

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

19/21	$\alpha_{2000}$	$\delta_{2000}$	$\Delta$	$r$	$\beta$	$V$	$\psi$	45°	-26°	19/21	$\alpha_{2000}$	$\delta_{2000}$	$\Delta$	$r$	$\beta$	$V$	$\psi$	45°	-26°
<b>380981 2006 SU<sub>131</sub></b>										<b>245236 2004 XL<sub>130</sub></b>									
12 23	17 54.44	-21 40.6	2.029	1.047	2.4	20.6	3 W	—	—	12 23	17 55.35	-31 49.7	3.195	2.227	3.8	20.8	9 W	—	—
12 28	18 17.05	-22 4.5	2.027	1.044	2.0	20.6	2 W	—	—	1 2	18 18.96	-31 5.0	3.155	2.194	4.5	20.8	10 W	—	3*
1 2	18 39.77	-22 16.6	2.027	1.044	1.7	20.5	2 W	—	—	1 12	18 42.55	-30 6.9	3.104	2.161	6.1	20.8	14 W	—	7*
1 7	19 2.49	-22 16.9	2.030	1.047	1.4	20.5	1 W	—	—	1 22	19 6.02	-28 54.8	3.044	2.128	8.1	20.8	18 W	—	12*
1 12	19 25.07	-22 5.4	2.035	1.052	1.2	20.5	1 W	—	—	2 1	19 29.26	-27 28.5	2.973	2.094	10.2	20.8	22 W	—	16*
1 17	19 47.42	-21 42.5	2.043	1.060	1.2	20.6	1 W	—	—	2 11	19 52.18	-25 47.7	2.893	2.060	12.4	20.8	27 W	2*	21*
1 22	20 9.42	-21 8.8	2.053	1.070	1.4	20.6	2 W	—	—	2 21	20 14.74	-23 52.5	2.806	2.026	14.6	20.8	31 W	3*	25*
1 27	20 30.98	-20 25.2	2.066	1.083	1.7	20.7	2 W	—	—	3 2	20 36.87	-21 42.8	2.712	1.992	16.9	20.8	36 W	5*	30*
2 1	20 52.03	-19 32.6	2.081	1.097	2.0	20.7	2 W	—	—	3 12	20 58.55	-19 18.8	2.611	1.958	19.1	20.7	40 W	7*	34*
2 6	21 12.51	-18 32.1	2.098	1.114	2.4	20.8	3 W	—	—	3 22	21 19.80	-16 40.5	2.506	1.925	21.2	20.7	44 W	9*	38*
2 11	21 32.40	-17 24.9	2.117	1.133	2.7	20.9	3 W	—	—	4 1	21 40.62	-13 48.0	2.397	1.892	23.3	20.6	49 W	11*	43*
2 16	21 51.67	-16 12.0	2.137	1.153	3.1	21.0	4 W	—	—	4 11	22 1.03	-10 41.5	2.286	1.859	25.4	20.5	53 W	14*	46*
2 21	22 10.33	-14 54.5	2.159	1.175	3.4	21.1	4 W	—	—	4 21	22 21.09	-7 20.9	2.174	1.827	27.4	20.4	57 W	17*	50*
2 26	22 28.37	-13 33.5	2.182	1.198	3.8	21.1	5 W	—	—	5 1	22 40.85	-3 46.3	2.062	1.796	29.3	20.3	61 W	20*	53*
3 2	22 45.83	-12 10.0	2.205	1.222	4.2	21.2	5 W	—	—	5 11	23 0.37	+ 0 2.2	1.951	1.767	31.0	20.2	64 W	24*	54*
3 7	23 2.71	-10 44.9	2.230	1.247	4.6	21.3	6 W	—	—	5 21	23 19.74	+ 4 4.5	1.843	1.738	32.7	20.1	68 W	28*	55*
3 12	23 19.05	- 9 18.9	2.255	1.273	5.1	21.4	6 W	—	—	5 31	23 39.03	+ 8 20.0	1.738	1.712	34.2	20.0	71 W	33*	54*
<b>68359 2001 OZ<sub>13</sub></b>										<b>6 10</b> 23 58.32 +12 48.0 1.638 1.687 35.5 19.9 75 W 39* 51*									
12 23	17 54.87	-22 11.0	2.678	1.695	1.2	21.3	2 W	—	—	6 20	0 17.71	+17 27.2	1.543	1.664	36.7	19.7	78 W	45*	47*
1 2	18 22.12	-22 31.6	2.686	1.711	3.3	21.4	6 W	—	—	6 30	0 37.26	+22 15.6	1.455	1.644	37.7	19.6	81 W	53*	42*
1 12	18 49.11	-22 34.8	2.686	1.725	5.5	21.6	10 W	—	3*	7 5	0 47.12	+24 42.4	1.413	1.634	38.1	19.5	83 W	57*	39
1 22	19 15.78	-22 21.5	2.678	1.737	7.7	21.7	14 W	1*	7*	7 10	0 57.06	+27 10.5	1.373	1.626	38.5	19.5	84 W	61*	37
2 1	19 42.03	-21 52.9	2.661	1.748	9.9	21.8	18 W	2*	11*	7 15	1 7.08	+29 39.3	1.335	1.618	38.8	19.4	86 W	65*	34
<b>4769 Castalia</b>										<b>7 20</b> 1 17.18 +32 8.4 1.298 1.611 39.1 19.4 87 W 69* 32									
12 23	17 55.27	-28 4.0	2.555	1.577	3.1	20.2	5 W	—	—	7 25	1 27.35	+34 37.1	1.263	1.604	39.3	19.3	89 W	73*	29
1 2	18 23.00	-27 47.2	2.544	1.573	4.5	20.3	7 W	—	1*	7 30	1 37.59	+37 4.8	1.230	1.599	39.4	19.2	90 W	77*	27
1 12	18 50.67	-27 11.8	2.519	1.563	6.6	20.4	11 W	—	5*	8 4	1 47.90	+39 31.0	1.199	1.594	39.5	19.2	92 W	81*	24
1 22	19 18.26	-26 17.8	2.483	1.548	9.0	20.4	14 W	—	8*	8 9	1 58.26	+41 54.9	1.169	1.590	39.6	19.1	93 W	84*	22
2 1	19 45.78	-25 5.0	2.434	1.526	11.4	20.5	18 W	—	12*	8 14	2 8.64	+44 16.0	1.140	1.586	39.5	19.1	95 W	88*	20
2 11	20 13.26	-23 33.1	2.374	1.499	13.9	20.5	21 W	—	15*	8 19	2 19.00	+46 33.6	1.113	1.584	39.4	19.0	96 W	88	17
2 21	20 40.79	-21 41.7	2.303	1.466	16.4	20.4	25 W	1*	19*	8 24	2 29.26	+48 46.8	1.087	1.582	39.3	18.9	98 W	86	15
3 2	21 8.48	-19 30.1	2.223	1.426	19.0	20.4	28 W	2*	22*	8 29	2 39.37	+50 55.1	1.062	1.581	39.1	18.9	99 W	84	13
3 12	21 36.49	-16 57.5	2.137	1.380	21.6	20.3	31 W	3*	25*	9 3	2 49.24	+52 57.9	1.039	1.581	38.8	18.8	101 W	82	11
3 22	22 5.09	-14 2.6	2.044	1.328	24.3	20.2	33 W	4*	27*	9 8	2 58.75	+54 54.7	1.016	1.582	38.4	18.8	103 W	80	9
4 1	22 34.59	-10 43.8	1.948	1.270	27.0	20.1	35 W	5*	29*	9 13	3 7.75	+56 44.9	0.995	1.583	37.9	18.7	105 W	78	7
4 11	23 5.43	- 6 59.6	1.851	1.205	29.7	19.9	37 W	6*	31*	9 18	3 16.03	+58 27.9	0.974	1.586	37.4	18.7	106 W	77	6
4 21	23 38.19	- 2 48.4	1.757	1.133	32.4	19.8	37 W	7*	31*	9 23	3 23.39	+60 3.0	0.954	1.589	36.8	18.6	108 W	75	4
5 1	0 13.63	+ 1 49.6	1.669	1.055	35.0	19.6	37 W	8*	31*	9 28	3 29.62	+61 29.4	0.936	1.593	36.1	18.5	111 W	74	3
5 11	0 52.71	+ 6 51.6	1.591	0.971	37.4	19.4	36 W	9*	29*	10 3	3 34.47	+62 46.6	0.918	1.598	35.3	18.5	113 W	72	1
5 16	1 14.00	+ 9 29.2	1.558	0.927	38.4	19.2	35 W	10*	28*	10 8	3 37.69	+63 53.7	0.901	1.604	34.4	18.4	115 W	71	—
5 21	1 36.68	+12 8.9	1.529	0.882	39.1	19.1	33 W	10*	26*	10 13	3 39.07	+64 49.3	0.885	1.610	33.4	18.4	117 W	70	—
5 26	2 0.92	+14 48.1	1.506	0.836	39.6	19.0	32 W	10*	24*	10 18	3 38.43	+65 32.0	0.870	1.617	32.3	18.3	120 W	69	—
5 31	2 26.91	+17 23.3	1.488	0.790	39.6	18.8	30 W	10*	21*	10 23	3 35.80	+65 59.9	0.857	1.625	31.1	18.2	123 W	69	—
6 5	2 54.79	+19 50.0	1.476	0.744	39.2	18.7	28 W	10*	19*	10 28	3 31.36	+66 11.4	0.845	1.633	29.8	18.2	125 W	69	—
6 10	3 24.68	+22 3.2	1.471	0.700	38.0	18.5	25 W	10*	16*	10 30	3 29.15	+66 11.1	0.841	1.637	29.3	18.2	126 W	69	—
6 15	3 56.58	+23 56.8	1.473	0.658	35.9	18.3	22 W	9*	13*	11 1	3 26.75	+66 7.7	0.837	1.641	28.8	18.2	127 W	69	—
6 20	4 30.37	+25 24.5	1.480	0.621	32.9	18.1	19 W	8*	10*	11 3	3 24.17	+66 1.3	0.834	1.645	28.2	18.1	128 W	69	—
6 25	5 5.74	+26 20.4	1.493	0.589	28.7	17.9	16 W	6*	6*	11 5	3 21.47	+65 51.7	0.831	1.648	27.7	18.1	129 W	69	—
6 30	5 42.16	+26 39.8	1.510	0.565	23.5	17.7	13 W	4*	3*	11 7	3 18.68	+65 38.9	0.828	1.652	27.2	18.1	130 W	69	—
7 5	6 18.93	+26 20.2	1.529	0.552	17.5	17.5	9 W	2*	—	11 9	3 15.85	+65 23.0	0.826	1.657	26.7	18.1	131 W	70	—
7 10	6 55.26	+25 22.1	1.551	0.550	11.1	17.2	6 W	—	—	11 11	3 13.01	+65 3.7	0.824	1.661	26.2	18.1	132 W	70	—
7 15	7 30.42	+23 49.4	1.573	0.560	5.2	17.1	3 W	—	—	11 13	3 10.21	+64 41.3	0.823	1.665	25.6	18.1	133 W	70	—
7 20	8 3.86	+21 48.1	1.595	0.580	3.1	17.0	2 E	—	—	11 15	3 7.49	+64 15.7	0.822	1.669	25.2	18.0	134 E	71	—
7 25	8 35.27	+19 25.5	1.619	0.610	6.8	17.4	4 E	—	—	11 17	3 4.89	+63 47.0	0.822	1.674	24.7	18.0	135 E	71	—
7 30	9 4.57	+16 48.6	1.643	0.646	10.5	17.7	7 E	—	1*	11 19	3 2.45	+63 15.3	0.822	1.679	24.2	18.0	136 E	72	1
8 4	9 31.85	+14 3.6	1.670	0.686	13.3	18.0	9 E	—	3*	11 21	3 0.19	+62 40.7	0.823	1.683	23.8	18.0	136 E	72	1
8 9	9 57.29	+11 15.4	1.699	0.730	15.4	18.2	11 E	—	5*	11 23	2 58.13	+62 3.5	0.825	1.688	23.5	18.0	137 E	73	2
8 14	10 21.09	+ 8 27.5	1.731	0.775	16.7	18.4	13 E	—	7*	11 25	2 56.31	+61 23.7	0.827	1.693	23.1	18.0	138 E	74	3

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

19/21	$\alpha_{2000}$	$\delta_{2000}$	$\Delta$	$r$	$\beta$	$V$	$\psi$	45°	-26°	2020	$\alpha_{2000}$	$\delta_{2000}$	$\Delta$	$r$	$\beta$	$V$	$\psi$	45°	-26°		
<b>329555 2002 UB<sub>3</sub></b>										<b>329915 2005 MB</b>											
<i>(continuation)</i>										<i>(continuation)</i>											
3	22	21 5.98	-24 26.9	2.649	2.152	20.8	21.0	50 W	5*	44*	5	11	23 30.41	-31 48.4	1.780	1.766	33.1	21.0	73 W	-	61*
4	1	21 28.48	-24 2.4	2.521	2.115	22.8	20.9	55 W	5*	48*	5	21	23 50.74	-33 4.2	1.665	1.765	34.2	20.9	78 W	-	66*
4	11	21 51.18	-23 35.1	2.391	2.077	24.7	20.8	60 W	5*	53*	5	31	0 11.47	-34 46.3	1.547	1.757	35.0	20.7	84 W	-	70*
4	21	22 14.10	-23 6.3	2.259	2.039	26.4	20.7	65 W	5*	58*	6	10	0 32.90	-37 0.0	1.429	1.741	35.7	20.5	89 W	-	73*
5	1	22 37.24	-22 37.7	2.128	2.002	28.0	20.6	69 W	5*	62*	6	20	0 55.41	-39 51.2	1.313	1.717	36.2	20.3	94 W	-	74*
5	11	23 0.61	-22 10.7	1.999	1.965	29.5	20.5	73 W	6*	67*	6	25	1 7.22	-41 32.6	1.257	1.702	36.4	20.2	96 W	-	73*
5	21	23 24.21	-21 47.2	1.873	1.929	30.8	20.3	78 W	7*	71*	6	30	1 19.51	-43 25.3	1.204	1.685	36.6	20.1	98 W	-	72*
5	31	23 48.02	-21 29.0	1.751	1.894	32.0	20.2	82 W	8*	76*	7	5	1 32.40	-45 29.6	1.152	1.666	36.9	20.0	100 W	-	70*
6	10	0 11.98	-21 17.8	1.635	1.859	33.0	20.0	86 W	9*	80*	7	10	1 46.05	-47 45.5	1.103	1.645	37.2	19.9	102 W	-	68*
6	20	0 36.02	-21 15.5	1.525	1.826	33.8	19.8	90 W	11*	83*	7	15	2 0.64	-50 12.9	1.057	1.622	37.6	19.8	103 W	-	66*
6	30	0 59.96	-21 23.9	1.422	1.794	34.5	19.7	93 W	13*	85*	7	20	2 16.44	-52 51.2	1.015	1.597	38.2	19.7	104 W	-	63*
7	10	1 23.61	-21 44.2	1.326	1.763	34.9	19.5	97 W	16*	86	7	25	2 33.77	-55 38.8	0.976	1.569	38.9	19.6	104 W	-	60*
7	20	1 46.67	-22 17.4	1.238	1.735	35.2	19.3	100 W	18*	86	7	30	2 53.10	-58 33.7	0.941	1.540	39.8	19.5	104 W	-	57*
7	30	2 8.72	-23 3.9	1.157	1.709	35.3	19.1	104 W	19*	87	8	1	3 1.55	-59 44.9	0.928	1.527	40.3	19.4	104 W	-	56*
8	4	2 19.23	-23 32.0	1.119	1.697	35.2	19.0	105 W	19*	88	8	3	3 10.47	-60 56.7	0.916	1.514	40.7	19.4	103 W	-	55*
8	9	2 29.31	-24 3.0	1.084	1.685	35.2	19.0	107 W	20*	88	8	5	3 19.93	-62 8.5	0.904	1.501	41.2	19.4	103 W	-	54*
8	14	2 38.88	-24 36.8	1.050	1.674	35.0	18.9	108 W	20*	89	8	7	3 30.01	-63 20.3	0.893	1.487	41.8	19.3	102 W	-	53*
8	19	2 47.85	-25 13.2	1.017	1.664	34.8	18.8	110 W	20*	89	8	9	3 40.77	-64 31.5	0.883	1.473	42.4	19.3	102 W	-	51*
8	24	2 56.14	-25 51.5	0.986	1.654	34.6	18.7	112 W	19*	90	8	11	3 52.31	-65 41.9	0.873	1.458	43.0	19.3	101 W	-	50*
8	29	3 6.66	-26 31.2	0.957	1.645	34.2	18.6	114 W	18	89	8	13	4 4.72	-66 51.0	0.863	1.443	43.7	19.3	100 W	-	49*
9	3	3 10.33	-27 11.5	0.929	1.637	33.9	18.5	115 W	18	89	8	15	4 18.11	-67 58.3	0.854	1.428	44.4	19.2	99 W	-	48*
9	8	3 16.05	-27 51.7	0.903	1.630	33.4	18.4	117 W	17	88	8	17	4 32.60	-69 3.2	0.846	1.412	45.2	19.2	98 W	-	46*
9	13	3 20.71	-28 30.8	0.878	1.624	32.9	18.4	119 W	16	87	8	19	4 48.30	-70 5.2	0.839	1.396	46.0	19.2	97 W	-	45*
9	18	3 24.23	-29 7.5	0.855	1.618	32.2	18.3	121 W	16	87	8	21	5 5.32	-71 3.5	0.831	1.379	46.8	19.2	96 W	-	44*
9	23	3 26.53	-29 40.1	0.833	1.614	31.5	18.2	123 W	15	86	8	23	5 23.76	-71 57.4	0.824	1.362	47.7	19.1	95 W	-	43*
9	28	3 27.54	-30 7.0	0.813	1.610	30.8	18.1	125 W	15	86	8	25	5 43.70	-72 46.1	0.818	1.344	48.6	19.1	94 W	-	42*
10	3	3 27.25	-30 26.1	0.795	1.607	29.9	18.0	127 W	15	86	8	27	6 5.13	-73 28.6	0.812	1.326	49.6	19.1	93 W	-	40*
10	8	3 25.66	-30 35.5	0.778	1.605	29.1	18.0	129 W	14	85	8	29	6 28.01	-74 4.1	0.806	1.307	50.6	19.1	91 W	-	39*
10	13	3 22.81	-30 32.8	0.764	1.604	28.1	17.9	131 W	14	85	8	30	6 39.94	-74 19.0	0.804	1.298	51.1	19.1	91 W	-	39*
10	18	3 18.80	-30 15.8	0.752	1.604	27.2	17.8	133 W	15	86	8	31	6 52.17	-74 31.8	0.801	1.288	51.6	19.1	90 W	-	38*
10	23	3 13.81	-29 42.2	0.743	1.605	26.3	17.8	134 W	15	86	9	1	7 4.65	-74 42.5	0.798	1.278	52.1	19.1	89 W	-	37*
10	28	3 8.11	-28 50.4	0.737	1.606	25.6	17.7	136 W	16	87	9	2	7 17.34	-74 51.0	0.796	1.268	52.7	19.1	88 W	-	37*
11	2	3 1.97	-27 39.6	0.735	1.609	24.9	17.7	137 W	17	88	9	3	7 30.19	-74 57.3	0.793	1.258	53.2	19.0	88 W	-	36*
11	7	2 55.69	-26 9.7	0.736	1.612	24.5	17.7	138 W	19	90	9	4	7 43.14	-75 1.2	0.791	1.248	53.8	19.0	87 W	-	36*
11	12	2 49.57	-24 21.6	0.741	1.617	24.3	17.7	138 W	21	88	9	5	7 56.15	-75 2.8	0.789	1.238	54.4	19.0	86 W	-	35*
11	17	2 43.91	-22 16.9	0.751	1.622	24.4	17.8	137 W	23	86	9	6	8 9.13	-75 2.1	0.786	1.228	54.9	19.0	85 W	-	35*
11	22	2 38.94	-19 58.2	0.765	1.628	24.8	17.8	136 W	25	84	9	7	8 22.05	-74 59.0	0.784	1.217	55.5	19.0	85 W	-	34*
11	27	2 34.85	-17 28.4	0.783	1.635	25.4	17.9	135 W	28	81	9	8	8 34.83	-74 53.6	0.782	1.206	56.1	19.0	84 W	-	34*
12	2	2 31.76	-14 51.1	0.806	1.643	26.2	18.0	133 W	30	79	9	9	8 47.42	-74 45.9	0.779	1.195	56.7	19.0	83 W	-	33*
12	7	2 29.70	-12 9.4	0.834	1.651	27.1	18.1	130 W	33	76	9	10	8 59.78	-74 36.1	0.777	1.184	57.4	19.0	82 W	-	33*
12	12	2 28.69	-9 26.1	0.866	1.661	28.0	18.2	128 W	36	73	9	11	9 11.86	-74 24.0	0.775	1.173	58.0	19.0	81 W	-	32*
12	17	2 28.73	-6 43.7	0.902	1.671	29.0	18.4	125 W	38	71	9	12	9 23.63	-74 9.9	0.773	1.162	58.6	19.0	80 W	-	32*
12	22	2 29.77	-4 4.0	0.942	1.681	29.9	18.5	122 W	41	68	9	13	9 35.04	-73 53.8	0.770	1.151	59.3	19.0	80 W	-	31*
12	27	2 31.77	-1 28.7	0.986	1.693	30.7	18.6	118 W	44	65	9	14	9 46.10	-73 35.8	0.768	1.139	60.0	19.0	79 W	-	31*
1	1	2 34.64	+1 1.1	1.034	1.705	31.4	18.8	115 W	46	63	9	15	9 56.76	-73 15.9	0.766	1.127	60.7	18.9	78 W	-	30*
1	6	2 38.32	+3 24.9	1.085	1.717	32.0	18.9	112 W	48	61	9	16	10 7.04	-72 54.3	0.764	1.115	61.4	18.9	77 W	-	30*
1	11	2 42.74	+5 42.2	1.138	1.731	32.5	19.0	109 W	51	58*	9	17	10 16.91	-72 31.0	0.761	1.103	62.1	18.9	76 W	-	29*
1	16	2 47.86	+7 52.8	1.194	1.744	32.8	19.2	106 W	53	56*	9	18	10 26.39	-72 6.1	0.759	1.091	62.8	18.9	75 W	-	29*
<b>323300 2003 UD<sub>22</sub></b>										<b>329915 2005 MB</b>											
12	23	17 56.41	-22 21.6	1.782	0.799	2.2	20.6	2 W	-	-	9	20	10 44.17	-71 11.7	0.754	1.066	64.3	18.9	73 W	-	28*
12	28	18 23.64	-21 39.6	1.779	0.797	2.1	20.6	2 W	-	-	9	22	11 0.45	-70 11.7	0.749	1.041	65.9	18.9	71 W	-	27*
1	2	18 50.61	-20 41.4	1.779	0.798	3.1	20.7	2 W	-	-	9	24	11 15.33	-69 6.2	0.744	1.014	67.6	18.9	69 W	-	26*
1	7	19 17.14	-19 28.3	1.781	0.802	4.4	20.8	4 E	-	-	9	26	11 28.91	-67 55.6	0.739	0.987	69.3	18.8	67 W	-	25*
1	12	19 43.10	-18 2.1	1.786	0.811	5.8	20.9	5 E	-	-	9	28	11 41.33	-66 39.7	0.734	0.959	71.2	18.8	65 W	-	24*
1	17	20 8.39	-16 24.6	1.794	0.822	7.1	21.0	6 E	-	-	9	30	11 52.69	-65 18.6	0.728	0.931	73.1	18.8	63 W	-	24*
1	22	20 32.94	-14 38.0	1.805	0.837	8.3	21.1	7 E	1*	-	10	2	12 3.10	-63 52.0	0.722	0.901	75.2	18.8	61 W	-	23*
1	27	20 56.73	-12 44.4	1.818	0.854	9.3	21.2	8 E	2*	-	10	4	12 12.66	-62 19.5	0.716	0.871	77.5	18.8	58 W	-	22*
2	1	21 19.74	-10 45.6	1.834	0.874	10.1	21.3	9 E	3*	-	10	6	12 21.46	-60 40.6	0.710	0.840	79.9	18.8	56 W	-	21*
2	6	21 41.99	-8 43.7	1.852	0.895	10.7	21.4	10 E	4*	-	10	8	12 29.58	-58 54.6	0.703	0.808	82.5	18.8	53 W	-	20*
2	11	22 3.51	-6 40.1	1.872	0.919	11.1	21.5	10 E	4*	-	10	10	12 37.09	-57 0.7	0.697	0.775	85.3	18.8	51 W	-	20*
12	23	17 56.58	-23 1.7	1.832	0.849	1.6	18.3	1 W	-	-	10	12	12 44.05	-54 5							

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

19/21	$\alpha_{2000}$	$\delta_{2000}$	$\Delta$	$r$	$\beta$	$V$	$\psi$	45°	-26°	19/21	$\alpha_{2000}$	$\delta_{2000}$	$\Delta$	$r$	$\beta$	$V$	$\psi$	45°	-26°
<b>329915 2005 MB</b> (continuation)										<b>351068 2003 TS<sub>13</sub></b> (continuation)									
11 14	15 1.78	-8 33.1	1.155	0.255	44.3	16.1	10 W	4*	—	8 4	2 10.93	+22 31.8	1.177	1.601	39.2	18.8	94 W	64*	41
11 15	15 9.58	-9 2.4	1.191	0.275	38.1	16.2	10 W	3*	—	8 9	2 22.56	+23 24.1	1.139	1.596	39.2	18.8	96 W	66*	41
11 16	15 17.10	-9 35.9	1.224	0.296	32.9	16.3	9 W	2*	—	8 14	2 33.99	+24 11.1	1.102	1.592	39.1	18.7	98 W	68*	40
11 17	15 24.33	-10 11.9	1.255	0.318	28.7	16.4	9 W	1*	—	8 19	2 45.16	+24 52.4	1.067	1.589	38.9	18.6	100 W	69*	39
11 18	15 31.28	-10 49.2	1.285	0.340	25.2	16.5	8 W	—	—	8 24	2 55.97	+25 27.5	1.032	1.587	38.6	18.5	102 W	70*	39
11 19	15 37.96	-11 27.1	1.314	0.362	22.3	16.6	8 W	—	—	8 29	3 6.34	+25 56.3	0.998	1.586	38.1	18.4	104 W	71	38
11 20	15 44.39	-12 5.0	1.341	0.385	19.9	16.7	8 E	—	—	9 3	3 16.21	+26 18.6	0.966	1.586	37.5	18.3	107 W	71	38
11 21	15 50.59	-12 42.4	1.368	0.407	17.8	16.8	7 E	—	—	9 8	3 25.45	+26 34.2	0.935	1.588	36.7	18.2	110 W	72	37
11 22	15 56.58	-13 19.2	1.393	0.430	16.1	16.9	7 E	—	—	9 13	3 33.98	+26 43.0	0.905	1.591	35.7	18.2	113 W	72	37
11 23	16 2.37	-13 55.2	1.418	0.452	14.7	17.0	7 E	—	—	9 18	3 41.67	+26 44.8	0.876	1.595	34.6	18.1	116 W	72	37
11 24	16 7.98	-14 30.2	1.442	0.473	13.4	17.0	6 E	—	—	9 23	3 48.42	+26 39.6	0.849	1.600	33.2	18.0	119 W	72	37
11 25	16 13.43	-15 4.3	1.465	0.495	12.3	17.1	6 E	—	—	9 28	3 54.14	+26 27.4	0.824	1.606	31.6	17.9	123 W	71	38
11 26	16 18.72	-15 37.3	1.487	0.516	11.4	17.2	6 E	—	—	10 3	3 58.76	+26 8.1	0.800	1.613	29.8	17.7	127 W	71	38
11 27	16 23.87	-16 9.2	1.510	0.537	10.5	17.3	6 E	—	—	10 8	4 2.21	+25 42.0	0.779	1.621	27.7	17.6	131 W	71	38
12 2	16 47.79	-18 33.7	1.613	0.636	7.4	17.7	5 E	—	—	10 18	4 5.43	+24 29.5	0.744	1.640	22.7	17.4	141 W	69	40
12 7	17 9.34	-20 34.6	1.707	0.727	5.3	18.0	4 E	—	—	10 28	4 3.95	+22 52.6	0.723	1.664	16.7	17.2	151 W	68	41
12 12	17 29.09	-22 15.5	1.794	0.812	3.5	18.3	3 E	—	—	11 7	3 58.75	+20 58.0	0.718	1.691	9.9	17.0	163 W	66	43
12 17	17 47.47	-23 39.8	1.873	0.890	2.1	18.5	2 E	—	—	11 12	3 55.24	+19 57.4	0.723	1.705	6.4	16.8	169 W	65	44
12 22	18 4.73	-24 50.1	1.946	0.963	1.6	18.7	2 E	—	—	11 17	3 51.46	+18 56.8	0.733	1.721	2.9	16.7	175 W	64	45
12 27	18 21.07	-25 48.8	2.012	1.031	2.4	19.0	3 W	—	—	11 22	3 47.68	+17 58.0	0.749	1.737	1.3	16.7	178 E	63	46
1 1	18 36.63	-26 37.6	2.073	1.094	3.7	19.2	4 W	—	—	11 27	3 44.16	+17 2.9	0.771	1.753	4.3	16.9	172 E	62	47
1 6	18 51.55	-27 18.2	2.127	1.154	5.1	19.5	6 W	—	—	12 2	3 41.09	+16 13.0	0.797	1.771	7.5	17.2	166 E	61	48
1 11	19 5.91	-27 51.6	2.175	1.209	6.5	19.7	8 W	—	2*	12 7	3 38.64	+15 29.2	0.829	1.789	10.5	17.4	161 E	60	49
1 16	19 19.77	-28 18.9	2.217	1.261	7.9	19.9	10 W	—	4*	12 17	3 35.99	+14 22.4	0.908	1.826	15.8	17.9	150 E	59	50
12 23	17 56.62	-22 0.3	2.134	1.151	1.7	19.7	2 W	—	—	12 27	3 36.68	+13 43.9	1.005	1.866	20.0	18.3	139 E	59	50
12 28	18 18.03	-21 52.6	2.109	1.127	1.8	19.6	2 W	—	—	1 6	3 40.59	+13 30.2	1.118	1.907	23.2	18.6	130 E	59	50
1 2	18 39.84	-21 33.9	2.087	1.105	1.9	19.5	2 W	—	—	1 16	3 47.36	+13 36.1	1.243	1.949	25.4	19.0	122 E	59	50
1 7	19 1.94	-21 3.9	2.068	1.086	1.9	19.5	2 W	—	—	<b>431107 2006 GU</b>									
1 12	19 24.23	-20 22.4	2.052	1.070	1.9	19.4	2 W	—	—	12 23	17 56.88	-14 58.2	2.131	1.167	7.2	20.2	9 W	1*	—
1 17	19 46.60	-19 29.6	2.040	1.057	1.8	19.4	2 W	—	—	1 2	18 38.67	-15 39.5	2.104	1.137	6.6	20.1	8 W	1*	—
1 22	20 8.93	-18 25.7	2.031	1.048	1.7	19.4	2 W	—	—	1 12	19 21.36	-15 48.8	2.092	1.120	5.6	20.0	6 W	—	—
1 27	20 31.11	-17 11.7	2.026	1.043	1.6	19.3	2 W	—	—	1 22	20 4.19	-15 25.0	2.093	1.116	4.4	19.9	5 W	—	—
2 1	20 53.04	-15 48.3	2.025	1.041	1.6	19.3	2 W	—	—	2 1	20 46.39	-14 30.0	2.108	1.126	3.1	19.9	4 W	—	—
2 6	21 14.64	-14 16.9	2.028	1.042	1.6	19.3	2 W	—	—	2 6	21 7.04	-13 52.1	2.120	1.136	2.5	19.9	3 W	—	—
2 11	21 35.85	-12 38.6	2.034	1.048	1.6	19.4	2 E	—	—	2 11	21 27.29	-13 8.2	2.135	1.149	2.0	19.9	2 W	—	—
2 16	21 56.61	-10 54.9	2.044	1.057	1.7	19.4	2 E	—	—	2 16	21 47.10	-12 19.1	2.152	1.166	1.6	19.9	2 W	—	—
2 21	22 16.90	-9 7.3	2.058	1.070	1.8	19.4	2 E	—	—	2 21	22 6.44	-11 25.7	2.172	1.185	1.6	20.0	2 W	—	—
2 26	22 36.68	-7 17.0	2.074	1.086	1.8	19.5	2 E	—	—	2 26	22 25.26	-10 28.7	2.195	1.206	2.0	20.1	2 W	—	—
3 2	22 55.96	-5 25.5	2.095	1.105	1.8	19.5	2 E	—	—	3 2	22 43.57	-9 29.0	2.219	1.231	2.5	20.2	3 W	—	—
3 7	23 14.74	-3 34.0	2.118	1.126	1.8	19.6	2 E	—	—	3 7	23 1.34	-8 27.5	2.245	1.257	3.1	20.3	4 W	—	—
3 12	23 33.01	-1 43.5	2.143	1.151	1.6	19.7	2 E	—	—	3 12	23 18.59	-7 24.9	2.272	1.285	3.8	20.4	5 W	—	—
3 17	23 50.80	+0 5.0	2.171	1.177	1.4	19.7	1 E	—	—	3 22	23 51.55	-5 18.9	2.330	1.346	5.1	20.6	7 W	—	—
3 22	0 8.13	+1 50.7	2.201	1.206	1.1	19.8	1 E	—	—	4 1	0 22.57	-3 15.7	2.389	1.412	6.5	20.8	9 W	—	2*
4 1	0 41.48	+5 11.4	2.266	1.267	0.5	19.9	1 W	—	—	4 11	0 51.80	-1 18.9	2.449	1.482	7.9	21.1	12 W	—	4*
4 11	1 13.20	+8 14.7	2.336	1.334	1.0	20.1	1 W	—	—	4 21	1 19.39	+0 29.0	2.507	1.555	9.3	21.3	15 W	—	7*
4 21	1 43.47	+10 58.7	2.407	1.404	2.2	20.4	3 W	—	—	5 1	1 45.50	+2 6.2	2.561	1.629	10.8	21.5	18 W	—	10*
5 1	2 12.41	+13 22.6	2.477	1.477	3.7	20.7	5 W	—	—	<b>138925 2001 AU<sub>43</sub></b>									
5 11	2 40.12	+15 26.3	2.544	1.551	5.2	20.9	8 W	—	2*	12 23	17 56.97	+13 29.8	1.907	1.267	27.8	19.1	37 W	22*	—
5 21	3 6.68	+17 10.7	2.607	1.625	6.9	21.1	11 W	—	5*	12 28	18 14.84	+11 38.2	1.922	1.251	26.8	19.0	35 W	21*	—
5 31	3 32.13	+18 36.6	2.662	1.699	8.6	21.4	14 W	—	8*	1 2	18 32.15	+9 48.5	1.939	1.237	25.7	19.0	33 W	20*	—
12 23	17 56.80	-20 9.3	3.431	2.450	1.4	20.7	4 W	—	—	1 7	18 48.93	+8 1.3	1.958	1.224	24.4	18.9	31 W	20*	—
1 2	18 16.89	-19 54.7	3.376	2.405	3.1	20.8	8 W	1*	—	1 12	19 5.20	+6 16.9	1.978	1.212	23.0	18.9	29 W	19*	—
1 12	18 37.36	-19 29.1	3.310	2.361	5.2	20.8	13 W	4*	4*	1 22	19 36.38	+2 57.7	2.017	1.195	20.1	18.8	25 W	17*	—
1 22	18 58.15	-18 52.0	3.233	2.315	7.5	20.8	18 W	6*	9*	2 1	20 6.05	-0 8.7	2.050	1.184	17.4	18.7	21 W	15*	—
2 1	19 19.19	-18 2.9	3.146	2.270	9.7	20.8	23 W	8*	15*	2 11	20 34.61	-3 3.6	2.073	1.182	15.6	18.7	19 W	12*	2*
2 11	19 40.41	-17 1.5	3.050	2.224	11.9	20.8	28 W	10*	20*	2 21	21 2.50	-5 48.7	2.084	1.188	15.3	18.7	18 W	10*	8*
2 21	20 1.76	-15 47.8	2.946	2.179	14.1	20.7	33 W	12*	25*	3 2	21 30.13	-8 26.2	2.080	1.201	16.7	18.8	20 W	7*	13*
3 2	20 23.19	-14 21.8	2.837	2.133	16.3	20.7	37 W	13*	30*	3 12	21 57.89	-10 58.4	2.063	1.222	19.2	18.9	24 W	4*	18*
3 12	20 44.66	-12 43.7	2.722	2.088	18.5	20.6	42 W	14*	35*	3 22	22 26.19	-13 27.2	2.032	1.249	22.3	19.0	28 W	1*	22*
3 22	21 6.17	-10 53.9	2.604	2.043	20.6	20.5	46 W	16*	39*	4 1	22 55.35	-15 54.5	1.992	1.282	25.4	19.1	33 W	—	27*
4 1	21 27.71	-8 52.9	2.484	1.999	22.6	20.5	50 W	17*	43*	4 11	23 25.70	-18 21.6	1.946	1.320	28.3	19.2	39 W	—	30*
4 11	21 49.28	-6 41.5	2.363	1.955	24.6	20.4	54 W	19*	47*	4 21	23 57.50	-20 49.0	1.898	1.362	30.7	19.3	44 W	—	34*
4 21	22 10.93	-4 20.4	2.242	1.913	26.5	20.3	58 W	21*	50*	5 1	0 30.92	-23 16.5	1.851	1.407	32.5	19.4	49 W	—	37*
5 1	22 32.68	+1 50.9	2.122	1.872	28.4	20.1													

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

19/21	$\alpha_{2000}$	$\delta_{2000}$	$\Delta$	$r$	$\beta$	$V$	$\psi$	45°	-26°	19/21	$\alpha_{2000}$	$\delta_{2000}$	$\Delta$	$r$	$\beta$	$V$	$\psi$	45°	-26°
<b>138925 2001 AU<sub>43</sub></b>										<b>45251 1999 YN</b>									
<i>(continuation)</i>										<i>(continuation)</i>									
7 20	5 20.76	-38 35.6	1.883	1.805	31.9	19.9	70 W	-	49*	3 2	19 48.30	-14 12.7	3.316	2.717	15.1	20.0	46 W	18*	38*
7 30	5 50.79	-39 50.5	1.933	1.853	31.0	20.0	70 W	-	50*	3 12	20 3.25	-13 54.1	3.188	2.690	16.9	20.0	52 W	19*	45*
8 9	6 17.99	-41 4.7	1.985	1.901	30.1	20.1	70 W	-	51*	3 22	20 17.76	-13 33.5	3.049	2.662	18.5	19.9	58 W	20*	51*
8 19	6 42.32	-42 21.1	2.036	1.947	29.3	20.2	70 W	-	52*	4 1	20 31.73	-13 12.2	2.903	2.634	20.0	19.8	65 W	21*	57*
8 29	7 3.75	-43 42.1	2.082	1.992	28.6	20.2	71 W	-	53*	4 11	20 45.06	-12 52.1	2.749	2.605	21.0	19.7	71 W	22*	64*
9 8	7 22.31	-45 8.9	2.122	2.036	27.9	20.3	71 W	-	54*	4 21	20 57.66	-12 35.2	2.591	2.574	22.4	19.6	78 W	24*	70*
9 18	7 37.96	-46 42.3	2.153	2.078	27.4	20.4	72 W	-	56*	5 1	21 9.37	-12 23.9	2.429	2.543	23.2	19.5	85 W	25*	74*
9 28	7 50.54	-48 22.2	2.175	2.119	26.9	20.4	73 W	-	57*	5 11	21 20.06	-12 21.0	2.266	2.511	23.7	19.3	92 W	26*	76
10 3	7 55.62	-49 14.3	2.182	2.139	26.8	20.5	74 W	-	58*	5 21	21 29.54	-12 29.6	2.103	2.479	23.8	19.1	99 W	28*	76
10 8	7 59.85	-50 7.6	2.187	2.158	26.6	20.5	75 W	-	59*	5 31	21 37.56	-12 53.6	1.944	2.446	23.3	18.9	107 W	29*	77
10 13	8 3.16	-51 1.8	2.189	2.177	26.4	20.5	76 W	-	59*	6 10	21 43.86	-13 37.0	1.792	2.412	22.3	18.6	116 W	30*	78
10 18	8 5.50	-51 56.7	2.188	2.196	26.3	20.5	77 W	-	60*	6 20	21 48.11	-14 44.2	1.648	2.377	20.6	18.4	125 W	30*	79
10 23	8 6.78	-52 51.6	2.186	2.214	26.1	20.5	79 W	-	60*	6 30	21 49.94	-16 19.0	1.517	2.342	18.1	18.1	134 W	29	80
10 28	8 6.95	-53 45.9	2.180	2.232	26.0	20.5	80 W	-	61*	7 10	21 49.05	-18 23.6	1.402	2.306	14.9	17.8	144 W	27	82
11 2	8 5.91	-54 39.0	2.173	2.249	25.9	20.5	81 W	-	61*	7 20	21 45.20	-20 56.8	1.308	2.270	10.9	17.4	155 W	24	85
11 7	8 3.60	-55 29.9	2.164	2.266	25.7	20.5	83 W	-	60*	7 25	21 42.16	-22 22.3	1.269	2.251	8.8	17.3	160 W	23	86
11 12	7 59.92	-56 17.5	2.153	2.283	25.6	20.5	85 W	-	60	7 30	21 38.43	-23 52.0	1.237	2.233	6.8	17.1	165 W	21	88
11 17	7 54.80	-57 0.6	2.141	2.299	25.4	20.5	86 W	-	59	8 4	21 34.11	-25 24.1	1.212	2.215	5.4	17.0	168 W	20	89
11 22	7 48.22	-57 37.6	2.128	2.315	25.2	20.5	88 W	-	58	8 9	21 29.30	-26 56.5	1.193	2.196	5.3	16.9	169 W	18	89
11 27	7 40.19	-58 6.6	2.114	2.331	25.0	20.5	90 W	-	58	8 14	21 24.14	-28 27.0	1.181	2.177	6.6	17.0	166 E	17	88
12 2	7 30.80	-58 26.0	2.100	2.346	24.8	20.5	92 W	-	58	8 19	21 18.83	-29 53.4	1.176	2.159	8.7	17.0	161 E	15	86
12 7	7 20.20	-58 34.0	2.086	2.360	24.6	20.5	93 W	-	57	8 24	21 13.56	-31 13.9	1.178	2.140	11.2	17.1	156 E	14	85
12 12	7 8.62	-58 28.7	2.073	2.374	24.4	20.5	95 W	-	58	8 29	21 8.57	-32 26.8	1.185	2.121	13.7	17.2	150 E	13	84
12 17	6 56.38	-58 8.5	2.060	2.388	24.1	20.5	97 W	-	58	9 3	21 4.05	-33 31.2	1.198	2.103	16.2	17.3	145 E	11	82
12 22	6 43.89	-57 32.3	2.050	2.401	23.9	20.5	99 W	-	58	9 8	21 0.18	-34 26.5	1.216	2.084	18.5	17.4	139 E	11	82
12 27	6 31.53	-56 39.3	2.041	2.414	23.6	20.5	100 W	-	59	9 13	20 57.12	-35 12.5	1.238	2.065	20.6	17.5	134 E	10	81
1 1	6 19.70	-55 29.8	2.035	2.427	23.4	20.5	101 E	-	61	9 18	20 54.99	-35 49.5	1.264	2.046	22.6	17.5	128 E	9	80
1 6	6 8.70	-54 4.2	2.032	2.439	23.2	20.5	102 E	-	62	9 23	20 53.88	-36 17.7	1.293	2.028	24.4	17.6	124 E	9	80
1 11	5 58.78	-52 23.6	2.032	2.451	23.0	20.5	103 E	-	64	9 28	20 53.82	-36 37.8	1.324	2.009	25.9	17.7	119 E	8	79
1 16	5 50.11	-50 29.5	2.036	2.462	22.8	20.5	104 E	-	66	10 8	20 56.87	-36 56.0	1.392	1.972	28.4	17.8	110 E	8	79
<b>2204 Lyyli</b>										<b>429845 2012 QX<sub>40</sub></b>									
12 23	17 57.35	-8 0.8	4.578	3.639	4.1	18.7	15 W	6*	-	11 2	21 21.10	-35 54.8	1.574	1.882	31.8	18.1	92 E	9	80*
1 2	18 9.68	-8 3.3	4.562	3.636	4.6	18.7	17 W	11*	-	11 7	21 28.30	-35 26.8	1.610	1.865	32.1	18.1	88 E	10	79*
1 12	18 21.90	-7 58.6	4.527	3.631	5.7	18.7	22 W	15*	2*	11 12	21 36.14	-34 54.0	1.644	1.848	32.3	18.2	85 E	10	78*
1 22	18 33.93	-7 46.8	4.475	3.625	7.1	18.8	27 W	19*	10*	11 17	21 44.55	-34 16.4	1.678	1.831	32.4	18.2	82 E	11	76*
2 1	18 45.67	-7 28.2	4.405	3.619	8.5	18.8	33 W	22*	18*	11 22	21 53.48	-33 34.1	1.712	1.815	32.4	18.2	80 E	11	74*
2 11	18 56.99	-7 3.3	4.318	3.612	10.0	18.8	40 W	24*	26*	11 27	22 2.87	-32 47.3	1.743	1.799	32.3	18.2	77 E	12	71*
2 21	19 7.80	-6 32.5	4.216	3.603	11.4	18.8	46 W	27*	34*	12 2	22 12.65	-31 56.0	1.774	1.783	32.2	18.3	74 E	13	68*
3 2	19 17.97	-5 56.5	4.100	3.594	12.7	18.8	53 W	29*	41*	12 7	22 22.78	-31 0.3	1.804	1.768	32.0	18.3	72 E	14	66*
3 12	19 27.38	-5 16.0	3.971	3.584	13.9	18.8	60 W	31*	48*	12 12	22 33.23	-30 0.1	1.832	1.753	31.8	18.3	70 E	15	63*
3 22	19 35.90	-4 31.8	3.832	3.573	14.9	18.7	68 W	33*	55*	12 17	22 43.96	-28 55.8	1.860	1.739	31.5	18.3	67 E	16	60*
4 1	19 43.39	-3 45.0	3.685	3.561	15.7	18.6	75 W	35*	61*	12 22	22 54.94	-27 47.2	1.886	1.725	31.2	18.3	65 E	17*	58*
4 11	19 49.69	-2 56.6	3.532	3.549	16.3	18.6	83 W	37*	65*	12 27	23 6.12	-26 34.7	1.911	1.712	30.9	18.3	63 E	18*	55*
4 21	19 54.65	-2 8.2	3.376	3.535	16.5	18.5	91 W	39*	66*	1 1	23 17.49	-25 18.4	1.935	1.699	30.5	18.3	61 E	19*	53*
5 1	19 58.09	-1 21.3	3.220	3.520	16.4	18.4	99 W	41*	65	1 6	23 29.01	-23 58.4	1.958	1.687	30.1	18.3	59 E	20*	50*
5 11	19 59.85	-0 37.8	3.068	3.505	16.0	18.2	107 W	43*	65	1 11	23 40.69	-22 34.9	1.981	1.676	29.7	18.3	58 E	21*	48*
5 21	19 59.78	+0 0.1	2.922	3.488	15.1	18.1	116 W	45*	64	1 16	23 52.49	-21 8.2	2.002	1.665	29.3	18.3	56 E	22*	46*
5 31	19 57.79	+0 29.8	2.786	3.471	13.8	17.9	125 W	45	64	<b>429845 2012 QX<sub>40</sub></b>									
6 10	19 53.87	+0 48.6	2.666	3.453	12.1	17.8	134 W	46	63	12 23	17 57.76	-30 21.8	2.612	1.640	4.2	20.6	7 W	-	-
6 20	19 48.13	+0 54.2	2.564	3.433	10.2	17.6	143 W	46	63	1 2	18 31.39	-30 11.9	2.588	1.620	4.8	20.6	8 W	-	1*
6 30	19 40.84	+0 44.2	2.486	3.413	8.2	17.4	151 W	46	63	1 12	19 5.21	-29 33.1	2.565	1.604	5.9	20.6	10 W	-	3*
7 10	19 32.51	+0 17.7	2.432	3.392	6.7	17.3	157 W	45	64	1 22	19 38.79	-28 25.5	2.543	1.591	7.1	20.7	12 W	-	5*
7 20	19 23.73	+0 24.9	2.406	3.370	6.5	17.2	158 E	45	64	2 1	20 11.75	-26 50.8	2.522	1.582	8.5	20.7	14 W	-	7*
7 30	19 15.23	+1 21.6	2.408	3.347	7.8	17.3	153 E	44	65	2 11	20 43.77	-24 51.5	2.503	1.578	9.9	20.7	16 W	-	10*
8 9	19 7.72	+2 29.2	2.437	3.323	9.9	17.4	146 E	43	66	2 21	21 14.66	-22 31.0	2.485	1.578	11.4	20.8	18 W	-	12*
8 19	19 1.75	+3 43.6	2.490	3.299	12.2	17.5	137 E	41	68	3 2	21 44.30	-19 53.1	2.469	1.582	12.8	20.8	21 W	-	14*
8 29	18 57.73	+5 0.8	2.563	3.273	14.2	17.6	127 E	40	69	3 12	22 12.64	-17 2.2	2.454	1.590	14.3	20.9	23 W	-	17*
9 8	18 55.88	+6 17.1	2.653	3.246	16.0	17.7	118 E	39	70	3 22	22 39.74	-14 1.9	2.439	1.602	15.7	20.9	26 W	-	19*
9 18	18 56.23	+7 29.9	2.756	3.219	17.2	17.8	108 E	38	71	4 1	23 5.66	-10 56.0	2.424	1.618	17.2	21.0	29 W	-	22*
9 28	18 58.74	+8 36.8	2.866	3.190	18.0	17.9	100 E	36	73	4 11	23 30.47	-7 48.0	2.408	1.638	18.6	21.0	31 W	1*	25*
10 8	19 3.26	+9 36.8	2.980	3.161	18.4	18.0	91 E	35*	72*	4 21	23 54.28	-4 40.5	2.390	1.661	20.0	21.1	34 W	3*	28*
10 18	19 9.61	+10 28.5	3.094	3.131	18.4	18.1	83 E	34*	68*	5 1	0 17.18	+1 36.1	2.369	1.687	21.4	21.2	38 W	5*	32*
10 28	19 17.61	+11 11.5	3.206	3.099	18.0	18.1	75 E	33*	61*	5 11	0 39.22	+							

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

19/21	$\alpha_{2000}$	$\delta_{2000}$	$\Delta$	$r$	$\beta$	$V$	$\psi$	45°	-26°	19/21	$\alpha_{2000}$	$\delta_{2000}$	$\Delta$	$r$	$\beta$	$V$	$\psi$	45°	-26°
<b>429845 2012 QX<sub>40</sub></b>										<b>482575 2012 WY<sub>32</sub></b>									
<i>(continuation)</i>										<i>(continuation)</i>									
10 18	3 28.68	+30 39.9	1.452	2.343	13.9	20.6	146 W	76	33	7 20	2 52.01	+27 0.1	1.700	1.643	35.3	19.9	69 W	49*	36*
10 28	3 16.91	+30 58.1	1.439	2.383	9.6	20.4	156 W	76	33	7 30	3 16.56	+28 58.0	1.648	1.662	35.7	19.8	73 W	55*	35*
11 2	3 10.39	+30 58.4	1.442	2.403	7.6	20.3	161 W	76	33	8 9	3 40.21	+30 37.4	1.594	1.685	35.9	19.8	77 W	61*	33*
11 7	3 3.70	+30 53.1	1.452	2.423	6.1	20.3	165 W	76	33	8 14	3 51.58	+31 20.3	1.566	1.697	35.9	19.8	79 W	64*	33*
11 12	2 57.07	+30 42.4	1.468	2.442	5.4	20.3	167 E	76	33	8 19	4 2.57	+31 58.9	1.538	1.711	35.8	19.8	81 W	67*	32*
11 17	2 50.71	+30 27.2	1.492	2.462	5.8	20.4	165 E	75	34	8 24	4 13.11	+32 33.2	1.510	1.725	35.6	19.7	84 W	70*	31*
11 22	2 44.81	+30 8.3	1.523	2.481	7.0	20.5	162 E	75	34	8 29	4 23.15	+33 3.5	1.481	1.740	35.4	19.7	86 W	73*	31*
11 27	2 39.53	+29 47.0	1.560	2.500	8.7	20.6	157 E	75	34	9 3	4 32.61	+33 30.0	1.451	1.755	35.1	19.7	89 W	75*	31
12 2	2 34.99	+29 24.4	1.604	2.519	10.4	20.8	152 E	74	35	9 8	4 41.44	+33 52.9	1.421	1.771	34.6	19.6	92 W	77*	30
12 7	2 31.25	+29 1.6	1.654	2.538	12.2	20.9	147 E	74	35	9 13	4 49.56	+34 12.4	1.391	1.787	34.1	19.6	95 W	79*	30
12 12	2 28.35	+28 39.5	1.709	2.557	13.8	21.1	142 E	74	35	9 18	4 56.89	+34 28.9	1.361	1.805	33.4	19.5	98 W	79	30
12 17	2 26.32	+28 18.8	1.770	2.575	15.2	21.2	137 E	73	36	9 23	5 3.34	+34 42.4	1.330	1.822	32.6	19.5	102 W	80	29
12 22	2 25.14	+28 0.4	1.835	2.593	16.5	21.4	131 E	73	36	9 28	5 8.86	+34 53.1	1.300	1.840	31.7	19.4	105 W	80	29
<b>112828 2002 QE<sub>10</sub></b>										<b>482575 2012 WY<sub>32</sub></b>									
12 23	17 58.58	-23 11.6	2.682	1.698	0.5	19.8	1 W	—	—	10 3	5 16.79	+35 1.2	1.271	1.859	30.5	19.4	109 W	80	29
1 2	18 28.73	-23 28.7	2.661	1.681	2.4	19.9	4 W	—	—	10 8	5 16.79	+35 6.6	1.242	1.877	29.2	19.3	113 W	80	29
1 12	18 59.24	-23 24.1	2.638	1.668	4.4	20.0	7 W	—	1*	10 13	5 19.06	+35 9.2	1.215	1.897	27.8	19.2	118 W	80	29
1 22	19 29.89	-22 57.7	2.614	1.656	6.3	20.1	11 W	—	4*	10 18	5 20.13	+35 8.9	1.189	1.916	26.1	19.2	122 W	80	29
2 1	20 0.43	-22 10.0	2.589	1.648	8.1	20.1	14 W	—	8*	10 28	5 18.57	+34 58.0	1.145	1.956	22.1	19.0	132 W	80	29
2 11	20 30.63	-21 2.5	2.564	1.644	10.0	20.2	17 W	—	11*	11 7	5 12.31	+34 30.1	1.113	1.997	17.3	18.8	143 W	80	29
2 21	21 0.30	-19 37.1	2.538	1.642	11.8	20.2	20 W	—	14*	11 17	5 2.17	+33 41.7	1.100	2.039	12.0	18.7	155 W	79	30
3 2	21 29.31	-17 56.2	2.511	1.644	13.5	20.3	23 W	—	17*	11 22	4 56.14	+33 9.2	1.102	2.060	9.2	18.6	160 W	78	31
3 12	21 57.54	-16 2.7	2.485	1.649	15.2	20.3	26 W	1*	20*	11 27	4 49.81	+32 31.5	1.110	2.081	6.7	18.5	166 W	78	31
3 22	22 24.97	-13 59.6	2.457	1.657	16.9	20.3	29 W	1*	23*	12 2	4 43.45	+31 49.5	1.124	2.102	4.7	18.5	170 W	77	32
4 1	22 51.55	-11 49.9	2.429	1.668	18.5	20.4	32 W	2*	26*	12 7	4 37.31	+31 4.2	1.145	2.123	4.3	18.5	171 E	76	33
4 11	23 17.30	-9 36.5	2.399	1.682	20.1	20.4	35 W	2*	29*	12 12	4 31.62	+30 16.8	1.173	2.145	5.7	18.7	168 E	75	34
4 21	23 42.24	-7 22.3	2.368	1.699	21.5	20.5	38 W	3*	32*	12 17	4 26.58	+29 28.7	1.207	2.166	7.8	18.8	163 E	74	35
5 1	0 6.38	-5 9.8	2.334	1.718	23.0	20.5	42 W	5*	36*	12 22	4 22.34	+28 41.3	1.247	2.188	10.0	19.0	157 E	74	35
5 11	0 29.73	-3 1.3	2.298	1.740	24.3	20.5	45 W	6*	39*	12 27	4 18.98	+27 55.7	1.294	2.209	12.2	19.2	152 E	73	36
5 21	0 52.32	-0 58.8	2.258	1.764	25.6	20.6	49 W	9*	43*	1 1	4 16.54	+27 13.0	1.346	2.230	14.2	19.4	146 E	72	37
5 31	1 14.12	-0 56.0	2.215	1.790	26.7	20.6	53 W	11*	46*	1 6	4 15.03	+26 33.7	1.403	2.252	16.0	19.6	141 E	72	37
6 10	1 35.09	+2 41.5	2.167	1.817	27.8	20.6	57 W	15*	49*	1 11	4 14.42	+25 58.2	1.465	2.273	17.7	19.7	135 E	71	38
6 20	1 55.19	+4 16.6	2.115	1.846	28.7	20.6	61 W	19*	51*	1 16	4 14.68	+25 26.7	1.531	2.295	19.1	19.9	130 E	70	39
6 30	2 14.30	+5 40.5	2.058	1.877	29.5	20.6	65 W	25*	53*	<b>496316 2013 HQ<sub>11</sub></b>									
7 10	2 32.31	+6 52.3	1.996	1.909	30.1	20.6	70 W	30*	54*	12 23	17 59.26	-25 49.4	2.704	1.722	1.4	21.0	2 W	—	—
7 20	2 49.05	+7 51.9	1.930	1.941	30.4	20.6	75 W	36*	55*	1 2	18 29.15	-25 31.2	2.680	1.702	2.7	21.1	5 W	—	—
7 30	3 4.30	+8 38.8	1.860	1.974	30.5	20.5	81 W	42*	55*	1 12	18 59.22	-24 51.0	2.652	1.683	4.6	21.1	8 W	—	2*
8 9	3 17.82	+9 13.4	1.786	2.008	30.3	20.5	87 W	48*	55	1 22	19 29.24	-23 48.7	2.622	1.667	6.4	21.2	11 W	—	5*
8 19	3 29.29	+9 35.7	1.709	2.043	29.6	20.4	94 W	52*	54	2 1	19 58.99	-22 25.0	2.590	1.652	8.3	21.2	14 W	—	8*
8 29	3 38.35	+9 46.3	1.632	2.077	28.5	20.3	101 W	54*	54	2 11	20 28.30	-20 41.3	2.556	1.640	10.2	21.3	17 W	—	11*
9 8	3 44.64	+9 46.2	1.556	2.112	26.8	20.2	109 W	55	54	2 21	20 57.03	-18 39.3	2.522	1.630	12.1	21.3	20 W	1*	14*
9 18	3 47.76	+9 36.2	1.484	2.147	24.4	20.1	118 W	55	54	3 2	21 25.11	-16 21.5	2.486	1.622	13.9	21.3	23 W	2*	17*
9 28	3 47.41	+9 18.1	1.421	2.182	21.3	19.9	128 W	54	55	3 12	22 52.48	-13 50.4	2.449	1.617	15.7	21.3	26 W	3*	20*
10 8	3 43.50	+8 54.2	1.370	2.216	17.5	19.7	138 W	54	55	3 22	22 19.16	-11 8.6	2.412	1.615	17.4	21.4	29 W	4*	23*
10 18	3 36.23	+8 27.4	1.336	2.251	13.1	19.6	149 W	53	56	4 1	22 45.16	-8 19.1	2.375	1.615	19.1	21.4	32 W	5*	26*
10 28	3 26.30	+8 1.9	1.324	2.285	8.3	19.4	161 W	53	56	4 11	23 10.53	-5 24.6	2.336	1.618	20.7	21.4	35 W	7*	29*
11 2	3 20.70	+7 51.0	1.327	2.302	6.1	19.3	166 W	53	56	4 21	23 35.34	-2 27.6	2.297	1.623	22.3	21.4	38 W	8*	32*
11 7	3 14.90	+7 42.2	1.337	2.319	4.5	19.3	169 W	53	56	5 1	23 59.63	+0 29.2	2.256	1.631	23.8	21.4	41 W	10*	34*
11 12	3 9.09	+7 35.8	1.354	2.335	4.3	19.3	170 E	53	56	5 11	0 23.46	+3 23.5	2.214	1.641	25.2	21.5	44 W	12*	37*
11 17	3 3.45	+7 32.4	1.378	2.352	5.5	19.4	167 E	53	56	5 21	0 46.87	+6 13.2	2.170	1.654	26.6	21.5	47 W	15*	39*
11 27	2 53.36	+7 35.7	1.446	2.384	9.4	19.7	157 E	53	56	5 31	1 9.88	+8 56.5	2.124	1.669	27.8	21.5	50 W	18*	41*
12 7	2 45.64	+7 53.1	1.539	2.417	13.3	20.0	146 E	53	56	6 10	1 32.50	+11 31.6	2.075	1.686	29.0	21.5	54 W	22*	42*
12 17	2 40.83	+8 24.1	1.653	2.448	16.6	20.3	135 E	53	56	6 20	1 54.69	+13 57.4	2.023	1.705	30.1	21.5	57 W	26*	43*
12 27	2 39.07	+9 7.1	1.785	2.479	19.1	20.6	125 E	54	55	6 30	2 16.39	+16 12.7	1.968	1.725	31.1	21.5	61 W	32*	43*
1 6	2 40.19	+9 59.6	1.929	2.509	20.8	20.8	115 E	55	54	7 10	2 37.50	+18 16.7	1.909	1.747	31.9	21.5	65 W	38*	43*
1 16	2 43.87	+10 59.4	2.083	2.539	21.9	21.1	106 E	55	54	7 20	2 57.89	+20 9.2	1.846	1.770	32.6	21.4	70 W	44*	43*
<b>482575 2012 WY<sub>32</sub></b>										<b>496316 2013 HQ<sub>11</sub></b>									
12 23	17 59.24	-24 48.6	3.037	2.054	0.7	20.3	2 W	—	—	7 30	3 17.33	+21 50.0	1.779	1.795	33.0	21.4	74 W	50*	

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

19/21	$\alpha_{2000}$	$\delta_{2000}$	$\Delta$	$r$	$\beta$	$V$	$\psi$	45°	-26°	19/21	$\alpha_{2000}$	$\delta_{2000}$	$\Delta$	$r$	$\beta$	$V$	$\psi$	45°	-26°
<b>496316 2013 HQ<sub>11</sub></b>										<b>147719 2005 LL<sub>48</sub></b>									
<i>(continuation)</i>										<i>(continuation)</i>									
1 6	3 25.79	+25 18.6	1.471	2.230	19.9	21.1	130 E	70	39	5 1	23 56.81	+0 22.1	2.239	1.626	24.2	19.9	41 W	10*	35*
1 11	3 26.42	+25 3.9	1.533	2.243	21.1	21.2	125 E	70	39	5 11	0 21.22	+3 25.1	2.195	1.632	25.6	19.9	44 W	12*	37*
1 16	3 27.89	+24 52.4	1.598	2.255	22.2	21.4	120 E	70	39	5 21	0 45.25	+6 23.9	2.152	1.642	26.9	20.0	47 W	15*	39*
<b>53435 1999 VM<sub>40</sub></b>										<b>155140 2005 UD</b>									
12 23	17 59.29	-30 30.0	3.671	2.698	2.6	19.9	7 W	—	—	12 23	17 59.41	+27 22.0	0.462	0.779	101.8	18.9	51 W	30*	—
1 2	18 18.26	-30 42.0	3.616	2.653	3.7	19.9	10 W	—	3*	12 25	18 5.45	+22 47.9	0.475	0.739	106.1	19.1	46 W	28*	—
1 12	18 37.71	-30 47.4	3.545	2.607	5.5	19.9	15 W	—	9*	12 27	18 10.79	+18 21.0	0.491	0.699	110.3	19.3	42 W	26*	—
1 22	18 57.57	-30 45.7	3.460	2.559	7.6	19.9	20 W	—	14*	12 29	18 15.56	+14 2.0	0.510	0.656	114.4	19.5	37 W	23*	—
2 1	19 17.80	-30 36.9	3.361	2.511	9.8	19.9	26 W	—	20*	12 31	18 19.86	+9 51.5	0.532	0.613	118.2	19.7	33 W	21*	—
2 11	19 38.31	-30 20.8	3.250	2.460	12.0	19.8	31 W	—	25*	1 2	18 23.82	+5 49.3	0.558	0.567	121.8	19.9	29 W	19*	—
2 21	19 59.08	-29 57.5	3.128	2.409	14.2	19.8	37 W	—	30*	1 7	18 33.00	-3 42.8	0.639	0.447	129.0	20.3	21 W	14*	—
3 2	20 20.06	-29 27.3	2.996	2.356	16.4	19.7	42 W	1*	35*	1 12	18 43.78	-12 37.5	0.755	0.315	128.8	19.9	14 W	8*	—
3 12	20 41.21	-28 50.4	2.857	2.302	18.5	19.6	47 W	2*	40*	1 17	19 5.64	-20 53.7	0.931	0.189	100.6	17.3	11 W	1*	4*
3 22	21 2.54	-28 7.1	2.711	2.246	20.6	19.5	52 W	2*	45*	1 22	20 0.12	-25 7.3	1.139	0.191	32.8	15.5	6 W	—	—
4 1	21 24.05	-27 18.0	2.560	2.189	22.6	19.4	57 W	3*	50*	1 23	20 12.74	-25 4.6	1.171	0.213	26.3	15.6	6 W	—	—
4 11	21 45.74	-26 23.5	2.406	2.132	24.6	19.3	62 W	3*	55*	1 24	20 24.85	-24 50.2	1.199	0.238	23.0	15.8	5 W	—	—
4 21	22 7.67	-25 24.0	2.250	2.073	26.5	19.1	67 W	4*	60*	1 25	20 36.32	-24 27.3	1.225	0.264	21.9	16.0	6 W	—	—
5 1	22 29.86	-24 20.1	2.095	2.013	28.3	19.0	71 W	5*	64*	1 26	20 47.14	-23 58.5	1.249	0.291	22.0	16.3	6 W	—	—
5 11	22 52.38	-23 12.1	1.941	1.952	30.1	18.8	76 W	6*	69*	1 27	20 57.31	-23 25.4	1.271	0.319	22.5	16.5	7 W	—	1*
5 21	23 15.33	-22 0.4	1.790	1.890	31.8	18.6	80 W	8*	73*	1 28	21 6.90	-22 49.2	1.293	0.346	23.2	16.8	8 W	—	2*
5 31	23 38.77	-20 45.1	1.643	1.828	33.4	18.4	83 W	10*	77*	1 29	21 15.94	-22 11.0	1.314	0.372	23.7	17.0	9 W	—	3*
6 10	0 2.80	-19 26.2	1.502	1.766	35.0	18.2	87 W	12*	80*	1 30	21 24.48	-21 31.3	1.335	0.399	24.2	17.2	10 W	—	4*
6 20	0 27.53	-18 3.2	1.367	1.704	36.6	17.9	90 W	15*	81*	1 31	21 32.57	-20 50.6	1.355	0.425	24.6	17.3	10 W	—	4*
6 30	0 53.04	-16 35.6	1.240	1.642	38.2	17.7	93 W	18*	81	2 1	21 40.24	-20 9.4	1.376	0.450	24.8	17.5	11 W	—	5*
7 10	1 19.44	-15 1.7	1.121	1.581	39.8	17.4	95 W	22*	79	2 31	21 54.46	-18 46.3	1.416	0.500	25.0	17.8	12 W	1*	6*
7 15	1 33.01	-14 11.9	1.065	1.551	40.7	17.3	96 W	24*	78	2 5	22 7.40	-17 23.7	1.456	0.547	24.8	18.1	13 W	2*	6*
7 20	1 46.83	-13 19.7	1.011	1.521	41.5	17.2	97 W	26*	77	2 7	22 19.25	-16 2.5	1.495	0.593	24.4	18.3	14 W	4*	7*
7 25	2 0.90	-12 24.8	0.959	1.492	42.4	17.0	98 W	28*	76	2 9	22 30.16	-14 43.4	1.535	0.638	23.9	18.5	15 W	5*	7*
7 30	2 15.23	-11 26.7	0.910	1.464	43.3	16.9	99 W	30*	75	2 11	22 40.28	-13 26.6	1.575	0.681	23.3	18.7	16 W	5*	8*
8 4	2 29.83	-10 24.7	0.863	1.436	44.2	16.8	99 W	31*	74	2 16	23 2.70	-10 25.8	1.674	0.782	21.4	19.0	17 W	7*	8*
8 9	2 44.72	-9 18.5	0.818	1.409	45.1	16.6	100 W	33*	73	2 21	23 21.98	-7 40.9	1.771	0.875	19.3	19.3	17 W	8*	8*
8 14	2 59.88	-8 7.3	0.776	1.384	46.1	16.5	100 W	35*	72	2 26	23 38.92	-5 10.8	1.867	0.963	17.2	19.6	17 W	8*	7*
8 19	3 15.31	-6 50.7	0.736	1.359	47.0	16.4	101 W	37*	71	3 2	23 54.08	-2 53.8	1.961	1.044	15.2	19.8	16 W	8*	6*
8 24	3 31.01	-5 27.7	0.699	1.335	48.0	16.3	101 W	39*	69	3 7	0 7.86	+0 48.3	2.051	1.121	13.2	20.0	15 W	7*	5*
8 29	3 46.97	-3 57.8	0.663	1.313	48.9	16.1	101 W	41*	68	3 12	0 20.55	+1 7.3	2.137	1.194	11.3	20.1	14 W	6*	4*
9 3	4 3.20	-2 20.0	0.631	1.292	49.9	16.0	102 W	42*	66	3 17	0 32.36	+2 54.4	2.219	1.263	9.4	20.3	12 W	5*	2*
9 8	4 19.69	-0 33.9	0.600	1.273	50.8	15.9	102 W	44*	65	3 22	0 43.45	+4 33.9	2.297	1.328	7.6	20.4	10 W	3*	1*
9 18	4 53.36	+3 25.1	0.547	1.241	52.3	15.7	102 W	48	61	3 27	0 53.96	+6 7.0	2.371	1.391	5.9	20.5	8 W	2*	—
9 28	5 27.76	+8 1.5	0.502	1.217	53.4	15.5	103 W	53	56	4 1	1 3.96	+7 34.4	2.439	1.450	4.3	20.5	6 W	—	—
10 8	6 2.60	+13 13.2	0.468	1.201	53.8	15.3	104 W	58	51	4 6	1 13.54	+8 56.7	2.502	1.506	2.7	20.6	4 W	—	—
10 13	6 20.02	+16 0.2	0.454	1.198	53.6	15.2	105 W	61	48	4 11	1 22.76	+10 14.5	2.561	1.560	1.4	20.6	2 W	—	—
10 18	6 37.29	+18 52.8	0.443	1.196	53.2	15.2	106 W	64	45	4 16	1 31.66	+11 28.3	2.614	1.611	1.2	20.7	2 W	—	—
10 23	6 54.27	+21 49.7	0.434	1.197	52.6	15.1	107 W	67	42	4 21	1 40.30	+12 38.6	2.661	1.660	2.3	20.9	4 W	—	—
10 28	7 10.84	+24 49.0	0.427	1.201	51.6	15.1	109 W	70	39	4 26	1 48.69	+13 45.6	2.703	1.707	3.7	21.1	6 W	—	—
11 2	7 26.84	+27 49.1	0.422	1.206	50.4	15.0	110 W	73	36	5 1	1 56.85	+14 49.7	2.740	1.751	5.1	21.2	9 W	—	2*
11 7	7 42.07	+30 48.3	0.420	1.215	49.0	15.0	112 W	76	33	5 6	2 4.82	+15 51.1	2.771	1.794	6.5	21.4	12 W	1*	5*
11 12	7 56.31	+33 45.4	0.419	1.225	47.2	14.9	115 W	79	30										
11 17	8 9.31	+36 39.2	0.421	1.238	45.3	14.9	117 W	82	27										
11 22	8 20.82	+39 28.2	0.424	1.253	43.2	14.9	120 W	84	25										
11 27	8 30.63	+42 11.3	0.429	1.270	40.9	14.9	123 W	87	22										
12 2	8 38.51	+44 47.2	0.436	1.289	38.6	14.9	125 W	90	19										
12 7	8 44.23	+47 14.4	0.445	1.309	36.2	14.9	128 W	88	17										
12 12	8 47.56	+49 31.0	0.456	1.331	33.7	14.9	131 W	85	14										
12 17	8 48.38	+51 34.7	0.470	1.354	31.4	15.0	134 W	83	12										
12 22	8 46.70	+53 22.7	0.486	1.379	29.2	15.0	137 W	82	11										
12 27	8 42.70	+54 52.5	0.504	1.404	27.2	15.1	139 W	80	9										
1 1	8 36.73	+56 2.0	0.525	1.431	25.5	15.1	141 W	79	8										
1 6	8 29.28	+56 49.8	0.550	1.459	24.2	15.2	143 W	78	7										
1 8	8 26.02	+57 2.6	0.560	1.470	23.8	15.3	143 W	78	7										
1 10	8 22.68	+57 12.0	0.571	1.481	23.4	15.3	143 W	78	7										
1 12	8 19.30	+57 17.7	0.583	1.493	23.1	15.4	143 W	78	7										
1 14	8 15.92	+57 20.1	0.595	1.504	22.9	15.4	143 W	78	7										
1 16	8 12.59	+57 19.1	0.608	1.516	22.7	15.5	143 W	78	7										
<b>147719 2005 LL<sub>48</sub></b>										<b>155140 2005 UD</b>									
12 23	17 59.32	-26 16.4	2.815	1.834	1.6	19.8	3 W	—	—	12 23	17 59.41	+27 22.0	0.462	0.779	101.8	18.9	51 W	30*	—
1 2	18 27.91	-25 57.4	2.779	1.803	2.8	19.8	5 W	—	—	12 25	18 5.45	+22 47.9	0.475	0.739	106.1	19.1	46 W	28*	—
1 12	18 56.85	-25 17.9	2.740	1.773	4.7	19.8	8 W	—	2*	12 27	18 10.79	+18 21.0	0.491	0.699	110.3	19.3	42 W	26*	—
1 22	19 25.95	-24 17.4	2.697	1.746	6.6	19.9	12 W	—	6*	12 29	18 15.56	+14 2.0	0.510	0.656					

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

19/20	$\alpha_{2000}$	$\delta_{2000}$	$\Delta$	$r$	$\beta$	$V$	$\psi$	45°	-26°	19/21	$\alpha_{2000}$	$\delta_{2000}$	$\Delta$	$r$	$\beta$	$V$	$\psi$	45°	-26°
<b>1566 Icarus</b>										<b>264233 2010 SB<sub>34</sub></b>									
12 23	17 59.64	-23 45.5	2.188	1.204	0.6	19.1	1 W	—	—	12 23	17 59.68	-22 35.7	2.690	1.707	0.6	20.4	1 W	—	—
12 28	18 13.65	-24 8.5	2.245	1.263	2.1	19.4	3 W	—	—	1 2	18 29.08	-22 44.7	2.644	1.664	2.4	20.5	4 W	—	—
1 2	18 27.04	-24 26.0	2.296	1.319	3.5	19.6	5 W	—	—	1 12	18 59.39	-22 32.7	2.594	1.624	4.4	20.5	7 W	—	1*
1 7	18 39.90	-24 38.7	2.342	1.371	5.0	19.9	7 W	—	1*	1 22	19 30.44	-21 58.2	2.543	1.584	6.3	20.5	10 W	—	4*
1 12	18 52.26	-24 47.4	2.382	1.421	6.4	20.0	9 W	—	3*	2 1	20 2.04	-21 0.6	2.492	1.548	8.2	20.5	13 W	—	7*
1 22	19 15.70	-24 54.6	2.446	1.511	9.2	20.4	14 W	—	8*	2 11	20 33.95	-19 39.7	2.441	1.514	10.1	20.5	16 W	—	9*
2 1	19 37.64	-24 51.1	2.486	1.592	11.9	20.6	20 W	—	13*	2 21	21 6.01	-17 56.4	2.392	1.483	11.8	20.5	18 W	—	12*
2 11	19 58.28	-24 40.0	2.504	1.663	14.5	20.8	25 W	2*	19*	3 2	21 38.03	-15 52.3	2.346	1.456	13.5	20.4	20 W	—	14*
2 21	20 17.78	-24 23.7	2.500	1.726	17.0	21.0	31 W	3*	25*	3 12	22 9.88	-13 29.7	2.305	1.433	15.1	20.4	22 W	1*	16*
3 2	20 36.22	-24 4.4	2.475	1.781	19.4	21.1	37 W	3*	31*	3 22	22 41.47	-10 51.9	2.267	1.415	16.6	20.4	24 W	1*	18*
3 12	20 53.67	-23 44.4	2.430	1.828	21.6	21.2	43 W	4*	36*	4 1	23 12.73	-8 2.6	2.235	1.402	17.9	20.4	26 W	1*	20*
3 22	21 10.19	-23 25.8	2.365	1.868	23.7	21.2	49 W	5*	43*	4 11	23 43.64	-5 6.0	2.207	1.394	19.2	20.4	27 W	1*	21*
4 1	21 25.78	-23 10.9	2.284	1.902	25.6	21.3	55 W	6*	49*	4 21	0 14.20	-2 6.2	2.185	1.392	20.4	20.4	29 W	2*	23*
4 11	21 40.42	-23 2.3	2.186	1.928	27.3	21.2	62 W	7*	55*	5 1	0 44.40	+0 52.3	2.166	1.395	21.5	20.4	30 W	2*	24*
4 21	21 54.09	-23 2.7	2.074	1.948	28.7	21.2	69 W	8*	62*	5 11	1 14.25	+3 45.5	2.151	1.403	22.5	20.5	32 W	3*	26*
5 1	22 6.67	-23 15.6	1.951	1.961	29.8	21.1	76 W	9*	69*	5 21	1 43.76	+6 29.8	2.139	1.417	23.5	20.5	34 W	5*	28*
5 11	22 18.03	-23 45.2	1.819	1.969	30.6	21.0	83 W	10*	77*	5 31	2 12.89	+9 2.0	2.129	1.436	24.4	20.6	36 W	7*	29*
5 21	22 27.94	-24 36.5	1.680	1.969	30.9	20.8	91 W	11*	85*	6 10	2 41.60	+11 19.7	2.119	1.459	25.3	20.6	38 W	9*	31*
5 31	22 36.04	-25 55.9	1.537	1.964	30.7	20.6	99 W	12*	90	6 20	3 9.83	+13 21.0	2.108	1.487	26.2	20.7	40 W	13*	32*
6 10	22 41.80	-27 50.9	1.395	1.952	29.8	20.4	107 W	13*	88	6 30	3 37.47	+15 4.8	2.095	1.518	27.1	20.7	43 W	17*	33*
6 15	22 43.56	-29 4.4	1.325	1.944	29.1	20.2	112 W	13*	87	7 10	4 4.41	+16 30.8	2.080	1.552	28.0	20.8	46 W	21*	34*
6 20	22 44.41	-30 30.2	1.257	1.934	28.1	20.1	116 W	13*	85	7 20	4 30.53	+17 39.2	2.060	1.589	28.8	20.8	49 W	26*	35*
6 25	22 44.16	-32 9.2	1.191	1.922	27.0	19.9	121 W	12*	84	7 30	4 55.65	+18 30.8	2.035	1.628	29.6	20.9	52 W	31*	36*
6 30	22 42.60	-34 2.2	1.128	1.909	25.6	19.7	126 W	11*	82	8 9	5 19.63	+19 6.9	2.005	1.670	30.3	20.9	56 W	37*	36*
7 5	22 39.48	-36 9.4	1.069	1.894	24.1	19.6	130 W	9*	80	8 19	5 42.31	+19 29.2	1.967	1.712	30.9	21.0	60 W	42*	37*
7 10	22 34.50	-38 30.3	1.015	1.878	22.5	19.4	135 W	6	77	8 29	6 3.49	+19 39.9	1.924	1.756	31.4	21.0	65 W	47*	38*
7 15	22 27.25	-41 3.5	0.966	1.859	20.8	19.2	139 W	4	75	9 8	6 23.01	+19 41.3	1.873	1.800	31.8	21.0	70 W	53*	39*
7 20	22 17.32	-43 45.5	0.923	1.839	19.4	19.0	143 W	1	72	9 18	6 40.66	+19 36.2	1.815	1.845	31.9	21.0	76 W	57*	40*
7 25	22 4.28	-46 30.9	0.887	1.817	18.5	18.9	145 W	-	69	9 28	6 56.19	+19 27.3	1.752	1.890	31.6	20.9	82 W	61*	42*
7 30	21 47.77	-49 12.2	0.859	1.794	18.3	18.8	146 W	-	67	10 8	7 9.36	+19 17.7	1.683	1.935	31.1	20.9	89 W	64*	43*
8 4	21 27.65	-51 40.3	0.838	1.768	19.2	18.7	145 W	-	64	10 18	7 19.84	+19 10.6	1.611	1.980	30.0	20.8	96 W	64	44*
8 9	21 4.18	-53 45.3	0.826	1.741	21.0	18.7	142 E	-	62	10 28	7 27.26	+19 9.2	1.538	2.025	28.4	20.7	104 W	64	45*
8 11	20 54.01	-54 26.8	0.823	1.729	21.9	18.7	140 E	-	62	11 7	7 31.25	+19 16.5	1.467	2.069	26.1	20.6	113 W	64	45
8 13	20 43.52	-55 2.9	0.822	1.717	23.0	18.7	139 E	-	61	11 17	7 31.44	+19 34.7	1.402	2.113	23.0	20.5	123 W	65	44
8 15	20 32.79	-55 33.2	0.821	1.705	24.1	18.8	137 E	-	60	11 27	7 27.60	+20 4.7	1.347	2.156	19.1	20.3	134 W	65	44
8 17	20 21.94	-55 57.5	0.822	1.693	25.3	18.8	134 E	-	60	12 7	7 19.86	+20 45.3	1.309	2.198	14.4	20.1	146 W	66	43
8 19	20 11.08	-56 15.8	0.823	1.680	26.5	18.8	132 E	-	60	12 12	7 14.70	+21 8.4	1.297	2.219	11.7	20.0	153 W	66	43
8 21	20 0.32	-56 28.1	0.826	1.667	27.7	18.8	130 E	-	60	12 17	7 8.83	+21 32.6	1.292	2.239	9.0	19.9	159 W	67	42
8 23	19 49.78	-56 34.8	0.830	1.653	29.0	18.9	128 E	-	59	12 22	7 2.44	+21 57.1	1.293	2.260	6.1	19.8	166 W	67	42
8 25	19 39.56	-56 36.1	0.834	1.640	30.3	18.9	125 E	-	59	12 27	6 55.74	+22 21.1	1.301	2.280	3.2	19.7	173 W	67	42
8 27	19 29.74	-56 32.4	0.839	1.625	31.5	18.9	123 E	-	59	1 1	6 48.96	+22 44.1	1.316	2.300	0.3	19.5	179 W	68	41
8 29	19 20.39	-56 24.3	0.845	1.611	32.8	18.9	120 E	-	60	1 6	6 42.32	+23 5.4	1.339	2.319	2.5	19.7	174 E	68	41
8 31	19 11.57	-56 12.2	0.852	1.596	34.0	19.0	118 E	-	60	1 11	6 36.02	+23 24.9	1.369	2.339	5.2	20.0	168 E	68	41
9 2	19 3.32	-55 56.6	0.859	1.581	35.2	19.0	115 E	-	60	1 16	6 30.26	+23 42.3	1.405	2.358	7.8	20.2	161 E	69	40
9 4	18 55.64	-55 38.0	0.866	1.565	36.4	19.0	113 E	-	60	12 23	17 59.77	-40 35.3	4.330	3.403	4.9	17.6	17 W	-	4*
9 6	18 48.56	-55 16.9	0.874	1.549	37.5	19.1	111 E	-	61	1 2	18 16.40	-39 50.6	4.368	3.447	5.1	17.6	18 W	-	8*
9 8	18 42.07	-54 53.8	0.882	1.533	38.6	19.1	108 E	-	61	1 12	18 32.20	-39 4.7	4.389	3.491	5.9	17.7	21 W	-	13*
9 13	18 28.34	-53 49.8	0.904	1.490	41.3	19.2	102 E	-	62	1 22	18 47.11	-38 18.0	4.390	3.534	7.1	17.8	26 W	-	19*
9 18	18 17.92	-52 40.8	0.925	1.445	43.7	19.2	97 E	-	63	2 1	19 1.08	-37 30.9	4.374	3.578	8.4	17.9	32 W	-	25*
9 23	18 10.36	-51 30.5	0.946	1.397	45.9	19.3	91 E	-	64*	2 11	19 14.01	-36 44.0	4.340	3.621	9.8	17.9	39 W	-	31*
9 28	18 5.19	-50 21.4	0.965	1.346	48.0	19.3	86 E	-	64*	2 21	19 25.84	-35 57.8	4.289	3.665	11.1	18.0	45 W	-	38*
10 3	18 1.97	-49 14.5	0.981	1.292	50.0	19.3	81 E	-	63*	3 2	19 36.48	-35 12.9	4.222	3.708	12.3	18.0	53 W	1*	45*
10 8	18 0.32	-48 10.3	0.994	1.235	51.9	19.3	77 E	-	61*	3 12	19 45.81	-34 30.0	4.141	3.750	13.3	18.0	60 W	3*	53*
10 13	17 59.90	-47 8.6	1.003	1.174	53.9	19.2	72 E	-	59*	3 22	19 53.74	-33 49.6	4.048	3.793	14.1	18.0	68 W	5*	60*
10 18	18 0.39	-46 9.0	1.006	1.110	55.9	19.2	67 E	-	56*	4 1	20 0.12	-33 12.2	3.945	3.835	14.7	18.0	76 W	6*	68*
10 23	18 1.47	-45 10.5	1.003	1.041	58.2	19.1	63 E	-	53*	4 11	20 4.83	-32 38.2	3.835	3.877	14.9	18.0	85 W	8*	76*
10 28	18 2.78	-44 11.9	0.994	0.968	60.9	19.0	58 E	-	49*	4 21	20 7.74	-32 7.8	3.722	3.919					

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

19/21	$\alpha_{2000}$	$\delta_{2000}$	$\Delta$	$r$	$\beta$	$V$	$\psi$	45°	-26°	19/21	$\alpha_{2000}$	$\delta_{2000}$	$\Delta$	$r$	$\beta$	$V$	$\psi$	45°	-26°
<b>20898 Fountainhills</b> (continuation)										<b>306540 1999 YB<sub>6</sub></b> (continuation)									
11 7	19 5.01	-20 2.3	5.093	4.685	10.6	18.9	61 E	23*	52*	4 1	20 49.89	-33 7.0	3.060	2.815	19.0	20.3	67 W	2*	58*
11 17	19 11.80	-19 23.5	5.261	4.720	9.5	18.9	52 E	22*	42*	4 11	21 3.28	-32 14.0	2.897	2.776	20.2	20.2	73 W	3*	64*
11 27	19 19.17	-18 43.5	5.415	4.754	8.3	18.9	44 E	21*	33*	4 21	21 15.56	-31 21.9	2.730	2.736	21.2	20.1	80 W	5*	71*
12 7	19 26.99	-18 2.0	5.553	4.788	6.9	18.9	36 E	18*	24*	5 1	21 26.55	-30 31.7	2.559	2.695	21.9	20.0	87 W	7*	78*
12 17	19 35.12	-17 18.6	5.671	4.822	5.5	18.9	28 E	15*	16*	5 11	21 36.04	-29 44.5	2.387	2.653	22.3	19.8	94 W	9*	85*
12 27	19 43.45	-16 33.1	5.768	4.855	4.0	18.9	20 E	11*	7*	5 21	21 43.78	-29 0.9	2.217	2.611	22.3	19.6	101 W	11*	87
1 6	19 51.85	-15 45.4	5.844	4.888	2.5	18.9	12 E	6*	—	5 31	21 49.43	-28 21.9	2.049	2.568	21.9	19.4	109 W	14*	88
1 16	20 0.22	-14 55.3	5.897	4.921	1.3	18.8	6 E	—	—	6 10	21 52.61	-27 47.4	1.888	2.525	20.9	19.1	118 W	16*	88
<b>2074 Shoemaker</b>										<b>306540 1999 YB<sub>6</sub></b> (continuation)									
12 23	17 59.84	-5 27.1	2.818	1.907	9.2	18.2	18 W	8*	—	6 20	21 52.91	-27 17.1	1.736	2.481	19.2	18.8	127 W	18*	89
1 2	18 23.78	-4 47.2	2.802	1.900	9.7	18.2	19 W	11*	—	6 30	21 49.85	-26 49.2	1.597	2.436	16.8	18.5	136 W	18	89
1 12	18 47.79	-3 53.3	2.780	1.893	10.6	18.2	21 W	14*	—	7 10	21 43.15	-26 20.1	1.475	2.391	13.5	18.2	147 W	19	90
1 22	19 11.79	-2 45.9	2.753	1.885	11.7	18.2	23 W	17*	—	7 20	21 32.73	-25 44.9	1.373	2.345	9.5	17.9	158 W	19	90
2 1	19 35.73	-1 25.3	2.720	1.876	12.9	18.2	25 W	19*	4*	7 25	21 26.25	-25 22.9	1.331	2.322	7.2	17.7	163 W	20	89
2 11	19 59.53	+0 7.6	2.683	1.867	14.2	18.2	28 W	21*	9*	7 30	21 19.07	-24 57.0	1.296	2.299	5.1	17.5	168 W	20	89
2 21	20 23.17	+1 51.4	2.642	1.858	15.6	18.2	30 W	22*	13*	8 4	21 11.38	-24 26.4	1.267	2.276	3.5	17.3	172 W	21	88
3 2	20 46.60	+3 45.0	2.597	1.849	17.1	18.2	33 W	24*	17*	8 9	21 3.37	-23 50.8	1.246	2.253	3.8	17.3	171 E	21	88
3 12	21 9.82	+5 46.5	2.548	1.839	18.5	18.2	36 W	25*	21*	8 14	20 55.27	-23 10.1	1.231	2.230	5.8	17.4	167 E	22	87
3 22	21 32.82	+7 54.3	2.496	1.829	19.9	18.2	39 W	26*	24*	8 19	20 47.33	-22 24.4	1.224	2.207	8.4	17.4	162 E	23	86
4 1	21 55.62	+10 6.4	2.440	1.819	21.4	18.2	42 W	27*	27*	8 24	20 39.80	-21 34.3	1.223	2.184	11.1	17.5	156 E	23	86
4 11	22 18.24	+12 20.7	2.381	1.809	22.9	18.2	45 W	28*	30*	8 29	20 32.89	-20 40.4	1.229	2.161	13.7	17.6	150 E	24	85
4 21	22 40.73	+14 35.3	2.318	1.798	24.3	18.1	47 W	30*	32*	9 3	20 26.79	-19 43.6	1.241	2.138	16.3	17.7	144 E	25	84
5 1	23 3.11	+16 48.2	2.251	1.788	25.8	18.1	50 W	31*	34*	9 8	20 21.61	-18 44.9	1.258	2.115	18.7	17.8	138 E	26	83
5 11	23 25.41	+18 57.1	2.180	1.777	27.2	18.1	54 W	33*	36*	9 18	20 14.34	-16 44.4	1.305	2.069	22.9	17.9	127 E	28	81
5 21	23 47.68	+21 0.0	2.105	1.767	28.6	18.0	57 W	35*	37*	9 28	20 11.34	-14 43.5	1.366	2.024	26.3	18.1	117 E	30	79
5 31	0 9.92	+22 54.7	2.026	1.756	30.0	18.0	60 W	38*	37*	10 8	20 12.38	-12 43.9	1.435	1.979	28.8	18.2	107 E	32	77
6 10	0 32.13	+24 38.9	1.942	1.746	31.4	17.9	64 W	41*	37*	10 18	20 17.04	-10 45.4	1.509	1.935	30.5	18.3	99	34	75*
6 20	0 54.31	+26 10.4	1.854	1.736	32.7	17.8	67 W	45*	37*	10 28	20 24.85	-8 46.3	1.583	1.893	31.6	18.4	92	36	70*
6 25	1 5.36	+26 50.7	1.808	1.731	33.3	17.8	69 W	47*	37*	11 7	20 35.35	-6 44.6	1.656	1.851	32.2	18.5	85	38	64*
6 30	1 16.36	+27 26.7	1.761	1.726	33.9	17.7	71 W	50*	36*	11 17	20 48.16	-4 38.2	1.725	1.812	32.3	18.5	79	40	56*
7 5	1 27.31	+27 58.2	1.713	1.722	34.4	17.7	73 W	52*	36*	11 27	21 2.96	-2 25.1	1.789	1.774	32.1	18.6	73 E	42*	49*
7 10	1 38.20	+28 25.0	1.665	1.717	34.9	17.6	75 W	55*	36*	12 7	21 19.50	-0 4.0	1.848	1.739	31.7	18.6	68 E	44*	41*
7 15	1 48.99	+28 46.5	1.615	1.713	35.4	17.6	78 W	57*	35	12 17	21 37.60	+2 26.1	1.901	1.706	31.1	18.6	63 E	46*	34*
7 20	1 59.66	+29 2.4	1.564	1.708	35.8	17.5	80 W	60*	35	12 27	21 57.16	+5 5.5	1.949	1.676	30.3	18.6	59 E	46*	27*
7 25	2 10.16	+29 12.2	1.513	1.704	36.2	17.4	82 W	62*	35	1 6	22 18.08	+7 54.1	1.991	1.650	29.5	18.6	56 E	46*	21*
7 30	2 20.48	+29 15.4	1.461	1.700	36.5	17.4	85 W	65*	35	1 16	22 40.35	+10 50.9	2.029	1.627	28.6	18.6	52 E	45*	16*
8 4	2 30.56	+29 11.5	1.409	1.696	36.7	17.3	87 W	67*	35	<b>68134 2001 AT<sub>18</sub></b>									
8 9	2 40.37	+29 0.0	1.356	1.692	36.8	17.2	90 W	69*	35	12 23	18 0.22	-26 51.4	3.549	2.567	1.3	19.2	3 W	—	—
8 14	2 49.85	+28 40.3	1.303	1.688	36.8	17.1	93 W	71*	35	1 2	18 19.19	-26 5.1	3.514	2.541	2.7	19.2	7 W	—	1*
8 19	2 58.93	+28 11.7	1.250	1.685	36.7	17.0	96 W	72*	36	1 12	18 38.09	-25 9.6	3.465	2.514	4.9	19.3	12 W	—	6*
8 24	3 7.55	+27 33.3	1.197	1.681	36.5	16.9	99 W	72*	36	1 22	18 56.86	-24 4.7	3.402	2.487	7.1	19.4	18 W	3*	12*
8 29	3 15.64	+26 44.3	1.145	1.678	36.0	16.8	102 W	72*	37	2 1	19 15.40	-22 49.9	3.325	2.458	9.4	19.4	24 W	5*	17*
9 3	3 23.13	+25 43.9	1.094	1.675	35.5	16.7	106 W	71	38	2 11	19 33.65	-21 24.9	3.236	2.429	11.6	19.4	30 W	8*	23*
9 8	3 29.95	+24 31.1	1.043	1.672	34.7	16.5	109 W	70	39	2 21	19 51.54	-19 49.6	3.135	2.399	13.8	19.4	35 W	10*	29*
9 13	3 36.00	+23 4.8	0.994	1.669	33.7	16.4	113 W	68	41	3 2	20 9.00	-18 3.8	3.023	2.368	16.0	19.3	41 W	12*	35*
9 18	3 41.18	+21 24.0	0.947	1.667	32.4	16.3	117 W	66	43	3 12	20 25.98	-16 7.4	2.903	2.337	18.0	19.3	47 W	14*	40*
9 23	3 45.42	+19 27.6	0.902	1.664	30.9	16.1	122 W	64	45	3 22	20 42.44	-14 0.0	2.775	2.306	20.0	19.2	52 W	17*	46*
9 28	3 48.64	+17 15.0	0.860	1.662	29.1	16.0	126 W	62	47	4 1	20 58.31	-11 41.6	2.640	2.273	21.9	19.1	58 W	19*	51*
10 8	3 51.78	+12 0.4	0.788	1.659	24.8	15.6	136 W	57	52	4 11	21 13.53	-9 11.8	2.500	2.241	23.6	19.1	64 W	22*	56*
10 18	3 50.28	+5 46.9	0.736	1.656	19.9	15.3	146 W	51	58	4 21	21 28.07	-6 30.1	2.358	2.208	25.2	18.9	69 W	25*	60*
10 28	3 44.41	-1 0.1	0.707	1.654	16.0	15.1	153 W	44	65	5 1	21 41.82	-3 36.1	2.214	2.174	26.5	18.8	75 W	29*	63*
11 2	3 40.17	-4 22.8	0.703	1.653	15.2	15.1	154 W	41	68	5 11	21 54.71	0 29.2	2.070	2.141	27.7	18.7	80 W	33*	63*
11 7	3 35.31	-7 36.6	0.705	1.653	15.5	15.1	154 W	37	72	5 21	22 6.62	+2 51.3	1.928	2.107	28.8	18.5	86 W	38*	61*
11 12	3 30.08	-10 35.7	0.715	1.653	16.7	15.2	151 W	34	75	5 31	22 17.37	+6 25.8	1.790	2.073	29.3	18.3	91 W	43*	58
11 17	3 24.76	-13 15.2	0.730	1.653	18.6	15.3	148 E	32	77	6 10	22 26.77	+10 14.8	1.657	2.040	29.6	18.1	97 W	50*	54
11 22	3 19.63	-15 32.0	0.751	1.653	20.8	15.4	144 E	29	80	6 20	22 34.55	+14 18.0	1.532	2.006	29.7	17.9	102 W	56*	50
11 27	3 14.96	-17 24.9	0.776	1.653	23.0	15.5	139 E	28	81	6 30	22 40.33	+18 33.9	1.415	1.973	29.5	17.7	107 W	63*	45
12 2	3 10.95	-18 54.1	0.806	1.654															



EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

19/21	$\alpha_{2000}$	$\delta_{2000}$	$\Delta$	$r$	$\beta$	$V$	$\psi$	45°	-26°	19/21	$\alpha_{2000}$	$\delta_{2000}$	$\Delta$	$r$	$\beta$	$V$	$\psi$	45°	-26°
<b>68134 2001 AT<sub>18</sub></b>										<b>4435 Holt</b>									
<i>(continuation)</i>																			
10 28	21 36.70	+38 52.0	0.980	1.664	32.8	16.6	115 E	84	25	12 23	18 1.46	-38 6.7	4.023	3.081	4.6	19.3	15 W	—	2*
11 2	21 42.62	+37 53.9	0.992	1.658	33.3	16.7	113 E	83	26	1 2	18 19.77	-37 51.4	4.009	3.076	5.0	19.3	16 W	—	6*
11 7	21 49.76	+36 56.2	1.006	1.652	33.9	16.7	112 E	82	27*	1 12	18 37.90	-37 31.8	3.979	3.069	6.1	19.3	19 W	—	11*
11 12	21 58.05	+35 59.6	1.021	1.647	34.4	16.8	110 E	81	28*	1 22	18 55.75	-37 8.0	3.933	3.062	7.6	19.3	24 W	—	17*
11 17	22 7.38	+35 4.8	1.038	1.643	34.9	16.8	108 E	80	29*	2 1	19 13.21	-36 40.6	3.871	3.053	9.2	19.4	30 W	—	22*
11 22	22 17.66	+34 12.4	1.057	1.639	35.3	16.8	107 E	79	29*	2 11	19 30.18	-36 10.0	3.793	3.043	10.8	19.4	35 W	—	28*
11 27	22 28.78	+33 22.8	1.077	1.636	35.7	16.9	105 E	78	29*	2 21	19 46.58	-35 36.9	3.701	3.032	12.5	19.4	42 W	—	34*
12 2	22 40.64	+32 36.1	1.099	1.634	36.0	16.9	103 E	78	29*	3 2	20 2.29	-35 2.3	3.595	3.021	14.1	19.4	48 W	—	40*
12 7	22 53.13	+31 52.3	1.123	1.633	36.3	17.0	101 E	77	29*	3 12	20 17.22	-34 27.1	3.478	3.008	15.6	19.4	54 W	—	46*
12 12	23 6.19	+31 11.6	1.149	1.632	36.5	17.0	100 E	76	29*	3 22	20 31.26	-33 52.3	3.349	2.994	16.9	19.3	61 W	1*	52*
12 17	23 19.72	+30 33.9	1.177	1.633	36.7	17.1	98 E	76	29*	4 1	20 44.30	-33 19.4	3.212	2.979	18.1	19.2	68 W	2*	59*
12 22	23 33.64	+29 59.3	1.207	1.634	36.8	17.2	96 E	75	28*	4 11	20 56.19	-32 49.4	3.067	2.963	19.0	19.2	75 W	4*	66*
12 27	23 47.87	+29 27.6	1.239	1.635	36.9	17.2	94 E	74	28*	4 21	21 6.78	-32 23.8	2.916	2.946	19.7	19.1	82 W	5*	72*
1 1	0 2.34	+28 58.6	1.273	1.638	36.9	17.3	92 E	74	28*	5 1	21 15.88	-32 4.1	2.762	2.928	20.1	18.9	89 W	6*	79*
1 6	0 16.99	+28 32.1	1.309	1.641	36.8	17.4	90 E	74	27*	5 11	21 23.25	-31 51.3	2.607	2.909	20.2	18.8	97 W	8*	84*
1 11	0 31.76	+28 7.9	1.348	1.646	36.7	17.4	88 E	73*	27*	5 21	21 28.63	-31 46.7	2.454	2.889	19.8	18.6	105 W	10*	84
1 16	0 46.60	+27 45.9	1.388	1.651	36.5	17.5	86 E	73*	27*	5 31	21 31.68	-31 50.9	2.305	2.868	18.9	18.5	114 W	11*	84
<b>166044 2002 CE<sub>14</sub></b>																			
12 23	18 0.46	-39 7.3	3.283	2.351	6.5	21.1	16 W	—	3*	6 20	21 29.54	-32 23.7	2.038	2.823	15.5	18.0	132 W	13*	84
1 2	18 25.42	-38 35.1	3.251	2.323	6.8	21.1	16 W	—	6*	6 30	21 23.77	-32 47.8	1.926	2.799	12.9	17.8	142 W	12	83
1 12	18 50.28	-37 50.2	3.207	2.294	7.7	21.1	18 W	—	9*	7 5	21 19.69	-32 59.8	1.878	2.787	11.4	17.7	147 W	12	83
1 22	19 14.91	-36 52.3	3.154	2.265	9.1	21.1	21 W	—	13*	7 10	21 14.85	-33 10.7	1.835	2.774	9.9	17.6	152 W	12	83
2 1	19 39.17	-35 41.6	3.090	2.234	10.7	21.1	25 W	—	17*	7 15	21 9.29	-33 19.7	1.799	2.761	8.4	17.5	157 W	12	83
2 11	20 2.93	-34 18.4	3.016	2.204	12.5	21.1	29 W	—	21*	7 20	21 3.13	-33 25.8	1.768	2.748	7.0	17.4	161 W	12	83
2 21	20 26.12	-32 43.1	2.934	2.173	14.4	21.0	33 W	—	25*	7 25	20 56.48	-33 28.1	1.745	2.735	6.0	17.3	164 W	12	83
3 2	20 48.66	-30 56.4	2.843	2.141	16.3	21.0	37 W	—	30*	7 30	20 49.51	-33 25.9	1.728	2.721	5.6	17.2	165 W	12	83
3 12	21 10.50	-28 58.8	2.745	2.110	18.3	21.0	42 W	—	34*	8 4	20 42.40	-33 18.7	1.719	2.707	6.1	17.2	164 E	12	83
3 22	21 31.64	-26 51.0	2.640	2.078	20.2	20.9	46 W	—	39*	8 9	20 35.34	-33 6.2	1.717	2.693	7.2	17.3	160 E	12	83
4 1	21 52.06	-24 33.4	2.529	2.046	22.2	20.8	51 W	1*	43*	8 14	20 28.50	-32 48.4	1.721	2.679	8.8	17.3	156 E	12	83
4 11	22 11.75	-22 6.6	2.414	2.013	24.1	20.8	55 W	3*	48*	8 19	20 22.07	-32 25.4	1.732	2.664	10.5	17.4	151 E	13	84
4 21	22 30.74	-19 30.7	2.294	1.982	25.9	20.7	59 W	6*	53*	8 24	20 16.21	-31 57.7	1.750	2.650	12.3	17.5	146 E	13	84
5 1	22 49.02	-16 45.9	2.171	1.950	27.6	20.6	64 W	8*	58*	8 29	20 11.04	-31 25.9	1.773	2.635	14.0	17.5	141 E	14	85
5 11	23 6.60	-13 51.9	2.046	1.919	29.3	20.4	68 W	12*	62*	9 3	20 6.65	-30 50.7	1.802	2.619	15.6	17.6	136 E	14	85
5 21	23 23.49	-10 48.2	1.919	1.888	30.8	20.3	73 W	16*	66*	9 8	20 3.10	-30 12.7	1.835	2.604	17.1	17.7	130 E	15	86
5 31	23 39.63	-7 34.1	1.792	1.858	32.2	20.2	77 W	20*	68*	9 18	19 58.60	-28 50.8	1.914	2.572	19.7	17.9	120 E	16	87
6 10	23 54.99	-4 8.4	1.666	1.828	33.4	20.0	82 W	26*	67*	9 28	19 57.53	-27 24.2	2.004	2.540	21.6	18.0	111 E	18	89
6 20	0 9.50	-0 29.4	1.542	1.800	34.3	19.8	87 W	32*	64	10 8	19 59.62	-25 55.3	2.103	2.506	23.0	18.1	102 E	19	90
6 30	0 23.00	+3 24.7	1.422	1.773	35.0	19.6	92 W	40*	61	10 18	20 4.49	-24 24.9	2.205	2.472	23.7	18.2	93 E	21	87*
7 10	0 35.33	+7 36.4	1.306	1.748	35.3	19.4	97 W	47*	56	10 28	20 11.75	-22 52.8	2.307	2.437	24.0	18.3	85 E	22	78*
7 20	0 46.20	+12 7.9	1.197	1.724	35.2	19.2	102 W	55*	52	11 7	20 21.02	-21 18.5	2.406	2.401	23.8	18.3	78 E	24	69*
7 30	0 55.19	+17 1.2	1.095	1.702	34.7	19.0	107 W	62*	47	11 17	20 31.99	-19 40.9	2.501	2.364	23.2	18.4	71 E	25*	60*
8 9	1 1.77	+22 16.8	1.004	1.682	33.7	18.7	113 W	67	42	11 27	20 44.36	-17 58.9	2.588	2.327	22.4	18.4	64 E	27*	52*
8 14	1 3.92	+25 2.4	0.963	1.672	33.1	18.6	116 W	70	39	12 7	20 57.90	-16 11.7	2.667	2.289	21.2	18.4	57 E	27*	44*
8 19	1 5.16	+27 52.2	0.925	1.664	32.4	18.5	118 W	73	36	12 17	21 12.43	-14 18.4	2.736	2.251	19.9	18.3	51 E	28*	36*
8 24	1 5.35	+30 44.9	0.890	1.656	31.6	18.4	121 W	76	33	12 27	21 27.78	-12 18.3	2.795	2.212	18.3	18.3	45 E	27*	29*
8 29	1 4.37	+33 38.8	0.859	1.648	30.7	18.3	124 W	79	30	1 6	21 43.84	-10 10.9	2.842	2.172	16.7	18.2	39 E	26*	22*
9 3	1 2.08	+36 31.7	0.832	1.642	29.8	18.2	126 W	82	27	1 16	22 0.52	-7 55.9	2.878	2.133	14.9	18.2	34 E	24*	16*
9 8	0 58.36	+39 20.9	0.809	1.636	29.0	18.1	128 W	84	25	<b>120942 Rendafuzhong</b>									
9 13	0 53.09	+42 3.1	0.790	1.630	28.2	18.0	130 W	87	22	12 23	18 1.73	-21 57.3	2.769	1.786	0.8	21.0	1 W	—	—
9 18	0 46.25	+44 34.3	0.776	1.626	27.6	17.9	131 W	90	19	1 2	18 29.76	-21 49.2	2.742	1.763	2.3	21.1	4 W	—	—
9 23	0 37.90	+46 50.9	0.765	1.622	27.1	17.9	132 W	88	17	1 12	18 58.11	-21 22.1	2.711	1.741	4.3	21.2	8 W	—	—
9 28	0 28.26	+48 49.6	0.759	1.619	26.9	17.9	133 W	86	15	1 22	19 26.62	-20 35.8	2.677	1.721	6.3	21.2	11 W	1*	4*
10 3	0 17.69	+50 27.8	0.757	1.616	26.8	17.8	133 E	85	14	2 1	19 55.13	-19 30.6	2.639	1.702	8.2	21.2	14 W	2*	8*
10 8	0 6.65	+51 44.1	0.758	1.614	26.9	17.8	133 E	83	12	2 11	20 23.46	-18 7.5	2.599	1.686	10.2	21.3	18 W	3*	11*
10 10	0 2.23	+52 8.3	0.759	1.614	27.0	17.9	133 E	83	12	2 21	20 51.52	-16 27.8	2.558	1.671	12.1	21.3	21 W	4*	14*
10 12	23 57.87	+52 29.0	0.761	1.614	27.1	17.9	133 E	83	12	3 2	21 19.22	-14 33.2	2.515	1.659	14.0	21.3	24 W	4*	18*
10 14	23 53.61	+52 46.2	0.764	1.613	27.2	17.9	132 E	82	11	3 12	21 46.48	-12 26.0	2.471	1.649	15.9	21.3	27 W	5*	21*
10 16	23 49.49	+53 0.0	0.767	1.613	27.4	17.9	132 E	82	11	3 22	22 13.29	-10 8.5	2.427	1.641	17.7	21.3	30 W	6*	24*
10 18	23 45.54	+53 10.7	0.771	1.613	27.6	17.9	131 E	82	11	4 1	22 39.65	-7 43.1	2.382	1.636	19.4	21.3	33 W	7*	27*
10 23	23 36.68	+53 24.4	0.781	1.614	28.1	17.9	130 E	82	11	4 11	23 5.56	-5 12.5	2.337	1.633	21.1	21.3	36 W	8*	30*
10 28	23 29.56	+53 22.6	0.795	1.615	28.6	18.0	129 E	82	11	4 21	23 31.06	-2 39.4	2.291	1.633	22.7	21.3	39 W	9*	33*
11 2	23 24.44	+53 8.5	0.811	1.617	29.2	18.1	127 E	82	11	5 1	23 56.18	-0 6.2	2.244	1.636	24.2	21.4	42 W	10*	35*
11 7	23 21.43	+52 45.3	0.829	1.620	29.9	1													

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

19/21	$\alpha_{2000}$	$\delta_{2000}$	$\Delta$	$r$	$\beta$	$V$	$\psi$	45°	-26°	19/21	$\alpha_{2000}$	$\delta_{2000}$	$\Delta$	$r$	$\beta$	$V$	$\psi$	45°	-26°										
<b>120942 Rendafuzhong (continuation)</b>										<b>78587 2002 SZ<sub>12</sub></b>																			
11 12	4 35.83	+17 37.1	1.086	2.042	9.8	19.8	159 W	63	46	12 23	18 2.60	-23 7.2	2.873	1.889	0.2	18.5	0 E	—	—	12 23	18 2.60	-23 7.2	2.873	1.889	0.2	18.5	0 E	—	—
11 17	4 30.07	+17 20.7	1.084	2.056	6.9	19.7	166 W	62	47	1 2	18 28.04	-22 3.2	2.904	1.925	2.3	18.8	4 W	—	—	1 2	18 28.04	-22 3.2	2.904	1.925	2.3	18.8	4 W	—	—
11 22	4 23.98	+17 4.4	1.088	2.071	4.0	19.5	172 W	62	47	1 12	18 52.43	-20 45.9	2.927	1.962	4.5	19.0	9 W	1*	1*	1 12	18 52.43	-20 45.9	2.927	1.962	4.5	19.0	9 W	1*	1*
11 27	4 17.79	+16 49.0	1.100	2.085	2.1	19.4	175 W	62	47	1 22	19 15.72	-19 16.6	2.942	1.999	6.6	19.1	14 W	4*	6*	1 22	19 15.72	-19 16.6	2.942	1.999	6.6	19.1	14 W	4*	6*
12 2	4 11.75	+16 34.8	1.117	2.099	3.5	19.6	173 E	62	47	2 1	19 37.90	-17 36.8	2.948	2.037	8.8	19.3	18 W	6*	11*	2 1	19 37.90	-17 36.8	2.948	2.037	8.8	19.3	18 W	6*	11*
12 7	4 6.07	+16 22.5	1.141	2.113	6.1	19.8	167 E	61	48	2 11	19 58.94	-15 47.8	2.944	2.075	10.8	19.4	23 W	9*	16*	2 11	19 58.94	-15 47.8	2.944	2.075	10.8	19.4	23 W	9*	16*
12 12	4 0.93	+16 12.5	1.172	2.126	8.7	20.0	161 E	61	48	2 21	20 18.86	-13 51.1	2.931	2.113	12.8	19.5	28 W	11*	21*	2 21	20 18.86	-13 51.1	2.931	2.113	12.8	19.5	28 W	11*	21*
12 17	3 56.48	+16 5.2	1.208	2.140	11.3	20.2	155 E	61	48	3 2	20 37.65	-11 47.8	2.907	2.151	14.7	19.6	33 W	13*	26*	3 2	20 37.65	-11 47.8	2.907	2.151	14.7	19.6	33 W	13*	26*
12 22	3 52.85	+16 1.1	1.251	2.154	13.6	20.3	149 E	61	48	3 12	20 55.30	-9 39.3	2.875	2.189	16.5	19.7	39 W	15*	31*	3 12	20 55.30	-9 39.3	2.875	2.189	16.5	19.7	39 W	15*	31*
12 27	3 50.10	+16 0.1	1.298	2.167	15.7	20.5	143 E	61	48	3 22	21 11.83	-7 26.5	2.832	2.227	18.1	19.7	44 W	18*	36*	3 22	21 11.83	-7 26.5	2.832	2.227	18.1	19.7	44 W	18*	36*
1 1	3 48.24	+16 2.4	1.350	2.181	17.6	20.7	138 E	61	48	4 1	21 27.19	-5 10.6	2.780	2.265	19.6	19.8	50 W	20*	42*	4 1	21 27.19	-5 10.6	2.780	2.265	19.6	19.8	50 W	20*	42*
1 6	3 47.28	+16 7.7	1.407	2.194	19.3	20.8	133 E	61	48	4 11	21 41.36	-2 52.4	2.720	2.302	21.0	19.8	55 W	23*	47*	4 11	21 41.36	-2 52.4	2.720	2.302	21.0	19.8	55 W	23*	47*
1 11	3 47.19	+16 15.9	1.467	2.207	20.7	21.0	127 E	61	48	4 21	21 54.30	-0 33.0	2.651	2.339	22.1	19.8	61 W	26*	51*	4 21	21 54.30	-0 33.0	2.651	2.339	22.1	19.8	61 W	26*	51*
1 16	3 47.95	+16 26.7	1.530	2.221	21.9	21.1	123 E	61	48	5 1	22 5.90	+ 4 46.9	2.575	2.375	23.0	19.8	67 W	30*	55*	5 1	22 5.90	+ 4 46.9	2.575	2.375	23.0	19.8	67 W	30*	55*
										5 11	22 16.06	+ 4 6.0	2.454	2.411	23.7	19.8	74 W	34*	57*	5 11	22 16.06	+ 4 6.0	2.454	2.411	23.7	19.8	74 W	34*	57*
										5 21	22 24.65	+ 6 23.5	2.408	2.446	24.1	19.8	80 W	38*	57*	5 21	22 24.65	+ 6 23.5	2.408	2.446	24.1	19.8	80 W	38*	57*
										5 31	22 31.47	+ 8 37.9	2.318	2.481	24.1	19.7	87 W	43*	55	5 31	22 31.47	+ 8 37.9	2.318	2.481	24.1	19.7	87 W	43*	55
										6 10	22 36.34	+10 47.5	2.228	2.515	23.7	19.7	94 W	49*	53	6 10	22 36.34	+10 47.5	2.228	2.515	23.7	19.7	94 W	49*	53
										6 20	22 39.02	+12 50.1	2.140	2.548	23.0	19.6	102 W	55*	51	6 20	22 39.02	+12 50.1	2.140	2.548	23.0	19.6	102 W	55*	51
										6 30	22 39.28	+14 42.5	2.055	2.581	21.8	19.5	110 W	59*	49	6 30	22 39.28	+14 42.5	2.055	2.581	21.8	19.5	110 W	59*	49
										7 10	22 36.98	+16 21.0	1.978	2.612	20.1	19.4	118 W	61	48	7 10	22 36.98	+16 21.0	1.978	2.612	20.1	19.4	118 W	61	48
										7 20	22 32.08	+17 41.0	1.912	2.643	18.1	19.3	126 W	63	46	7 20	22 32.08	+17 41.0	1.912	2.643	18.1	19.3	126 W	63	46
										7 30	22 24.76	+18 37.3	1.861	2.673	15.7	19.1	134 W	64	45	7 30	22 24.76	+18 37.3	1.861	2.673	15.7	19.1	134 W	64	45
										8 9	22 15.52	+19 5.8	1.829	2.702	13.3	19.0	142 W	64	45	8 9	22 15.52	+19 5.8	1.829	2.702	13.3	19.0	142 W	64	45
										8 19	22 5.13	+19 4.1	1.819	2.730	11.3	19.0	148 W	64	45	8 19	22 5.13	+19 4.1	1.819	2.730	11.3	19.0	148 W	64	45
										8 24	21 59.82	+18 52.0	1.822	2.744	10.7	19.0	150 E	64	45	8 24	21 59.82	+18 52.0	1.822	2.744	10.7	19.0	150 E	64	45
										8 29	21 54.63	+18 33.0	1.832	2.758	10.3	19.0	151 E	64	45	8 29	21 54.63	+18 33.0	1.832	2.758	10.3	19.0	151 E	64	45
										9 3	21 49.66	+18 7.9	1.848	2.771	10.3	19.0	150 E	63	46	9 3	21 49.66	+18 7.9	1.848	2.771	10.3	19.0	150 E	63	46
										9 8	21 45.05	+17 37.4	1.871	2.784	10.7	19.1	149 E	63	46	9 8	21 45.05	+17 37.4	1.871	2.784	10.7	19.1	149 E	63	46
										9 13	21 40.89	+17 2.7	1.899	2.797	11.3	19.1	147 E	62	47	9 13	21 40.89	+17 2.7	1.899	2.797	11.3	19.1	147 E	62	47
										9 18	21 37.26	+16 24.8	1.934	2.810	12.1	19.2	144 E	61	48	9 18	21 37.26	+16 24.8	1.934	2.810	12.1	19.2	144 E	61	48
										9 23	21 34.23	+15 44.7	1.974	2.822	13.0	19.3	141 E	61	48	9 23	21 34.23	+15 44.7	1.974	2.822	13.0	19.3	141 E	61	48
										9 28	21 31.85	+15 3.7	2.019	2.834	14.0	19.4	137 E	60	49	9 28	21 31.85	+15 3.7	2.019	2.834	14.0	19.4	137 E	60	49
										10 3	21 30.12	+14 22.6	2.069	2.846	14.9	19.5	133 E	59	50	10 3	21 30.12	+14 22.6	2.069	2.846	14.9	19.5	133 E	59	50
										10 8	21 29.06	+13 42.4	2.124	2.858	15.8	19.6	129 E	59	50	10 8	21 29.06	+13 42.4	2.124	2.858	15.8	19.6	129 E	59	50
										10 18	21 28.87	+12 27.1	2.245	2.881	17.3	19.8	120 E	57	52	10 18	21 28.87	+12 27.1	2.245	2.881	17.3	19.8	120 E	57	52
										10 28	21 31.13	+11 22.3	2.379	2.903	18.5	19.9	112 E	56	53	10 28	21 31.13	+11 22.3	2.379	2.903	18.5	19.9	112 E	56	53
										11 7	21 35.54	+10 30.6	2.522	2.924	19.2	20.1	104 E	56	53*	11 7	21 35.54	+10 30.6	2.522	2.924	19.2	20.1	104 E	56	53*
										11 17	21 41.81	+ 9 53.1	2.671	2.944	19.5	20.3	96 E	55	52*	11 17	21 41.81	+ 9 53.1	2.671	2.944	19.5	20.3	96 E	55	52*
										11 27	21 49.67	+ 9 30.1	2.823	2.963	19.4	20.4	88 E	55	48*	11 27	21 49.67	+ 9 30.1	2.823	2.963	19.4	20.4	88 E	55	48*
										12 7	21 58.82	+ 9 21.2	2.974	2.981	19.0	20.5	81 E	54	42*	12 7	21 58.82	+ 9 21.2	2.974	2.981	19.0	20.5	81 E	54	42*
										12 17	22 9.05	+ 9 25.6	3.123	2.998	18.4	20.6	74 E	54*	36*	12 17	22 9.05	+ 9 25.6	3.123	2.998	18.4	20.6	74 E	54*	36*
										12 27	22 20.15	+ 9 42.4	3.267	3.014	17.4	20.7	67 E												

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

19/21	$\alpha_{2000}$	$\delta_{2000}$	$\Delta$	$r$	$\beta$	$V$	$\psi$	45°	-26°	19/21	$\alpha_{2000}$	$\delta_{2000}$	$\Delta$	$r$	$\beta$	$V$	$\psi$	45°	-26°
<b>32910 1994 TE<sub>15</sub></b>										<b>114800 2003 NM<sub>7</sub></b>									
<i>(continuation)</i>																			
11 12	5 9.62	+19 12.8	0.959	1.889	14.5	17.1	151 W	64	45	12 23	18 4.93	-19 3.6	2.923	1.944	2.2	20.4	4 E	—	—
11 17	5 4.87	+18 45.2	0.952	1.904	11.5	17.0	158 W	64	45	1 2	18 30.10	-18 50.7	2.879	1.903	2.9	20.4	6 W	—	—
11 22	4 59.48	+18 17.5	0.950	1.918	8.3	16.9	164 W	63	46	1 12	18 55.85	-18 21.9	2.828	1.862	4.7	20.4	9 W	2*	—
11 27	4 53.67	+17 50.3	0.954	1.933	5.3	16.8	170 W	63	46	1 22	19 22.11	-17 36.4	2.771	1.822	6.6	20.4	12 W	4*	4*
12 2	4 47.71	+17 24.3	0.965	1.948	2.9	16.7	174 W	62	47	2 1	19 48.76	-16 33.9	2.710	1.783	8.7	20.4	16 W	5*	8*
12 7	4 41.85	+17 0.3	0.981	1.963	3.2	16.7	174 E	62	47	2 11	20 15.71	-15 14.6	2.646	1.745	10.7	20.4	19 W	6*	12*
12 12	4 36.31	+16 38.8	1.004	1.978	5.7	16.9	168 E	62	47	2 21	20 42.89	-13 38.7	2.580	1.708	12.8	20.4	22 W	7*	15*
12 17	4 31.31	+16 20.4	1.033	1.994	8.5	17.2	163 E	61	48	3 2	21 10.25	-11 47.2	2.512	1.673	14.8	20.3	26 W	8*	19*
12 22	4 27.04	+16 5.7	1.068	2.009	11.2	17.4	157 E	61	48	3 12	21 37.73	-9 41.6	2.445	1.640	16.7	20.3	28 W	9*	22*
12 27	4 23.60	+15 54.9	1.108	2.024	13.7	17.5	151 E	61	48	3 22	22 5.33	-7 23.4	2.379	1.609	18.6	20.3	31 W	9*	25*
1 1	4 21.06	+15 48.0	1.153	2.040	16.0	17.7	145 E	61	48	4 1	22 33.05	-4 55.0	2.314	1.581	20.5	20.2	34 W	10*	27*
1 6	4 19.45	+15 45.0	1.203	2.055	18.0	17.9	140 E	61	48	4 11	23 0.90	-2 19.0	2.252	1.556	22.2	20.2	36 W	10*	29*
1 11	4 18.77	+15 45.5	1.257	2.070	19.8	18.1	135 E	61	48	4 21	23 28.92	+0 21.8	2.193	1.535	23.9	20.2	38 W	11*	31*
1 16	4 18.99	+15 49.4	1.315	2.085	21.3	18.2	130 E	61	48	5 1	23 57.14	+3 4.1	2.138	1.517	25.5	20.1	40 W	12*	33*
<b>215442 2002 MQ<sub>3</sub></b>																			
12 23	18 4.48	-16 40.8	2.131	1.160	5.7	20.9	7 E	—	—	5 11	0 25.57	+5 44.4	2.086	1.503	26.9	20.1	42 W	13*	35*
1 2	18 36.99	-18 28.1	2.140	1.164	4.3	20.9	5 W	—	—	5 21	0 54.24	+8 19.3	2.037	1.494	28.3	20.1	44 W	15*	36*
1 12	19 9.93	-19 52.4	2.139	1.163	4.4	20.9	5 W	—	—	5 31	1 23.11	+10 45.3	1.991	1.489	29.6	20.0	47 W	17*	37*
1 22	19 43.49	-20 53.5	2.125	1.155	6.0	20.9	7 W	—	1*	6 10	1 52.14	+12 58.9	1.948	1.488	30.8	20.0	49 W	19*	38*
2 1	20 17.87	-21 30.5	2.101	1.142	8.3	21.0	10 W	—	4*	6 20	2 21.25	+14 57.3	1.907	1.492	31.9	20.0	51 W	22*	39*
2 11	20 53.24	-21 42.3	2.066	1.122	10.9	21.0	12 W	—	6*	6 30	2 50.28	+16 38.1	1.867	1.500	32.9	20.0	53 W	26*	39*
2 21	21 29.77	-21 26.9	2.022	1.097	13.5	21.0	15 W	—	8*	7 10	3 19.05	+17 59.2	1.828	1.513	33.8	20.0	56 W	30*	39*
3 2	22 7.61	-20 41.7	1.971	1.066	16.0	21.0	17 W	—	10*	7 20	3 47.34	+18 59.8	1.788	1.529	34.6	20.0	59 W	35*	39*
3 12	22 46.86	-19 23.5	1.916	1.030	18.4	20.9	19 W	—	10*	7 30	4 14.87	+19 39.3	1.747	1.550	35.2	20.0	62 W	39*	40*
3 22	23 27.60	-17 28.2	1.860	0.989	20.5	20.8	20 W	—	10*	8 9	4 41.38	+19 58.3	1.705	1.573	35.7	20.0	65 W	44*	40*
4 1	0 9.83	-14 52.2	1.806	0.943	22.3	20.7	21 W	—	10*	8 19	5 6.57	+19 57.9	1.659	1.601	36.1	20.0	69 W	48*	41*
4 11	0 53.44	-11 32.8	1.757	0.894	23.5	20.6	21 W	—	8*	8 29	5 30.15	+19 39.8	1.611	1.630	36.3	20.0	73 W	53*	41*
4 21	1 38.33	-7 29.2	1.717	0.843	23.8	20.4	20 W	—	6*	9 8	5 51.83	+19 6.2	1.559	1.663	36.3	19.9	77 W	56*	43*
5 1	2 24.37	-2 44.2	1.688	0.792	23.1	20.2	18 W	—	4*	9 18	6 11.32	+18 19.8	1.504	1.697	36.0	19.9	83 W	60*	44*
5 6	2 47.78	-0 8.4	1.677	0.768	22.2	20.1	17 W	—	2*	9 28	6 28.31	+17 23.3	1.445	1.734	35.3	19.8	88 W	61*	46*
5 11	3 11.46	+2 34.6	1.670	0.745	21.0	20.0	15 W	—	1*	10 8	6 42.47	+16 19.8	1.385	1.771	34.2	19.8	95 W	61*	47*
5 16	3 35.44	+5 23.1	1.665	0.723	19.4	19.9	14 E	—	1*	10 18	6 53.45	+15 12.8	1.323	1.810	32.6	19.7	102 W	60	49*
5 21	3 59.73	+8 15.0	1.662	0.704	17.5	19.8	12 E	—	1*	10 28	7 0.84	+14 5.6	1.262	1.850	30.4	19.6	110 W	59	50
5 26	4 24.39	+11 7.8	1.660	0.688	15.4	19.6	10 E	—	1*	11 7	7 4.31	+13 2.1	1.205	1.890	27.5	19.4	118 W	58	51
5 31	4 49.46	+13 58.8	1.659	0.676	13.4	19.5	9 E	—	1*	11 17	7 3.57	+12 6.2	1.156	1.931	23.7	19.3	128 W	57	52
6 5	5 14.99	+16 45.0	1.658	0.667	11.9	19.4	8 E	—	1*	11 27	6 58.62	+11 21.9	1.119	1.972	19.2	19.1	139 W	56	53
6 10	5 41.05	+19 23.1	1.657	0.663	11.3	19.4	7 E	—	1*	12 7	6 49.96	+10 52.5	1.098	2.013	14.1	18.9	150 W	56	53
6 15	6 7.67	+21 49.9	1.656	0.664	12.1	19.4	8 E	—	2*	12 17	6 38.61	+10 40.2	1.099	2.054	9.0	18.8	161 W	56	53
6 20	6 34.89	+24 1.8	1.653	0.669	14.0	19.5	9 E	—	2*	12 27	6 26.22	+10 45.2	1.125	2.095	5.9	18.7	167 W	56	53
6 25	7 2.66	+25 55.6	1.649	0.678	16.5	19.6	11 E	—	2*	1 1	6 20.21	+10 53.6	1.147	2.116	6.3	18.8	166 E	56	53
6 30	7 30.92	+27 28.6	1.644	0.692	19.3	19.8	13 E	—	2*	1 6	6 14.58	+11 5.5	1.176	2.136	7.8	19.0	163 E	56	53
7 5	7 59.53	+28 38.4	1.638	0.709	22.1	19.9	15 E	—	3*	1 11	6 9.53	+11 20.4	1.212	2.156	9.8	19.1	158 E	56	53
7 10	8 28.32	+29 23.5	1.632	0.728	24.7	20.0	17 E	—	3*	1 16	6 5.18	+11 37.9	1.253	2.176	11.9	19.3	153 E	57	52
7 15	8 57.06	+29 42.9	1.626	0.750	27.0	20.1	20 E	—	4*	<b>366617 2003 OS<sub>6</sub></b>									
7 20	9 25.53	+29 36.8	1.621	0.774	29.0	20.3	22 E	—	4*	12 23	18 5.03	-19 54.4	2.554	1.574	2.2	21.0	4 E	—	—
7 25	9 53.46	+29 5.8	1.617	0.798	30.7	20.4	24 E	—	4*	1 2	18 35.38	-19 35.8	2.599	1.620	2.6	21.1	4 W	—	—
7 30	10 20.65	+28 11.5	1.615	0.824	32.0	20.5	25 E	—	5*	1 12	19 4.46	-18 58.0	2.641	1.668	4.0	21.3	7 W	—	—
8 4	10 46.93	+26 56.0	1.615	0.849	33.0	20.6	27 E	—	5*	1 22	19 32.17	-18 3.7	2.679	1.718	5.7	21.5	10 W	2*	2*
8 9	11 12.17	+25 21.8	1.617	0.875	33.8	20.7	29 E	—	6*	2 1	19 58.49	-16 55.8	2.711	1.768	7.5	21.6	14 W	3*	6*
8 14	11 36.34	+23 31.5	1.621	0.900	34.3	20.7	30 E	—	6*	<b>100908 1998 KH<sub>17</sub></b>									
8 19	11 59.42	+21 27.9	1.628	0.925	34.5	20.8	31 E	—	6*	12 23	18 5.48	-12 59.1	2.318	1.363	7.5	19.1	10 E	2*	—
8 24	12 21.43	+19 13.9	1.637	0.949	34.6	20.9	32 E	—	6*	1 2	18 40.52	-11 45.2	2.300	1.350	8.2	19.1	11 W	3*	—
8 29	12 42.44	+16 51.9	1.650	0.972	34.4	21.0	33 E	—	6*	1 12	19 15.58	-10 8.8	2.290	1.345	8.9	19.1	12 W	5*	—
9 3	13 2.51	+14 24.6	1.664	0.994	34.1	21.0	34 E	—	6*	1 22	19 50.36	-8 12.3	2.286	1.346	9.4	19.2	13 W	6*	—
9 8	13 12.75	+11 53.9	1.681	1.015	33.6	21.1	34 E	—	6*	2 1	20 24.58	-5 59.3	2.291	1.354	9.9	19.2	14 W	7*	—
9 13	13 40.24	+9 21.8	1.700	1.035	33.1	21.1	34 E	—	6*	2 11	20 58.01	-3 34.0	2.304	1.369	10.2	19.2	14 W	8*	—
9 18	13 58.09	+6 49.8	1.721	1.053	32.4	21.2	34 E	—	6*	2 21	21 30.51	-1 1.0	2.323	1.390	10.4	19.3	15 W	9*	—
9 23	14 15.38	+4 19.4	1.744	1.070	31.6	21.2	34 E	—	6*	3 2	22 2.00	+1 35.1	2.348	1.417	10.6	19.4	15 W	9*	1*
9 28	14 32.19	+1 51.7	1.768	1.086															

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

19/21	$\alpha_{2000}$	$\delta_{2000}$	$\Delta$	$r$	$\beta$	$V$	$\psi$	45°	-26°	19/21	$\alpha_{2000}$	$\delta_{2000}$	$\Delta$	$r$	$\beta$	$V$	$\psi$	45°	-26°
<b>100908 1998 KH<sub>17</sub></b> (continuation)										<b>218251 2003 AE<sub>1</sub></b> (continuation)									
10 18	4 43.40	+13 38.4	1.731	2.518	16.8	20.2	133 W	59	50	2 1	19 22.54	-20 11.4	3.260	2.376	9.0	20.9	22 W	6*	15*
10 28	4 36.26	+11 49.5	1.688	2.561	13.1	20.0	144 W	57	52	2 11	19 42.56	-20 9.4	3.167	2.337	11.2	20.9	27 W	7*	21*
11 2	4 31.73	+10 54.1	1.676	2.583	11.1	20.0	150 W	56	53	2 21	20 2.84	-20 0.4	3.064	2.297	13.5	20.9	33 W	8*	27*
11 7	4 26.69	+9 59.2	1.669	2.604	9.1	19.9	155 W	55	54	3 2	20 23.33	-19 45.0	2.950	2.256	15.8	20.9	38 W	9*	32*
11 12	4 21.27	+9 5.7	1.670	2.624	7.2	19.8	161 W	54	55	3 12	20 44.01	-19 24.2	2.829	2.215	17.9	20.8	43 W	9*	37*
11 17	4 15.61	+8 14.3	1.679	2.645	5.7	19.8	165 W	53	56	3 22	21 4.89	-18 58.9	2.701	2.173	20.1	20.7	48 W	9*	42*
11 22	4 9.88	+7 26.2	1.694	2.665	5.0	19.8	166 W	52	57	4 1	21 25.98	-18 30.4	2.568	2.131	22.1	20.7	54 W	10*	47*
11 27	4 4.22	+6 42.1	1.718	2.685	5.3	19.9	165 E	52	57	4 11	21 47.29	-17 59.9	2.431	2.089	24.1	20.6	58 W	10*	52*
12 7	3 53.70	+5 28.4	1.788	2.723	8.0	20.1	157 E	50	59	4 21	22 8.87	-17 29.0	2.292	2.046	26.0	20.4	63 W	10*	57*
12 17	3 45.01	+4 36.3	1.885	2.761	11.3	20.4	147 E	50	59	5 1	22 30.76	-16 59.3	2.152	2.004	27.8	20.3	68 W	11*	62*
12 27	3 38.75	+4 6.2	2.006	2.797	14.2	20.7	136 E	49	60	5 11	22 53.01	-16 32.9	2.013	1.962	29.4	20.2	72 W	12*	66*
1 6	3 35.14	+3 55.8	2.147	2.832	16.4	20.9	125 E	49	60	5 21	23 15.69	-16 11.6	1.877	1.920	30.9	20.0	77 W	12*	71*
1 16	3 34.15	+4 1.7	2.302	2.866	18.0	21.1	115 E	49	60	5 31	23 38.82	-15 57.8	1.744	1.879	32.2	19.8	81 W	14*	75*
<b>20460 Robwhiteley</b>										<b>246336 2007 TW<sub>244</sub></b>									
12 23	18 5.53	-26 38.7	2.318	1.337	2.4	17.9	3 E	—	—	6 10	0 2.46	-15 53.7	1.617	1.839	33.4	19.7	85 W	15*	78*
12 28	18 22.23	-25 29.6	2.345	1.363	1.6	17.9	2 W	—	—	6 20	0 26.62	-16 1.8	1.496	1.799	34.4	19.5	89 W	17*	80*
1 2	18 38.22	-24 15.7	2.372	1.390	1.6	18.0	2 W	—	—	6 30	0 51.23	-16 24.5	1.384	1.761	35.2	19.3	93 W	19*	80
1 7	18 53.53	-22 57.6	2.397	1.417	2.5	18.1	4 W	—	—	7 10	1 16.19	-17 3.6	1.280	1.725	35.8	19.1	97 W	21*	81
1 12	19 8.21	-21 35.9	2.422	1.445	3.5	18.3	5 W	—	—	7 20	1 41.31	-18 0.5	1.185	1.690	36.3	18.9	100 W	22*	82
1 22	19 35.78	-18 43.8	2.465	1.501	5.9	18.5	9 W	1*	1*	7 30	2 6.26	-19 15.7	1.101	1.658	36.6	18.7	103 W	23*	83
2 1	20 1.24	-15 42.7	2.502	1.558	8.2	18.7	13 W	4*	5*	8 4	2 18.54	-19 59.8	1.062	1.643	36.7	18.6	105 W	23*	84
2 11	20 24.83	-12 35.1	2.531	1.615	10.4	18.9	17 W	7*	9*	8 9	2 30.62	-20 48.0	1.026	1.629	36.8	18.5	106 W	23*	85
2 21	20 46.78	-9 22.6	2.550	1.671	12.6	19.1	22 W	10*	13*	8 14	2 42.42	-21 40.0	0.992	1.615	36.8	18.4	107 W	23*	86
3 2	21 7.28	+6 6.3	2.561	1.727	14.6	19.2	26 W	13*	17*	8 19	2 53.84	-22 35.3	0.961	1.602	36.8	18.3	109 W	23*	87
3 12	21 26.46	+2 47.4	2.563	1.781	16.5	19.4	31 W	16*	21*	8 24	3 4.80	-23 33.4	0.932	1.590	36.8	18.2	110 W	21*	88
3 22	21 44.46	+0 33.7	2.555	1.835	18.3	19.5	35 W	19*	25*	8 29	3 15.21	-24 33.5	0.905	1.578	36.7	18.2	111 W	20	89
4 1	22 1.35	+3 56.5	2.538	1.887	19.9	19.6	40 W	22*	30*	9 3	3 24.98	-25 34.8	0.880	1.568	36.6	18.1	112 W	19	90
4 11	22 17.16	+7 20.5	2.513	1.938	21.4	19.7	45 W	25*	33*	9 8	3 34.02	-26 36.5	0.856	1.558	36.4	18.0	113 W	18	89
4 21	22 31.93	+10 45.6	2.479	1.987	22.8	19.7	50 W	29*	36*	9 13	3 42.20	-27 37.8	0.834	1.550	36.2	17.9	114 W	17	88
5 1	22 45.63	+14 11.5	2.438	2.034	23.9	19.8	55 W	32*	39*	9 18	3 49.43	-28 37.5	0.814	1.542	36.0	17.9	116 W	16	87
5 11	22 58.19	+17 37.7	2.389	2.080	24.9	19.8	60 W	37*	40*	9 23	3 55.59	-29 34.2	0.796	1.536	35.7	17.8	117 W	15	86
5 21	23 9.53	+21 4.2	2.335	2.124	25.7	19.9	65 W	42*	40*	9 28	4 0.62	-30 26.5	0.778	1.531	35.3	17.7	118 W	15	86
5 31	23 19.47	+24 30.3	2.275	2.167	26.2	19.9	71 W	48*	39*	10 3	4 4.43	-31 12.9	0.762	1.526	34.8	17.7	119 W	14	85
6 10	23 27.81	+27 55.1	2.212	2.207	26.6	19.8	76 W	54*	36	10 8	4 6.96	-31 51.8	0.747	1.523	34.3	17.6	121 W	13	84
6 20	23 34.27	+31 17.7	2.146	2.246	26.6	19.8	82 W	62*	33	10 13	4 8.17	-32 21.3	0.734	1.521	33.7	17.5	122 W	13	84
6 30	23 38.45	+34 35.8	2.079	2.283	26.4	19.8	88 W	71*	29	10 18	4 8.03	-32 39.2	0.721	1.520	33.0	17.5	124 W	12	83
7 5	23 39.56	+36 12.2	2.046	2.301	26.2	19.8	91 W	75*	28	10 23	4 6.62	-32 43.2	0.711	1.520	32.3	17.4	125 W	12	83
7 10	23 39.94	+37 46.3	2.013	2.319	25.9	19.7	94 W	79*	26	10 28	4 4.03	-32 31.2	0.702	1.522	31.5	17.4	127 W	12	83
7 15	23 39.53	+39 17.5	1.981	2.336	25.6	19.7	97 W	84*	25	11 2	4 0.44	-32 1.1	0.694	1.524	30.7	17.3	128 W	13	84
7 20	23 38.26	+40 44.9	1.950	2.352	25.2	19.7	100 W	86	23	11 7	3 56.05	-31 11.5	0.689	1.528	29.8	17.3	130 W	14	85
7 25	23 36.07	+42 7.6	1.920	2.368	24.7	19.6	103 W	87	22	11 12	3 51.10	-30 1.2	0.687	1.532	29.1	17.3	131 W	15	86
7 30	23 32.93	+43 24.7	1.892	2.384	24.1	19.6	106 W	88	21	11 17	3 45.90	-28 29.7	0.687	1.538	28.4	17.3	132 W	17	88
8 4	23 28.82	+44 35.1	1.866	2.399	23.5	19.6	109 W	90	19	11 22	3 40.76	-26 37.5	0.690	1.545	27.8	17.3	133 E	18	89
8 9	23 23.75	+45 37.5	1.842	2.414	22.9	19.5	112 W	89	18	11 27	3 35.96	-24 26.2	0.698	1.552	27.4	17.3	134 E	21	88
8 14	23 17.75	+46 30.8	1.821	2.428	22.2	19.5	115 W	88	17	12 2	3 31.75	-21 58.5	0.709	1.561	27.2	17.3	134 E	23	86
8 19	23 10.90	+47 13.6	1.803	2.442	21.6	19.5	118 W	88	17	12 7	3 28.30	-19 17.4	0.724	1.571	27.2	17.4	133 E	26	83
8 24	23 3.35	+47 44.7	1.787	2.455	20.9	19.4	120 W	87	16	12 12	3 25.74	-16 26.5	0.743	1.582	27.5	17.5	132 E	29	80
8 29	22 55.28	+48 3.4	1.776	2.468	20.2	19.4	122 W	87	16	12 17	3 24.16	-13 29.4	0.767	1.593	28.0	17.6	131 E	32	77
9 3	22 46.93	+48 9.2	1.768	2.480	19.6	19.4	124 E	87	16	12 22	3 23.59	-10 29.7	0.796	1.606	28.6	17.7	129 E	35	74
9 8	22 38.53	+48 1.8	1.764	2.492	19.1	19.4	126 E	87	16	12 27	3 24.05	-7 30.6	0.829	1.619	29.3	17.8	126 E	37	72
9 13	22 30.35	+47 41.5	1.765	2.504	18.7	19.4	127 E	87	16	1 1	3 25.48	-4 34.7	0.866	1.633	30.0	18.0	124 E	40	69
9 18	22 22.62	+47 9.1	1.769	2.515	18.4	19.4	128 E	88	17	1 6	3 27.83	-1 44.2	0.907	1.647	30.7	18.1	121 E	43	66
9 23	22 15.58	+46 25.7	1.779	2.526	18.2	19.4	128 E	89	18	1 11	3 31.06	+0 59.5	0.952	1.663	31.3	18.2	118 E	46	63
9 28	22 9.39	+45 32.9	1.792	2.536	18.1	19.4	128 E	89	18	1 16	3 35.10	+3 35.4	1.001	1.679	31.9	18.4	116 E	49	60
10 3	22 4.17	+44 32.4	1.810	2.546	18.2	19.5	127 E	90	19	<b>91227 1999 BG<sub>9</sub></b>									
10 8	21 59.98	+43 26.1	1.833	2.555	18.4	19.5	126 E	88	21	12 23	18 5.97	-26 33.0	2.613	1.632	1.9	20.8	3 E	—	—
10 13	21 56.84	+42 15.6	1.860	2.564	18.6	19.5	125 E	87	22	1 2	18 37.81	-26 5.9	2.590	1.610	2.3	20.8	4 W	—	—
10 18	21 54.75	+41 2.7	1.891	2.572	19.0	19.6	123 E	86	23	1 12	19 9.80	-25 13.4	2.565	1.590	3.6	20.8	6 W	—	—
10 23	21 53.68	+39 49.1	1.926	2.580	19.4	19.7	121 E	85	24	1 22	19 41.65	-23 55.7	2.540	1.573	5.2	20.8	8 W	—	2*
10 28	21 53.58	+38 36.2	1.965	2.588	19.8	19.7	118 E	84	25	2 1	20 13.11	-22 14.0	2.515	1.559	6.9	20.9	11 W	—	5*
11 2	21 54.37	+37 25.2	2.007	2.595	20.2	19.8	116 E	82	27	2 11	20 43.94	-20 10.4	2.491	1.549	8.6	20.9	14 W	—	8*
11 7	21 55.99	+36 17.0	2.052	2.602	20.5	19.9	113 E	81	28	2 21	21 14.02	-17 47.4	2.467	1.542	10.2	21.0	16 W	—	10*
11 12	21 58.36	+35 12.3	2.099	2.608	20.9</														

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

19/21	$\alpha_{2000}$	$\delta_{2000}$	$\Delta$	$r$	$\beta$	$V$	$\psi$	45°	-26°	19/21	$\alpha_{2000}$	$\delta_{2000}$	$\Delta$	$r$	$\beta$	$V$	$\psi$	45°	-26°
<b>91227 1999 BG<sub>9</sub></b>										<b>267004 1981 UA</b>									
<i>(continuation)</i>										<i>(continuation)</i>									
2 11	19 51.85	-20 2.4	3.187	2.334	10.4	21.2	25 W	6*	19*	3 2	21 0.90	-38 30.0	2.992	2.323	15.9	21.0	40 W	-	29*
2 21	20 10.73	-19 7.5	3.158	2.364	12.4	21.3	31 W	8*	24*	3 12	21 24.94	-37 16.0	2.889	2.286	17.7	20.9	44 W	-	33*
3 2	20 28.74	-18 7.5	3.116	2.394	14.3	21.4	37 W	9*	30*	3 22	21 48.49	-35 53.9	2.780	2.247	19.4	20.9	48 W	-	37*
3 12	20 45.80	-17 3.7	3.063	2.423	16.0	21.4	42 W	11*	36*	4 1	22 11.51	-34 24.6	2.667	2.209	21.1	20.8	53 W	-	41*
3 22	21 1.89	-15 57.5	2.999	2.451	17.7	21.5	48 W	12*	42*	4 11	22 33.94	-32 49.4	2.550	2.170	22.7	20.7	57 W	-	45*
4 1	21 16.94	-14 50.4	2.924	2.479	19.1	21.5	54 W	14*	48*	4 21	22 55.78	-31 9.1	2.430	2.131	24.3	20.6	61 W	-	50*
4 11	21 30.88	-13 43.9	2.839	2.505	20.4	21.5	61 W	16*	54*	5 1	23 16.99	-29 25.1	2.307	2.091	25.9	20.5	65 W	-	54*
4 21	21 43.65	-12 39.6	2.746	2.531	21.5	21.5	67 W	18*	61*	5 11	23 37.55	-27 38.2	2.183	2.052	27.4	20.4	69 W	-	59*
5 1	21 55.11	-11 39.0	2.645	2.556	22.3	21.4	74 W	20*	66*	5 21	23 57.44	-25 49.3	2.058	2.013	28.8	20.3	73 W	-	65*
5 11	22 5.15	-10 43.8	2.538	2.580	22.7	21.4	81 W	23*	71*	5 31	0 16.61	-23 59.3	1.932	1.974	30.1	20.1	77 W	2*	70*
5 21	22 13.63	-9 55.7	2.427	2.603	22.9	21.3	88 W	26*	74*	6 10	0 35.00	-22 8.8	1.806	1.935	31.3	20.0	81 W	6*	75*
5 31	22 20.32	-9 16.6	2.315	2.626	22.6	21.2	96 W	29*	73	6 20	0 52.53	-20 17.9	1.680	1.897	32.3	19.8	86 W	10*	80*
6 10	22 25.03	-8 48.4	2.203	2.647	21.8	21.1	105 W	32*	73	6 30	1 9.05	-18 26.8	1.556	1.859	33.1	19.6	90 W	15*	82*
6 20	22 27.55	-8 32.9	2.096	2.668	20.5	21.0	113 W	35*	73	7 10	1 24.37	-16 34.7	1.432	1.823	33.8	19.4	95 W	20*	81
6 30	22 27.64	-8 31.7	1.995	2.687	18.5	20.8	123 W	36*	73	7 20	1 38.27	-14 40.3	1.310	1.788	34.1	19.2	100 W	25*	79
7 10	22 25.19	-8 45.8	1.907	2.706	15.9	20.6	133 W	36	73	7 30	1 50.38	-12 41.5	1.191	1.754	34.0	18.9	105 W	30*	77
7 20	22 20.21	-9 15.0	1.835	2.723	12.7	20.4	144 W	36	73	8 4	1 55.62	-11 39.4	1.133	1.738	33.7	18.8	108 W	32*	76
7 30	22 12.94	-9 57.6	1.784	2.740	8.9	20.2	155 W	35	74	8 9	2 0.25	-10 34.5	1.076	1.722	33.3	18.6	111 W	34*	75
8 9	22 3.93	-10 50.0	1.757	2.755	4.6	20.0	167 W	34	75	8 14	2 4.16	-9 26.4	1.020	1.707	32.8	18.5	114 W	36*	73
8 14	21 59.02	-11 18.2	1.754	2.763	2.4	19.9	173 W	34	75	8 19	2 7.26	-8 14.2	0.966	1.693	32.0	18.3	118 W	37	72
8 19	21 54.01	-11 46.9	1.758	2.770	0.4	19.7	179 W	33	76	8 24	2 9.45	-6 56.7	0.913	1.679	31.0	18.2	121 W	38	71
8 24	21 49.01	-12 15.3	1.769	2.777	2.1	19.9	174 E	33	76	8 29	2 10.61	-5 32.9	0.863	1.665	29.6	18.0	125 W	39	70
8 29	21 44.18	-12 42.6	1.787	2.783	4.3	20.1	168 E	32	77	9 3	2 10.64	-4 1.4	0.815	1.652	28.0	17.8	130 W	41	68
9 3	21 39.63	-13 8.2	1.813	2.790	6.4	20.2	162 E	32	77	9 8	2 9.39	-2 21.0	0.769	1.640	26.1	17.6	134 W	43	66
9 8	21 35.46	-13 31.7	1.844	2.796	8.4	20.3	156 E	31	78	9 13	2 6.74	-0 30.5	0.728	1.629	23.7	17.4	139 W	44	65
9 18	21 28.62	-14 10.5	1.927	2.808	11.9	20.6	145 E	31	78	9 18	2 2.57	+1 31.1	0.690	1.618	20.9	17.2	145 W	47	62
9 28	21 24.18	-14 37.1	2.031	2.818	14.9	20.8	134 E	30	79	9 28	1 49.48	+6 8.4	0.629	1.599	14.2	16.7	157 W	51	58
10 8	21 22.33	-14 51.1	2.152	2.828	17.2	21.0	123 E	30	79	10 8	1 30.55	+11 22.1	0.591	1.584	6.5	16.3	170 W	56	53
10 18	21 23.00	-14 52.8	2.286	2.837	18.8	21.2	114 E	30	79	10 18	1 7.83	+16 43.5	0.581	1.572	5.8	16.2	171 E	62	47
10 28	21 26.03	-14 43.0	2.428	2.844	19.8	21.4	104 E	30	79	10 23	0 56.20	+19 15.3	0.586	1.568	9.6	16.3	165 E	64	45
<b>251966 2000 AJ<sub>1</sub></b>										<b>189630 2001 LE<sub>6</sub></b>									
12 23	18 6.77	-25 3.1	4.031	3.048	0.6	21.1	2 E	-	-	10 28	0 45.11	+21 36.0	0.598	1.565	13.7	16.5	158 E	67	42
1 2	18 22.26	-24 26.3	4.016	3.039	1.9	21.2	6 W	-	-	11 2	0 35.04	+23 43.7	0.616	1.562	17.6	16.7	152 E	69	40
1 12	18 37.59	-23 43.8	3.983	3.029	4.0	21.3	12 W	1*	6*	11 7	0 26.34	+25 37.8	0.640	1.561	21.1	16.9	145 E	71	38
1 22	18 52.67	-22 55.3	3.932	3.019	6.1	21.3	19 W	4*	12*	11 12	0 19.27	+27 19.1	0.668	1.560	24.2	17.1	140 E	72	37
2 1	19 7.41	-22 0.8	3.864	3.007	8.2	21.4	26 W	7*	19*	11 17	0 13.96	+28 49.2	0.699	1.561	26.9	17.3	134 E	74	35
2 11	19 21.70	-21 0.3	3.780	2.995	10.2	21.4	32 W	9*	26*	11 22	0 10.48	+30 10.1	0.735	1.562	29.1	17.5	130 E	75	34
2 21	19 35.47	-19 54.1	3.681	2.981	12.1	21.4	39 W	12*	33*	11 27	0 8.76	+31 24.1	0.772	1.565	31.0	17.6	125 E	76	33
3 2	19 48.61	-18 42.1	3.568	2.967	13.9	21.4	46 W	14*	39*	12 2	0 8.21	+32 32.6	0.812	1.568	32.6	17.8	121 E	78	31
3 12	20 1.01	-17 24.8	3.442	2.951	15.6	21.4	53 W	16*	46*	12 7	0 10.22	+33 37.2	0.854	1.573	33.8	17.9	117 E	79	30*
3 22	20 12.57	-16 2.4	3.306	2.935	17.1	21.3	60 W	19*	53*	12 12	0 13.17	+34 38.8	0.897	1.578	34.8	18.1	114 E	80	29*
4 1	20 23.17	-14 35.2	3.160	2.917	18.4	21.3	67 W	21*	60*	12 17	0 17.47	+35 38.4	0.941	1.585	35.5	18.2	111 E	81	28*
4 11	20 32.65	-13 3.7	3.008	2.899	19.4	21.2	74 W	24*	66*	12 22	0 23.01	+36 36.7	0.986	1.592	36.0	18.3	108 E	82	26*
4 21	20 40.87	-11 28.2	2.850	2.880	20.2	21.1	82 W	26*	71*	12 27	0 29.69	+37 34.0	1.031	1.600	36.4	18.5	105 E	83	24*
5 1	20 47.63	-9 49.1	2.690	2.859	20.6	20.9	89 W	29*	74*	1 1	0 37.42	+38 30.5	1.078	1.609	36.6	18.6	103 E	84	22*
5 11	20 52.71	-8 7.3	2.531	2.838	20.7	20.8	97 W	33*	72	1 6	0 46.11	+39 26.0	1.124	1.619	36.7	18.7	100 E	84	21*
5 21	20 55.88	-6 23.4	2.374	2.816	20.3	20.6	105 W	36*	70	1 11	0 55.73	+40 20.5	1.172	1.630	36.7	18.8	98 E	85	19*
5 31	20 56.86	-4 38.6	2.225	2.793	19.4	20.4	114 W	40*	69	1 16	1 6.21	+41 13.9	1.219	1.641	36.6	18.9	96 E	86	17*
6 10	20 55.43	-2 54.7	2.085	2.769	18.0	20.2	123 W	42*	67	<b>11466 Katharinaotto</b>									
6 20	20 51.39	-1 14.1	1.959	2.744	16.0	20.0	132 W	44*	65	12 23	18 7.57	-25 42.7	2.319	1.337	1.9	20.4	3 E	-	-
6 30	20 44.70	+0 19.9	1.852	2.718	13.6	19.8	141 W	45	64	12 28	18 22.35	-25 24.0	2.367	1.385	1.5	20.5	2 W	-	-
7 10	20 35.57	+1 43.1	1.766	2.692	11.1	19.6	149 W	47	62	1 2	18 36.48	-25 1.2	2.411	1.430	2.1	20.6	3 W	-	-
7 20	20 24.51	+2 51.4	1.705	2.664	9.1	19.4	156 W	48	61	1 7	18 50.01	-24 34.6	2.450	1.473	3.2	20.8	5 W	-	-
7 30	20 12.40	+3 40.7	1.671	2.636	8.7	19.3	157 E	49	60	1 12	19 2.98	-24 4.9	2.486	1.514	4.4	21.0	7 W	-	1*
8 9	20 0.38	+4 9.8	1.664	2.606	10.3	19.3	153 E	49	60	1 17	19 15.45	-23 32.3	2.518	1.553	5.6	21.1	9 W	-	3*
8 19	19 49.57	+4 19.3	1.683	2.576	13.1	19.5	145 E	49	60	1 22	19 27.45	-22 57.2	2.545	1.591	6.9	21.2	11 W	-	5*
8 29	19 40.95	+4 12.6	1.723	2.545	16.1	19.6	136 E	49	60	1 27	19 39.00	-22 19.9	2.568	1.626	8.1	21.4	13 W	-	7*
9 8	19 35.15	+3 54.8	1.782	2.513	18.8	19.7	126 E	49	60	2 1	19 50.14	-21 40.8	2.586	1.660	9.3	21.5	16 W	1*	10*
9 18	19 32.43	+3 31.1	1.854	2.481	21.1	19.8	117 E	49	60	<b>11466 Katharinaotto</b>									
9 28	19 32.81	+3 6.3	1.936	2.448	22.8	20.0	109 E	48	61	12 23	18 7.64	-24 48.3	2.703	1.720	1.0	18.6	2 E	-	-
10 8	19 36.09	+2 44.4	2.022	2.414	24.0	20.1	101 E	48	61	1 2	18 37.45	-24 14.1	2.673	1.692	1.4	18.6	2 W	-	-
10 18	19 42.02	+2 28.4	2.111	2.379	24.7	20.1	93 E	47	60*	1 12	19 7.51	-23 17.6	2.641	1.665	3.3	18.6	6 W	-	-
10 28	19 50.32	+2 20.6	2.198	2.344	25.0	20.2	86 E	47*	57*	1 22	19 37.61	-21 58.6	2.607	1.641	5.2	18.7	9 W	-	

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

19/21	$\alpha_{2000}$	$\delta_{2000}$	$\Delta$	$r$	$\beta$	$V$	$\psi$	45°	-26°	19/21	$\alpha_{2000}$	$\delta_{2000}$	$\Delta$	$r$	$\beta$	$V$	$\psi$	45°	-26°
<b>11466 Katharinaotto</b> (continuation)										<b>5732 1988 WC</b>									
7 10	3 3.88	+22 29.6	2.051	1.744	29.7	19.2	58 W	36*	37*	12 23	18 8.73	-14 19.7	3.677	2.710	3.3	19.9	9 E	2*	—
7 20	3 26.05	+24 7.1	2.003	1.776	30.4	19.2	62 W	42*	37*	1 2	18 25.06	-13 44.7	3.702	2.742	3.8	20.0	11 W	4*	—
7 30	3 47.28	+25 30.4	1.949	1.810	31.1	19.2	67 W	48*	36*	1 12	18 40.97	-13 1.6	3.712	2.772	5.2	20.1	15 W	8*	—
8 9	4 7.36	+26 40.4	1.891	1.845	31.5	19.2	72 W	54*	36*	1 22	18 56.41	-12 10.9	3.705	2.801	6.9	20.2	20 W	12*	7*
8 19	4 26.00	+27 38.2	1.827	1.880	31.6	19.1	77 W	60*	36*	2 1	19 11.30	-11 12.6	3.682	2.829	8.7	20.3	26 W	15*	14*
8 29	4 42.85	+28 25.1	1.760	1.917	31.5	19.1	83 W	66*	35*	2 11	19 25.54	-10 7.2	3.644	2.855	10.5	20.4	32 W	18*	21*
9 8	4 57.56	+29 2.8	1.688	1.954	31.0	19.0	89 W	71*	35*	2 21	19 39.07	-8 55.2	3.591	2.880	12.3	20.4	38 W	21*	28*
9 18	5 9.70	+29 32.8	1.614	1.991	30.1	18.9	96 W	74*	34	3 2	19 51.80	-7 37.0	3.524	2.904	13.9	20.4	45 W	23*	34*
9 28	5 18.78	+29 56.7	1.540	2.029	28.6	18.8	104 W	75	34	3 12	20 3.62	-6 13.2	3.444	2.927	15.4	20.5	51 W	26*	41*
10 8	5 24.34	+30 15.3	1.468	2.067	26.5	18.7	112 W	75	34	3 22	20 14.46	-4 44.5	3.352	2.948	16.7	20.5	58 W	28*	47*
10 18	5 25.92	+30 28.5	1.401	2.105	23.7	18.6	122 W	75	34	4 1	20 24.17	-3 11.5	3.251	2.968	17.7	20.4	65 W	31*	53*
10 28	5 23.20	+30 34.8	1.344	2.142	20.1	18.4	132 W	76	33	4 11	20 32.63	-1 35.3	3.141	2.987	18.6	20.4	72 W	34*	58*
11 7	5 16.30	+30 31.2	1.301	2.180	15.7	18.2	144 W	76	33	4 21	20 39.71	+0 0 3.4	3.025	3.005	19.2	20.4	79 W	37*	62*
11 12	5 11.44	+30 24.6	1.287	2.198	13.2	18.1	149 W	75	34	5 1	20 45.22	+1 43.2	2.906	3.021	19.5	20.3	87 W	40*	62*
11 17	5 5.81	+30 14.2	1.278	2.216	10.7	18.0	156 W	75	34	5 11	20 48.99	+3 22.6	2.785	3.036	19.4	20.2	94 W	44*	61
11 22	4 59.60	+29 59.9	1.276	2.235	8.0	17.9	162 W	75	34	5 21	20 50.84	+4 59.7	2.667	3.050	18.9	20.1	102 W	48*	59
11 27	4 53.04	+29 41.6	1.280	2.253	5.5	17.8	167 W	75	34	5 31	20 50.58	+6 32.0	2.554	3.063	18.0	20.0	111 W	51*	57
12 2	4 46.37	+29 19.7	1.291	2.271	3.4	17.8	172 W	74	35	6 10	20 48.12	+7 56.2	2.450	3.074	16.8	19.9	119 W	53	56
12 7	4 39.82	+28 54.7	1.308	2.289	3.1	17.8	173 E	74	35	6 20	20 43.42	+9 8.7	2.358	3.084	15.2	19.7	128 W	54	55
12 12	4 33.61	+28 27.4	1.333	2.307	4.7	17.9	169 E	73	36	6 30	20 36.62	+10 5.2	2.284	3.093	13.3	19.6	136 W	55	54
12 17	4 27.93	+27 58.8	1.365	2.324	7.0	18.1	163 E	73	36	7 10	20 28.07	+10 42.0	2.229	3.101	11.4	19.5	143 W	56	53
12 22	4 22.96	+27 29.8	1.403	2.342	9.3	18.3	157 E	72	37	7 20	20 18.34	+10 56.2	2.199	3.107	10.0	19.4	148 W	56	53
12 27	4 18.79	+27 1.4	1.447	2.359	11.4	18.5	152 E	72	37	7 30	20 8.20	+10 46.6	2.193	3.113	9.4	19.4	150 E	56	53
1 1	4 15.50	+26 34.4	1.498	2.376	13.4	18.6	146 E	72	37	8 9	19 58.51	+10 15.0	2.213	3.117	10.0	19.4	148 E	55	54
1 6	4 13.11	+26 9.3	1.553	2.393	15.2	18.8	140 E	71	38	8 19	19 50.05	+9 25.3	2.258	3.119	11.5	19.5	142 E	54	55
1 11	4 11.61	+25 46.7	1.614	2.410	16.8	18.9	135 E	71	38	8 24	19 46.48	+8 55.2	2.290	3.120	12.4	19.6	139 E	54	55
1 16	4 11.00	+25 26.8	1.678	2.427	18.2	19.1	130 E	70	39	8 29	19 43.43	+8 22.7	2.326	3.121	13.3	19.7	135 E	53	56
<b>143409 2003 BQ<sub>46</sub></b>										<b>7267 Victormeen</b>									
12 23	18 7.74	-18 46.4	2.462	1.484	3.2	20.9	5 E	—	—	9 18	19 37.02	+6 2.1	2.517	3.121	16.5	20.0	118 E	51	58
1 2	18 39.31	-18 35.8	2.505	1.527	3.0	21.0	5 W	—	—	9 28	19 37.34	+4 53.9	2.633	3.118	17.6	20.1	110 E	50	59
1 12	19 9.65	-18 4.6	2.545	1.571	3.9	21.2	6 W	—	—	10 8	19 39.86	+3 51.8	2.757	3.115	18.3	20.2	102 E	49	60
1 22	19 38.67	-17 15.5	2.582	1.616	5.3	21.3	9 W	2*	—	10 18	19 44.37	+2 58.1	2.885	3.111	18.6	20.3	94 E	48	60*
2 1	20 6.33	-16 11.6	2.615	1.662	6.9	21.5	12 W	3*	4*	10 28	19 50.65	+2 14.3	3.015	3.105	18.6	20.4	86 E	47*	57*
<b>113071 2002 RK<sub>62</sub></b>										<b>7267 Victormeen</b>									
12 23	18 8.47	-20 59.9	2.706	1.724	1.6	20.1	3 E	—	—	11 7	19 58.45	+1 41.2	3.142	3.098	18.3	20.5	78 E	46*	51*
1 2	18 37.71	-20 54.3	2.684	1.703	1.7	20.0	3 W	—	—	11 17	20 7.56	+1 19.2	3.265	3.089	17.6	20.5	71 E	45*	45*
1 12	19 7.27	-20 28.4	2.660	1.684	3.3	20.1	6 W	—	—	11 27	20 17.79	+1 8.6	3.382	3.080	16.7	20.6	64 E	44*	37*
1 22	19 36.94	-19 42.2	2.634	1.667	5.1	20.1	9 W	—	1*	12 7	20 28.93	+1 9.1	3.489	3.069	15.7	20.6	57 E	42*	30*
2 1	20 6.54	-18 36.4	2.607	1.654	6.9	20.2	12 W	1*	5*	12 17	20 40.83	+1 20.6	3.586	3.057	14.4	20.6	51 E	39*	22*
2 11	20 35.86	-17 12.4	2.580	1.644	8.7	20.2	15 W	2*	8*	12 27	20 53.36	+1 42.7	3.671	3.044	13.0	20.6	44 E	36*	15*
2 21	21 4.78	-15 32.0	2.552	1.636	10.5	20.3	18 W	2*	11*	1 6	21 6.37	+2 14.8	3.742	3.030	11.6	20.6	38 E	31*	8*
3 2	21 33.18	-13 37.6	2.524	1.633	12.2	20.3	20 W	3*	14*	1 16	21 19.77	+2 56.4	3.799	3.014	10.1	20.5	32 E	26*	2*
3 12	22 0.99	-11 31.8	2.496	1.632	13.9	20.3	23 W	3*	17*	<b>7267 Victormeen</b>									
3 22	22 28.18	-9 17.5	2.468	1.635	15.6	20.4	26 W	4*	20*	12 23	18 9.14	-40 13.6	3.777	2.850	5.7	19.3	17 E	—	4*
4 1	22 54.75	-6 57.5	2.440	1.641	17.3	20.4	29 W	5*	23*	1 2	18 29.82	-40 6.6	3.796	2.874	5.9	19.4	17 W	—	6*
4 11	23 20.68	-4 34.8	2.410	1.650	18.8	20.5	32 W	5*	26*	1 12	18 50.12	-39 53.9	3.801	2.896	6.7	19.4	20 W	—	10*
4 21	23 46.03	-2 12.0	2.380	1.663	20.4	20.5	35 W	6*	29*	1 22	19 9.93	-39 36.3	3.790	2.918	7.9	19.5	24 W	—	15*
5 1	0 10.79	+0 8.2	2.348	1.678	21.8	20.5	38 W	8*	32*	2 1	19 29.14	-39 14.6	3.764	2.939	9.3	19.5	29 W	—	20*
5 11	0 34.97	+2 23.6	2.314	1.696	23.3	20.6	42 W	9*	35*	2 11	19 47.67	-38 49.9	3.724	2.959	10.8	19.6	34 W	—	25*
5 21	0 58.60	+4 32.1	2.278	1.717	24.6	20.6	45 W	11*	38*	2 21	20 5.43	-38 23.4	3.670	2.978	12.3	19.6	40 W	—	31*
5 31	1 21.64	+6 31.9	2.238	1.740	25.9	20.6	48 W	14*	41*	3 2	20 22.34	-37 56.5	3.602	2.995	13.7	19.7	46 W	—	36*
6 10	1 44.06	+8 21.6	2.195	1.765	27.0	20.7	52 W	18*	43*	3 12	20 38.30	-37 30.6	3.522	3.012	15.0	19.7	52 W	—	42*
6 20	2 5.81	+9 59.9	2.147	1.792	28.1	20.7	56 W	22*	45*	3 22	20 53.25	-37 7.2	3.431	3.028	16.3	19.7	58 W	—	48*
6 30	2 26.77	+11 25.8	2.096	1.821	29.0	20.7	60 W	27*	46*	4 1	21 7.08	-36 47.9	3.329	3.043	17.3	19.6	65 W	—	54*
7 10	2 46.83	+12 38.9	2.039	1.852	29.8	20.7	65 W	32*	48*	4 11	21 19.67	-36 34.4	3.220	3.057	18.1	19.6	72 W	—	60*
7 20	3 5.84	+13 38.7	1.978	1.883	30.4	20.7	70 W	38*	48*	4 21	21 30.90	-36 28.1	3.103	3.070	18.7	19.6	79 W	—	67*
7 30	3 23.58	+14 25.1	1.912	1.916	30.8	20.6	75 W	44*	49*	5 1	21 40.59	-36 30.8	2.982	3.081	19.0	19.5	86 W	—	73*
8 9	3 39.82	+14 58.4	1.842	1.949	30.9	20.6	80 W	50*	49*	5 11	21 48.55	-36 43.8	2.859	3.092	19.0	19.4	94 W	1*	78*
8 19	3 54.29	+15 18.9	1.768	1.984	30.6	20.5	87 W	5											

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

19/21	$\alpha_{2000}$	$\delta_{2000}$	$\Delta$	$r$	$\beta$	$V$	$\psi$	45°	-26°	19/21	$\alpha_{2000}$	$\delta_{2000}$	$\Delta$	$r$	$\beta$	$V$	$\psi$	45°	-26°		
<b>7267 Victormeen</b>										<b>329282 1999 WZ<sub>5</sub></b>											
<i>(continuation)</i>										<i>(continuation)</i>											
9	28	20 26.54	-38 39.9	2.607	3.138	17.1	19.2	113 E	6	77	8	29	2 51.69	-37 30.0	0.932	1.641	33.8	18.4	115 W	8	79
10	8	20 26.59	-37 12.1	2.734	3.134	18.0	19.3	104 E	8	79	9	3	3 0.20	-38 55.7	0.911	1.627	34.0	18.4	116 W	6	77
10	18	20 29.21	-35 41.3	2.867	3.129	18.5	19.4	96 E	9	80	9	8	3 7.81	-40 19.2	0.892	1.614	34.1	18.3	116 W	5	76
10	28	20 34.05	-34 9.0	3.003	3.123	18.5	19.5	88 E	11	80*	9	13	3 14.38	-41 39.3	0.875	1.601	34.2	18.3	116 W	3	74
11	7	20 40.73	-32 35.9	3.138	3.115	18.2	19.6	80 E	12	74*	9	18	3 19.79	-42 54.6	0.860	1.590	34.4	18.2	117 W	2	73
11	17	20 48.95	-31 2.1	3.269	3.107	17.6	19.7	72 E	14	66*	9	23	3 23.93	-44 3.2	0.846	1.579	34.5	18.2	117 W	1	72
11	27	20 58.41	-29 27.6	3.395	3.098	16.7	19.7	64 E	15*	58*	9	28	3 26.71	-45 3.7	0.834	1.569	34.6	18.1	117 W	-	71
12	7	21 8.86	-27 52.0	3.511	3.088	15.5	19.7	57 E	16*	49*	10	3	3 28.08	-45 54.1	0.822	1.560	34.7	18.1	117 W	-	70
12	17	21 20.10	-26 15.1	3.617	3.076	14.2	19.7	50 E	17*	41*	10	8	3 28.03	-46 32.8	0.812	1.552	34.8	18.0	118 W	-	69
12	27	21 31.95	-24 36.6	3.711	3.064	12.6	19.7	43 E	16*	34*	10	13	3 26.56	-46 57.7	0.802	1.545	34.8	18.0	118 W	-	69
1	6	21 44.27	-22 56.5	3.791	3.051	10.9	19.7	36 E	15*	27*	10	18	3 23.78	-47 6.6	0.794	1.539	34.8	18.0	118 W	-	69
1	16	21 56.93	-21 14.6	3.856	3.037	9.1	19.7	29 E	12*	21*	10	23	3 19.86	-46 57.4	0.787	1.534	34.8	17.9	118 W	-	69
<b>249687 2000 AY<sub>42</sub></b>										<b>345705 2006 VB<sub>14</sub></b>											
12	23	18 9.43	-22 36.1	3.797	2.814	0.6	20.5	2 E	-	-	12	23	18 10.02	-20 7.5	1.444	0.467	7.9	18.2	4 E	-	-
1	2	18 25.95	-21 58.7	3.824	2.846	1.7	20.6	5 W	-	-	12	25	18 24.30	-18 51.5	1.448	0.478	11.3	18.4	5 E	-	-
1	12	18 41.99	-21 15.3	3.835	2.877	3.8	20.8	11 W	2*	4*	12	27	18 38.22	-17 33.8	1.451	0.491	14.5	18.6	7 E	1*	-
1	22	18 57.49	-20 25.9	3.828	2.907	5.9	20.9	18 W	5*	10*	12	29	18 51.78	-16 14.8	1.454	0.505	17.4	18.7	9 E	3*	-
2	1	19 12.37	-19 31.0	3.804	2.936	8.0	21.0	24 W	8*	17*	12	31	19 5.00	-14 55.3	1.456	0.520	20.0	18.9	10 E	4*	-
2	11	19 26.53	-18 30.9	3.764	2.963	9.9	21.1	31 W	11*	24*	1	2	19 17.90	-13 35.6	1.458	0.536	22.3	19.0	12 E	6*	-
2	21	19 39.92	-17 26.1	3.708	2.990	11.7	21.1	38 W	13*	31*	1	7	19 48.83	-10 18.3	1.464	0.580	27.0	19.4	16 E	9*	-
3	2	19 52.43	-16 17.2	3.637	3.016	13.4	21.2	45 W	16*	38*	1	12	20 18.10	-7 7.1	1.472	0.625	30.2	19.6	19 E	13*	-
3	12	20 3.98	-15 4.9	3.553	3.041	14.9	21.2	52 W	18*	45*	1	17	20 45.95	-4 4.9	1.483	0.670	32.3	19.9	21 E	15*	-
3	22	20 14.46	-13 49.7	3.456	3.064	16.2	21.2	59 W	20*	52*	1	22	21 12.57	-1 13.5	1.498	0.715	33.5	20.0	24 E	18*	-
4	1	20 23.75	-12 32.5	3.348	3.087	17.3	21.2	66 W	23*	59*	2	1	22 2.68	+3 53.7	1.538	0.798	34.1	20.4	27 E	21*	-
4	11	20 31.72	-11 14.0	3.232	3.109	18.0	21.1	74 W	25*	65*	2	11	22 49.22	+8 12.1	1.591	0.872	33.3	20.6	29 E	23*	-
4	21	20 38.23	-9 55.2	3.110	3.130	18.5	21.1	82 W	28*	71*	2	21	23 32.75	+11 43.8	1.653	0.936	31.8	20.8	30 E	24*	1*
5	1	20 43.11	-8 37.0	2.985	3.149	18.7	21.0	90 W	31*	73*	3	2	0 13.75	+14 33.5	1.718	0.988	29.8	20.9	30 E	24*	2*
5	11	20 46.19	-7 20.7	2.859	3.168	18.4	20.9	98 W	34*	71	3	12	0 52.58	+16 46.2	1.782	1.029	27.7	21.1	29 E	23*	3*
5	21	20 47.31	-6 7.6	2.736	3.186	17.7	20.8	107 W	37*	70	3	22	1 29.64	+18 26.5	1.843	1.060	25.5	21.1	27 E	21*	4*
5	31	20 46.31	-4 59.3	2.620	3.202	16.5	20.7	116 W	40*	69	4	1	2 5.30	+19 38.3	1.896	1.080	23.3	21.2	25 E	10*	5*
6	10	20 43.11	-3 57.9	2.515	3.218	14.8	20.6	126 W	41	68	4	11	2 39.87	+20 24.2	1.938	1.089	21.1	21.2	23 E	16*	6*
6	20	20 37.76	-3 5.2	2.426	3.232	12.7	20.4	136 W	42	67	4	21	3 13.67	+20 46.0	1.969	1.088	19.0	21.1	21 E	13*	6*
6	30	20 30.43	-2 23.4	2.357	3.246	10.2	20.3	145 W	43	66	5	1	3 47.01	+20 44.6	1.985	1.076	17.1	21.1	18 E	10*	7*
7	10	20 21.56	-1 54.1	2.312	3.259	7.7	20.1	154 W	43	66	5	11	4 20.15	+20 20.1	1.985	1.054	15.5	21.0	16 E	6*	7*
7	20	20 11.73	-1 38.3	2.294	3.270	5.9	20.0	161 W	43	66	5	21	4 53.42	+19 32.0	1.969	1.021	14.4	20.8	14 E	3*	7*
7	30	20 1.72	-1 35.9	2.304	3.281	5.8	20.1	161 E	43	66	5	31	5 27.15	+18 19.3	1.935	0.977	13.9	20.7	13 E	-	7*
8	9	19 52.33	-1 45.1	2.344	3.290	7.5	20.2	155 E	43	66	6	10	6 1.74	+16 40.5	1.883	0.923	14.3	20.5	13 E	-	7*
8	19	19 44.25	-2 3.6	2.409	3.299	9.8	20.3	146 E	43	66	6	20	6 37.72	+14 34.2	1.812	0.857	16.0	20.3	13 E	-	7*
8	29	19 38.03	-2 28.2	2.499	3.306	12.1	20.5	137 E	43	66	6	30	7 15.81	+11 59.6	1.721	0.781	19.1	20.1	15 E	-	7*
9	8	19 33.94	-2 55.7	2.608	3.313	14.1	20.7	127 E	42	67	7	10	7 56.98	+8 58.7	1.610	0.695	24.2	19.9	16 E	-	8*
9	18	19 32.08	-3 23.2	2.733	3.318	15.6	20.8	117 E	42	67	7	15	8 19.14	+7 21.0	1.546	0.650	27.7	19.7	17 E	-	9*
9	28	19 32.42	-3 48.5	2.869	3.323	16.6	21.0	108 E	41	68	7	20	8 42.60	+5 41.7	1.476	0.604	32.2	19.6	18 E	-	10*
10	8	19 34.79	-4 9.6	3.012	3.326	17.2	21.1	99 E	41	68	7	25	9 7.57	+4 5.2	1.399	0.560	37.7	19.5	20 E	-	12*
10	18	19 39.00	-4 25.1	3.159	3.329	17.4	21.2	91 E	41	66*	7	30	9 34.19	+2 39.0	1.316	0.518	44.7	19.4	21 E	-	14*
10	28	19 44.83	-4 34.0	3.304	3.330	17.2	21.3	83 E	40*	61*	8	1	9 45.30	+2 9.7	1.281	0.503	48.0	19.3	22 E	-	14*
11	7	19 52.04	-4 35.7	3.446	3.331	16.7	21.4	75 E	40*	55*	8	3	9 56.68	+1 44.8	1.244	0.489	51.5	19.3	22 E	-	15*
11	17	20 0.45	-4 29.6	3.582	3.330	15.9	21.4	67 E	39*	47*	8	5	10 8.28	+1 25.1	1.207	0.477	55.3	19.3	23 E	-	16*
11	27	20 9.85	-4 15.5	3.709	3.329	14.9	21.5	60 E	38*	39*	8	7	10 20.10	+1 11.7	1.169	0.466	59.4	19.3	23 E	-	17*
<b>329282 1999 WZ<sub>5</sub></b>										<b>329282 1999 WZ<sub>5</sub></b>											
12	23	18 9.53	-19 29.7	3.558	2.578	1.6	21.1	4 E	-	-	8	9	10 32.07	+1 5.9	1.130	0.457	63.7	19.3	24 E	-	17*
1	2	18 27.53	-20 4.6	3.523	2.545	2.1	21.1	5 W	2*	2*	8	11	10 44.16	+1 8.6	1.091	0.450	68.2	19.4	24 E	-	18*
1	12	18 45.94	-20 31.7	3.472	2.511	4.1	21.2	10 W	2*	2*	8	13	10 56.28	+1 21.0	1.052	0.446	72.8	19.4	25 E	-	19*
1	22	19 4.71	-20 51.5	3.407	2.477	6.3	21.2	16 W	4*	9*	8	15	11 8.36	+1 43.7	1.012	0.444	77.4	19.5	25 E	-	19*
2	1	19 23.77	-21 4.2	3.328	2.441	8.6	21.2	22 W	5*	15*	8	17	11 20.33	+2 17.5	0.974	0.445	82.0	19.5	26 E	2*	20*
2	11	19 43.08	-21 10.4	3.236	2.405	10.9	21.2	28 W	6*	21*	8	19	11 32.11	+3 2.7	0.936	0.448	86.5	19.6	26 E	4*	20*
2	21	20 2.61	-21 10.8	3.133	2.368	13.2	21.2	33 W	7*	27*	8	24	12 0.26	+5 44.3	0.847	0.466	96.4	19.9	27 E	9*	20*
3	2	20 22.31	-21 6.3	3.019	2.330	15.4	21.2	39 W	8*	33*	8	29	12 25.98	+9 27.1	0.770	0.496	103.7	20.2	28 E	14*	19*
3	12	20 42.17	-20 58.0	2.895	2.291	17.6	21.1	44 W	8*	38*	9	3	12 48.99	+13 53.5	0.706	0.534	108.1	20.4	30 E	19*	17*
3	22	21 2.21	-20 47.0	2.765	2.252	19.7	21.1	50 W	8*	44*	9	8	13 9.50	+18 42.8	0.654	0.577	109.7	20.5	33 E	25*	14*
4	1	21 22.40	-20 34.9	2.628	2.212	21.7	21.0	55 W	8*	49*	9	13	13 27.96	+23 36.5	0.613	0.622	109.1	20.5	36 E	29*	11*
4	11	21 42.78	-20 23.1	2.486	2.172	23.6	20.9	60 W	9*	54*	9	18	13 44.93	+28 21.0	0.579	0.667	107.2	2			

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

19/21	$\alpha_{2000}$	$\delta_{2000}$	$\Delta$	$r$	$\beta$	$V$	$\psi$	45°-26°	19/21	$\alpha_{2000}$	$\delta_{2000}$	$\Delta$	$r$	$\beta$	$V$	$\psi$	45°-26°	
<b>345705 2006 VB<sub>14</sub></b> (continuation)									<b>13819 1999 SX<sub>5</sub></b> (continuation)									
9 20	13 51.45	+30 10.1	0.568	0.685	106.2	20.4	41 E	35* 6*	7 30	23 44.55	-13 11.0	1.089	1.943	21.7	16.3	135 W	32	77
9 22	13 57.86	+31 56.1	0.556	0.703	105.0	20.3	43 E	36* 4*	8 9	23 49.46	-16 39.5	0.998	1.909	18.5	16.0	143 W	28	81
9 24	14 4.21	+33 38.7	0.546	0.721	103.9	20.3	44 E	38* 3*	8 19	23 51.60	-20 48.6	0.927	1.876	15.3	15.6	151 W	24	85
9 26	14 10.54	+35 17.9	0.536	0.738	102.6	20.2	46 E	39* 2*	8 24	23 51.56	-23 4.0	0.899	1.860	14.0	15.5	153 W	22	87
9 28	14 16.90	+36 53.5	0.526	0.755	101.4	20.2	48 E	40* —	8 29	23 50.80	-25 22.7	0.878	1.844	13.3	15.4	155 W	20	89
10 3	14 33.18	+40 37.3	0.503	0.796	98.2	20.1	52 E	43* —	9 3	23 49.37	-27 41.3	0.862	1.828	13.3	15.4	155 W	17	88
10 8	14 50.65	+44 0.4	0.480	0.834	95.1	19.9	56 E	46* —	9 8	23 47.35	-29 55.9	0.852	1.812	14.1	15.3	154 W	15	86
10 13	15 10.15	+47 4.6	0.458	0.870	92.1	19.8	61 E	48* —	9 13	23 44.86	-32 2.8	0.848	1.797	15.6	15.4	151 W	13	84
10 18	15 32.73	+49 51.4	0.435	0.903	89.1	19.6	65 E	51* —	9 18	23 42.07	-33 58.5	0.850	1.783	17.4	15.4	148 E	11	82
10 20	15 42.88	+50 53.3	0.425	0.916	87.9	19.5	67 E	52* —	9 23	23 39.19	-35 40.0	0.856	1.769	19.5	15.5	144 E	9	80
10 22	15 53.80	+51 52.2	0.416	0.928	86.7	19.5	69 E	53* —	9 28	23 36.45	-37 5.4	0.867	1.755	21.7	15.6	140 E	8	79
10 24	16 5.58	+52 47.8	0.407	0.940	85.6	19.4	70 E	55* —	10 3	23 34.06	-38 13.6	0.881	1.742	23.8	15.6	135 E	7	78
10 26	16 18.31	+53 39.8	0.397	0.951	84.4	19.3	72 E	56* —	10 8	23 32.22	-39 4.5	0.899	1.729	25.8	15.7	131 E	6	77
10 28	16 32.08	+54 27.4	0.388	0.962	83.2	19.3	74 E	57* —	10 13	23 31.09	-39 38.4	0.920	1.717	27.6	15.8	127 E	5	76
10 30	16 46.99	+55 10.0	0.379	0.972	82.0	19.2	76 E	59* —	10 18	23 30.80	-39 55.9	0.943	1.705	29.3	15.9	123 E	5	76
11 1	17 3.09	+55 46.4	0.370	0.982	80.8	19.1	78 E	60* —	10 23	23 31.45	-39 58.2	0.967	1.694	30.8	16.0	119 E	5	76
11 3	17 20.44	+56 15.7	0.361	0.991	79.6	19.1	79 E	62* —	10 28	23 33.08	-39 46.5	0.994	1.683	32.1	16.1	116 E	5	76
11 5	17 39.04	+56 36.3	0.353	1.000	78.4	19.0	81 E	64* —	11 2	23 35.66	-39 22.2	1.021	1.674	33.2	16.2	112 E	6	77
11 7	17 58.84	+56 46.6	0.344	1.009	77.2	18.9	83 E	66* —	11 7	23 39.18	-38 46.5	1.049	1.665	34.2	16.2	109 E	6	77
11 9	18 19.72	+56 45.2	0.337	1.017	75.9	18.8	85 E	68* —	11 12	23 43.57	-38 0.3	1.078	1.656	35.0	16.3	106 E	7	78
11 11	18 41.49	+56 30.3	0.329	1.025	74.7	18.8	87 E	70* —	11 17	23 48.78	-37 4.6	1.108	1.648	35.7	16.4	104 E	8	79
11 13	19 3.90	+56 0.4	0.323	1.032	73.5	18.7	88 E	72* —	11 22	23 54.75	-36 0.4	1.138	1.642	36.2	16.4	101 E	9	80
11 15	19 26.61	+55 14.5	0.317	1.039	72.2	18.6	90 E	74* —	11 27	0 1.40	-34 48.4	1.167	1.635	36.6	16.5	98 E	10	81
11 17	19 49.29	+54 11.8	0.311	1.045	71.0	18.6	92 E	77* 2*	12 2	0 8.66	-33 29.4	1.198	1.630	37.0	16.5	96 E	12	83
11 18	20 0.50	+53 34.2	0.309	1.048	70.4	18.5	92 E	78* 3*	12 7	0 16.43	-32 4.1	1.228	1.626	37.2	16.6	94 E	13	84
11 19	20 11.59	+52 52.4	0.307	1.051	69.9	18.5	93 E	80* 4*	12 12	0 24.69	-30 33.0	1.258	1.622	37.4	16.7	92 E	14	85*
11 20	20 22.50	+52 6.5	0.305	1.054	69.3	18.5	94 E	81* 5*	12 17	0 33.36	-28 56.6	1.289	1.619	37.4	16.7	90 E	16	84*
11 21	20 33.20	+51 16.6	0.303	1.057	68.7	18.4	95 E	82* 7*	12 22	0 42.41	-27 15.7	1.320	1.617	37.4	16.8	88 E	18	81*
11 22	20 43.67	+50 22.9	0.302	1.059	68.2	18.4	95 E	84* 8*	12 27	0 51.79	-25 30.8	1.351	1.616	37.4	16.8	86 E	19	79*
11 23	20 53.89	+49 25.6	0.301	1.062	67.7	18.4	96 E	85* 9*	1 1	1 1.45	-23 42.5	1.383	1.615	37.3	16.9	84 E	21	76*
11 24	21 3.83	+48 25.0	0.300	1.064	67.2	18.4	97 E	86* 10*	1 6	1 11.36	-21 51.3	1.415	1.616	37.1	16.9	83 E	23	73*
11 25	21 13.48	+47 21.2	0.299	1.066	66.7	18.4	97 E	88* 12*	1 11	1 21.50	-19 57.8	1.448	1.617	36.9	16.9	81 E	25	70*
11 26	21 22.83	+46 14.6	0.299	1.069	66.3	18.4	98 E	89 13*	1 16	1 31.86	-18 2.5	1.482	1.620	36.6	17.0	79 E	27	67*
11 27	21 31.87	+45 5.4	0.299	1.071	65.8	18.4	99 E	90 14*	<b>218597 2005 MY<sub>52</sub></b>									
11 29	21 49.04	+42 40.6	0.300	1.074	65.1	18.3	99 E	88 17*	12 23	18 10.92	-19 34.7	2.879	1.900	2.2	20.5	4 E	—	—
12 1	22 5.00	+40 9.4	0.302	1.078	64.5	18.3	100 E	85 20*	1 2	18 37.10	-19 18.3	2.847	1.868	2.3	20.5	4 W	—	—
12 3	22 19.79	+37 34.2	0.305	1.081	63.9	18.4	100 E	83 23*	1 12	19 3.70	-18 45.0	2.809	1.837	3.7	20.5	7 W	1*	—
12 5	22 33.50	+34 57.5	0.309	1.083	63.6	18.4	100 E	80 26*	1 22	19 30.60	-17 54.6	2.768	1.808	5.6	20.5	10 W	2*	2*
12 7	22 46.21	+32 21.3	0.315	1.086	63.3	18.4	100 E	77 28*	2 1	19 57.67	-16 47.0	2.722	1.781	7.5	20.6	14 W	4*	6*
12 9	22 58.00	+29 47.7	0.321	1.087	63.2	18.5	100 E	75 31*	2 11	20 24.78	-15 23.1	2.674	1.755	9.5	20.6	17 W	5*	10*
12 11	23 8.97	+27 18.0	0.328	1.089	63.1	18.5	100 E	72 33*	2 21	20 51.83	-13 43.7	2.625	1.732	11.4	20.6	20 W	6*	13*
12 13	23 19.19	+24 53.5	0.337	1.089	63.2	18.6	99 E	70 36*	3 2	21 18.76	-11 50.3	2.574	1.711	13.3	20.6	23 W	7*	17*
12 15	23 28.75	+22 35.1	0.346	1.090	63.3	18.6	99 E	68 38*	3 12	21 45.48	-9 44.8	2.522	1.692	15.2	20.6	27 W	7*	20*
12 17	23 37.71	+20 23.3	0.356	1.090	63.5	18.7	98 E	65 40*	3 22	22 12.00	-7 29.3	2.471	1.677	17.0	20.6	29 W	8*	23*
12 22	23 57.91	+15 24.4	0.383	1.088	64.2	18.9	95 E	60 44*	4 1	22 38.28	-5 6.1	2.419	1.664	18.8	20.6	32 W	9*	26*
12 27	0 15.53	+11 8.3	0.413	1.084	65.0	19.1	93 E	56 47*	4 11	23 4.34	-2 38.0	2.369	1.654	20.5	20.6	35 W	10*	29*
1 1	0 31.18	+7 30.7	0.445	1.077	65.9	19.2	90 E	53 50*	4 21	23 30.18	-0 7.6	2.318	1.648	22.1	20.6	38 W	11*	31*
1 6	0 45.29	+4 25.8	0.478	1.067	66.9	19.4	87 E	49 51*	5 1	23 55.83	+2 22.6	2.269	1.645	23.6	20.6	41 W	12*	34*
1 11	0 58.18	+1 48.1	0.511	1.055	67.8	19.5	83 E	47 52*	5 11	0 21.29	+4 49.6	2.219	1.645	25.1	20.6	44 W	13*	36*
1 16	1 10.09	-0 27.8	0.542	1.040	68.8	19.7	80 E	45 53*	5 21	0 46.56	+7 11.0	2.170	1.649	26.5	20.6	47 W	15*	39*
12 23	18 10.82	-11 27.4	3.620	2.666	4.5	18.9	12 E	4* —	5 31	1 11.63	+9 24.4	2.121	1.656	27.8	20.6	50 W	18*	40*
1 2	18 28.05	-11 46.8	3.593	2.640	4.5	18.9	12 W	5* —	6 10	1 36.43	+11 27.5	2.070	1.666	29.0	20.6	53 W	21*	42*
1 12	18 45.48	-11 57.2	3.552	2.612	5.4	18.9	15 W	9* —	6 20	2 0.93	+13 18.5	2.019	1.679	30.2	20.6	56 W	25*	43*
1 22	19 3.06	-11 58.8	3.497	2.584	7.0	18.9	19 W	11* 5*	6 30	2 24.98	+14 55.8	1.966	1.695	31.1	20.5	60 W	29*	44*
2 1	19 20.71	-11 52.0	3.429	2.555	8.8	18.9	23 W	13* 12*	7 10	2 48.46	+16 18.1	1.910	1.714	32.0	20.5	63 W	34*	44*
2 11	19 38.35	-11 37.4	3.348	2.526	10.8	18.9	29 W	15* 18*	7 20	3 11.19	+17 24.7	1.852	1.736	32.7	20.5	67 W	40*	44*
2 21	19 55.94	-11 15.7	3.254	2.495	12.8	18.9	34 W	16* 25*	7 30	3 32.94	+18 15.3	1.791	1.759	33.2	20.5	72 W	45*	44*
3 2	20 13.41	-10 47.8	3.149	2.464	14.8	18.9	39 W	17* 31*	8 9	3 53.45	+18 49.9	1.728	1.785	33.5	20.4	76 W	51*	44*
3 12	20 30.71	-10 14.8	3.034	2.432	16.7	18.8	45 W	18* 37*	8 19	4 12.43	+19 8.9	1.661	1.813	33.5	20.4	82 W	56*	45*
3 22	20 47.81	-9 37.8	2.910	2.399	18.6	18.8	50 W	19* 43*	8 29	4 29.54	+19 13.2	1.592	1.842	33.2	20.3	87 W	60*	45*
4 1	21 4.66	-8 58.2	2.778	2.366	20.5	18.7	56 W	20* 48*	9 8	4 44.41	+19 3.9	1.521	1.873	32.5	20.2	93 W	63*	45
4 11	21 21.22	-8 17.6	2.639	2.332	22.2	18.6	61 W	22* 54*	9 18	4 56.63	+18 42.5	1.450	1.905	31.3	20.1	100 W	64	45
4 21	21 37.47	-7 37.7	2.495	2.298	23.8	18.5	67 W	23* 59*	9 28	5 5.74	+18 10.4	1.380	1.939	29.5	20.0			



EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

19/21	$\alpha_{2000}$	$\delta_{2000}$	$\Delta$	$r$	$\beta$	$V$	$\psi$	45°	-26°	19/20	$\alpha_{2000}$	$\delta_{2000}$	$\Delta$	$r$	$\beta$	$V$	$\psi$	45°	-26°
<b>348306 2005 AY<sub>28</sub></b>										<b>392476 2011 GD<sub>3</sub></b> (continuation)									
12 23	18 11.28	-22 51.9	1.357	0.375	5.5	20.5	2 E	—	—	1 12	19 35.27	-27 58.9	1.882	0.911	6.8	20.8	6 E	—	—
1 2	18 30.50	-22 59.5	1.353	0.380	11.5	20.8	4 E	—	—	1 17	19 58.82	-26 56.8	1.819	0.847	7.2	20.6	6 E	—	—
12 27	18 49.60	-22 59.0	1.348	0.389	17.4	21.0	7 E	—	—	1 22	20 23.55	-25 33.3	1.754	0.782	7.7	20.3	6 E	—	—
12 29	19 8.43	-22 50.5	1.342	0.401	22.7	21.2	9 E	—	2*	1 27	20 49.45	-23 44.8	1.688	0.717	8.4	20.1	6 E	—	—
12 31	19 26.89	-22 34.2	1.335	0.418	27.4	21.5	11 E	2*	4*	2 1	21 16.48	-21 27.8	1.622	0.652	9.8	19.9	6 E	—	—
<b>417966 2007 TX<sub>119</sub></b>																			
12 23	18 11.66	-25 54.6	2.767	1.786	1.8	21.3	3 E	—	—	2 6	21 44.56	-18 38.5	1.554	0.591	12.6	19.7	7 E	—	1*
1 2	18 40.61	-25 49.4	2.742	1.761	1.8	21.2	3 W	—	—	2 11	22 13.58	-15 14.0	1.484	0.535	17.4	19.5	9	—	3*
1 12	19 9.94	-25 23.7	2.713	1.738	3.4	21.3	6 W	—	—	2 16	22 43.33	-11 13.0	1.411	0.490	24.7	19.4	12 E	—	3* 4*
1 22	19 39.45	-24 37.2	2.681	1.716	5.2	21.3	9 W	—	—	2 21	23 13.52	-6 37.7	1.335	0.461	34.4	19.5	15 E	—	7* 5*
2 1	20 8.95	-23 30.1	2.646	1.697	7.2	21.4	12 W	—	—	2 26	23 43.79	-1 35.0	1.255	0.454	45.4	19.6	19 E	—	12* 6*
2 11	20 38.23	-22 3.4	2.609	1.679	9.1	21.4	16 W	—	10*	3 2	0 14.00	+3 44.0	1.174	0.471	56.0	19.8	23 E	—	16* 7*
2 21	21 7.16	-20 18.5	2.570	1.664	11.0	21.4	19 W	—	13*	3 4	0 26.10	+5 53.7	1.144	0.483	59.7	20.0	25 E	—	18* 8*
3 2	21 35.62	-18 17.4	2.531	1.651	12.8	21.5	22 W	—	16*	3 6	0 38.26	+8 3.6	1.114	0.498	63.0	20.1	27 E	—	20* 8*
3 12	22 3.53	-16 2.5	2.491	1.640	14.6	21.5	25 W	—	18*	3 8	0 50.52	+10 13.1	1.086	0.516	65.8	20.2	28 E	—	22* 9*
3 22	22 30.88	-13 36.1	2.451	1.632	16.3	21.5	27 W	—	21*	3 10	1 2.93	+12 21.7	1.059	0.536	68.2	20.3	30 E	—	23* 9*
<b>137184 1999 JG<sub>63</sub></b>																			
12 23	18 11.96	-26 38.6	2.328	1.349	2.8	16.8	4 E	—	—	3 12	1 15.55	+14 28.8	1.034	0.557	70.1	20.4	32 E	—	25* 9*
12 28	18 31.66	-26 40.9	2.316	1.336	2.7	16.7	4 E	—	—	3 14	1 28.42	+16 34.0	1.012	0.580	71.6	20.4	34 E	—	27* 10*
1 2	18 51.55	-26 33.3	2.305	1.326	2.8	16.7	4 E	—	—	3 16	1 41.58	+18 36.5	0.991	0.604	72.6	20.5	35 E	—	29* 10*
1 7	19 11.54	-26 15.6	2.297	1.318	2.8	16.7	4 E	—	—	3 18	1 55.09	+20 35.9	0.973	0.628	73.3	20.6	37 E	—	31* 11*
1 12	19 31.53	-25 47.8	2.291	1.312	3.0	16.7	4 E	—	—	3 20	2 8.96	+22 31.3	0.957	0.654	73.7	20.7	39 E	—	33* 11*
1 17	19 51.42	-25 10.2	2.287	1.308	3.2	16.7	4 W	—	—	3 22	2 23.22	+24 22.1	0.944	0.679	73.7	20.7	41 E	—	35* 12*
1 22	20 11.13	-24 23.0	2.286	1.307	3.4	16.7	5 W	—	—	3 24	2 37.88	+26 7.4	0.933	0.705	73.5	20.8	43 E	—	36* 12*
1 27	20 30.56	-23 27.0	2.287	1.309	3.6	16.7	5 W	—	—	3 26	2 52.93	+27 46.5	0.924	0.731	73.1	20.8	45 E	—	38* 13*
2 1	20 49.66	-22 22.7	2.291	1.312	3.9	16.7	5 W	—	—	3 28	3 8.36	+29 18.5	0.918	0.757	72.4	20.8	46 E	—	40* 14*
2 6	21 8.36	-21 11.1	2.297	1.319	4.1	16.8	6 W	—	—	3 30	3 24.11	+30 42.9	0.915	0.784	71.6	20.9	48 E	—	42* 14*
2 11	21 26.62	-19 53.0	2.305	1.327	4.4	16.8	6 W	—	—	4 1	3 40.14	+31 58.9	0.913	0.810	70.6	20.9	50 E	—	43* 15*
2 16	21 44.41	-18 29.4	2.315	1.338	4.7	16.9	6 W	—	—	4 3	3 56.38	+33 6.0	0.914	0.836	69.5	21.0	52 E	—	45* 16*
2 21	22 1.72	-17 1.3	2.327	1.351	5.0	16.9	7 W	—	—	4 5	4 12.75	+34 4.0	0.917	0.861	68.4	21.0	53 E	—	47* 16*
2 26	22 18.53	-15 29.5	2.342	1.366	5.3	17.0	7 W	—	—	4 7	4 29.16	+34 52.7	0.923	0.887	67.1	21.0	55 E	—	48* 17*
3 2	22 34.86	-13 55.1	2.357	1.383	5.7	17.0	8 W	—	1*	4 9	4 45.52	+35 31.9	0.930	0.912	65.9	21.1	56 E	—	49* 18*
3 7	22 50.70	-12 18.9	2.375	1.401	6.1	17.1	9 W	—	2*	4 11	5 1.72	+36 2.0	0.939	0.937	64.6	21.1	58 E	—	51* 19*
3 12	23 6.07	-10 41.7	2.393	1.422	6.5	17.2	9 W	—	2*	4 13	5 17.67	+36 23.3	0.950	0.962	63.2	21.2	59 E	—	52* 20*
3 22	23 35.48	-7 27.0	2.433	1.467	7.5	17.3	11 W	—	4*	4 15	5 33.31	+36 36.3	0.963	0.987	61.9	21.2	60 E	—	53* 21*
4 1	0 3.26	-4 15.8	2.474	1.518	8.6	17.5	13 W	—	7*	4 17	5 48.54	+36 41.4	0.978	1.011	60.6	21.2	61 E	—	54* 21*
4 11	0 29.56	-1 11.9	2.516	1.573	9.8	17.6	15 W	—	9*	4 19	6 3.32	+36 39.5	0.994	1.035	59.3	21.3	62 E	—	54* 22*
4 21	0 54.56	+1 42.2	2.556	1.632	11.1	17.8	18 W	—	12*	4 21	6 17.60	+36 31.2	1.012	1.059	58.0	21.3	63 E	—	55* 23*
5 1	1 18.37	+4 24.8	2.592	1.693	12.5	18.0	21 W	—	15*	4 23	6 31.34	+36 17.2	1.031	1.082	56.8	21.4	64 E	—	55* 24*
5 11	1 41.10	+6 54.9	2.623	1.757	13.9	18.1	25 W	—	19*	4 25	6 44.54	+35 58.2	1.051	1.105	55.5	21.4	65 E	—	56* 25*
5 21	2 8.83	+9 12.1	2.647	1.822	15.4	18.3	28 W	—	22*	4 27	6 57.17	+35 34.8	1.073	1.128	54.4	21.5	66 E	—	56* 26*
5 31	2 23.59	+11 16.2	2.663	1.888	16.8	18.4	33 W	—	26*	<b>328979 2010 VB<sub>200</sub></b>									
6 10	2 43.38	+13 7.4	2.670	1.955	18.2	18.5	37 W	—	29*	12 23	18 12.64	-20 55.6	2.963	1.982	1.7	21.5	3 E	—	—
6 20	3 2.20	+14 46.2	2.667	2.022	19.5	18.6	42 W	—	32*	1 2	18 37.66	-20 53.2	2.934	1.952	1.5	21.4	3 W	—	—
6 30	3 19.99	+16 13.3	2.654	2.090	20.7	18.7	47 W	—	35*	1 12	19 3.10	-20 35.5	2.897	1.923	3.3	21.5	7 W	—	—
7 10	3 36.66	+17 29.4	2.630	2.157	21.8	18.8	52 W	—	37*	1 22	19 28.86	-20 2.3	2.854	1.895	5.4	21.5	10 W	—	1* 3*
7 20	3 52.13	+18 35.5	2.596	2.224	22.7	18.9	58 W	—	39*	2 1	19 54.83	-19 13.5	2.806	1.868	7.5	21.5	14 W	—	2* 8*
7 30	4 6.23	+19 32.5	2.551	2.290	23.4	18.9	64 W	—	41*	<b>390812 2004 JQ<sub>6</sub></b>									
8 9	4 18.80	+20 21.5	2.497	2.355	23.9	19.0	70 W	—	42*	12 23	18 12.70	-31 17.9	2.705	1.737	4.6	19.7	8 E	—	—
8 19	4 29.64	+21 3.7	2.434	2.420	24.1	19.0	77 W	—	45*	1 2	18 45.29	-31 12.9	2.671	1.703	4.7	19.6	8 W	—	—
8 29	4 38.49	+21 40.1	2.365	2.484	23.9	19.0	85 W	—	47*	1 12	19 18.49	-30 40.5	2.636	1.673	5.4	19.6	9 W	—	1*
9 8	4 45.09	+22 11.7	2.291	2.548	23.3	18.9	93 W	—	48*	1 22	19 51.91	-29 39.9	2.603	1.647	6.5	19.6	11 W	—	3*
9 18	4 49.16	+22 39.4	2.216	2.610	22.2	18.9	102 W	—	49*	2 1	20 25.13	-28 11.5	2.571	1.626	7.7	19.6	13 W	—	5*
9 28	4 50.42	+23 3.4	2.143	2.671	20.5	18.8	111 W	—	49*	2 11	20 57.77	-26 17.0	2.543	1.609	9.0	19.6	15 W	—	7*
10 8	4 48.67	+23 23.8	2.077	2.732	18.2	18.7	121 W	—	49*	2 21	21 29.57	-23 59.2	2.518	1.597	10.3	19.6	17 W	—	9*
10 18	4 43.86	+23 39.6	2.023	2.791	15.3	18.6	132 W	—	49*	3 2	22 0.32	-21 21.7	2.496	1.591	11.6	19.6	19 W	—	11*
10 28	4 36.19	+23 49.7	1.986	2.849	11.9	18.5	144 W	—	49*	3 12	22 29.91	-18 28.8	2.477	1.590	12.9	19.6	21 W	—	14*
11 7	4 26.21	+23 52.6	1.973	2.907	8.0	18.4	156 W	—	49*	3 22	22 58.33	-15 24.7	2.462	1.594	14.2	19.7	23 W	—	16*
11 12	4 20.62	+23 51.2	1.977	2.935	5.9	18.3	162 W	—	49*	4 1	23 25.61	-12 13.8	2.449	1.604	15.5	19.7	25 W	—	

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

19/21	$\alpha_{2000}$	$\delta_{2000}$	$\Delta$	$r$	$\beta$	$V$	$\psi$	45°	-26°	19/21	$\alpha_{2000}$	$\delta_{2000}$	$\Delta$	$r$	$\beta$	$V$	$\psi$	45°	-26°
<b>390812 2004 JQ<sub>6</sub></b>										<b>219522 2001 QH<sub>83</sub></b>									
<i>(continuation)</i>										<i>(continuation)</i>									
11 2	4 13.52	+30 42.8	1.604	2.519	10.9	19.6	151 W	76	33	2 21	20 54.31	-16 37.6	2.639	1.745	11.3	20.3	20 W	3*	14*
11 7	4 7.59	+30 59.0	1.604	2.545	8.8	19.6	157 W	76	33	3 2	21 21.01	-14 24.3	2.582	1.719	13.3	20.3	23 W	4*	17*
11 12	4 1.28	+31 10.7	1.611	2.571	6.8	19.5	162 W	76	33	3 12	21 47.47	-11 57.0	2.524	1.695	15.2	20.3	27 W	5*	20*
11 17	3 54.76	+31 17.6	1.625	2.596	5.1	19.5	166 W	76	33	3 22	22 13.70	-9 17.8	2.467	1.674	17.1	20.3	30 W	6*	23*
11 22	3 48.26	+31 20.1	1.646	2.621	4.2	19.5	169 E	76	33	4 1	22 39.70	-6 28.8	2.410	1.656	18.9	20.3	32 W	8*	26*
11 27	3 41.97	+31 18.4	1.674	2.647	4.5	19.5	168 E	76	33	4 11	23 5.47	-3 32.7	2.354	1.641	20.6	20.3	35 W	9*	29*
12 2	3 36.06	+31 13.3	1.710	2.672	5.8	19.7	164 E	76	33	4 21	23 31.08	0 32.0	2.300	1.630	22.3	20.2	38 W	10*	31*
12 7	3 30.67	+31 5.4	1.752	2.697	7.4	19.8	159 E	76	33	5 1	23 56.56	+2 30.4	2.248	1.622	23.9	20.2	41 W	12*	34*
12 12	3 25.93	+30 55.6	1.802	2.722	9.1	20.0	154 E	76	33	5 11	0 21.93	+5 31.6	2.197	1.618	25.4	20.2	43 W	14*	36*
12 17	3 21.93	+30 44.6	1.858	2.747	10.7	20.1	149 E	76	33	5 21	0 47.25	+8 28.8	2.147	1.618	26.8	20.2	46 W	16*	38*
12 22	3 18.70	+30 33.4	1.920	2.771	12.3	20.3	143 E	76	33	5 31	1 12.51	+11 19.4	2.098	1.621	28.1	20.2	49 W	19*	39*
12 27	3 16.29	+30 22.6	1.987	2.796	13.6	20.4	138 E	75	34	6 10	1 37.69	+14 0.8	2.050	1.628	29.3	20.2	52 W	23*	40*
1 1	3 14.68	+30 12.6	2.059	2.820	14.8	20.5	133 E	75	34	6 20	2 2.77	+16 30.8	2.001	1.639	30.4	20.2	55 W	27*	40*
1 6	3 13.84	+30 4.0	2.135	2.844	15.9	20.7	128 E	75	34	6 30	2 27.64	+18 47.6	1.952	1.653	31.4	20.2	58 W	32*	40*
1 11	3 13.76	+29 57.0	2.215	2.868	16.8	20.8	123 E	75	34	7 10	2 52.19	+20 49.7	1.902	1.670	32.2	20.2	61 W	37*	40*
1 16	3 14.38	+29 51.8	2.299	2.892	17.5	20.9	118 E	75	34	7 20	3 16.24	+22 36.3	1.850	1.691	33.0	20.2	65 W	42*	39*
<b>100926 1998 MQ</b>										<b>217647 1998 OR<sub>11</sub></b>									
12 23	18 12.72	-11 35.2	2.356	1.410	8.4	19.8	12 E	4*	—	7 30	3 39.57	+24 7.0	1.795	1.714	33.5	20.1	69 W	48*	38*
1 2	18 44.84	-10 34.7	2.297	1.353	9.0	19.7	12 W	3*	—	8 9	4 1.91	+25 21.9	1.737	1.740	33.9	20.1	73 W	54*	38*
1 12	19 18.38	-9 11.7	2.238	1.298	9.8	19.6	13 W	5*	—	8 19	4 22.96	+26 22.0	1.677	1.768	34.0	20.1	78 W	60*	37*
1 22	19 53.29	-7 26.1	2.183	1.246	10.5	19.4	13 W	6*	—	8 29	4 42.33	+27 8.5	1.613	1.798	33.9	20.0	83 W	65*	37*
2 1	20 29.49	-5 19.1	2.133	1.198	11.1	19.3	14 W	7*	—	9 8	4 59.66	+27 42.9	1.547	1.830	33.4	20.0	89 W	70*	36*
2 11	21 6.83	-2 53.5	2.091	1.154	11.5	19.2	13 W	7*	—	9 18	5 14.50	+28 7.4	1.479	1.864	32.5	19.9	95 W	73*	36*
2 16	21 25.90	-1 35.2	2.074	1.135	11.5	19.2	13 W	7*	—	9 28	5 26.32	+28 23.8	1.411	1.899	31.0	19.8	102 W	73	36
2 21	21 45.21	-0 14.2	2.059	1.117	11.4	19.1	13 W	7*	—	10 8	5 34.67	+28 33.9	1.345	1.934	29.0	19.6	110 W	74	35
2 26	22 4.74	+1 8.7	2.047	1.101	11.2	19.1	12 W	6*	—	10 18	5 39.03	+28 38.7	1.282	1.971	26.2	19.5	119 W	74	35
3 2	22 24.46	+2 32.6	2.038	1.088	10.9	19.0	12 W	6*	—	10 28	5 39.01	+28 38.1	1.228	2.009	22.5	19.3	129 W	74	35
3 7	22 44.34	+3 56.5	2.032	1.076	10.4	19.0	11 W	5*	—	11 7	5 34.55	+28 30.5	1.186	2.047	18.1	19.2	140 W	74	35
3 12	23 4.36	+5 19.4	2.028	1.068	9.9	18.9	11 W	4*	—	11 12	5 30.76	+28 23.4	1.171	2.066	15.6	19.1	146 W	73	36
3 17	23 24.49	+6 40.4	2.028	1.061	9.2	18.9	10 W	4*	—	11 17	5 26.06	+28 13.5	1.161	2.085	12.9	19.0	152 W	73	36
3 22	23 44.70	+7 58.6	2.030	1.058	8.5	18.8	9 W	3*	—	11 22	5 20.62	+28 0.8	1.156	2.105	10.1	18.9	158 W	73	36
3 27	0 4.95	+9 13.2	2.035	1.057	7.7	18.8	8 W	2*	—	11 27	5 14.65	+27 44.9	1.157	2.124	7.2	18.8	164 W	73	36
4 1	0 25.20	+10 23.3	2.042	1.058	6.8	18.8	7 W	1*	—	12 2	5 8.38	+27 26.3	1.165	2.144	4.4	18.7	170 W	72	37
4 11	1 5.57	+12 27.5	2.064	1.070	4.9	18.7	5 W	—	—	12 7	5 2.05	+27 5.1	1.180	2.163	2.2	18.6	175 W	72	37
4 21	1 45.50	+14 7.4	2.093	1.091	3.1	18.7	3 W	—	—	12 12	4 55.90	+26 42.0	1.201	2.182	2.7	18.7	174 E	72	37
5 1	2 24.68	+15 21.0	2.128	1.122	1.9	18.7	2 W	—	—	12 17	4 50.15	+26 17.6	1.229	2.202	5.1	18.9	169 E	71	38
5 11	3 2.83	+16 7.5	2.167	1.160	2.5	18.9	3 W	—	—	12 22	4 45.01	+25 53.0	1.263	2.221	7.7	19.1	163 E	71	38
5 21	3 39.72	+16 27.7	2.210	1.204	3.9	19.1	5 W	—	—	12 27	4 40.60	+25 28.8	1.304	2.240	10.1	19.3	157 E	70	39
5 31	4 15.18	+16 23.3	2.254	1.253	5.5	19.3	7 W	—	—	1 1	4 37.04	+25 5.8	1.351	2.259	12.3	19.5	151 E	70	39
6 10	4 49.08	+15 56.1	2.298	1.306	7.1	19.5	9 W	—	—	1 6	4 34.36	+24 44.6	1.403	2.279	14.4	19.6	145 E	70	39
6 20	5 21.36	+15 8.6	2.342	1.361	8.5	19.7	11 W	—	—	1 11	4 32.58	+24 25.6	1.460	2.298	16.2	19.8	139 E	69	40
6 30	5 51.99	+14 3.2	2.383	1.417	9.9	19.9	14 W	—	—	1 16	4 31.70	+24 9.1	1.522	2.317	17.8	20.0	134 E	69	40
7 10	6 20.98	+12 42.4	2.421	1.475	11.3	20.1	17 W	—	—	<b>217647 1998 OR<sub>11</sub></b>									
7 20	6 48.40	+11 8.3	2.454	1.532	12.6	20.2	19 W	—	—	12 23	18 13.89	-34 13.8	3.369	2.412	4.5	21.2	11 E	—	2*
7 30	7 14.29	+9 22.9	2.482	1.589	13.9	20.4	22 W	1*	—	1 2	18 36.45	-33 27.7	3.338	2.379	4.4	21.2	11 W	—	1*
8 9	7 38.73	+7 28.2	2.504	1.645	15.2	20.5	25 W	4*	—	1 12	18 58.96	-32 30.5	3.295	2.346	5.3	21.2	13 W	—	5*
8 19	8 1.81	+5 25.7	2.519	1.701	16.5	20.6	29 W	8*	—	1 22	19 21.32	-31 21.8	3.240	2.312	6.9	21.2	16 W	—	10*
8 29	8 23.58	+3 16.8	2.526	1.755	17.8	20.8	32 W	12*	—	2 1	19 43.44	-30 1.5	3.174	2.279	8.8	21.2	21 W	—	14*
9 8	8 44.09	+1 2.9	2.524	1.807	19.1	20.9	36 W	16*	—	2 11	20 5.21	-28 29.6	3.098	2.244	10.8	21.2	25 W	—	19*
9 18	9 3.41	+1 15.0	2.513	1.858	20.3	21.0	40 W	19*	—	2 21	20 26.59	-26 46.2	3.012	2.210	12.9	21.2	30 W	—	24*
9 28	9 21.55	+3 35.7	2.493	1.907	21.5	21.0	44 W	23*	—	3 2	20 47.52	-24 51.6	2.917	2.176	15.0	21.1	35 W	1*	28*
10 8	9 38.52	+5 58.4	2.463	1.955	22.6	21.1	49 W	26*	—	3 12	21 7.95	-22 46.1	2.815	2.141	17.1	21.1	39 W	3*	33*
10 18	9 54.30	+8 22.3	2.422	2.000	23.7	21.1	54 W	28*	—	3 22	21 27.90	-20 29.8	2.706	2.107	19.2	21.1	44 W	5*	38*
10 28	10 8.81	+10 46.3	2.372	2.044	24.6	21.2	59 W	30*	—	4 1	21 47.33	-18 2.9	2.592	2.072	21.2	21.0	49 W	7*	43*
11 7	10 21.99	+13 9.5	2.313	2.086	25.4	21.2	64 W	30*	—	4 11	22 6.24	-15 25.7	2.473	2.038	23.2	20.9	53 W	9*	47*
11 17	10 33.67	+15 30.9	2.245	2.126	26.0	21.2	70 W	29*	—	4 21	22 24.67	-12 38.1	2.351	2.004	25.1	20.8	58 W	12*	52*
11 27	10 43.66	+17 49.0	2.169	2.164	26.3	21.2	77 W	27*	—	5 1	22 42.60	-9 40.0	2.226	1.971	26.9	20.7	62 W	15*	56*
12 7	10 51.73	+20 2.3	2.087	2.199	26.4	21.1	83 W	25*	—	5 11	23 0.04	-6 31.3	2						

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

19/21	$\alpha_{2000}$	$\delta_{2000}$	$\Delta$	$r$	$\beta$	$V$	$\psi$	45°	-26°	19/21	$\alpha_{2000}$	$\delta_{2000}$	$\Delta$	$r$	$\beta$	$V$	$\psi$	45°	-26°
<b>217647 1998 OR<sub>11</sub></b>										<b>247056 2000 QW<sub>1</sub></b>									
<i>(continuation)</i>										<i>(continuation)</i>									
10 20	0 37.25	+57 25.0	0.837	1.671	26.5	18.2	131 E	78	7	12 22	4 46.65	+27 37.0	0.933	1.895	8.9	17.8	163 E	73	36
10 22	0 34.46	+57 26.6	0.837	1.673	26.4	18.2	132 E	78	7	12 27	4 42.14	+25 50.8	0.966	1.910	11.7	18.0	157 E	71	38
10 24	0 31.82	+57 25.4	0.839	1.674	26.4	18.2	132 E	78	7	1 1	4 38.72	+24 11.7	1.005	1.925	14.4	18.2	151 E	69	40
10 26	0 29.36	+57 21.4	0.840	1.675	26.3	18.2	132 E	78	7	1 6	4 36.41	+22 41.2	1.050	1.941	16.8	18.4	145 E	68	41
10 28	0 27.11	+57 14.9	0.843	1.677	26.2	18.2	132 E	78	7	1 11	4 35.18	+21 19.9	1.101	1.956	19.0	18.6	140 E	66	43
11 2	0 22.53	+56 48.1	0.850	1.681	26.2	18.3	132 E	78	7	1 16	4 34.98	+20 8.0	1.155	1.972	20.9	18.8	134 E	65	44
11 7	0 19.62	+56 8.3	0.860	1.686	26.3	18.3	131 E	79	8	<b>58023 2002 VR<sub>40</sub></b>									
11 12	0 18.49	+55 18.2	0.873	1.692	26.4	18.3	130 E	80	9	12 23	18 14.81	-21 36.6	3.019	2.037	1.6	19.2	3 E	—	—
11 17	0 19.16	+54 20.1	0.889	1.699	26.7	18.4	129 E	81	10	1 2	18 39.28	-21 49.1	2.986	2.003	1.0	19.0	2 W	—	—
11 22	0 21.59	+53 16.6	0.908	1.706	27.0	18.5	128 E	82	11	1 12	19 4.31	-21 47.2	2.945	1.970	3.0	19.1	6 W	—	—
11 27	0 25.63	+52 9.8	0.929	1.714	27.4	18.5	127 E	83	12	1 22	19 29.82	-21 30.7	2.897	1.937	5.2	19.2	10 W	—	4*
12 2	0 31.11	+51 1.5	0.954	1.723	27.9	18.6	125 E	84	13	2 1	19 55.69	-20 59.2	2.843	1.905	7.4	19.2	14 W	1*	8*
12 7	0 37.85	+49 53.0	0.981	1.732	28.3	18.7	123 E	85	14	2 11	20 21.82	-20 13.0	2.783	1.874	9.6	19.2	18 W	2*	12*
12 12	0 45.69	+48 45.3	1.011	1.742	28.8	18.8	122 E	86	15	2 21	20 48.13	-19 12.6	2.719	1.844	11.8	19.2	22 W	2*	16*
12 17	0 54.48	+47 39.4	1.044	1.752	29.3	18.9	120 E	87	16*	3 2	21 14.54	-17 58.7	2.652	1.815	13.9	19.2	26 W	3*	20*
12 22	1 4.08	+46 36.0	1.079	1.763	29.7	19.0	117 E	88	17*	3 12	21 40.96	-16 32.5	2.583	1.788	16.0	19.2	30 W	3*	24*
12 27	1 14.35	+45 35.5	1.118	1.774	30.1	19.1	115 E	89	18*	3 22	22 7.37	-14 55.4	2.512	1.763	18.0	19.2	33 W	3*	27*
1 1	1 25.15	+44 38.2	1.159	1.786	30.5	19.2	113 E	90	19*	4 1	22 33.73	-13 8.9	2.440	1.740	19.9	19.1	36 W	4*	30*
1 6	1 36.40	+43 44.1	1.202	1.799	30.8	19.3	110 E	90	19*	4 11	23 0.02	-11 15.1	2.368	1.719	21.8	19.1	40 W	4*	34*
1 11	1 48.00	+42 53.2	1.249	1.812	31.1	19.4	108 E	88	20*	4 21	23 26.23	-9 15.8	2.297	1.701	23.6	19.1	43 W	5*	37*
1 16	1 59.89	+42 5.4	1.297	1.825	31.3	19.5	105 E	87	20*	5 1	23 52.36	-7 13.4	2.226	1.685	25.3	19.0	46 W	6*	40*
<b>247056 2000 QW<sub>1</sub></b>										5 11	0 18.39	-5 10.1	2.158	1.673	27.0	19.0	49 W	7*	43*
12 23	18 14.71	-21 35.6	3.096	2.115	1.6	20.3	3 E	—	—	5 21	0 44.30	-3 8.4	2.091	1.663	28.9	19.0	52 W	8*	45*
1 2	18 37.13	-20 31.9	3.064	2.083	1.6	20.2	3 W	—	—	5 31	1 10.07	-1 10.7	2.025	1.656	29.9	18.9	54 W	11*	48*
1 12	18 59.67	-19 14.4	3.021	2.051	3.7	20.3	8 W	1*	—	6 10	1 35.63	+0 40.8	1.962	1.652	31.2	18.9	57 W	14*	50*
1 22	19 22.25	-17 42.4	2.969	2.019	6.0	20.4	12 W	4*	4*	6 20	2 0.92	+2 23.9	1.899	1.652	32.3	18.8	60 W	17*	52*
2 1	19 44.83	-15 55.5	2.909	1.987	8.3	20.4	17 W	6*	8*	6 30	2 25.83	+3 56.6	1.838	1.654	33.3	18.8	63 W	21*	53*
2 11	20 7.33	-13 53.6	2.841	1.955	10.6	20.4	21 W	9*	13*	7 10	2 50.21	+5 17.4	1.777	1.660	34.2	18.8	67 W	26*	54*
2 21	20 29.75	-11 36.8	2.768	1.924	12.8	20.4	26 W	11*	17*	7 20	3 13.91	+6 25.4	1.716	1.669	34.9	18.7	70 W	31*	54*
3 2	20 52.07	-9 5.3	2.689	1.893	15.1	20.4	30 W	13*	22*	7 30	3 36.71	+7 19.6	1.654	1.681	35.4	18.7	74 W	36*	55*
3 12	21 14.28	-6 19.7	2.606	1.864	17.2	20.3	34 W	15*	26*	8 9	3 58.39	+8 0.1	1.592	1.696	35.7	18.6	78 W	41*	55*
3 22	21 36.43	-3 20.5	2.522	1.835	19.3	20.3	38 W	17*	29*	8 19	4 18.68	+8 27.4	1.529	1.714	35.8	18.6	82 W	46*	55*
4 1	21 58.56	-0 8.9	2.436	1.807	21.3	20.3	41 W	19*	32*	8 29	4 37.24	+8 42.2	1.464	1.734	35.6	18.5	87 W	50*	55*
4 11	22 20.74	+3 13.9	2.350	1.780	23.3	20.2	45 W	21*	35*	9 8	4 53.76	+8 46.4	1.398	1.756	35.0	18.4	92 W	53*	55*
4 21	22 43.06	+6 46.3	2.265	1.755	25.1	20.2	48 W	24*	37*	9 18	5 7.84	+8 42.1	1.332	1.781	33.9	18.3	98 W	54*	55
5 1	23 5.61	+10 26.4	2.182	1.731	26.8	20.1	51 W	26*	39*	9 28	5 19.02	+8 32.0	1.266	1.807	32.4	18.2	105 W	54	55
5 11	23 28.49	+14 11.6	2.102	1.710	28.4	20.0	54 W	29*	39*	10 8	5 26.87	+8 19.7	1.203	1.835	30.2	18.0	113 W	53	56
5 21	23 51.85	+17 59.3	2.024	1.690	29.9	20.0	56 W	33*	39*	10 18	5 30.91	+8 9.1	1.144	1.864	27.3	17.9	121 W	53	56
5 26	0 3.74	+19 53.0	1.987	1.681	30.6	19.9	58 W	34*	38*	10 28	5 30.81	+8 4.9	1.093	1.895	23.5	17.7	130 W	53	56
5 31	0 15.78	+21 46.1	1.951	1.673	31.3	19.9	59 W	36*	38*	11 7	5 26.52	+8 11.8	1.055	1.927	19.0	17.5	141 W	53	56
6 5	0 28.00	+23 38.1	1.915	1.665	32.0	19.9	60 W	38*	37*	11 17	5 18.40	+8 33.4	1.032	1.960	13.8	17.3	152 W	54	55
6 10	0 40.41	+25 28.5	1.880	1.658	32.6	19.8	62 W	40*	36*	11 27	5 7.52	+9 11.8	1.031	1.993	8.8	17.2	162 W	54	55
6 15	0 53.03	+27 16.9	1.846	1.652	33.2	19.8	63 W	43*	35*	12 7	4 55.52	+10 6.5	1.054	2.027	6.0	17.1	168 W	55	54
6 20	1 5.85	+29 2.8	1.813	1.646	33.7	19.8	64 W	45*	34*	12 12	4 49.66	+10 39.0	1.075	2.044	6.7	17.2	166 E	56	53
6 25	1 18.88	+30 45.6	1.780	1.641	34.3	19.7	65 W	47*	32*	12 17	4 44.19	+11 14.2	1.103	2.062	8.4	17.4	162 E	56	53
6 30	1 32.12	+32 24.8	1.748	1.636	34.8	19.7	67 W	50*	31*	12 22	4 39.31	+11 51.7	1.136	2.079	10.5	17.5	157 E	57	52
7 5	1 45.57	+34 0.0	1.717	1.633	35.2	19.7	68 W	53*	30*	12 27	4 35.15	+12 30.8	1.176	2.096	12.7	17.7	152 E	58	51
7 10	1 59.23	+35 30.7	1.686	1.630	35.7	19.7	69 W	55*	28*	1 1	4 31.82	+13 11.1	1.221	2.114	14.8	17.9	147 E	58	51
7 15	2 13.07	+36 56.5	1.655	1.628	36.1	19.6	70 W	57*	27*	1 6	4 29.36	+13 52.0	1.271	2.131	16.7	18.1	142 E	59	50
7 20	2 27.07	+38 16.9	1.624	1.626	36.4	19.6	72 W	60*	26*	1 11	4 27.80	+14 33.2	1.326	2.148	18.4	18.2	136 E	60	49
7 25	2 41.19	+39 31.6	1.594	1.625	36.8	19.6	73 W	63*	24*	1 16	4 27.15	+15 14.3	1.386	2.166	19.9	18.4	131 E	60	49
7 30	2 55.39	+40 46.3	1.563	1.625	37.1	19.5	75 W	65*	23*	<b>482252 2011 NO<sub>3</sub></b>									
8 4	3 9.62	+41 42.6	1.533	1.626	37.3	19.5	76 W	67*	22*	12 23	18 15.04	-30 12.6	3.086	2.114	3.4	20.5	7 E	—	—
8 9	3 23.81	+42 38.4	1.502	1.628	37.5	19.5	78 W	70*	21*	1 2	18 39.72	-29 2.5	3.046	2.071	3.0	20.4	6 W	—	—
8 14	3 37.90	+43 27.7	1.471	1.630	37.7	19.4	80 W	72*	21*	1 12	19 4.43	-27 36.4	2.997	2.029	4.0	20.4	8 W	—	2*
8 19	3 51.79	+44 10.3	1.440	1.633	37.8	19.4	81 W	75*	20*	1 22	19 29.06	-25 53.7	2.941	1.988	5.8	20.4	12 W	—	6*
8 24	4 5.39	+44 46.3	1.408	1.637	37.9	19.3	83 W	77*	19	2 1	19 53.50	-23 54.0	2.877	1.948	7.9	20.4	16 W	—	10*
8 29	4 18.60	+45 15.7	1.376	1.641	37.8	19.3	85 W	79*	19	2 11	20 17.68	-21 37.2	2.808	1.909	10.1	20.4	20 W	1*	14*
9 3	4 31.34	+45 38.7	1.344	1.646	37.7	19.2	88 W	82*	18	2 21	20 41.55	-19 3.5	2.734	1.872	12.3	20.4	24 W	3*	18*
9 8	4 43.48	+45 55.5	1.311	1.652	37.6	19.2	90 W	84*	18	3 2	21 5.10	-16 13.0	2.656	1.836	14.5	20.4	28 W	5*	22*
9 13	4 54.92	+46 6.4	1.277	1.659	37.3	19.1	92 W	86*	18	3 12	21 28.31	-13 6.5	2.575	1.803	16.7	20.3	31 W	8*	25*
9 18	5 5.55	+46 11.7	1.243	1.666	36.9	19.1	95 W	89*	18	3 22	21 51.24	-9 44.6	2.493	1.772	18.8	20.3	35 W	10*	29*
9 23	5 15.23	+46 11.4	1.209	1.673	36.4	19.0	98 W	89	18	4									

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

19/21	$\alpha_{2000}$	$\delta_{2000}$	$\Delta$	$r$	$\beta$	$V$	$\psi$	45°	-26°	19/21	$\alpha_{2000}$	$\delta_{2000}$	$\Delta$	$r$	$\beta$	$V$	$\psi$	45°	-26°
<b>482252 2011 NO<sub>3</sub></b> (continuation)										<b>46818 1998 MZ<sub>24</sub></b> (continuation)									
7 25	2 47.84	+40 21.7	1.693	1.682	35.0	19.8	72 W	62*	24*	7 30	3 58.27	+36 16.6	1.780	1.602	34.4	17.8	63 W	52*	25*
7 30	3 1.00	+41 54.7	1.671	1.691	35.1	19.8	74 W	64*	22*	8 4	4 12.83	+36 34.7	1.756	1.611	34.7	17.8	65 W	54*	25*
8 4	3 14.16	+43 22.5	1.649	1.702	35.2	19.8	75 W	67*	21*	8 9	4 27.09	+36 46.1	1.732	1.621	35.0	17.8	67 W	56*	25*
8 9	3 27.26	+44 44.9	1.628	1.713	35.2	19.8	77 W	70*	19*	8 14	4 40.98	+36 51.1	1.707	1.632	35.2	17.8	68 W	59*	25*
8 14	3 40.22	+46 2.0	1.606	1.724	35.2	19.8	79 W	72*	18*	8 19	4 54.45	+36 49.9	1.680	1.644	35.4	17.8	70 W	61*	25*
8 19	3 52.97	+47 13.8	1.583	1.737	35.1	19.7	81 W	75*	17*	8 24	5 7.42	+36 42.7	1.653	1.656	35.6	17.7	72 W	63*	26*
8 24	4 5.41	+48 20.5	1.561	1.751	35.0	19.7	83 W	77*	16	8 29	5 19.83	+36 30.0	1.624	1.669	35.7	17.7	75 W	65*	26*
8 29	4 17.46	+49 22.2	1.538	1.765	34.8	19.7	85 W	79*	15	9 3	5 31.66	+36 12.1	1.595	1.682	35.7	17.7	77 W	68*	26*
9 3	4 29.01	+50 19.2	1.514	1.780	34.5	19.7	87 W	81*	14	9 8	5 42.83	+35 49.3	1.564	1.697	35.7	17.7	79 W	70*	27*
9 8	4 39.96	+51 11.8	1.491	1.795	34.1	19.7	90 W	82*	13	9 18	6 3.02	+34 50.6	1.499	1.727	35.4	17.6	85 W	74*	28*
9 13	4 50.18	+52 0.4	1.467	1.811	33.7	19.6	92 W	83*	12	9 28	6 19.97	+33 36.5	1.431	1.759	34.7	17.5	91 W	77*	30*
9 18	4 59.55	+52 45.2	1.442	1.828	33.2	19.6	95 W	82	11	10 8	6 33.32	+32 9.3	1.361	1.792	33.5	17.4	98 W	77	32*
9 23	5 7.92	+53 26.5	1.418	1.845	32.6	19.6	98 W	82	11	10 18	6 42.65	+30 31.0	1.290	1.828	31.7	17.3	105 W	76	33*
9 28	5 15.19	+54 4.5	1.393	1.863	31.9	19.5	101 W	81	10	10 28	6 47.52	+28 42.3	1.222	1.864	29.1	17.2	114 W	74	35
10 3	5 21.21	+54 39.2	1.368	1.881	31.1	19.5	104 W	80	9	11 7	6 47.66	+26 43.7	1.161	1.902	25.6	17.0	124 W	72	37
10 8	5 25.86	+55 10.8	1.344	1.900	30.1	19.4	107 W	80	9	11 17	6 42.94	+24 35.3	1.110	1.940	21.1	16.8	135 W	70	39
10 13	5 29.02	+55 38.9	1.321	1.919	29.1	19.4	111 W	79	8	11 22	6 38.86	+23 27.8	1.091	1.959	18.5	16.7	141 W	68	41
10 18	5 30.55	+56 3.0	1.299	1.938	27.9	19.3	115 W	79	8	11 27	6 33.77	+22 18.4	1.077	1.979	15.7	16.6	147 W	67	42
10 23	5 30.38	+56 22.4	1.278	1.958	26.5	19.3	118 W	79	8	12 2	6 27.84	+21 7.7	1.068	1.998	12.8	16.5	153 W	66	43
10 28	5 28.48	+56 35.8	1.259	1.978	25.1	19.2	122 W	78	7	12 7	6 21.26	+19 56.6	1.065	2.018	9.7	16.4	160 W	65	44
11 2	5 24.89	+56 42.2	1.242	1.998	23.5	19.2	127 W	78	7	12 12	6 14.25	+18 46.1	1.069	2.038	6.7	16.3	166 W	64	45
11 7	5 19.72	+56 40.0	1.228	2.019	21.9	19.1	131 W	78	7	12 17	6 7.08	+17 37.3	1.079	2.058	4.1	16.2	171 W	63	46
11 12	5 13.14	+56 27.7	1.218	2.040	20.1	19.1	135 W	79	8	12 22	6 0.03	+16 31.6	1.097	2.077	3.3	16.2	173 E	62	47
11 17	5 5.45	+56 3.9	1.211	2.061	18.4	19.0	139 W	79	8	12 27	5 53.34	+15 30.1	1.123	2.097	4.9	16.4	169 E	60	49
11 22	4 57.04	+55 27.6	1.210	2.082	16.8	19.0	143 W	80	9	1 1	5 47.21	+14 33.8	1.155	2.117	7.4	16.6	164 E	60	49
11 27	4 48.36	+54 38.7	1.213	2.103	15.3	19.0	146 W	80	9	1 6	5 41.81	+13 43.4	1.194	2.137	10.0	16.8	158 E	59	50
12 2	4 39.84	+53 37.7	1.222	2.125	14.1	19.0	148 W	81	10	1 11	5 37.24	+12 59.2	1.239	2.156	12.4	17.0	152 E	58	51
12 7	4 31.85	+52 25.8	1.237	2.147	13.3	19.0	150 E	83	12	1 16	5 33.58	+12 21.4	1.289	2.176	14.6	17.2	146 E	57	52
12 12	4 24.70	+51 4.8	1.258	2.168	13.0	19.0	150 E	84	13	<b>257924 2000 WH<sub>68</sub></b>									
12 17	4 18.62	+49 37.1	1.285	2.190	13.2	19.1	149 E	85	14	12 23	18 16.71	-22 6.4	2.631	1.651	2.1	21.4	4 E	—	—
12 22	4 13.74	+48 5.3	1.319	2.212	13.9	19.2	147 E	87	16	1 2	18 47.12	-21 34.3	2.613	1.630	0.9	21.3	1 E	—	—
12 27	4 10.11	+46 31.8	1.359	2.234	14.8	19.3	145 E	88	17	1 12	19 17.69	-20 40.0	2.592	1.612	2.0	21.3	3 W	—	—
1 1	4 7.70	+44 58.9	1.404	2.256	15.9	19.5	141 E	90	19	1 22	19 48.20	-19 23.9	2.572	1.596	3.7	21.4	6 W	—	—
1 6	4 6.46	+43 28.3	1.455	2.278	17.0	19.6	137 E	88	21	2 1	20 18.43	-17 47.1	2.551	1.584	5.4	21.5	9 W	—	2*
1 11	4 6.29	+42 1.4	1.512	2.300	18.2	19.7	133 E	87	22	<b>40263 1999 FQ<sub>5</sub></b>									
1 16	4 7.12	+40 39.2	1.573	2.322	19.2	19.9	129 E	86	23	12 23	18 16.87	-8 12.4	2.404	1.480	10.3	21.1	16 E	8*	—
<b>162694 2000 UH<sub>11</sub></b>										1 2	18 47.35	-8 18.9	2.387	1.457	9.8	21.0	15 E	5*	—
12 23	18 15.76	-34 54.7	1.532	0.604	19.5	20.4	12 E	—	2*	1 12	19 18.26	-8 9.0	2.369	1.434	9.5	21.0	14 W	6*	—
12 25	18 30.88	-35 17.2	1.542	0.620	20.3	20.5	13 E	—	4*	1 22	19 49.52	-7 42.8	2.350	1.412	9.4	20.9	13 W	7*	—
12 27	18 45.88	-35 30.9	1.551	0.636	20.9	20.6	13 E	—	5*	2 1	20 21.03	-7 1.2	2.330	1.389	9.4	20.9	13 W	7*	—
12 29	19 0.69	-35 36.1	1.561	0.653	21.5	20.7	14 E	—	6*	2 11	20 52.70	-6 5.7	2.309	1.368	9.6	20.8	13 W	7*	—
12 31	19 15.25	-35 33.2	1.572	0.670	22.0	20.8	15 E	—	7*	2 21	21 24.49	-4 58.0	2.288	1.347	10.0	20.8	14 W	7*	2*
1 2	19 29.50	-35 22.8	1.582	0.687	22.5	20.9	15 E	—	8*	3 2	21 56.39	-3 40.2	2.266	1.328	10.6	20.8	14 W	6*	5*
1 7	20 3.51	-34 27.5	1.612	0.730	23.1	21.0	17 E	—	10*	3 12	22 28.38	-2 15.0	2.243	1.311	11.5	20.7	15 W	5*	7*
1 12	20 34.90	-32 57.8	1.644	0.772	23.3	21.2	18 E	—	12*	3 22	23 0.51	-0 44.8	2.220	1.295	12.5	20.7	16 W	5*	9*
1 17	21 3.54	-31 2.3	1.680	0.814	23.1	21.4	19 E	—	13*	4 1	23 32.82	+0 47.7	2.197	1.282	13.7	20.7	18 W	4*	11*
1 22	21 29.55	-28 48.8	1.717	0.855	22.6	21.5	19 E	—	13*	4 11	0 5.36	+2 19.5	2.173	1.271	15.0	20.7	19 W	2*	13*
<b>46818 1998 MZ<sub>24</sub></b>										4 21	0 38.19	+3 47.9	2.150	1.262	16.4	20.8	21 W	1*	15*
12 23	18 16.55	-19 32.5	2.992	2.014	2.5	18.3	5 E	—	—	5 1	1 11.33	+5 10.2	2.127	1.257	17.9	20.8	22 W	1*	16*
1 2	18 40.07	-18 27.2	2.953	1.975	2.4	18.2	5 W	—	—	5 11	1 44.79	+6 23.6	2.105	1.254	19.3	20.8	24 W	—	18*
1 12	19 3.88	-17 6.3	2.905	1.936	4.0	18.2	8 W	2*	—	5 21	2 18.55	+7 25.5	2.084	1.255	20.7	20.8	26 W	—	20*
1 22	19 27.93	-15 29.2	2.851	1.898	6.0	18.2	12 W	5*	1*	5 31	2 52.53	+8 13.7	2.065	1.258	21.9	20.8	28 W	—	22*
2 1	19 52.14	-13 35.3	2.790	1.860	8.2	18.2	16 W	7*	6*	6 10	3 26.61	+8 46.1	2.049	1.265	23.1	20.9	29 W	—	23*
2 11	20 16.47	-11 24.8	2.725	1.824	10.4	18.2	19 W	9*	10*	6 20	4 0.63	+9 1.5	2.034	1.274	24.2	20.9	31 W	1*	25*
2 21	20 40.89	-8 57.9	2.656	1.789	12.5	18.2	23 W	11*	14*	6 30	4 34.42	+8 59.0	2.022	1.286	25.1	20.9	32 W	2*	26*
3 2	21 5.40	-6 15.3	2.585	1.755	14.6	18.2	27 W	13*	17*	7 10	5 7.76	+8 38.5	2.012	1.300	25.9	21.0	34 W	5*	28*
3 12	21 30.01	-3 18.2	2.514	1.723	16.6	18.2	30 W	15*	21*	7 20	5 40.47	+8 0.6	2.003	1.316	26.7	21.0	36 W	7*	29*
3 22	21 54.77	-0 8.2	2.443	1.693	18.6	18.1	33 W	16*	24*	7 30	6 12.38	+7 6.5	1.995	1.334	27.3	21.0	37 W	10*	30*
4 1	22 19.75	+3 12.7	2.375	1.666	20.4	18.1	36 W	18*	26*	8 9	6 43.34	+5 57.9	1.987	1.354	27.9	21.1	39 W	13*	31*
4 11	22 45.02	+6 41.8	2.309	1.641	22.1	18.1	38 W	20*	28*	8 19	7 13.28	+4 36.8	1.978	1.375	28.5	21.1	40 W	16*	32*
4 21	23 10.69	+10 16.0	2.246	1.619	23.8	18.0	40 W	21*	30*	8 29	7 42.11	+3 5.5	1.967	1.397	29.1	21.2	42 W	19*	34*
5 1	23 36.85	+13 51.7	2.187	1.601	25.3	18.0	43 W	23*	31*	9 8	8 9.83	+1 26.3	1.953	1.419	29.9	21.2	44 W	22*	35*
5 6	23 50.14	+15 38.8	2.160	1.592	26.0	18.0	44 W	24*	31*	9 18	8 36.44	-0 18.5	1.934	1.442	30.4	21.2	47 W	24*	36*
5 11	0 3.59	+17 24.8																	