



EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

20/21	$\alpha_{2000}$	$\delta_{2000}$	$\Delta$	$r$	$\beta$	$V$	$\psi$	45°	-26°	2021	$\alpha_{2000}$	$\delta_{2000}$	$\Delta$	$r$	$\beta$	$V$	$\psi$	45°	-26°										
<b>528991</b> 2009 HE <sub>82</sub> (continuation)										<b>530871</b> 2011 WS <sub>2</sub> (continuation)																			
11 22	6 43.18	-14 44.9	0.564	1.391	35.5	19.6	125 W	30	79	1 16	21 45.85	+31 46.1	1.188	1.092	50.9	19.7	59 E	51*	—	1 16	21 45.85	+31 46.1	1.188	1.092	50.9	19.7	59 E	51*	—









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Table of ephemerides for various minor planets including 532112 2013 LW1, 524498 2002 RT112, 524943 2004 HY26, 524607 2003 QB89, 531221 2012 HL82, 529262 2009 UG25, 537698 2015 TW, 537829 2015 XY378, and 525477 2005 FC3. Columns include date, alpha, delta, distance, r, beta, V, psi, and longitude/latitude coordinates.





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20/22	$\alpha_{2000}$	$\delta_{2000}$	$\Delta$	$r$	$\beta$	$V$	$\psi$	45°	-26°	20/21	$\alpha_{2000}$	$\delta_{2000}$	$\Delta$	$r$	$\beta$	$V$	$\psi$	45°	-26°
<b>28565</b> 2000 EO <sub>58</sub>										<b>162173</b> Ryugu									
<i>(continuation)</i>										<i>(continuation)</i>									
9 3	8 26.21	+15 9.0	3.277	2.524	13.4	20.4	35 W	24*	21*	1 30	7 33.49	-76 6.5	0.089	0.982	89.4	17.2	85 E	-	40
9 13	8 41.68	+14 7.5	3.216	2.547	15.1	20.4	41 W	30*	24*	1 31	7 47.27	-75 41.3	0.090	0.983	88.5	17.1	86 E	-	40
9 23	8 56.33	+13 3.5	3.143	2.569	16.7	20.4	47 W	35*	27*	2 1	7 59.87	-75 14.2	0.091	0.985	87.6	17.1	87 E	-	41
10 3	9 10.09	+11 58.0	3.058	2.591	18.1	20.4	53 W	41*	30*	2 2	8 11.39	-74 45.6	0.092	0.987	86.6	17.1	88 E	-	41
10 13	9 22.86	+10 52.4	2.963	2.611	19.3	20.4	60 W	45*	34*	2 3	8 21.91	-74 15.7	0.094	0.988	85.7	17.1	89 E	-	42
10 23	9 34.52	+9 48.1	2.857	2.630	20.4	20.4	67 W	49*	38*	2 4	8 31.53	-73 44.8	0.095	0.990	84.8	17.1	90 E	-	42
11 2	9 44.94	+8 46.7	2.744	2.649	21.1	20.3	74 W	52*	42*	2 5	8 40.32	-73 13.1	0.096	0.992	83.8	17.1	91 E	-	43
11 12	9 53.93	+7 50.0	2.624	2.666	21.6	20.3	82 W	53*	47*	2 6	8 48.38	-72 40.8	0.097	0.993	82.9	17.1	91 E	-	43
11 22	10 1.29	+6 59.9	2.500	2.682	21.6	20.2	90 W	52	51*	2 7	8 55.77	-72 7.8	0.098	0.995	82.0	17.1	92 E	-	44
12 2	10 6.79	+6 18.5	2.374	2.698	21.2	20.1	98 W	51	56*	2 8	9 2.56	-71 34.4	0.100	0.997	81.0	17.1	93 E	-	44
12 12	10 10.14	+5 48.3	2.250	2.712	20.3	19.9	107 W	51	58*	2 9	9 8.81	-71 0.6	0.101	0.999	80.1	17.1	94 E	-	45
12 22	10 11.12	+5 31.5	2.132	2.725	18.7	19.8	117 W	51	58	2 10	9 14.58	-70 26.4	0.102	1.001	79.1	17.1	95 E	-	46
1 1	10 9.51	+5 30.4	2.023	2.737	16.5	19.6	128 W	51	58	2 11	9 19.91	-69 51.9	0.103	1.003	78.2	17.1	96 E	-	46
1 11	10 5.23	+5 46.5	1.931	2.748	13.6	19.4	139 W	51	58	2 12	9 24.86	-69 17.0	0.104	1.005	77.2	17.1	97 E	-	47
1 21	9 58.45	+6 19.8	1.858	2.758	10.1	19.2	151 W	51	58	2 13	9 29.46	-68 41.8	0.105	1.007	76.3	17.1	98 E	-	47
<b>363560</b> 2003 YC										<b>495891</b> 2004 VS <sub>60</sub>									
12 27	0 1.56	-26 37.3	1.639	1.681	34.4	20.3	75 E	18	67*	12 27	0 1.73	+7 27.0	1.142	1.481	41.6	21.1	88 E	52	49*
1 1	0 11.33	-25 11.6	1.663	1.668	34.3	20.3	73 E	20	65*	1 6	0 33.82	+7 53.5	1.268	1.539	39.5	21.3	85 E	53	47*
1 6	0 21.40	-23 42.2	1.688	1.656	34.2	20.4	71 E	21	62*	1 16	1 3.40	+8 29.5	1.404	1.599	37.5	21.6	82 E	53	45*
1 11	0 31.77	-22 9.5	1.711	1.644	34.0	20.4	69 E	23*	60*	1 26	1 30.93	+9 11.8	1.548	1.660	35.5	21.8	78 E	54*	43*
1 16	0 42.40	-20 33.6	1.734	1.632	33.8	20.4	67 E	24*	57*	2 5	1 56.79	+9 57.6	1.697	1.721	33.5	22.0	75 E	54*	41*
1 26	1 4.39	-17 13.8	1.778	1.612	33.3	20.4	64 E	27*	53*	<b>409224</b> 2003 YK <sub>34</sub>									
2 5	1 27.24	-13 45.6	1.821	1.595	32.7	20.4	61 E	29*	49*	12 27	0 1.92	+1 9.8	1.900	2.070	28.3	21.2	86 E	46	54*
2 15	1 50.89	-10 11.9	1.864	1.581	32.0	20.4	58 E	30*	46*	1 6	0 15.13	+2 21.0	1.969	2.023	28.5	21.3	79 E	47	48*
2 25	2 15.28	-6 36.2	1.908	1.570	31.2	20.4	55 E	30*	42*	1 16	0 30.24	+3 44.9	2.034	1.978	28.3	21.3	73 E	48*	42*
3 7	2 40.38	-3 2.3	1.954	1.563	30.3	20.4	53 E	30*	40*	1 26	0 47.08	+5 19.4	2.095	1.935	27.9	21.3	67 E	48*	38*
3 17	3 6.16	+0 26.2	2.003	1.561	29.2	20.5	50 E	29*	37*	2 5	1 5.49	+7 2.0	2.151	1.894	27.3	21.3	62 E	46*	33*
3 27	3 32.60	+3 45.2	2.054	1.562	28.0	20.5	47 E	28*	35*	2 15	1 25.37	+8 50.5	2.202	1.856	26.4	21.3	57 E	44*	30*
4 6	3 59.63	+6 51.1	2.110	1.566	26.7	20.5	45 E	26*	33*	2 25	1 46.67	+10 42.3	2.249	1.820	25.5	21.2	52 E	41*	27*
4 16	4 27.22	+9 40.7	2.169	1.575	25.3	20.5	42 E	24*	30*	3 7	2 9.31	+12 34.6	2.291	1.788	24.4	21.2	48 E	38*	24*
4 26	4 55.25	+12 11.3	2.230	1.587	23.7	20.6	39 E	21*	28*	3 17	2 33.27	+14 24.6	2.330	1.759	23.2	21.2	44 E	34*	22*
5 6	5 23.61	+14 20.9	2.295	1.603	22.1	20.6	37 E	18*	26*	3 27	2 58.49	+16 9.2	2.366	1.735	22.0	21.1	41 E	31*	21*
5 16	5 52.18	+16 8.1	2.362	1.621	20.3	20.6	34 E	15*	24*										
5 26	6 20.78	+17 32.5	2.430	1.643	18.4	20.7	31 E	12*	22*										
6 5	6 49.26	+18 34.2	2.498	1.668	16.5	20.7	28 E	9*	19*										
6 15	7 17.46	+19 14.0	2.565	1.695	14.4	20.7	25 E	7*	17*										
6 25	7 45.23	+19 33.3	2.630	1.724	12.4	20.7	21 E	4*	14*										
7 5	8 12.45	+19 33.9	2.693	1.755	10.4	20.7	18 E	3*	11*										
7 15	8 39.04	+19 17.6	2.753	1.788	8.3	20.7	15 E	1*	8*										
7 25	9 4.93	+18 46.9	2.807	1.822	6.3	20.7	11 E	1*	4*										
8 4	9 30.08	+18 3.9	2.856	1.858	4.4	20.7	8 E	—	1*										
8 14	9 54.49	+17 10.8	2.899	1.894	3.0	20.7	6 E	—	—										
8 24	10 18.17	+16 10.0	2.935	1.931	2.7	20.8	5 E	—	—										
9 3	10 41.15	+15 3.6	2.964	1.968	3.9	20.9	8 W	1*	—										
9 13	11 3.46	+13 53.6	2.984	2.006	5.6	21.0	11 W	5*	—										
9 23	11 25.13	+12 42.1	2.995	2.044	7.4	21.2	15 W	9*	—										
10 3	11 46.20	+11 30.9	2.997	2.082	9.3	21.3	20 W	14*	—										
10 13	12 6.71	+10 21.9	2.989	2.120	11.2	21.4	24 W	18*	1*										
10 23	12 26.65	+9 16.9	2.971	2.157	13.0	21.5	29 W	23*	3*										





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20/21	$\alpha_{2000}$	$\delta_{2000}$	$\Delta$	$r$	$\beta$	$V$	$\psi$	$45^\circ$	$-26^\circ$	20/22	$\alpha_{2000}$	$\delta_{2000}$	$\Delta$	$r$	$\beta$	$V$	$\psi$	$45^\circ$	$-26^\circ$
<b>249725 2000 SY<sub>25</sub></b> (continuation)										<b>256412 2007 BT<sub>2</sub></b> (continuation)									
9 3	10 15.86	+ 6 22.2	3.126	2.131	3.8	21.3	8 W	—	2*	2 5	0 54.88	+13 13.9	2.066	1.822	28.5	21.0	62 E	51*	28*
9 13	10 35.08	+ 4 30.5	3.136	2.163	5.6	21.4	12 W	3*	5*	2 15	1 10.69	+15 56.1	2.144	1.798	27.3	21.1	56 E	48*	23*
<b>467496 2006 VM<sub>63</sub></b>																			
12 27	0 4 87	+ 0 18.6	1.442	1.686	35.6	21.4	86 E	45	55*	2 25	1 27.90	+18 38.3	2.212	1.773	25.9	21.0	51 E	44*	19*
1 6	0 26.85	+ 2 43.9	1.561	1.720	34.4	21.6	82 E	48	50*	3 7	1 46.53	+21 19.5	2.270	1.747	24.5	21.0	47 E	40*	15*
<b>360211 1999 CS<sub>45</sub></b>																			
12 27	0 5 05	- 7 35.7	1.990	2.106	27.6	21.1	83 E	37	60*	3 17	2 6 65	+23 58.7	2.317	1.720	23.0	21.0	42 E	36*	12*
1 6	0 17.32	- 5 56.5	2.063	2.062	27.6	21.2	76 E	39	54*	3 27	2 28.36	+26 34.2	2.354	1.692	21.5	20.9	39 E	32*	9*
<b>469503 2003 DY<sub>9</sub></b>																			
12 27	0 6 78	+13 21.6	1.803	2.076	28.3	21.3	92 E	58	44*	4 6	0 7 51	-19 30.9	0.771	1.127	58.9	20.1	79 E	25	67*
1 6	0 16.06	+14 56.1	1.889	2.040	28.7	21.4	84 E	60	39*	1 6	0 32.84	-16 5 9	0.764	1.090	61.1	20.1	76 E	29	62*
										<b>7025 1993 QA</b>									
12 27	0 7 51	-19 30.9	0.771	1.127	58.9	20.1	79 E	25	67*	1 16	1 0 29	-12 10.2	0.750	1.059	63.2	20.0	74 E	33	58*
1 6	0 16.54	+ 5 11.6	1.783	1.885	30.9	20.9	80 E	50	46*	1 16	1 0 29	-12 10.2	0.750	1.059	63.2	20.0	74 E	33	58*
<b>256412 2007 BT<sub>2</sub></b>																			
1 6	0 16.54	+ 5 11.6	1.783	1.885	30.9	20.9	80 E	50	46*	1 16	1 0 29	-12 10.2	0.750	1.059	63.2	20.0	74 E	33	58*
1 16	0 27.67	+ 7 51.4	1.885	1.866	30.4	20.9	74 E	52*	39*	1 26	1 11 15	+34 42.9	2.278	1.459	17.2	20.4	26 W	—	20*
1 26	0 40.51	+10 32.3	1.980	1.845	29.6	21.0	68 E	52*	33*	1 21	18 20.51	-36 9.5	2.270	1.489	18.7	20.5	29 W	—	23*





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Table with columns for date (20/21, 20/22), alpha (2000), delta (2000), Delta, r, beta, V, psi, 45 degrees, -26 degrees, and minor planet names (154302, 316695, 250315, 887 Alinda, 360249, 474441, 66407, 168714). Rows contain numerical data for these parameters.



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Table with columns: 20/22, α2000, δ2000, Δ, r, β, V, ψ, 45°-26°, 20/22, α2000, δ2000, Δ, r, β, V, ψ, 45°-26°. Rows are grouped by object: 13920 Montecorvino, 138868 2000 XR15, 237551 2000 WQ19, 247745 2003 NX8, 138868 2000 XR15, 345705 2006 VB14, 207027 2004 VD59, 416676 2004 XO5, 337328 2001 DU40.



EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

Table with columns for date (20/21, 20/22), alpha (α), delta (δ), Δ, r, β, V, ψ, 45°, -26°. It lists data for several minor planets: 376713 1995 WQ5, 6569 Ondaatje, 483406 1999 RK30, 307986 2004 QT26, 133249 2003 RS6, 294698 2008 BJ2, 238503 2004 SF54, 416223 2002 XJ69, and 3908 Nyx. Each entry includes a grid of position and magnitude data for different times and dates.

