	21 2.08	-22 19.6	1.483	1.665	36.1	20.4	82 E	23	74*	7 4	17 9.95	-77 41.8	2.351	3.037	16.1	20.3	124 E	-	38
11 22	21 24.92	-20 27.1	1.561	1.659	35.6	20.5	78 E	25	68*	7 5	17 4.15	-77 41.7	2.349	3.031	16.2	20.3	124 E	-	38
12 2	21 48.34	-18 20.2	1.640	1.655	34.8	20.6	73 E	27	62*	7 6	16 58.40	-77 41.0	2.346	3.025	16.3	20.3	123 E	-	38
12 12	22 12.12	-16 0.1	1.719	1.654	33.9	20.7	69 E	29*	56*	7 7	16 52.71	-77 39.5	2.344	3.018	16.5	20.3	123 E	-	38
12 22	22 36.06	-13 28.9	1.798	1.655	32.8	20.7	66 E	31*	50*	7 8	16 47.11	-77 37.2	2.343	3.012	16.6	20.3	122 E	-	38
1	23 0.06	-10 48.8	1.879	1.660	31.5	20.8	62 E	33*	44*	7 9	16 41.60	-77 34.3	2.341	3.006	16.7	20.3	122 E	-	38
1 11	23 24.07	-8 2.0	1.959	1.667	30.1	20.9	58 E	35*	39*	7 10	16 36.21	-77 30.8	2.340	2.999	16.8	20.3	122 E	-	38
1 21	23 48.03	-5 11.2	2.041	1.676	28.6	20.9	55 E	35*	35*	7 11	16 30.93	-77 26.5	2.339	2.993	16.9	20.3	121 E	-	39
<b>270893 2002 TO<sub>247</sub></b>										<b>513170 2004 KH<sub>15</sub></b>									
4 6	19 14.29	-25 5.6	1.574	1.855	32.6	21.4	89 W	18*	83*	4 6	19 41.27	+ 7 17.1	0.708	1.108	62.3	21.5	79 W	46*	54*
4 16	19 35.12	-25 8.7	1.453	1.829	33.2	21.2	94 W	18*	88*	4 11	19 52.21	+ 5 52.5	0.675	1.114	62.6	21.4	81 W	45*	56*
4 26	19 55.09	-25 10.6	1.337	1.804	33.3	21.0	100 W	18*	89	4 16	20 3.53	+ 4 16.8	0.639	1.118	62.9	21.3	83 W	43*	59*
5 6	20 13.96	-25 14.4	1.225	1.780	33.1	20.8	105 W	18*	89	4 21	20 15.38	+ 2 26.9	0.603	1.121	63.2	21.2	84 W	42*	61*
5 16	20 31.41	-25 23.6	1.120	1.758	32.5	20.5	111 W	18*	89	4 26	20 27.93	+ 0 19.7	0.566	1.123	63.4	21.1	86 W	40*	63*
5 26	20 47.07	-25 41.8	1.022	1.737	31.3	20.3	117 W	18*	90	5 1	20 41.42	+ 2 8.7	0.528	1.124	63.6	20.9	88 W	37*	66*
6 5	21 0.54	-26 12.7	0.933	1.718	29.4	20.0	124 W	18*	90	5 6	20 56.13	+ 5 3.1	0.490	1.125	63.8	20.8	90 W	34*	69
6 15	21 11.22	-26 59.7	0.852	1.701	26.8	19.7	131 W	18*	89	5 11	21 12.40	+ 8 28.6	0.454	1.124	63.9	20.6	92 W	31*	72
6 25	21 18.56	-28 4.0	0.783	1.685	23.5	19.4	139 W	17	88	5 16	21 30.73	+ 12 30.7	0.420	1.122	64.0	20.4	94 W	26*	77
6 30	21 20.83	-28 42.2	0.753	1.679	21.6	19.3	143 W	16	87	5 21	21 51.74	+ 17 13.0	0.389	1.119	64.1	20.3	96 W	21*	81
7 5	21 22.08	-29 23.7	0.727	1.672	19.5	19.1	147 W	16	87	5 26	22 16.26	+ 22 35.5	0.363	1.116	64.4	20.1	97 W	16*	87
7 10	21 22.27	-30 7.4	0.704	1.667	17.3	19.0	151 W	15	86	7 17	16 2.42	-76 49.3	2.335	2.954	17.6	20.3	118 E	-	39
7 15	21 21.44	-30 51.8	0.684	1.662	15.1	18.8	155 W	14	85	7 19	15 54.25	-76 33.0	2.335	2.941	17.9	20.3	117 E	-	39
7 20	21 19.65	-31 35.3	0.669	1.657	12.9	18.7	159 W	13	84	7 21	15 46.78	-76 15.3	2.336	2.928	18.2	20.3	116 E	-	40
7 25	21 17.02	-32 15.7	0.658	1.654	11.2	18.6	162 W	13	84	7 23	15 40.01	-75 56.2	2.337	2.915	18.4	20.3	115 E	-	40
7 30	21 13.73	-32 51.2	0.652	1.651	10.1	18.5	163 W	12	83	7 25	15 33.91	-75 36.2	2.339	2.902	18.7	20.3	114 E	-	40
8 4	21 9.98	-33 19.9	0.649	1.648	10.0	18.5	164 W	12	83	7 27	15 28.48	-75 15.3	2.341	2.888	18.9	20.3	113 E	-	41
8 9	21 6.05	-33 40.2	0.652	1.646	10.9	18.5	162 E	11	82	7 29	15 23.68	-74 53.8	2.344	2.875	19.2	20.3	111 E	-	41
8 14	21 2.24	-33 51.0	0.658	1.645	12.6	18.6	159 E	11	82	7 31	15 19.48	-74 31.7	2.347	2.861	19.4	20.3	110 E	-	41
8 19	20 58.84	-33 51.7	0.669	1.645	14.7	18.7	156 E	11	82	8 2	15 15.85	-74 9.4	2.351	2.848	19.7	20.3	109 E	-	42
8 24	20 56.09	-33 42.6	0.683	1.645	17.0	18.9	152 E	11	82	8 4	15 12.76	-73 46.9	2.355	2.834	19.9	20.3	108 E	-	42
8 29	20 54.16	-33 24.2	0.702	1.645	19.2	19.0	148 E	12	83	8 6	15 10.16	-73 24.4	2.359	2.820	20.2	20.3	107 E	-	43
9 3	20 53.18	-32 57.3	0.724	1.647	21.4	19.1	143 E	12	83	8 8	15 8.04	-73 1.9	2.364	2.806	20.4	20.3	105 E	-	43
9 8	20 53.23	-32 22.7	0.749	1.649	23.5	19.3	139 E	13	84	8 10	15 6.36	-72 39.6	2.369	2.793	20.6	20.3	104 E	-	43*
9 13	20 54.34	-31 41.6	0.777	1.652	25.4	19.4	135 E	13	84	8 12	15 5.09	-72 17.6	2.374	2.778	20.8	20.3	103 E	-	44*
9 18	20 56.50	-30 54.7	0.809	1.655	27.1	19.5	131 E	14	85	8 14	15 4.21	-71 55.9	2.379	2.764	21.1	20.3	101 E	-	44*
9 23	20 59.63	-30 3.0	0.843	1.659	28.6	19.7	128 E	15	86	8 16	15 3.68	-71 34.6	2.385	2.750	21.3	20.3	100 E	-	44*
9 28	21 3.66	-29 7.3	0.879	1.664	29.9	19.8	124 E	16	87	8 18	15 3.49	-71 13.8	2.390	2.736	21.4	20.3	99 E	-	44*
10 3	21 8.50	-28 8.1	0.918	1.669	31.0	20.0	121 E	17	88	8 20	15 3.61	-70 53.5	2.396	2.721	21.6	20.3	98 E	-	44*
10 8	21 14.07	-27 5.8	0.959	1.675	31.9	20.1	118 E	18	89	8 22	15 4.02	-70 33.8	2.402	2.707	21.8	20.3	96 E	-	45*
10 13	21 20.30	-26 0.8	1.003	1.682	32.7	20.2	114 E	19	90	8 24	15 4.71	-70 14.6	2.408	2.692	22.0	20.3	95 E	-	45*
10 18	21 27.09	-24 53.5	1.048	1.689	33.3	20.3	111 E	20	89	8 29	15 7.53	-69 29.2	2.423	2.655	22.3	20.3	92 E	-	45*
10 23	21 34.36	-23 44.1	1.094	1.696	33.8	20.5	108 E	21	88	9 3	15 11.78	-68 47.8	2.438	2.618	22.7	20.3	89 E	-	44*
10 28	21 42.04	-22 32.9	1.143	1.705	34.2	20.6	106 E	22	87	9 8	15 17.31	-68 10.3	2.452	2.580	22.9	20.3	86 E	-	44*
11 2	21 50.07	-21 20.0	1.193	1.713	34.4	20.7	103 E	24	85	9 13	15 23.99	-67 36.9	2.465	2.541	23.1	20.3	83 E	-	43*
11 7	21 58.41	-20 5.7	1.244	1.722	34.5	20.8	100 E	25	84	9 18	15 31.72	-67 7.2	2.476	2.502	23.3	20.3	80 E	-	43*
11 12	22 7.00	-18 50.0	1.297	1.732	34.5	20.9	98 E	26	83*	9 23	15 40.44	-66 41.0	2.486	2.462	23.4	20.2	77 E	-	42*
11 17	22 15.79	-17 33.2	1.351	1.742	34.4	21.0	95 E	27	80*	9 28	15 50.09	-66 17.9	2.494	2.422	23.5	20.2	74 E	-	41*
11 22	22 24.76	-16 15.4	1.407	1.752	34.3	21.1	92 E	29	77*	10 3	16 0.65	-65 57.5	2.499	2.381	23.5	20.2	72 E	-	40*
11 27	22 33.86	-14 56.7	1.463	1.763	34.0	21.2	90 E	30	74*	10 13	16 24.43	-65 22.8	2.502	2.297	23.5	20.1	67 E	-	39*
12 2	22 43.09	-13 37.4	1.520	1.774	33.7	21.3	87 E	31	71*	10 23	16 51.63	-64 52.4	2.494	2.210	23.4	20.0	62 E	-	37*
12 7	22 52.41	-12 17.5	1.579	1.786	33.3	21.3	85 E	33	67*	11 2	17 22.18	-64 20.7	2.474	2.120	23.4	19.9	58 E	-	36*
12 12	23 1.82	-10 57.2	1.638	1.798	32.9	21.4	83 E	34	64*	11 7	17 38.67	-64 2.4	2.459	2.074	23.3	19.8	56 E	-	35*
<b>278327 2007 HA<sub>59</sub></b>										<b>513170 2004 KH<sub>15</sub></b>									
4 6	19 28.02	-57 6.7	3.350	3.521	16.5	21.4	91 W	-	58*	4 6	19 41.27	+ 7 17.1	0.708	1.108	62.3	21.5	79 W	46*	54*
4 11	19 32.55	-58 8.8	3.264	3.497	16.6	21.4	95 W	-											

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

2021	$\alpha_{2000}$	$\delta_{2000}$	$\Delta$	$r$	$\beta$	$V$	$\psi$	45°	-26°	2021	$\alpha_{2000}$	$\delta_{2000}$	$\Delta$	$r$	$\beta$	$V$	$\psi$	45°	-26°
<b>513170 2004 KH<sub>15</sub></b>										<b>463387 2013 CT<sub>82</sub></b>									
<i>(continuation)</i>										<i>(continuation)</i>									
5 28	22 27.28	-24 54.4	0.354	1.114	64.5	20.1	97 W	13*	89	7 25	5 16.71	+24 12.3	1.183	0.801	57.8	20.2	42 W	27*	25*
5 30	22 39.08	-27 17.5	0.346	1.112	64.7	20.0	97 W	10*	89	7 30	5 40.15	+24 24.0	1.237	0.821	54.7	20.2	41 W	27*	24*
6 1	22 51.73	-29 43.8	0.339	1.110	65.0	20.0	97 W	7*	86	8 4	6 2.52	+24 22.6	1.290	0.847	51.8	20.3	41 W	28*	24*
6 3	23 5.30	-32 11.4	0.334	1.108	65.3	19.9	97 W	5*	84*	8 9	6 23.76	+24 9.8	1.340	0.878	49.2	20.4	41 W	28*	23*
6 5	23 19.85	-34 38.6	0.330	1.105	65.6	19.9	97 W	2*	81*	8 14	6 43.87	+23 47.5	1.388	0.913	46.8	20.5	41 W	29*	23*
6 7	23 35.40	-37 3.2	0.327	1.103	66.0	19.9	97 W	—	78*	8 19	7 2.84	+23 17.3	1.433	0.952	44.8	20.6	42 W	30*	22*
6 9	23 51.98	-39 22.7	0.325	1.100	66.5	19.9	96 W	—	76*	8 24	7 20.72	+22 40.8	1.474	0.994	43.1	20.7	42 W	31*	22*
6 11	0 9.55	-41 34.7	0.325	1.097	67.0	19.9	96 W	—	73*	8 29	7 37.54	+21 59.3	1.512	1.037	41.7	20.8	43 W	32*	22*
6 13	0 28.07	-43 37.1	0.326	1.094	67.6	19.9	95 W	—	70*	9 3	7 53.35	+21 14.0	1.547	1.083	40.5	20.9	44 W	34*	23*
6 15	0 47.42	-45 27.6	0.328	1.091	68.2	20.0	94 W	—	68*	9 8	8 8.20	+20 25.9	1.578	1.129	39.5	21.0	45 W	35*	23*
6 17	1 7.44	-47 4.8	0.331	1.088	68.8	20.0	94 W	—	65*	9 13	8 22.14	+19 35.9	1.605	1.176	38.7	21.1	47 W	37*	24*
6 19	1 27.91	-48 27.5	0.336	1.084	69.4	20.0	93 W	—	63*	9 18	8 35.21	+18 44.7	1.628	1.223	38.0	21.2	49 W	38*	25*
6 21	1 48.59	-49 35.3	0.342	1.081	70.0	20.1	92 W	—	61*	9 23	8 47.48	+17 52.9	1.647	1.271	37.5	21.3	50 W	40*	26*
6 23	2 9.21	-50 28.1	0.348	1.077	70.6	20.1	90 W	—	59*	9 28	8 58.98	+17 1.1	1.662	1.319	37.1	21.4	52 W	42*	27*
6 25	2 29.51	-51 6.7	0.356	1.073	71.2	20.2	89 W	—	57*	10 3	9 9.74	+16 9.7	1.674	1.366	36.7	21.5	55 W	44*	28*
6 27	2 49.25	-51 32.0	0.364	1.069	71.8	20.3	88 W	—	55*	<b>391938 2008 UY<sub>366</sub></b>									
6 29	3 8.24	-51 45.5	0.373	1.065	72.4	20.3	87 W	—	53*	4 6	20 15.74	-22 18.1	1.713	1.746	33.6	21.4	75 W	16*	69*
7 1	3 26.32	-51 48.6	0.383	1.061	72.9	20.4	86 W	—	52*	4 16	20 41.07	-21 38.1	1.610	1.727	34.8	21.3	79 W	16*	73*
7 3	3 43.41	-51 42.8	0.393	1.057	73.4	20.5	85 W	—	51*	4 26	21 5.89	-20 51.8	1.510	1.709	35.8	21.1	83 W	16*	77*
7 5	3 59.44	-51 29.7	0.403	1.052	73.8	20.5	84 W	—	50*	5 6	21 30.07	-20 1.7	1.414	1.693	36.5	21.0	87 W	17*	80*
7 7	4 14.42	-51 10.5	0.414	1.048	74.3	20.6	83 W	—	49*	5 16	21 53.41	-19 10.8	1.322	1.680	37.0	20.8	91 W	18*	83*
7 9	4 28.37	-50 46.4	0.424	1.043	74.7	20.6	82 W	—	48*	5 26	22 15.73	-18 22.4	1.234	1.669	37.2	20.7	95 W	19*	82*
7 11	4 41.32	-50 18.5	0.435	1.038	75.0	20.7	81 W	—	47*	6 5	22 36.81	-17 40.0	1.150	1.660	37.0	20.5	100 W	21*	82*
7 13	4 53.35	-49 47.5	0.447	1.033	75.3	20.8	80 W	—	46*	6 15	22 56.32	-17 7.3	1.071	1.655	36.4	20.3	105 W	23*	81*
7 15	5 4.50	-49 14.1	0.458	1.028	75.6	20.8	79 W	—	46*	6 25	23 13.92	-16 48.2	0.997	1.652	35.3	20.1	110 W	25*	81*
7 17	5 14.87	-48 38.9	0.469	1.023	75.9	20.9	78 W	—	46*	7 5	23 29.17	-16 45.8	0.929	1.651	33.6	19.9	116 W	27*	81*
7 19	5 24.51	-48 2.2	0.480	1.018	76.2	20.9	77 W	—	46*	7 15	23 41.51	-17 3.1	0.868	1.654	31.2	19.7	122 W	28*	81*
7 21	5 33.50	-47 24.5	0.491	1.013	76.4	20.9	76 W	—	46*	7 25	23 50.38	-17 40.8	0.815	1.659	28.1	19.5	130 W	27	82
7 23	5 41.89	-46 45.8	0.501	1.007	76.6	21.0	75 W	—	46*	7 30	23 53.35	-18 6.7	0.792	1.663	26.3	19.4	133 W	27	82
7 25	5 49.76	-46 6.4	0.512	1.002	76.8	21.0	74 W	—	46*	8 4	23 55.25	-18 36.8	0.771	1.667	24.3	19.3	137 W	26	83
7 27	5 57.16	-45 26.4	0.522	0.996	77.0	21.1	73 W	—	46*	8 9	23 56.05	-19 10.1	0.754	1.672	22.1	19.2	142 W	26	83
7 29	6 4.13	-44 46.0	0.532	0.990	77.2	21.1	72 W	—	46*	8 14	23 55.74	-19 45.3	0.740	1.677	19.8	19.1	146 W	25	84
7 31	6 10.73	-44 5.1	0.542	0.985	77.4	21.1	71 W	—	46*	8 19	23 54.37	-20 20.7	0.729	1.683	17.5	19.0	150 W	25	84
8 2	6 17.00	-43 23.8	0.551	0.979	77.6	21.2	70 W	—	46*	8 24	23 52.02	-20 54.6	0.722	1.690	15.2	18.9	154 W	24	85
8 4	6 22.97	-42 42.0	0.560	0.973	77.8	21.2	70 W	—	46*	8 29	23 48.81	-21 25.1	0.720	1.698	13.2	18.8	158 W	24	85
8 9	6 36.81	-40 55.6	0.581	0.958	78.2	21.3	68 W	—	47*	9 3	23 44.91	-21 50.4	0.722	1.705	11.5	18.8	160 W	23	86
8 14	6 49.45	-39 5.5	0.599	0.943	78.7	21.3	66 W	—	48*	9 8	23 40.55	-22 8.7	0.728	1.714	10.7	18.8	162 W	23	86
8 19	7 1.30	-37 10.2	0.614	0.928	79.2	21.3	64 W	—	48*	9 13	23 35.99	-22 18.5	0.739	1.723	10.8	18.8	161 W	23	86
8 24	7 12.70	-35 8.4	0.626	0.913	79.8	21.4	63 W	—	49*	9 18	23 31.50	-22 19.1	0.755	1.732	11.7	18.9	160 E	23	86
8 29	7 23.95	-32 58.8	0.635	0.898	80.4	21.4	61 W	—	50*	9 23	23 27.30	-22 10.2	0.775	1.742	13.3	19.0	157 E	23	86
9 3	7 35.31	-30 40.3	0.641	0.883	81.2	21.4	60 W	—	50*	9 28	23 23.62	-21 52.0	0.800	1.753	15.1	19.2	153 E	23	86
9 8	7 47.04	-28 11.6	0.644	0.869	82.0	21.4	59 W	1*	51*	10 3	23 20.59	-21 25.0	0.830	1.764	17.1	19.3	149 E	24	85
9 13	7 59.34	-25 31.5	0.645	0.856	82.9	21.4	58 W	5*	51*	10 8	23 18.36	-20 50.1	0.864	1.775	19.1	19.5	145 E	24	85
9 18	8 12.45	-22 39.0	0.644	0.844	83.8	21.4	57 W	9*	50*	10 13	23 16.99	-20 8.1	0.901	1.787	20.9	19.7	140 E	25	84
9 23	8 26.60	-19 33.8	0.641	0.832	84.8	21.4	56 W	13*	50*	10 18	23 16.51	-19 20.1	0.943	1.799	22.6	19.8	136 E	26	83
9 28	8 42.00	-16 16.3	0.638	0.823	85.7	21.4	55 W	18*	48*	10 23	23 16.90	-18 27.1	0.987	1.811	24.1	20.0	132 E	27	82
10 3	8 58.83	-12 47.9	0.634	0.814	86.5	21.4	54 W	22*	46*	10 28	23 18.12	-17 30.0	1.035	1.824	25.4	20.1	128 E	28	81
10 8	9 17.23	-9 11.1	0.632	0.807	87.1	21.4	54 W	26*	44*	11 2	23 20.12	-16 29.5	1.086	1.837	26.6	20.3	124 E	29	80
10 13	9 37.28	-5 29.8	0.632	0.802	87.4	21.4	53 W	30*	41*	11 7	23 22.86	-15 26.3	1.140	1.850	27.6	20.4	120 E	30	79
10 18	9 59.00	-1 49.1	0.634	0.799	87.3	21.4	53 W	33*	37*	11 12	23 26.27	-14 20.8	1.196	1.863	28.4	20.6	117 E	31	78
10 23	10 22.33	+1 44.1	0.640	0.798	86.9	21.4	53 W	37*	34*	11 17	23 30.29	-13 13.6	1.255	1.877	29.0	20.7	113 E	32	77
10 28	10 47.08	+5 2.8	0.650	0.798	86.0	21.4	53 W	40*	30*	11 22	23 34.85	-12 5.1	1.315	1.891	29.5	20.9	110 E	33	76
11 2	11 12.93	+8 0.3	0.665	0.801	84.6	21.4	53 W	42*	26*	11 27	23 39.89	-10 55.5	1.377	1.905	29.8	21.0	106 E	34	75
11 7	11 39.50	+10 31.4	0.685	0.806	82.9	21.4	54 W	44*	23*	12 2	23 45.36	-9 45.2	1.441	1.920	30.0	21.1	103 E	35	74
11 12	12 6.32	+12 32.8	0.708	0.812	80.9	21.4	54 W	46*	20*	12 7	23 51.22	-8 34.3	1.507	1.934	30.1	21.2	100 E	36	72*
11 17	12 32.95	+14 3.8	0.736	0.820	78.7	21.5	54 W	47*	17*	12 12	23 57.43	-7 23.0	1.573	1.949	30.1	21.3	97 E	38	69*
11 22	12 59.00	+15 5.2	0.766	0.830	76.4	21.5	55 W	48*	15*	12 17	0 3.94	-6 11.5	1.641	1.964	30.0	21.4	93 E	39	67*
<b>463387 2013 CT<sub>82</sub></b>										<b>248818 2006 SZ<sub>217</sub></b>									
4 6	19 54.40	-21 23.0	1.346	1.526	40.2	21.4	80 W	19*	73*	4 6	20 32.05	-1 10.2	1.953	1.816	30.5	21.5	67 W	33*	54*
4 11	20 11.84	-20 27.8	1.269	1.480	41.9	21.2	80 W	19*	74*	4 16	20 51.15	+ 2 28.4	1.832	1.782	32.2	21.3	71 W	36*	55*
4 16	20 30.21	-19 21.5	1.196	1.434	43.7	21.1	81 W	19*	74*	4 26	21 10.01	+ 6 28.5	1.715	1.746	33.8	21.2	75 W	40*	55*
4 21	20 49.62	-18 2.7	1.126	1.387	45.7	20.9	81 W	19*	74*	5 6	21 28.72	+10 50.1	1.602	1.710	35.3	21.0	78 W	44*	52*
4 26	21 10.17	-16 29.6	1																

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

21/22	$\alpha_{2000}$	$\delta_{2000}$	$\Delta$	$r$	$\beta$	$V$	$\psi$	45°	-26°	21/22	$\alpha_{2000}$	$\delta_{2000}$	$\Delta$	$r$	$\beta$	$V$	$\psi$	45°	-26°	
<b>248818 2006 SZ<sub>217</sub></b> (continuation)										<b>434019 2001 RG<sub>9</sub></b> (continuation)										
8 24	2 11.51	+65 9.3	0.784	1.297	51.2	19.3	92 W	70	—	10 8	2 31.77	+30 38.0	0.628	1.560	20.9	18.8	146 W	76	33	
8 29	2 36.98	+66 18.3	0.755	1.283	51.9	19.2	92 W	69	—	10 13	2 28.96	+29 5.6	0.621	1.574	17.3	18.7	152 W	74	35	
9 3	3 4.10	+67 7.1	0.725	1.269	52.6	19.2	93 W	68	—	10 18	2 25.45	+27 21.4	0.619	1.588	13.6	18.5	158 W	72	37	
9 5	3 15.29	+67 20.3	0.713	1.264	52.8	19.1	93 W	68	—	10 23	2 21.54	+25 27.8	0.622	1.602	9.9	18.4	164 W	70	39	
9 7	3 26.61	+67 29.9	0.701	1.259	53.1	19.1	93 W	68	—	10 28	2 17.51	+23 28.4	0.630	1.617	6.5	18.3	169 W	68	41	
9 9	3 38.01	+67 35.5	0.688	1.254	53.3	19.0	93 W	67	—	11 2	2 13.64	+21 26.8	0.643	1.632	4.6	18.3	172 E	66	43	
9 11	3 49.42	+67 37.1	0.676	1.249	53.6	19.0	94 W	67	—	11 7	2 10.18	+19 27.3	0.662	1.648	5.8	18.4	170 E	64	45	
9 13	4 0.79	+67 34.7	0.663	1.244	53.8	19.0	94 W	67	—	11 12	2 7.36	+17 33.7	0.687	1.664	8.6	18.7	165 E	63	46	
9 15	4 12.05	+67 28.0	0.651	1.240	54.0	18.9	95 W	68	—	11 17	2 5.30	+15 49.0	0.717	1.680	11.7	18.9	160 E	61	48	
9 17	4 23.14	+67 17.2	0.638	1.236	54.1	18.9	95 W	68	—	11 22	2 4.10	+14 15.3	0.752	1.697	14.7	19.2	154 E	59	50	
9 19	4 34.02	+67 2.1	0.625	1.232	54.3	18.8	95 W	68	—	11 27	2 3.77	+12 53.8	0.792	1.714	17.4	19.4	149 E	58	51	
9 21	4 44.61	+66 42.7	0.612	1.228	54.4	18.8	96 W	68	—	12 2	2 4.31	+11 44.8	0.837	1.731	19.9	19.6	143 E	57	52	
9 23	4 54.88	+66 19.0	0.598	1.224	54.5	18.7	96 W	69	—	12 12	2 7.91	+10 3.4	0.937	1.765	23.9	20.0	133 E	55	54	
9 25	5 4.76	+65 50.9	0.585	1.221	54.6	18.7	97 W	69	—	12 22	2 14.50	+ 9 5.2	1.051	1.800	26.8	20.4	124 E	54	55	
9 27	5 14.23	+65 18.4	0.572	1.218	54.7	18.6	98 W	70	—	1	1	2 23.56	+ 8 41.4	1.176	1.835	28.8	20.7	116 E	54	55
9 29	5 23.24	+64 41.5	0.558	1.215	54.7	18.6	98 W	70	—	1 11	2 34.67	+ 8 43.7	1.309	1.870	29.9	21.0	109 E	54	55*	
10 1	5 31.78	+64 0.1	0.545	1.212	54.7	18.5	99 W	71	—	1 21	2 47.43	+ 9 4.7	1.447	1.906	30.4	21.3	102 E	54	54*	
10 3	5 39.82	+63 14.2	0.531	1.209	54.7	18.4	100 W	72	1	<b>219523 2001 QS<sub>84</sub></b>										
10 8	5 57.66	+60 58.4	0.497	1.204	54.3	18.3	102 W	74	3	4 6	20 38.24	-46 28.1	3.659	3.589	15.8	21.5	78 W	—	60*	
10 13	6 12.24	+58 10.7	0.463	1.200	53.7	18.1	104 W	77	6	4 16	20 49.00	-47 7.4	3.535	3.595	16.2	21.4	85 W	—	64*	
10 18	6 23.65	+54 47.2	0.429	1.197	52.6	17.9	107 W	80	9	4 26	20 58.18	-47 56.1	3.410	3.599	16.2	21.3	93 W	—	66*	
10 23	6 32.04	+50 42.7	0.397	1.196	51.0	17.7	111 W	84	13	5 6	21 5.53	-48 54.9	3.286	3.603	16.0	21.2	100 W	—	67*	
10 28	6 37.57	+45 50.7	0.366	1.196	48.8	17.4	115 W	89	18	5 16	21 10.72	-50 4.0	3.168	3.606	15.5	21.1	108 W	—	66	
11 2	6 40.38	+40 4.4	0.339	1.198	45.9	17.2	120 W	85	24	5 26	21 13.38	-51 22.2	3.058	3.608	14.7	21.0	113 W	—	65	
11 7	6 40.64	+33 18.9	0.316	1.201	42.4	16.9	125 W	78	31	6 5	21 13.17	-52 47.2	2.960	3.609	13.7	20.9	123 W	—	63	
11 12	6 38.58	+25 35.6	0.298	1.206	38.4	16.7	131 W	71	38	6 15	21 9.70	-54 14.8	2.877	3.609	12.6	20.8	129 W	—	62	
11 14	6 37.18	+22 16.6	0.293	1.208	36.9	16.6	133 W	67	42	6 25	21 2.79	-55 39.0	2.813	3.609	11.4	20.7	135 W	—	60	
11 16	6 35.47	+18 51.5	0.289	1.211	35.3	16.6	135 W	64	45	7 5	20 52.52	-56 52.5	2.770	3.607	10.5	20.7	140 W	—	59	
11 18	6 33.47	+15 22.3	0.286	1.213	33.9	16.5	137 W	60	49	7 15	20 39.42	-57 47.3	2.749	3.605	10.0	20.6	142 W	—	58	
11 20	6 31.21	+11 51.0	0.285	1.216	32.6	16.5	138 W	57	52	7 25	20 24.61	-58 17.0	2.752	3.602	10.1	20.6	141 W	—	58	
11 22	6 28.71	+ 8 19.9	0.285	1.219	31.5	16.4	140 W	53	56	8 4	20 9.61	-58 18.4	2.778	3.598	10.9	20.7	138 E	—	58	
11 24	6 25.99	+ 4 51.2	0.286	1.223	30.7	16.4	141 W	50	59	8 14	19 55.99	-57 52.0	2.827	3.593	11.9	20.8	133 E	—	58	
11 26	6 23.08	+ 1 27.3	0.289	1.226	30.1	16.4	141 W	46	63	8 24	19 45.04	-57 1.7	2.896	3.588	13.1	20.8	126 E	—	59	
11 28	6 20.00	+ 1 49.8	0.293	1.230	29.8	16.5	142 W	43	66	9 3	19 37.45	-55 53.5	2.981	3.581	14.3	20.9	119 E	—	60	
11 30	6 16.78	+ 4 58.2	0.298	1.234	29.8	16.5	142 W	40	69	9 13	19 33.41	-54 33.1	3.081	3.574	15.2	21.0	111 E	—	61	
12 2	6 13.45	+ 7 56.4	0.304	1.238	30.0	16.6	141 W	37	72	9 23	19 32.77	-53 5.7	3.191	3.566	15.9	21.1	104 E	—	63	
12 4	6 10.04	-10 43.3	0.312	1.242	30.3	16.6	140 W	34	75	10 3	19 35.14	-51 34.7	3.308	3.557	16.2	21.2	96 E	—	64	
12 6	6 6.58	-13 18.2	0.320	1.247	30.8	16.7	140 W	32	77	10 13	19 40.10	-50 2.5	3.429	3.547	16.3	21.3	89 E	—	66*	
12 8	6 3.11	-15 40.8	0.330	1.251	31.4	16.8	138 W	29	80	10 23	19 47.21	-48 30.5	3.550	3.537	16.1	21.4	81 E	—	65*	
12 10	5 59.66	-17 50.9	0.340	1.256	32.1	16.9	137 W	27	82	11 2	19 56.09	-46 59.1	3.669	3.525	15.7	21.4	74 E	—	63*	
12 12	5 56.25	-19 48.9	0.351	1.261	32.8	17.0	136 W	25	84	11 12	20 6.39	-45 28.4	3.783	3.513	15.0	21.5	67 E	—	58*	
12 17	5 48.11	-23 53.4	0.382	1.274	34.6	17.3	133 W	21	88	11 22	20 17.81	-43 58.3	3.889	3.500	14.1	21.5	60 E	—	53*	
12 22	5 40.77	-26 53.8	0.416	1.289	36.1	17.5	129 E	18	89	12 2	20 30.11	-42 28.5	3.986	3.486	13.1	21.5	53 E	—	1* 47*	
12 27	5 34.46	-29 0.4	0.452	1.304	37.4	17.8	126 E	16	87	12 12	20 43.08	-40 58.6	4.072	3.471	11.9	21.5	47 E	—	2* 41*	
1 1	5 29.36	-30 23.0	0.490	1.319	38.4	18.0	124 E	15	86	12 22	20 56.54	-39 28.6	4.145	3.455	10.6	21.5	40 E	—	1* 34*	
1 6	5 25.58	-31 10.2	0.529	1.336	39.1	18.2	121 E	14	85	1	1	21 10.34	-37 58.2	4.204	3.439	9.3	21.4	34 E	—	28*
1 11	5 23.16	-31 29.4	0.569	1.353	39.6	18.4	119 E	14	85	1 11	21 24.37	-36 27.4	4.248	3.421	8.0	21.4	29 E	—	23*	
1 16	5 22.06	-31 26.6	0.610	1.371	39.9	18.6	117 E	14	85	1 21	21 38.50	-34 56.5	4.276	3.403	6.8	21.3	24 E	—	18*	
1 21	5 22.22	-31 6.6	0.651	1.389	40.1	18.8	115 E	14	85	<b>522684 2016 JP</b>										
4 6	20 36.94	- 9 19.3	1.742	1.639	34.3	21.5	67 W	25*	59*	4 6	20 44.38	-15 29.0	0.153	0.951	104.7	20.8	67 W	19*	60*	
4 16	21 2.13	- 6 19.3	1.643	1.608	35.9	21.4	70 W	27*	60*	4 8	20 30.41	-13 42.0	0.150	0.965	99.8	20.5	72 W	23*	64*	
4 26	21 27.08	- 3 2.6	1.549	1.580	37.5	21.3	73 W	29*	61*	4 10	20 16.40	-11 47.8	0.148	0.978	95.0	20.3	77 W	26*	68*	
5 6	21 51.85	+ 0 28.4	1.461	1.553	39.0	21.1	75 W	32*	60*	4 12	20 2.37	- 9 47.7	0.146	0.991	90.1	20.1	82 W	30*	70*	
5 16	22 16.46	+ 4 10.4	1.378	1.529	40.3	21.0	78 W	35*	59*	4 14	19 48.29	- 7 43.0	0.145	1.005	85.2	19.9	86 W	33*	71*	
5 26	22 40.94	+ 7 59.4	1.302	1.507	41.5	20.9	80 W	39*	56*	4 16	19 34.18	- 5 35.2	0.145	1.018	80.3	19.7	91 W	37*	70*	
6 5	23 5.36	+11 51.2	1.231	1.488	42.5	20.8	82 W	43*	52	4 18	19 20.05	- 3 25.9	0.145	1.030	75.5	19.6	96 W	40*	67	
6 15	23 29.70	+15 40.8	1.166	1.473	43.4	20.6	85 W	48*	48	4 20	19 5.92	- 1 17.0	0.146	1.043	70.8	19.5	101 W	43*	65	
6 25	23 53.94	+19 22.9	1.105	1.461	44.0	20.5	87 W	54*	45	4 22	18 51.82	+ 0 49.8	0.147	1.055	66.2	19.4	106 W	46*	63	
7 5	0 18.02	+22 52.4	1.048	1.453	44.4	20.4	89 W	59*	41	4 24	18 37.79	+ 2 52.8	0.149	1.068	61.7	19.3	111 W	48*	61	
7 10	0 29.94	+24 30.8	1.021	1.450	44.5	20.4	91 W	62*	39	4 26	18 23.89	+ 4 50.4	0.152	1.080	57.4	19.2	115 W	50	59	
7 15	0 41.73	+26 4.1	0.994	1.448	44.5	20.3	92 W	65*	38	4 28	18 10.17	+ 6 41.1	0.155	1.091	53.4	19.2	120 W	52	57	
7 20	0 53.35	+27 31.7	0.968	1.448	44.5	20.2	94 W	68*	36	4 30	17 56.69	+ 8 23.8	0.159	1.10						

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

21/22	$\alpha_{2000}$	$\delta_{2000}$	$\Delta$	$r$	$\beta$	$V$	$\psi$	45°-26°	21/22	$\alpha_{2000}$	$\delta_{2000}$	$\Delta$	$r$	$\beta$	$V$	$\psi$	45°-26°	
<b>413343 2003 XA</b> (continuation)									<b>406952 2009 KJ</b> (continuation)									
5 16	22 14.39	-13 1.5	1.910	2.069	29.1	20.9	84 W	21* 75*	6 5	0 46.68	-43 37.6	1.152	1.491	42.8	20.0	87 W	-	64*
5 26	22 29.75	-11 5.8	1.766	2.031	29.9	20.7	90 W	24* 75*	6 10	1 5.45	-43 4.4	1.083	1.446	44.5	19.9	87 W	-	64*
6 5	22 44.22	-9 6.2	1.625	1.992	30.5	20.5	95 W	28* 73	6 15	1 25.16	-42 23.1	1.015	1.398	46.5	19.7	87 W	-	65*
6 15	22 57.61	-7 3.7	1.488	1.954	30.7	20.2	101 W	32* 71	6 20	1 45.93	-41 31.1	0.949	1.349	48.8	19.6	87 W	-	65*
6 25	23 9.73	-4 58.9	1.357	1.917	30.5	20.0	107 W	37* 69	6 25	2 7.94	-40 24.7	0.885	1.297	51.4	19.4	86 W	-	66*
7 5	23 20.29	-2 52.5	1.232	1.880	29.8	19.7	113 W	41* 67	6 30	2 31.34	-38 59.1	0.822	1.243	54.5	19.2	84 W	-	66*
7 15	23 28.92	-0 45.8	1.114	1.845	28.5	19.4	120 W	44* 65	7 5	2 56.30	-37 8.3	0.763	1.187	58.1	19.1	82 W	-	66*
7 25	23 35.20	+1 20.0	1.007	1.810	26.6	19.1	127 W	46 63	7 10	3 22.94	-34 44.4	0.707	1.127	62.5	18.9	79 W	-	65*
8 4	23 38.66	+3 22.9	0.910	1.778	23.9	18.8	135 W	48 61	7 15	3 51.38	-31 37.8	0.655	1.066	67.6	18.8	76 W	-	63*
8 14	23 38.82	+5 19.4	0.826	1.746	20.3	18.4	143 W	50 59	7 17	4 3.26	-30 8.6	0.636	1.040	70.0	18.8	74 W	-	63*
8 24	23 35.49	+7 5.3	0.757	1.717	15.9	18.0	152 W	52 57	7 19	4 15.44	-28 30.2	0.618	1.014	72.5	18.7	72 W	-	61*
8 29	23 32.56	+7 52.5	0.729	1.704	13.6	17.9	157 W	53 56	7 21	4 27.91	-26 41.7	0.601	0.988	75.1	18.7	70 W	-	60*
9 3	23 28.90	+8 34.9	0.705	1.690	11.3	17.7	161 W	54 55	7 23	4 40.66	-24 42.7	0.586	0.961	78.0	18.7	68 W	-	59*
9 8	23 24.64	+9 11.8	0.686	1.678	9.4	17.5	164 W	54 55	7 25	4 53.69	-22 32.6	0.572	0.933	81.0	18.7	65 W	-	57*
9 13	23 19.99	+9 42.7	0.671	1.666	8.2	17.4	166 E	55 54	7 30	5 27.39	-16 19.2	0.547	0.863	89.2	18.7	58 W	1*	51*
9 23	23 10.54	+10 26.7	0.657	1.645	9.7	17.4	164 E	55 54	8 4	6 2.46	-9 4.6	0.536	0.789	98.1	18.9	50 W	4*	44*
10 3	23 2.58	+10 49.5	0.661	1.626	14.6	17.6	156 E	56 53	8 9	6 38.55	-1 14.9	0.545	0.783	106.7	19.1	42 W	8*	36*
10 13	22 57.95	+10 58.7	0.681	1.611	19.9	17.8	147 E	56 53	8 14	7 15.26	+6 27.2	0.576	0.634	113.6	19.4	35 W	12*	28*
10 18	22 57.26	+11 1.4	0.697	1.605	22.4	17.9	142 E	56 53	8 16	7 30.05	+9 19.0	0.596	0.602	115.4	19.5	33 W	13*	24*
10 23	22 57.73	+11 4.4	0.716	1.599	24.7	18.0	138 E	56 53	8 18	7 44.89	+11 59.0	0.620	0.571	116.5	19.5	30 W	14*	21*
10 28	22 59.37	+11 8.7	0.738	1.595	26.8	18.2	134 E	56 53	8 20	7 59.76	+14 24.7	0.648	0.539	116.7	19.5	28 W	15*	18*
11 2	23 2.15	+11 14.9	0.762	1.591	28.6	18.3	130 E	56 53	8 22	8 14.66	+16 33.9	0.680	0.508	115.9	19.4	27 W	16*	15*
11 12	23 10.96	+11 35.9	0.818	1.587	31.7	18.5	122 E	57 52	8 24	8 29.61	+18 24.7	0.717	0.478	114.0	19.3	26 W	16*	12*
11 22	23 23.57	+12 10.3	0.882	1.587	34.0	18.7	116 E	57 52	8 26	8 44.60	+19 55.6	0.759	0.449	110.9	19.1	25 W	17*	10*
12 2	23 39.32	+12 58.4	0.953	1.590	35.6	19.0	110 E	58 51*	8 28	8 59.63	+21 5.2	0.805	0.422	106.6	18.8	24 W	17*	7*
12 12	23 57.62	+13 59.0	1.031	1.598	36.6	19.2	105 E	59 49*	8 30	9 14.70	+21 52.0	0.855	0.398	101.0	18.5	23 W	16*	5*
12 22	0 17.94	+15 10.1	1.114	1.608	37.0	19.4	100 E	60 46*	9 1	9 29.76	+22 15.3	0.908	0.378	94.2	18.2	22 W	16*	3*
1 1	0 39.83	+16 28.6	1.203	1.623	37.1	19.6	95 E	61 43*	9 3	9 44.75	+22 14.4	0.965	0.363	86.3	18.0	21 W	15*	1*
1 11	1 2.98	+17 51.6	1.297	1.641	36.8	19.7	91 E	63 40*	9 5	9 59.55	+21 50.0	1.023	0.354	77.6	17.7	20 W	14*	-
1 21	1 27.08	+19 16.0	1.396	1.662	36.2	19.9	87 E	64 37*	9 7	10 14.03	+21 3.4	1.082	0.351	68.5	17.5	19 W	13*	-
<b>390540 1999 TE<sub>165</sub></b>									9 9	10 28.03	+19 57.8	1.140	0.355	59.5	17.4	18 W	11*	-
4 6	21 14.43	-18 2.1	1.818	1.588	33.3	21.5	61 W	13* 55*	9 11	10 41.41	+18 36.8	1.196	0.366	50.9	17.3	16 W	10*	-
4 16	21 41.94	-15 39.3	1.742	1.574	34.8	21.4	63 W	14* 57*	9 13	10 54.08	+17 4.7	1.250	0.382	43.1	17.3	15 W	8*	-
4 26	22 8.61	-13 4.5	1.669	1.563	36.1	21.4	66 W	15* 60*	9 15	11 6.00	+15 25.3	1.302	0.403	36.3	17.3	14 W	7*	-
5 6	22 34.40	-10 20.6	1.599	1.556	37.3	21.3	69 W	17* 62*	9 17	11 17.19	+13 42.0	1.350	0.428	30.4	17.3	12 W	6*	-
5 16	22 59.27	-7 30.8	1.531	1.551	38.3	21.2	72 W	20* 64*	9 19	11 27.68	+11 57.1	1.396	0.455	25.5	17.4	11 W	4*	-
5 26	23 23.15	-4 38.5	1.465	1.550	39.1	21.1	75 W	23* 65*	9 21	11 37.54	+10 12.5	1.440	0.484	21.3	17.5	10 W	3*	-
6 5	23 46.02	-1 46.7	1.402	1.553	39.8	21.1	78 W	26* 64*	9 23	11 46.83	+8 29.3	1.481	0.515	17.8	17.5	9 W	2*	-
6 15	0 7.78	+1 1.7	1.339	1.559	40.1	21.0	82 W	31* 63*	9 28	12 7.96	+4 22.0	1.577	0.593	11.4	17.8	7 W	-	-
6 25	0 28.28	+3 43.8	1.278	1.568	40.3	20.9	85 W	36* 60	10 3	12 26.75	+0 33.2	1.664	0.673	7.3	18.0	5 W	-	-
7 5	0 47.37	+6 17.5	1.218	1.580	40.0	20.8	90 W	42* 58	10 8	12 43.80	-2 56.6	1.744	0.750	5.0	18.2	4 W	-	-
7 15	1 4.77	+8 40.4	1.158	1.596	39.4	20.7	94 W	47* 55	10 13	12 59.55	-6 8.8	1.819	0.825	4.2	18.5	4 W	-	-
7 25	1 20.11	+10 50.4	1.099	1.614	38.4	20.6	99 W	53* 53	10 18	13 14.29	-9 5.1	1.888	0.897	4.6	18.7	4 W	-	-
8 4	1 33.01	+12 46.0	1.041	1.635	36.8	20.4	105 W	57* 51	10 23	13 28.27	-11 47.3	1.953	0.966	5.4	19.0	5 W	-	-
8 14	1 42.89	+14 25.0	0.986	1.658	34.5	20.3	112 W	59 50	10 28	13 41.64	-14 17.1	2.013	1.033	6.5	19.3	7 W	-	-
8 24	1 49.20	+15 45.2	0.934	1.683	31.5	20.1	120 W	61 48	11 2	13 54.53	-16 36.0	2.068	1.096	7.6	19.5	8 W	-	2*
9 3	1 51.44	+16 44.0	0.889	1.710	27.5	19.9	128 W	62 47	11 7	14 7.03	-18 45.2	2.119	1.156	8.7	19.7	10 W	-	4*
9 13	1 49.27	+17 17.9	0.853	1.738	22.7	19.7	138 W	62 47	11 12	14 19.21	-20 45.9	2.165	1.214	9.8	19.9	12 W	-	6*
9 23	1 42.94	+17 24.3	0.830	1.768	16.9	19.5	149 W	62 47	11 17	14 31.14	-22 39.0	2.206	1.270	10.8	20.1	14 W	-	8*
9 28	1 38.47	+17 16.9	0.825	1.783	13.8	19.4	155 W	62 47	11 22	14 42.84	-24 25.2	2.243	1.323	11.9	20.3	16 W	1*	10*
10 3	1 33.36	+17 2.8	0.824	1.799	10.6	19.3	161 W	62 47	12 2	15 5.77	-27 40.0	2.303	1.422	14.0	20.6	20 W	2*	14*
10 8	1 27.84	+16 42.5	0.829	1.815	7.5	19.2	166 W	62 47	12 12	15 28.19	-30 34.9	2.345	1.512	16.0	20.8	25 W	3*	19*
10 13	1 22.19	+16 17.4	0.839	1.831	4.9	19.1	171 W	61 48	12 22	15 50.20	-33 13.7	2.368	1.595	18.0	21.0	30 W	3*	24*
10 18	1 16.67	+15 48.8	0.854	1.847	3.9	19.1	173 E	61 48	1 1	16 11.89	-35 39.3	2.373	1.670	19.9	21.2	35 W	3*	29*
10 23	1 11.52	+15 18.3	0.876	1.864	5.4	19.3	170 E	60 49	1 11	16 33.24	-37 54.8	2.361	1.739	21.7	21.3	41 W	2*	35*
10 28	1 6.93	+14 47.4	0.903	1.880	7.9	19.5	165 E	60 49	1 21	16 54.23	-40 2.4	2.333	1.802	23.3	21.4	46 W	1*	40*
11 2	1 3.07	+14 17.6	0.936	1.897	10.6	19.7	159 E	59 50	<b>405508 2005 BG<sub>2</sub></b>									
11 7	1 0.05	+13 50.3	0.973	1.913	13.2	19.9	154 E	59 50	4 6	22 8.68	-25 25.2	2.790	2.317	20.0	21.5	52 W	-	44*
11 12	0 57.95	+13 26.6	1.016	1.930	15.6	20.1	148 E	58 51	4 16	22 26.21	-23 33.9	2.657	2.277	21.8	21.4	57 W	1*	50*
11 22	0 56.51	+12 52.4	1.115	1.964	19.7	20.5	138 E	58 51	4 26	22 43.17	-21 38.8	2.519	2.238	23.5	21.3	62 W	4*	55*
12 2	0 58.55	+12 37.4	1.230	1.998	22.8	20.8	128 E	58 51	5 6	22 59.53	-19 40.1	2.376	2.197	25.1	21.1	68 W	6*	61*
12 12	1 3.69	+12 41.3	1.357	2.032	24.9	21.2	120 E	58 51	5 16	23 15.26	-17 37.9	2.229	2.157	26.6	21.0	73 W	9*	67*
12 22	1 11.41	+13 2.1	1.493	2.065	26.3	21.4	111 E	58 51*	5 26	23 30.29	-15 32.3	2.081	2.115	27.9	20.9	78 W	13*	72*
4 6	21 41.78	-46 26.6	2.018	1.897	29.4	21.4	69 W	-	6 5	23 44.56	-13 23.0	1.931	2.074	29.1	2			

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

21/22	$\alpha_{2000}$	$\delta_{2000}$	$\Delta$	$r$	$\beta$	$V$	$\psi$	45°	-26°	21/22	$\alpha_{2000}$	$\delta_{2000}$	$\Delta$	$r$	$\beta$	$V$	$\psi$	45°	-26°
<b>405508 2005 BG<sub>2</sub></b>										<b>315239 2007 RB<sub>280</sub></b>									
<i>(continuation)</i>										<i>(continuation)</i>									
9 28	23 54.38	+23 21.6	0.656	1.628	13.4	17.3	158 E	68	41	6 25	1 26.08	+18 50.0	1.723	1.619	35.2	21.0	67 W	38*	43*
10 3	23 43.89	+25 8.7	0.649	1.613	15.0	17.3	155 E	70	39	7 5	1 50.91	+21 52.3	1.653	1.612	36.3	20.9	70 W	44*	41*
10 8	23 33.47	+26 43.7	0.648	1.599	17.3	17.4	152 E	72	37	7 15	2 15.98	+24 43.0	1.585	1.609	37.1	20.8	73 W	50*	39*
10 13	23 23.61	+28 5.8	0.652	1.586	19.9	17.5	147 E	73	36	7 25	2 41.13	+27 19.2	1.518	1.609	37.8	20.8	76 W	56*	37*
10 18	23 14.72	+29 15.3	0.661	1.573	22.7	17.6	143 E	74	35	8 4	3 6.18	+29 39.2	1.453	1.612	38.2	20.7	79 W	62*	34*
10 23	23 7.15	+30 13.7	0.674	1.561	25.3	17.7	138 E	75	34	8 14	3 30.75	+31 41.4	1.389	1.619	38.4	20.6	83 W	67*	32
10 28	23 1.12	+31 2.5	0.690	1.550	27.8	17.8	133 E	76	33	8 24	3 54.43	+33 24.9	1.326	1.629	38.3	20.5	87 W	73*	31
11 2	22 56.79	+31 44.1	0.709	1.540	30.0	17.9	129 E	77	32	9 3	4 16.70	+34 50.1	1.262	1.642	37.9	20.4	92 W	78*	29
11 7	22 54.22	+32 20.5	0.730	1.531	32.0	18.0	125 E	77	32	9 8	4 27.11	+35 26.0	1.231	1.650	37.5	20.4	94 W	80*	29
11 12	22 53.41	+32 53.9	0.753	1.523	33.7	18.1	121 E	78	31	9 13	4 36.90	+35 57.6	1.199	1.658	37.0	20.3	97 W	81*	28
11 17	22 54.29	+33 25.9	0.778	1.516	35.2	18.2	118 E	78	31	9 18	4 46.00	+36 25.1	1.168	1.667	36.4	20.2	100 W	81	28
11 22	22 56.78	+33 57.8	0.803	1.511	36.5	18.3	115 E	79	30*	9 23	4 54.31	+36 48.8	1.137	1.677	35.7	20.2	103 W	82	27
11 27	23 0.78	+34 30.3	0.829	1.506	37.5	18.4	112 E	80	29*	9 28	5 1.73	+37 8.7	1.106	1.687	34.8	20.1	106 W	82	27
12 2	23 6.21	+35 4.0	0.856	1.502	38.4	18.5	109 E	80	28*	10 3	5 8.17	+37 25.1	1.076	1.698	33.7	20.0	110 W	82	27
12 7	23 12.99	+35 39.3	0.883	1.499	39.0	18.6	107 E	81	27*	10 8	5 13.49	+37 37.9	1.047	1.710	32.5	19.9	113 W	83	26
12 12	23 21.03	+36 16.4	0.910	1.498	39.6	18.6	104 E	81	25*	10 13	5 17.62	+37 47.1	1.019	1.722	31.0	19.9	117 W	83	26
12 17	23 30.26	+36 55.3	0.938	1.497	39.9	18.7	102 E	82	24*	10 18	5 20.47	+37 52.6	0.993	1.734	29.4	19.8	121 W	83	26
12 22	23 40.61	+37 35.4	0.966	1.498	40.2	18.8	100 E	82	22*	10 23	5 21.98	+37 53.9	0.968	1.748	27.5	19.7	126 W	83	26
12 27	23 52.01	+38 16.4	0.995	1.500	40.4	18.9	99 E	83	21*	10 28	5 22.11	+37 50.8	0.945	1.761	25.4	19.6	131 W	83	26
1 1	0 4.41	+38 57.8	1.023	1.503	40.5	18.9	97 E	84	19*	11 2	5 20.84	+37 42.4	0.925	1.775	23.1	19.5	136 W	83	26
1 6	0 17.79	+39 39.0	1.053	1.507	40.5	19.0	95 E	85	18*	11 7	5 18.21	+37 28.1	0.909	1.790	20.5	19.4	141 W	82	27
1 11	0 32.07	+40 19.4	1.083	1.512	40.4	19.1	94 E	85	17*	11 12	5 14.34	+37 7.2	0.896	1.804	17.8	19.3	146 W	82	27
1 16	0 47.19	+40 58.2	1.114	1.519	40.3	19.1	93 E	86	16*	11 17	5 9.43	+36 39.1	0.887	1.819	14.9	19.2	152 W	82	27
1 21	1 3.09	+41 34.5	1.146	1.526	40.1	19.2	91 E	85	15*	11 22	5 3.70	+36 3.5	0.884	1.835	12.0	19.1	157 W	81	28
<b>183182 Weinheim</b>										<b>533967 2014 QV<sub>168</sub></b>									
4 6	22 13.65	-10 53.4	2.910	2.309	17.7	21.5	45 W	10*	39*	4 6	22 20.00	-6 28.0	2.214	1.612	24.4	21.5	42 W	12*	35*
4 16	22 31.12	-8 55.5	2.787	2.272	19.7	21.4	50 W	12*	44*	4 16	22 48.32	-4 18.7	2.125	1.570	26.5	21.4	44 W	13*	38*
4 26	22 48.38	-6 52.8	2.658	2.235	21.6	21.3	55 W	14*	48*	4 26	23 17.27	-2 2.6	2.040	1.530	28.4	21.3	46 W	13*	40*
5 6	23 5.43	-4 46.0	2.525	2.198	23.4	21.2	60 W	17*	53*	5 6	23 46.91	+0 17.6	1.960	1.493	30.3	21.2	48 W	14*	41*
5 16	23 22.26	-2 35.5	2.389	2.161	25.0	21.1	65 W	20*	56*	5 16	0 17.28	+2 38.7	1.887	1.461	32.1	21.2	50 W	15*	43*
5 26	23 38.87	-0 22.0	2.251	2.124	26.6	21.0	70 W	24*	59*	5 26	0 48.36	+4 56.8	1.820	1.432	33.7	21.1	52 W	16*	44*
6 5	23 55.23	+1 54.0	2.112	2.087	28.0	20.9	75 W	28*	60*	6 5	1 20.16	+7 8.0	1.760	1.408	35.2	21.0	53 W	18*	44*
6 15	0 11.31	+4 12.0	1.974	2.050	29.2	20.7	80 W	33*	59*	6 15	1 52.57	+9 8.1	1.707	1.390	36.5	21.0	54 W	20*	44*
6 25	0 27.04	+6 31.2	1.837	2.014	30.2	20.5	85 W	38*	57	6 25	2 25.40	+10 52.9	1.661	1.377	37.6	20.9	56 W	22*	44*
7 5	0 42.35	+8 51.2	1.703	1.979	30.9	20.4	90 W	44*	55	7 5	2 58.44	+12 19.1	1.621	1.371	38.6	20.9	57 W	26*	44*
7 15	0 57.09	+11 11.3	1.571	1.944	31.4	20.2	95 W	51*	53	7 15	3 31.39	+13 24.1	1.586	1.370	39.4	20.8	59 W	29*	44*
7 25	1 11.07	+13 30.7	1.445	1.910	31.5	19.9	100 W	56*	50	7 25	4 3.86	+14 6.1	1.555	1.376	40.0	20.8	60 W	33*	44*
8 4	1 24.07	+15 48.7	1.323	1.878	31.3	19.7	106 W	61*	48	8 4	4 35.52	+14 25.0	1.527	1.388	40.4	20.8	62 W	36*	44*
8 14	1 35.71	+18 4.0	1.208	1.847	30.5	19.5	112 W	63	46	8 14	5 5.98	+14 21.5	1.500	1.405	40.7	20.8	65 W	40*	44*
8 24	1 45.56	+20 15.2	1.101	1.817	29.2	19.2	119 W	65	44	8 24	5 34.89	+13 57.5	1.473	1.428	40.8	20.8	67 W	43*	45*
8 29	1 49.67	+21 18.6	1.051	1.803	28.3	19.0	122 W	66	43	9 3	6 1.97	+13 15.8	1.445	1.456	40.7	20.8	70 W	47*	45*
9 3	1 53.12	+22 20.0	1.003	1.789	27.3	18.9	126 W	67	42	9 13	6 26.96	+12 19.4	1.414	1.488	40.5	20.8	74 W	49*	47*
9 8	1 55.84	+23 19.0	0.958	1.776	26.0	18.7	129 W	68	41	9 23	6 49.61	+11 12.1	1.380	1.525	40.0	20.8	78 W	52*	48*
9 13	1 57.76	+24 14.8	0.915	1.764	24.6	18.6	133 W	69	40	10 3	7 9.73	+9 57.6	1.343	1.564	39.4	20.8	82 W	53*	50*
9 18	1 58.83	+25 6.8	0.876	1.751	23.0	18.4	137 W	70	39	10 13	7 27.06	+8 39.8	1.302	1.606	38.4	20.7	88 W	53*	53*
9 23	1 59.00	+25 54.3	0.840	1.740	21.2	18.3	141 W	71	38	10 23	7 41.36	+7 22.8	1.257	1.650	37.0	20.7	93 W	52	55*
9 28	1 58.26	+26 36.2	0.808	1.729	19.2	18.1	145 W	72	37	11 2	7 52.32	+6 11.0	1.210	1.696	35.2	20.6	100 W	51	57*
10 3	1 56.61	+27 11.5	0.779	1.719	17.1	17.9	150 W	72	37	11 12	7 59.57	+5 9.4	1.162	1.743	32.7	20.5	108 W	50	59
10 8	1 54.12	+27 39.1	0.755	1.710	14.9	17.8	154 W	73	36	11 22	8 2.81	+4 23.5	1.116	1.791	29.6	20.4	117 W	49	60
10 13	1 50.91	+27 58.3	0.735	1.701	12.8	17.6	158 W	73	36	11 27	8 2.84	+4 8.0	1.095	1.815	27.7	20.3	121 W	49	60
10 18	1 47.19	+28 8.4	0.719	1.693	11.1	17.5	161 W	73	36	12 2	8 1.80	+3 58.6	1.076	1.840	25.6	20.3	126 W	49	60
10 23	1 43.18	+28 9.5	0.708	1.685	9.9	17.4	163 E	73	36	12 7	7 59.69	+3 55.8	1.060	1.864	23.4	20.2	131 W	49	60
10 28	1 39.13	+28 1.8	0.702	1.679	9.7	17.4	163 E	73	36	12 12	7 56.57	+4 0.1	1.047	1.889	20.9	20.1	137 W	49	60
11 2	1 35.32	+27 46.0	0.701	1.673	10.6	17.4	162 E	73	36	12 22	7 47.68	+4 31.2	1.033	1.938	15.6	20.0	148 W	50	59
11 7	1 32.01	+27 23.6	0.704	1.668	12.2	17.5	159 E	72	37	1 1	7 36.26	+5 31.0	1.039	1.987	10.5	19.8	158 W	51	58
11 12	1 29.47	+26 56.5	0.712	1.664	14.4	17.6	155 E	72	37	1 11	7 23.99	+6 54.1	1.070	2.036	7.2	19.8	165 E	52	57
11 17	1 27.87	+26 26.6	0.724	1.661	16.7	17.7	151 E	71	38	1 21	7 12.72	+8 31.0	1.126	2.084	8.5	20.0	162 E	54	55
11 22	1 27.32	+25 55.9	0.741	1.658	19.0	17.8	147 E	71	38	<b>508951 2004 TC<sub>20</sub></b>									
11 27	1 27.88	+25 25.9	0.761	1.657	21.3	17.9	142 E	70	39	4 6	23 0.12	-21 1.1	2.289	1.653	22.9	21.5	40 W	-	32*
12 2	1 29.57	+24 58.0	0.785	1.656	23.4	18.1	138 E	70	39	4 16	23 31.28	-19 31.2	2.209	1.620	24.8	21.4	43 W	-	34*
12 7	1 32.38	+24 33.4	0.812	1.656	25.3	18.2	134 E	70	39	4 26	0 2.72	-17 50.1	2.136	1.591	26.5	21.4	45 W	-	36*
12 12	1 36.27	+24 12.7	0.842	1.657	27.1	18.3	130 E	69	40	5 6	0 34.29	-15 59.7	2.070	1.566	28.1	21.3	47 W	-	39*
12 17																			

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

21/22	$\alpha_{2000}$	$\delta_{2000}$	$\Delta$	$r$	$\beta$	$V$	$\psi$	$45^\circ$ - $26^\circ$	2021	$\alpha_{2000}$	$\delta_{2000}$	$\Delta$	$r$	$\beta$	$V$	$\psi$	$45^\circ$ - $26^\circ$
<b>508951 2004 TC<sub>20</sub></b> (continuation)									<b>484795 2009 DE<sub>47</sub></b> (continuation)								
6 25	3 7.45	6 9.0	1.857	1.512	33.2	21.1	54 W	3* 48*	7 25	7 12.05	+30 6.1	1.700	0.798	23.1	20.3	18 W	11* 2*
7 5	3 35.83	4 23.9	1.831	1.517	33.7	21.1	56 W	7* 50*	7 30	7 40.05	+29 49.7	1.719	0.806	21.7	20.3	17 W	11* —
7 15	4 3.07	2 48.3	1.806	1.527	34.2	21.1	58 W	12* 51*	8 4	8 7.43	+29 9.6	1.739	0.816	20.4	20.3	16 W	10* —
7 25	4 29.05	1 23.1	1.781	1.542	34.7	21.1	60 W	17* 52*	8 9	8 33.93	+28 8.0	1.760	0.828	19.1	20.3	15 W	9* —
8 4	4 53.65	0 8.3	1.754	1.562	35.0	21.1	62 W	22* 53*	8 14	8 59.36	+26 47.4	1.783	0.843	17.8	20.3	15 W	9* —
8 14	5 16.75	0 56.6	1.723	1.587	35.3	21.1	65 W	28* 54*	8 19	9 23.61	+25 10.7	1.806	0.861	16.6	20.3	14 W	8* —
8 24	5 38.23	+1 53.1	1.688	1.616	35.6	21.1	68 W	33* 54*	8 24	9 46.63	+23 20.9	1.831	0.880	15.6	20.4	13 W	7* —
9 3	5 57.98	+2 43.0	1.647	1.648	35.7	21.1	72 W	38* 55*	8 29	10 8.46	+21 20.8	1.856	0.900	14.5	20.4	13 W	6* —
9 13	6 15.79	+3 28.7	1.599	1.684	35.6	21.1	77 W	43* 56*	9 3	10 29.16	+19 12.9	1.881	0.922	13.6	20.5	12 W	5* —
9 23	6 31.49	+4 13.7	1.545	1.722	35.2	21.1	82 W	47* 57*	9 8	10 48.80	+16 59.3	1.906	0.944	12.7	20.5	12 W	5* —
10 3	6 44.82	+5 1.5	1.486	1.763	34.6	21.0	88 W	50* 57*	9 13	11 7.48	+14 42.2	1.932	0.967	12.0	20.6	12 W	5* —
10 13	6 55.44	+5 56.6	1.422	1.806	33.4	20.9	95 W	51* 57*	9 18	11 25.30	+12 23.0	1.957	0.990	11.3	20.6	11 W	4* —
10 23	7 2.97	+7 4.4	1.356	1.851	31.6	20.8	103 W	52* 57*	9 23	11 42.37	+10 3.1	1.981	1.014	10.8	20.7	11 W	4* —
11 2	7 6.99	+8 30.0	1.291	1.897	29.1	20.7	112 W	54 55	9 28	11 58.78	+7 43.5	2.005	1.037	10.3	20.8	11 W	4* —
11 12	7 7.03	+10 18.7	1.231	1.944	25.6	20.6	122 W	55 54	10 3	12 14.65	+5 25.0	2.028	1.061	10.0	20.8	11 W	4* —
11 22	7 2.82	+12 33.6	1.181	1.992	21.2	20.4	133 W	58 51	10 8	12 30.04	+3 8.3	2.050	1.084	9.9	20.9	11 W	5* —
12 2	6 54.37	+15 13.2	1.148	2.040	15.8	20.2	146 W	60 49	10 13	12 45.03	+0 54.1	2.070	1.106	9.8	20.9	11 W	5* —
12 7	6 48.70	+16 40.2	1.140	2.065	12.8	20.1	152 W	62 47	10 18	12 59.69	-1 17.4	2.089	1.129	10.0	21.0	11 W	5* —
12 12	6 42.27	+18 10.1	1.139	2.089	9.6	20.0	159 W	63 46	10 23	13 14.09	-3 25.8	2.106	1.150	10.2	21.1	12 W	6* —
12 17	6 35.27	+19 41.0	1.145	2.114	6.4	19.9	166 W	65 44	11 2	13 28.30	-5 30.9	2.121	1.171	10.6	21.1	13 W	6* —
12 22	6 27.92	+21 10.7	1.158	2.138	3.1	19.8	173 W	66 43	11 7	13 42.35	-7 32.4	2.135	1.191	11.1	21.2	13 W	7* 1*
12 27	6 20.48	+22 37.5	1.179	2.163	0.4	19.6	179 E	68 41	11 12	14 10.21	-9 30.3	2.146	1.211	11.6	21.3	14 W	8* 2*
1 1	6 13.20	+23 59.7	1.208	2.187	3.2	19.9	173 E	69 40	11 17	14 24.09	-13 14.2	2.155	1.229	12.3	21.4	15 W	8* 4*
1 6	6 6.34	+25 16.2	1.245	2.211	6.2	20.2	166 E	70 39	11 22	14 37.98	-15 0.2	2.167	1.264	13.8	21.5	18 W	9* 7*
1 11	6 0.11	+26 26.2	1.288	2.236	8.9	20.4	159 E	71 38	<b>382406 1996 AJ<sub>1</sub></b>								
1 16	5 54.69	+27 29.5	1.339	2.260	11.4	20.6	153 E	72 37	4 6	23 33.90	-2 37.4	0.910	0.394	91.5	21.4	23 W	3* 17*
1 21	5 50.18	+28 26.3	1.396	2.284	13.6	20.8	147 E	73 36	4 8	23 49.28	-1 10.2	0.962	0.360	85.7	21.1	21 W	2* 15*
<b>247822 2003 SH<sub>180</sub></b>									4 10	0 4.82	+0 19.8	1.017	0.330	78.0	20.8	19 W	1* 13*
4 6	23 14.10	-6 9.7	2.540	1.735	16.3	21.5	29 W	4* 23*	4 12	0 20.71	+1 53.5	1.074	0.307	68.3	20.4	17 W	— 10*
4 16	23 38.50	-3 17.3	2.475	1.712	18.2	21.5	32 W	5* 26*	4 14	0 37.10	+3 31.3	1.132	0.291	56.9	20.0	14 W	— 8*
4 26	0 2.97	+0 20.9	2.411	1.690	20.0	21.5	35 W	7* 29*	4 16	0 53.95	+5 12.3	1.187	0.286	44.4	19.8	12 W	— 6*
5 6	0 27.59	+2 37.4	2.347	1.672	21.8	21.4	38 W	8* 32*	4 18	1 11.06	+6 54.5	1.239	0.292	32.1	19.6	9 W	— 3*
5 16	0 52.41	+5 35.5	2.283	1.656	23.5	21.4	41 W	11* 34*	4 20	1 28.14	+8 35.0	1.286	0.308	21.0	19.4	6 W	— —
5 26	1 17.50	+8 30.7	2.221	1.643	25.2	21.4	44 W	13* 36*	4 22	1 44.88	+10 11.3	1.329	0.333	11.7	19.3	4 W	— —
6 5	1 42.89	+11 20.8	2.160	1.633	26.7	21.3	46 W	17* 37*	4 24	2 1.12	+11 41.5	1.367	0.363	4.5	19.3	2 W	— —
6 15	2 8.61	+14 3.2	2.100	1.627	28.1	21.3	49 W	20* 38*	4 26	2 16.76	+13 5.0	1.402	0.397	2.2	19.4	1 E	— —
6 25	2 34.63	+16 35.5	2.041	1.624	29.5	21.3	52 W	25* 38*	5 6	3 26.04	+18 22.1	1.561	0.582	14.7	21.0	8 E	1* —
7 5	3 0.92	+18 55.7	1.982	1.624	30.7	21.3	55 W	30* 38*	5 16	4 23.14	+21 26.3	1.716	0.761	16.7	21.9	12 E	4* 4*
7 15	3 27.37	+21 1.8	1.924	1.627	31.9	21.2	58 W	35* 38*	5 26	5 11.07	+23 2.0	1.873	0.923	15.5	22.4	14 E	4* 5*
7 25	3 53.84	+22 52.4	1.866	1.634	32.9	21.2	61 W	40* 37*	6 5	5 51.98	+23 40.0	2.027	1.070	13.2	22.9	14 E	4* 6*
8 4	4 20.13	+24 26.7	1.808	1.644	33.8	21.2	64 W	46* 36*	<b>405212 2003 QC<sub>10</sub></b>								
8 14	4 45.99	+25 44.4	1.748	1.657	34.5	21.1	68 W	51* 36*	4 6	23 44.79	-2 44.4	2.335	1.444	14.2	21.4	21 W	1* 15*
8 24	5 11.12	+26 46.2	1.687	1.673	35.0	21.1	72 W	56* 35*	4 16	0 10.77	+0 19.0	2.198	1.338	17.3	21.3	23 W	2* 17*
9 3	5 35.21	+27 33.2	1.624	1.691	35.4	21.0	76 W	62* 35*	4 26	0 39.62	+3 42.2	2.056	1.223	20.5	21.0	25 W	3* 19*
9 13	5 57.88	+28 7.6	1.559	1.713	35.4	21.0	81 W	66* 34*	5 6	1 12.44	+7 27.2	1.914	1.099	23.6	20.7	26 W	4* 20*
9 23	6 18.75	+28 31.9	1.493	1.736	35.2	20.9	86 W	70* 34*	5 16	1 50.83	+11 34.0	1.777	0.964	26.5	20.4	25 W	5* 19*
10 3	6 37.43	+28 49.4	1.425	1.762	34.6	20.8	91 W	73* 34*	5 21	2 12.78	+13 44.1	1.713	0.893	27.8	20.2	24 W	5* 18*
10 13	6 53.43	+29 3.7	1.356	1.789	33.5	20.7	98 W	74 35*	5 26	2 37.01	+15 56.5	1.653	0.819	28.7	19.9	23 W	5* 16*
10 23	7 6.26	+29 18.3	1.288	1.818	31.9	20.6	105 W	75 34	5 31	3 3.95	+18 8.4	1.597	0.743	29.0	19.6	21 W	4* 14*
11 2	7 15.42	+29 36.4	1.222	1.849	29.6	20.5	113 W	75 34	6 5	3 34.04	+20 15.0	1.548	0.665	28.5	19.3	18 W	4* 11*
11 12	7 20.31	+30 0.1	1.161	1.881	26.6	20.3	122 W	75 34	6 10	4 7.74	+22 9.5	1.506	0.586	26.5	18.9	15 W	3* 7*
11 22	7 20.53	+30 29.4	1.109	1.914	22.7	20.1	132 W	75 34	6 15	4 45.44	+23 42.1	1.469	0.510	22.2	18.4	11 W	1* 3*
12 2	7 15.91	+31 1.5	1.070	1.947	18.0	19.9	142 W	76 33	6 17	5 1.68	+24 10.2	1.456	0.481	19.6	18.2	9 W	— 2*
12 7	7 11.86	+31 16.8	1.057	1.964	15.3	19.8	148 W	76 33	6 19	5 18.60	+24 31.8	1.444	0.454	16.3	18.0	7 W	— —
12 12	7 6.82	+31 30.3	1.049	1.981	12.6	19.7	154 W	77 32	6 21	5 36.14	+24 46.0	1.431	0.429	12.4	17.7	5 W	— —
12 17	7 0.98	+31 41.1	1.046	1.999	9.8	19.6	160 W	77 32	6 23	5 54.27	+24 51.7	1.418	0.407	7.8	17.4	3 W	— —
12 22	6 54.57	+31 48.3	1.049	2.016	7.1	19.5	165 W	77 32	6 25	6 12.87	+24 48.0	1.405	0.389	3.8	17.0	1 W	— —
12 27	6 47.84	+31 51.2	1.058	2.034	4.9	19.5	170 W	77 32	6 27	6 31.84	+24 34.2	1.390	0.377	6.4	17.1	2 E	— —
1 1	6 41.08	+31 49.6	1.074	2.051	4.2	19.5	171 E	77 32	6 29	6 50.98	+24 9.9	1.374	0.370	12.7	17.3	5 E	— —
1 6	6 34.59	+31 43.5	1.096	2.069	5.5	19.6	168 E	77 32	7 1	7 10.12	+23 35.0	1.357	0.369	19.7	17.5	7 E	— —
1 11	6 28.62	+31 33.4	1.125	2.087	7.7	19.8	164 E	77 32	7 3	7 29.07	+22 50.1	1.338	0.375	26.6	17.7	9 E	— 2*
1 16	6 23.39	+31 19.9	1.159	2.104	10.0	20.0	158 E	76 33	7 5	7 47.67	+21 56.0	1.319	0.386	33.0	17.9	12 E	1* 5*
1 21	6 19.04	+31 3.7	1.200	2.122	12.4	20.2	152 E	76 33	7 7	8 5.81	+20 53.8	1.299	0.403	38.8	18.1	14 E	2* 7*
<b>484795 2009 DE<sub>47</sub></b>									7 9	8 23.42	+19 44.5	1.280	0.424	43.7	18.4	17 E	2* 10*
4 6	23 20.49	-17 23.4	1.845	1.161	28.9	21.4	34 W	— 26*	7 11	8 40.49	+18 29.3	1.262	0.448	47.7	18.6	19 E	3* 12*
4 16	23 54.66	-13 2.9	1.795	1.118	30.3	21.3	34 W	— 27*	7 13	8 57.01	+17 9.1	1.246	0.475	51.0	18.7	21 E	4* 14*

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

2021	$\alpha_{2000}$	$\delta_{2000}$	$\Delta$	$r$	$\beta$	$V$	$\psi$	45°	-26°	2021	$\alpha_{2000}$	$\delta_{2000}$	$\Delta$	$r$	$\beta$	$V$	$\psi$	45°	-26°
<b>405212 2003 QC<sub>10</sub></b> (continuation)										<b>333889 1998 SV<sub>4</sub></b> (continuation)									
9 13	14 27.34	-18 33.7	1.724	1.333	35.6	21.3	50 E	8*	44*	5 11	0 29.73	+28 38.3	1.279	0.796	52.1	20.2	38 W	28*	19*
9 23	15 0.08	-21 0.0	1.886	1.439	31.7	21.5	49 E	8*	43*	5 16	0 37.77	+28 40.0	1.318	0.856	50.1	20.3	41 W	29*	21*
<b>512234 2015 VO<sub>66</sub></b>										<b>333889 1998 SV<sub>4</sub></b> (continuation)									
4 6	23 54.42	-4 40.8	1.130	0.385	60.8	20.9	20 W	—	13*	5 21	0 46.01	+28 39.2	1.345	0.912	48.8	20.5	43 W	30*	23*
4 8	0 6.75	-3 44.0	1.181	0.393	53.9	20.8	18 W	—	12*	5 26	0 54.33	+28 36.4	1.363	0.964	47.9	20.6	45 W	31*	25*
4 10	0 18.93	-2 41.8	1.230	0.405	47.4	20.8	17 W	—	11*	5 31	1 2.63	+28 31.8	1.371	1.011	47.5	20.7	47 W	32*	27*
4 12	0 30.87	-1 35.7	1.278	0.421	41.6	20.8	16 W	—	10*	6 5	1 10.89	+28 25.4	1.372	1.055	47.2	20.8	50 W	33*	28*
4 14	0 42.53	-0 27.3	1.323	0.440	36.4	20.8	15 W	—	9*	6 10	1 19.06	+28 16.9	1.364	1.096	47.2	20.9	52 W	35*	30*
4 16	0 53.85	+0 42.2	1.365	0.462	31.9	20.9	14 W	—	8*	6 15	1 27.11	+28 6.1	1.349	1.132	47.3	20.9	55 W	37*	31*
4 18	1 4.83	+1 51.9	1.406	0.485	28.0	20.9	13 W	—	7*	6 20	1 35.04	+27 52.4	1.328	1.166	47.5	20.9	58 W	39*	33*
4 20	1 15.47	+3 0.9	1.445	0.509	24.6	21.0	12 W	—	6*	6 25	1 42.83	+27 35.4	1.300	1.196	47.8	21.0	61 W	41*	34*
4 22	1 25.76	+4 8.6	1.482	0.535	21.7	21.0	11 W	—	5*	6 30	1 50.48	+27 14.5	1.266	1.223	48.2	21.0	64 W	43*	35*
4 24	1 35.73	+5 14.8	1.517	0.560	19.3	21.1	11 W	—	4*	7 5	1 57.97	+26 49.0	1.228	1.248	48.5	20.9	67 W	46*	36*
4 26	1 45.40	+6 19.0	1.552	0.587	17.2	21.2	10 W	—	3*	7 10	2 5.29	+26 18.0	1.184	1.269	48.8	20.9	70 W	48*	37*
5 1	2 8.33	+8 50.3	1.632	0.653	13.2	21.4	9 W	—	2*	7 15	2 12.41	+25 40.4	1.136	1.287	49.1	20.9	73 W	51*	38*
5 6	2 29.76	+11 7.8	1.705	0.718	10.6	21.6	8 W	—	1*	7 20	2 19.32	+24 54.8	1.084	1.303	49.4	20.8	77 W	53*	39*
5 11	2 49.94	+13 11.5	1.774	0.780	8.9	21.8	7 W	—	1*	7 25	2 26.00	+23 59.6	1.028	1.316	49.5	20.7	80 W	56*	40*
5 16	3 9.08	+15 2.4	1.837	0.841	7.9	22.0	7 W	—	—	7 30	2 32.43	+22 52.9	0.969	1.326	49.6	20.6	84 W	58*	41*
<b>435441 2008 DJ<sub>5</sub></b>										<b>333889 1998 SV<sub>4</sub></b> (continuation)									
4 6	23 59.16	-1 39.9	1.628	0.733	23.6	21.5	17 W	—	11*	8 4	2 38.55	+21 32.0	0.908	1.334	49.5	20.5	88 W	60*	42*
4 11	0 22.38	+1 27.3	1.659	0.742	21.0	21.5	15 W	—	9*	8 9	2 44.33	+19 53.4	0.846	1.338	49.2	20.3	92 W	61*	44*
4 16	0 45.13	+4 29.2	1.691	0.756	18.5	21.5	14 W	—	8*	8 14	2 49.69	+17 52.6	0.782	1.341	48.7	20.1	96 W	61*	46*
4 21	1 7.48	+7 23.6	1.725	0.775	16.2	21.5	12 W	—	6*	8 19	2 54.56	+15 23.8	0.717	1.340	48.0	19.9	100 W	60*	49*
4 26	1 29.46	+10 8.5	1.760	0.798	14.3	21.5	11 W	—	5*	8 24	2 58.86	+12 19.3	0.653	1.337	47.0	19.7	105 W	57*	52*
<b>468540 2006 MD<sub>12</sub></b>										<b>333889 1998 SV<sub>4</sub></b> (continuation)									
4 16	0 1.61	+10 59.0	1.646	0.826	28.7	21.3	23 W	11*	14*	8 26	3 0.39	+10 53.4	0.628	1.335	46.5	19.6	107 W	56*	53*
4 21	0 24.50	+13 49.9	1.597	0.766	29.6	21.1	22 W	11*	12*	8 28	3 1.80	+9 19.3	0.603	1.333	45.9	19.5	109 W	54	55
4 26	0 49.94	+16 41.7	1.551	0.703	30.0	20.9	20 W	10*	10*	8 30	3 3.07	+7 36.4	0.579	1.330	45.2	19.4	111 W	53	56
5 1	1 18.48	+19 28.7	1.509	0.635	29.7	20.6	18 W	9*	8*	9 1	3 4.20	+5 43.6	0.555	1.326	44.6	19.2	113 W	51	58
5 6	1 50.74	+22 2.1	1.470	0.565	28.3	20.3	15 W	8*	4*	9 3	3 5.17	+3 39.9	0.531	1.323	43.8	19.1	115 W	49	60
5 8	2 4.82	+22 56.9	1.456	0.537	27.3	20.1	14 W	7*	3*	9 5	3 5.95	+1 24.4	0.509	1.319	43.0	19.0	117 W	46	63
5 10	2 19.62	+23 46.3	1.442	0.508	26.0	19.9	13 W	6*	1*	9 7	3 6.53	-1 4.1	0.487	1.314	42.2	18.9	119 W	44	65
5 12	2 35.16	+24 29.2	1.428	0.480	24.4	19.7	11 W	5*	—	9 9	3 6.89	-3 46.5	0.466	1.309	41.4	18.7	121 W	41	68
5 14	2 51.45	+25 4.1	1.414	0.452	22.3	19.5	10 W	4*	—	9 11	3 7.01	-6 43.8	0.447	1.304	40.6	18.6	123 W	38	71
5 16	3 8.47	+25 29.5	1.400	0.426	20.0	19.3	8 W	2*	—	9 13	3 6.84	-9 56.6	0.429	1.298	39.8	18.5	124 W	35	74
5 18	3 26.18	+25 43.7	1.386	0.400	17.6	19.0	7 W	1*	—	9 18	3 4.99	-19 7.8	0.391	1.281	38.5	18.2	127 W	26	83
5 20	3 44.47	+25 45.1	1.370	0.378	15.9	18.8	6 W	—	—	9 23	3 0.43	-29 47.3	0.367	1.262	39.0	18.1	128 W	15	86
5 22	4 3.23	+25 32.2	1.352	0.359	15.9	18.7	6 E	—	—	9 28	2 51.96	-41 16.0	0.357	1.239	41.8	18.1	124 W	4	75
5 24	4 22.23	+25 3.9	1.332	0.344	18.7	18.7	6 E	—	—	10 3	2 37.45	-52 31.0	0.362	1.214	46.7	18.2	118 W	—	63
5 26	4 41.23	+24 20.0	1.309	0.334	24.0	18.7	6 E	1*	—	10 4	2 33.53	-54 38.5	0.365	1.208	47.8	18.2	117 W	—	61
5 28	4 59.96	+23 21.1	1.283	0.331	30.9	18.9	10 W	1*	2*	10 5	2 29.19	-56 42.5	0.368	1.203	48.9	18.3	115 W	—	59
5 30	5 18.16	+22 8.9	1.254	0.334	38.4	19.1	12 E	2*	4*	10 6	2 24.39	-58 42.5	0.372	1.197	50.1	18.3	113 W	—	57
6 1	5 35.64	+20 45.8	1.223	0.344	45.9	19.3	14 E	2*	7*	10 7	2 19.06	-60 38.2	0.377	1.192	51.2	18.4	112 W	—	55
6 3	5 52.33	+19 14.3	1.191	0.359	52.8	19.5	16 E	2*	10*	10 7	2 15.06	-62 29.3	0.381	1.186	52.3	18.4	110 W	—	54
6 5	6 8.22	+17 37.0	1.158	0.378	58.8	19.7	19 E	2*	12*	10 8	2 13.15	-62 29.3	0.381	1.186	52.3	18.4	110 W	—	54
6 6	6 23.39	+15 55.7	1.125	0.401	63.9	19.9	21 E	1*	14*	10 9	2 6.59	-64 15.6	0.387	1.180	53.5	18.5	108 W	—	52
6 7	6 37.93	+14 12.0	1.094	0.426	68.2	20.1	23 E	1*	17*	10 10	1 59.32	-65 56.9	0.392	1.173	54.6	18.5	107 W	—	50
6 9	6 51.97	+12 26.7	1.064	0.453	71.5	20.3	25 E	—	19*	10 11	1 51.24	-67 32.9	0.398	1.167	55.7	18.6	105 W	—	48
6 11	7 5.61	+10 40.7	1.035	0.481	74.2	20.5	27 E	—	21*	10 12	1 42.28	-69 3.5	0.404	1.161	56.8	18.6	103 W	—	47
6 13	7 18.95	+8 54.4	1.009	0.509	76.2	20.6	29 E	—	23*	10 13	1 32.33	-70 28.4	0.411	1.154	57.8	18.7	102 W	—	46
6 15	7 51.45	+4 29.9	0.953	0.580	78.9	20.9	34 E	—	28*	10 14	1 21.30	-71 47.5	0.418	1.147	58.8	18.7	100 W	—	44
6 20	8 23.43	+0 10.8	0.911	0.650	79.3	21.0	39 E	—	33*	10 15	1 9.09	-73 0.7	0.425	1.141	59.8	18.8	99 E	—	43
6 25	8 55.31	-3 57.7	0.883	0.716	78.2	21.1	44 E	—	37*	10 16	0 55.62	-74 7.7	0.432	1.134	60.8	18.8	97 E	—	42
6 30	9 27.22	-7 50.3	0.868	0.779	76.0	21.2	48 E	—	41*	10 17	0 40.80	-75 8.4	0.439	1.127	61.7	18.9	95 E	—	41
7 5	9 59.00	-11 21.7	0.866	0.838	73.3	21.3	52 E	—	45*	10 18	0 24.62	-76 2.4	0.447	1.119	62.6	18.9	94 E	—	40
7 10	10 30.35	-14 27.6	0.874	0.893	70.2	21.3	56 E	—	48*	10 19	0 7.07	-76 49.8	0.455	1.112	63.5	19.0	92 E	—	39
7 15	11 0.93	-17 6.1	0.893	0.944	67.1	21.4	59 E	—	51*	10 20	23 48.24	-77 30.2	0.463	1.105	64.3	19.0	91 E	—	38
7 20	11 30.39	-19 16.8	0.921	0.991	64.0	21.5	61 E	—	54*	10 21	23 28.29	-78 3.6	0.471	1.097	65.2	19.1	89 E	—	38
<b>333889 1998 SV<sub>4</sub></b>										<b>333889 1998 SV<sub>4</sub></b> (continuation)									
4 16	0 11.80	+25 30.8	0.896	0.429	91.5	19.4	25 W	19*	5*	10 22	23 7.46	-78 30.0	0.479	1.089	65.9	19.1	88 E	—	37
4 17	0 10.41	+25 57.6	0.917	0.445	87.8	19.3	26 W	20*	5*	10 23	22 46.07	-78 49.5	0.487	1.081	66.7	19.2	87 E	—	37
4 18	0 9.38	+26 20.5	0.938	0.461	84.4	19.3	27 W	21*	6*	10 24	22 24.49	-79 2.4	0.495	1.073	67.4	19.2	85 E	—	37
4 19	0 8.68	+26 40.1	0.959	0.477	81.3	19.3	28 W	21*	7*	10 25	22 3.12	-79 9.1	0.504	1.065	68.2	19.2	84 E	—	37
4 20	0 8.27	+26 56.8	0.979	0.493	78.5	19.4	29 W	22*	8*	10 26	21 42.31	-79 10.0	0.512	1.057	68.8	19.3	82 E	—	37
4 21	0 8.12	+27 11.3	0.999	0.508	75.9	19.4	29 W	23*	8*	10 27	21 22.37	-79 5.8	0.520	1.048</					

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21/22	$\alpha_{2000}$	$\delta_{2000}$	$\Delta$	$r$	$\beta$	$V$	$\psi$	45°-26°	21/22	$\alpha_{2000}$	$\delta_{2000}$	$\Delta$	$r$	$\beta$	$V$	$\psi$	45°-26°
<b>333889 1998 SV<sub>4</sub></b> (continuation)									<b>401856 2000 KW<sub>43</sub></b> (continuation)								
11 17	18 1.37	-70 35.4	0.679	0.834	80.9	19.8	56 E	31*	5 23	16 10.07	+39 57.1	0.225	1.140	50.6	19.1	119 W	85 24
11 18	17 57.07	-70 5.1	0.685	0.822	81.4	19.8	55 E	31*	5 24	16 5.37	+37 29.4	0.226	1.148	48.6	19.1	122 W	82 27
11 19	17 52.92	-69 34.3	0.691	0.810	81.9	19.8	54 E	30*	5 25	16 1.01	+35 1.5	0.227	1.156	46.6	19.1	124 E	80 29
11 20	17 48.92	-69 2.8	0.697	0.798	82.5	19.8	53 E	29*	5 26	15 56.98	+32 34.0	0.229	1.163	44.6	19.0	126 E	78 31
11 21	17 45.04	-68 30.7	0.703	0.785	83.0	19.8	52 E	29*	5 27	15 53.23	+30 7.6	0.232	1.171	42.7	19.0	128 E	75 34
11 22	17 41.29	-67 57.9	0.708	0.772	83.6	19.8	51 E	28*	5 28	15 49.76	+27 43.1	0.235	1.179	40.9	19.0	130 E	73 36
11 24	17 34.10	-66 49.6	0.719	0.746	84.7	19.8	49 E	26*	5 29	15 46.53	+25 20.8	0.238	1.187	39.2	19.0	132 E	70 39
11 26	17 27.28	-65 37.2	0.729	0.719	85.9	19.8	47 E	24*	5 30	15 43.53	+23 1.4	0.242	1.194	37.6	19.0	134 E	68 41
11 28	17 20.82	-64 19.8	0.738	0.692	87.2	19.8	44 E	22*	5 31	15 40.75	+20 45.3	0.246	1.202	36.1	19.0	136 E	66 43
11 30	17 14.69	-62 56.4	0.747	0.663	88.5	19.8	42 E	20*	6 1	15 38.16	+18 32.9	0.251	1.210	34.8	19.0	137 E	64 45
12 2	17 8.91	-61 25.9	0.756	0.634	89.9	19.8	40 E	18*	6 2	15 35.76	+16 24.4	0.256	1.217	33.6	19.1	138 E	61 48
12 4	17 3.51	-59 47.1	0.764	0.604	91.4	19.8	38 E	16*	6 3	15 33.54	+14 20.1	0.261	1.225	32.5	19.1	140 E	59 50
12 6	16 58.55	-57 58.7	0.773	0.574	92.9	19.7	36 E	13*	6 4	15 31.48	+12 20.2	0.267	1.233	31.5	19.1	141 E	57 52
12 8	16 54.08	-55 59.4	0.781	0.543	94.5	19.7	33 W	12*	6 5	15 29.57	+10 24.7	0.274	1.240	30.7	19.2	141 E	55 54
12 10	16 50.21	-53 47.5	0.790	0.511	96.0	19.7	31 W	12*	6 10	15 22.05	+1 54.0	0.311	1.278	28.3	19.4	143 E	47 62
12 12	16 47.07	-51 21.8	0.799	0.479	97.6	19.6	29 W	13*	6 15	15 17.33	-4 53.6	0.355	1.315	28.1	19.8	142 E	40 69
12 14	16 44.79	-48 40.8	0.810	0.448	98.9	19.6	27 W	13*	6 20	15 14.82	-10 16.2	0.406	1.352	29.0	20.2	140 E	35 74
12 16	16 43.57	-45 43.7	0.823	0.416	99.9	19.5	25 W	14*	6 25	15 14.08	-14 32.9	0.461	1.388	30.2	20.5	137 E	30 79
12 18	16 43.63	-42 30.0	0.838	0.386	100.4	19.4	23 W	14*	6 30	15 14.78	-17 59.2	0.520	1.423	31.5	20.9	133 E	27 82
12 20	16 45.22	-39 0.4	0.856	0.358	100.0	19.3	21 W	14*	7 5	15 16.69	-20 47.5	0.583	1.457	32.7	21.2	129 E	24* 85
12 22	16 48.62	-35 17.2	0.879	0.332	98.4	19.1	20 W	13*	<b>99907 1989 VA</b>								
12 23	16 51.09	-33 21.8	0.891	0.321	97.0	19.0	19 W	13*	4 16	0 14.20	+10 31.9	0.964	0.347	86.3	18.6	20 W	8* 12*
12 24	16 54.11	-31 24.9	0.905	0.312	95.1	18.9	18 W	12*	4 18	0 17.47	+11 58.7	1.022	0.372	76.7	18.5	21 W	10* 12*
12 25	16 57.69	-29 27.5	0.920	0.304	92.8	18.7	18 W	12*	4 20	0 22.15	+13 15.7	1.077	0.400	68.8	18.5	22 W	10* 12*
12 26	17 1.85	-27 30.6	0.937	0.298	90.1	18.6	18 W	2* 11*	4 22	0 27.78	+14 24.1	1.130	0.429	62.3	18.5	22 W	11* 12*
12 27	17 6.57	-25 35.4	0.954	0.294	87.0	18.5	17 W	3* 10*	4 24	0 34.03	+15 25.2	1.180	0.458	56.9	18.6	22 W	11* 12*
12 28	17 11.82	-23 43.2	0.972	0.292	83.5	18.4	17 W	5* 9*	4 26	0 40.68	+16 19.9	1.226	0.488	52.4	18.7	23 W	12* 12*
12 29	17 17.57	-21 54.9	0.991	0.293	79.9	18.3	17 W	6* 8*	4 28	0 47.56	+17 9.3	1.270	0.518	48.7	18.8	23 W	12* 12*
12 30	17 23.76	-20 11.6	1.011	0.295	76.2	18.2	17 W	7* 7*	4 30	0 54.58	+17 54.0	1.312	0.547	45.5	18.9	23 W	12* 12*
12 31	17 30.30	-18 33.8	1.031	0.300	72.4	18.2	17 W	8* 6*	5 2	1 1.66	+18 34.7	1.351	0.576	42.9	19.0	23 W	12* 12*
1 1	17 37.14	-17 2.1	1.052	0.307	68.8	18.2	17 W	9* 5*	5 4	1 8.75	+19 11.8	1.387	0.604	40.6	19.1	23 W	12* 12*
1 3	17 51.38	-14 17.6	1.093	0.325	62.0	18.2	17 W	10* 3*	5 6	1 15.83	+19 45.7	1.421	0.631	38.7	19.2	23 W	12* 12*
1 5	18 5.95	-11 57.2	1.134	0.349	56.1	18.2	17 W	11* 1*	5 11	1 33.30	+20 58.9	1.498	0.696	35.0	19.4	23 W	12* 13*
1 7	18 20.46	-9 58.4	1.174	0.376	51.2	18.3	17 W	11*	5 16	1 50.37	+21 58.3	1.564	0.756	32.5	19.6	24 W	12* 13*
1 9	18 34.66	-8 18.0	1.214	0.406	47.0	18.4	18 W	12*	5 21	2 6.98	+22 46.7	1.619	0.811	30.8	19.8	24 W	12* 13*
1 11	18 48.40	-6 52.9	1.253	0.437	43.5	18.6	18 W	12*	5 26	2 23.16	+23 25.9	1.666	0.862	29.8	20.0	25 W	12* 14*
1 13	19 1.61	-5 40.4	1.291	0.469	40.5	18.7	18 W	12*	5 31	2 38.96	+23 57.1	1.704	0.908	29.2	20.1	26 W	13* 15*
1 15	19 14.28	-4 38.1	1.329	0.501	37.9	18.8	18 W	11*	6 5	2 54.41	+24 21.4	1.735	0.949	28.9	20.3	27 W	13* 16*
1 17	19 26.39	-3 44.2	1.366	0.533	35.7	19.0	18 W	11*	6 10	3 9.58	+24 39.2	1.759	0.987	29.0	20.4	28 W	14* 17*
1 19	19 37.96	-2 57.2	1.402	0.564	33.6	19.1	19 W	11*	6 15	3 24.50	+24 51.2	1.776	1.020	29.2	20.5	29 W	15* 18*
1 21	19 49.03	-2 16.0	1.438	0.595	31.8	19.2	19 W	11*	6 25	3 53.76	+24 58.3	1.792	1.076	30.1	20.6	32 W	17* 20*
4 16	0 12.97	+67 3.8	0.383	0.869	99.1	21.4	59 W	41*	7 5	4 22.54	+24 43.9	1.785	1.117	31.5	20.7	35 W	19* 22*
4 17	0 5.39	+67 46.7	0.377	0.875	98.7	21.4	60 W	42*	7 15	4 51.14	+24 7.9	1.757	1.145	33.3	20.8	38 W	22* 24*
4 18	23 57.15	+68 28.6	0.371	0.881	98.3	21.3	60 W	44*	7 25	5 19.83	+23 9.0	1.710	1.159	35.3	20.8	41 W	25* 26*
4 19	23 48.21	+69 9.2	0.364	0.888	97.8	21.3	61 W	45*	8 4	5 48.97	+21 44.9	1.649	1.160	37.5	20.8	44 W	28* 28*
4 20	23 38.50	+69 48.4	0.358	0.894	97.3	21.2	62 W	46*	8 14	6 18.93	+19 52.2	1.573	1.148	40.0	20.8	47 W	31* 29*
4 21	23 27.94	+70 25.9	0.352	0.901	96.7	21.2	63 W	47*	8 24	6 50.18	+17 26.4	1.488	1.123	42.8	20.7	49 W	33* 31*
4 22	23 16.47	+71 1.4	0.346	0.908	96.1	21.1	64 W	48*	9 3	7 23.38	+14 21.7	1.397	1.084	45.9	20.5	50 W	34* 33*
4 23	23 4.02	+71 34.6	0.340	0.915	95.4	21.1	65 W	49*	9 13	7 59.38	+10 31.2	1.304	1.031	49.4	20.4	51 W	34* 34*
4 24	22 50.53	+72 5.0	0.334	0.921	94.7	21.0	66 W	50*	9 18	8 18.78	+8 16.8	1.259	0.999	51.3	20.3	51 W	34* 34*
4 25	22 35.96	+72 32.1	0.328	0.928	94.0	21.0	67 W	52*	9 23	8 39.36	+5 48.9	1.217	0.963	53.3	20.2	50 W	33* 35*
4 26	22 20.29	+72 55.4	0.322	0.935	93.2	20.9	68 W	53*	9 28	9 1.33	+3 7.4	1.177	0.923	55.4	20.1	49 W	31* 35*
4 27	22 3.52	+73 14.4	0.316	0.943	92.3	20.8	69 W	54*	10 3	9 24.92	+0 13.1	1.143	0.879	57.6	20.0	48 W	29* 34*
4 28	21 45.71	+73 28.3	0.310	0.950	91.5	20.8	71 W	55*	10 8	9 50.38	-2 52.0	1.114	0.830	59.7	19.9	46 W	27* 34*
4 29	21 26.97	+73 36.4	0.305	0.957	90.5	20.7	72 W	56*	10 13	10 17.99	-6 4.3	1.093	0.776	61.8	19.7	43 W	24* 32*
4 30	21 7.46	+73 38.2	0.299	0.964	89.5	20.7	73 W	57*	10 18	10 48.00	-9 17.9	1.082	0.718	63.5	19.6	40 W	20* 30*
5 1	20 47.39	+73 32.9	0.294	0.972	88.5	20.6	75 W	59*	10 23	11 20.68	-12 25.1	1.081	0.655	64.6	19.4	36 W	17* 28*
5 2	20 27.02	+73 20.0	0.288	0.979	87.4	20.5	76 W	60*	10 28	11 56.23	-15 15.7	1.093	0.587	64.5	19.2	32 W	13* 24*
5 3	20 6.63	+72 59.0	0.283	0.986	86.2	20.5	78 W	61*	11 2	12 34.83	-17 38.5	1.118	0.514	62.6	18.9	27 W	10* 20*
5 4	19 46.51	+72 29.7	0.278	0.994	85.0	20.4	79 W	62*	11 7	13 16.69	-19 21.4	1.156	0.440	57.4	18.5	22 W	6* 15*
5 5	19 26.92	+71 51.7	0.273	1.001	83.7	20.3	81 W	63*	11 12	14 2.11	-20 12.4	1.203	0.369	47.1	17.9	16 W	3* 9*
5 6	19 8.08	+71 5.1	0.268	1.009	82.3	20.2	82 W	64*	11 17	14 51.33	-20 2.4	1.251	0.314	29.1	17.1	9 W	- 2*
5 7	18 50.17	+70 9.9	0.263	1.017	80.9	20.2	84 W	65	11 22	15 43.24	-18 52.9	1.281	0.296	6.4	16.3	2 W	- -
5 8	18 33.29	+69 6.3	0.259	1.024	79.4	20.1	86 W	66	11 24	16 4.01	-18 13.1	1.285	0.302	8.8	16.4	3 E	- -
5 9	18 17.50	+67 54.3	0.254	1.032	77.9	20.0	88 W	67	11 26	16 24.39	-17 29.4	1.284	0.315	17.2	16.8	5 E	