

EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

Table with columns for date (2021), alpha 2000, delta 2000, Delta, r, beta, V, psi, 45-26 degrees, and a continuation section with similar columns. Rows include asteroid names like 434096 2002 GO5, 461912 2006 RG2, 441823 2009 QO5, 523630 2009 OG, 410088 2007 EJ, 427885 2005 SR218, 429584 2011 EU29, 446804 1999 VN6, 446804 1999 VN6 (continuation), 465824 2010 FR, 409836 2006 QY110, 505169 2012 SQ56, 455591 2004 SV26, 461397 2001 SD170, 230549 2003 BH, 498664 2008 SZ136, 515718 2014 UQ194, and 411315 2010 TJ162. Each row contains numerical data for position and magnitude at different times.





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2021	$\alpha_{2000}$	$\delta_{2000}$	$\Delta$	$r$	$\beta$	$V$	$\psi$	$45^\circ-26^\circ$	21/22	$\alpha_{2000}$	$\delta_{2000}$	$\Delta$	$r$	$\beta$	$V$	$\psi$	$45^\circ-26^\circ$
<b>450196 2002 CZ<sub>288</sub></b> (continuation)									<b>259101 2002 WS</b> (continuation)								
7 10	17 32.86	-49 57.7	2.058	2.954	11.2	21.6	146 E	66	6 15	18 16.71	-63 46.7	2.540	3.372	11.4	21.9	139 W	52
7 15	17 26.81	-49 19.1	2.076	2.946	12.2	21.7	142 E	67	6 20	18 7.21	-63 54.8	2.545	3.382	11.3	21.9	139 W	52
7 20	17 21.61	-48 36.2	2.100	2.938	13.3	21.7	138 E	67	6 25	17 57.65	-63 54.5	2.556	3.393	11.2	21.9	139 E	52
<b>537725 2015 TX<sub>243</sub></b>									<b>250614 2005 GG</b>								
5 26	18 38.76	-23 33.8	1.118	2.037	16.2	21.3	146 W	88	5 26	18 51.94	-9 44.8	2.496	3.333	11.3	21.5	140 W	74
6 5	18 33.23	-23 6.1	1.035	2.007	11.6	20.9	157 W	87	6 5	18 43.03	-10 11.2	2.397	3.319	8.6	21.3	151 W	74
6 15	18 24.37	-22 35.1	0.972	1.978	6.0	20.5	168 W	87	6 15	18 32.22	-10 48.0	2.325	3.302	5.7	21.1	161 W	75
6 25	18 13.28	-22 0.2	0.932	1.948	0.7	20.0	179 E	86	6 25	18 20.16	-11 34.2	2.283	3.284	3.7	20.9	168 W	76
<b>307615 2003 QR<sub>82</sub></b>									<b>357094 2001 TM</b>								
5 26	18 38.86	-20 47.9	1.988	2.881	11.5	21.3	146 W	85	5 26	19 13.60	-32 39.0	1.611	2.459	16.0	21.3	138 W	83
6 5	18 31.63	-20 57.1	1.898	2.858	8.0	21.0	157 W	85	6 5	19 8.52	-33 35.1	1.504	2.425	12.8	21.0	148 W	82
6 15	18 22.31	-21 8.4	1.832	2.835	4.1	20.8	168 W	85	6 15	18 59.89	-34 30.7	1.418	2.391	9.1	20.7	158 W	81
6 25	18 11.71	-21 20.5	1.795	2.811	0.8	20.4	178 E	85	6 25	18 48.28	-35 18.3	1.356	2.355	6.0	20.4	166 W	81
<b>162196 1999 RL<sub>45</sub></b>									<b>329571 2002 VC<sub>92</sub></b>								
5 26	18 41.70	+13 11.5	1.434	2.221	20.6	22.2	130 W	58	5 26	19 23.63	+ 0 1.4	0.986	1.800	26.1	21.3	128 W	64
5 31	18 38.35	+14 5.3	1.390	2.205	19.8	22.1	132 W	59	5 31	19 18.88	+ 2 2.2	0.961	1.809	24.4	21.2	133 W	62
6 5	18 34.20	+14 53.0	1.350	2.188	19.2	22.0	135 W	60	6 5	19 13.00	+ 4 0.1	0.941	1.817	22.6	21.1	136 W	49
6 10	18 29.30	+15 33.3	1.314	2.171	18.6	21.9	137 W	61	6 10	19 6.06	+ 5 52.7	0.926	1.824	21.0	21.1	140 W	51
6 15	18 23.76	+16 4.7	1.283	2.153	18.1	21.8	139 W	61	6 15	18 58.23	+ 7 37.5	0.916	1.831	19.6	21.0	143 W	53
6 20	18 17.69	+16 25.8	1.257	2.135	17.9	21.8	140 W	61	6 20	18 49.72	+ 9 11.9	0.912	1.837	18.7	21.0	145 W	54
6 25	18 11.26	+16 35.7	1.235	2.117	18.0	21.7	140 W	62	6 25	18 40.78	+10 33.9	0.914	1.843	18.2	21.0	145 W	56
6 30	18 4.64	+16 33.7	1.218	2.098	18.3	21.7	140 E	62	6 30	18 31.70	+11 41.8	0.920	1.848	18.3	21.0	145 E	57
7 5	17 58.02	+16 19.3	1.206	2.079	19.0	21.7	138 E	61	7 5	18 22.76	+12 34.8	0.933	1.853	19.0	21.1	144 E	58
7 10	17 51.61	+15 52.6	1.199	2.059	19.9	21.7	137 E	61	7 10	18 14.24	+13 12.5	0.951	1.857	20.0	21.1	141 E	58
7 15	17 45.59	+15 14.1	1.196	2.039	21.0	21.7	134 E	60	7 15	18 6.40	+13 35.5	0.973	1.860	21.3	21.2	138 E	59
7 20	17 40.16	+14 24.7	1.197	2.018	22.2	21.7	131 E	59	7 20	17 59.45	+13 45.1	1.000	1.863	22.7	21.3	135 E	59
									7 25	17 53.51	+13 42.9	1.031	1.865	24.1	21.4	131 E	59
<b>453235 2008 PU<sub>3</sub></b>									<b>259101 2002 WS</b>								
5 26	18 48.55	-20 9.1	1.108	2.013	17.5	21.4	143 W	84	5 26	18 48.58	-61 58.1	2.575	3.329	13.3	21.9	131 W	54
6 5	18 44.50	-19 23.4	1.022	1.983	13.2	21.0	154 W	86	5 31	18 41.98	-62 35.0	2.558	3.340	12.7	21.9	134 W	53
6 15	18 37.06	-18 37.7	0.955	1.952	8.1	20.6	164 W	86	6 5	18 34.36	-63 6.1	2.547	3.351	12.2	21.9	136 W	53
6 25	18 27.13	-17 53.4	0.909	1.923	3.3	20.2	174 W	82	6 10	18 25.85	-63 30.3	2.541	3.362	11.7	21.9	138 W	52







EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

Table with columns for date, celestial coordinates, and asteroid identifiers. It is divided into sections for 405216 2003 QL59, 394000 2005 UG512, 353938 1998 QR15, 449107 2012 VJ82, 524604 2003 QZ46, 37655 Illapa, and 394000 2005 UG512. Each row includes columns for time (21/22, 2021), right ascension (α2000), declination (δ2000), semi-major axis (Δ), orbital distance (r), inclination (β), magnitude (V), phase angle (ψ), and position (45°-26°).





EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

21/22		$\alpha_{2000}$	$\delta_{2000}$	$\Delta$	$r$	$\beta$	$V$	$\psi$	$45^\circ$ - $26^\circ$											21/22	$\alpha_{2000}$	$\delta_{2000}$	$\Delta$	$r$	$\beta$	$V$	$\psi$	$45^\circ$ - $26^\circ$																	
		<b>456024 2005 YN<sub>93</sub></b>										<i>(continuation)</i>												<b>533744 2014 OA<sub>40</sub></b>												<i>(continuation)</i>									
		<sup>h</sup> <sup>m</sup>	° ' "							° ' "	<sup>h</sup> <sup>m</sup>	° ' "								° ' "	<sup>h</sup> <sup>m</sup>	° ' "																							
7	25	23	18.10	-18	10.5	0.949	1.830	22.1	19.8	137	W	27	82								10	23	23	1.24	+ 2	15.6	0.764	1.640	24.3	19.4	137	E	47	62											
8	4	23	20.52	-19	24.5	0.870	1.801	18.5	19.4	146	W	26	83									11	2	23	6.87	+ 2	49.3	0.830	1.646	28.0	19.7	129	E	48	61										
8	9	23	20.39	-20	7.9	0.836	1.788	16.5	19.3	150	W	25	84									11	12	23	16.06	+ 3	37.3	0.906	1.655	30.7	20.0	121	E	49	60										
		<b>302132 2001 QD<sub>243</sub></b>												<b>381844 2009 WV<sub>163</sub></b>																															
		<sup>h</sup> <sup>m</sup>	° ' "																		5	26	22	33.22	-16	36.6	1.658	1.957	31.2	21.4	91	W	19*	80*											
5	26	22	21.05	-2	22.4	1.213	1.560	40.5	21.5	88	W	33*	66									6	5	22	51.38	-15	33.7	1.529	1.921	31.7	21.2	96	W	22*	80										
6	5	22	44.74	-0	10.5	1.134	1.544	41.1	21.3	92	W	36*	64									6	15	23	7.73	+ 1	55.1	1.059	1.531	41.4	21.2	95	W	40*	62										
6	15	23	7.73	+ 1	55.1	1.059	1.531	41.4	21.2	95	W	40*	62										6	25	23	29.83	+ 3	49.7	0.990	1.523	41.3	21.0	99	W	43*	60									
7	5	23	50.77	+ 5	28.6	0.924	1.518	40.8	20.8	103	W	47*	57										7	5	23	50.77	+ 5	28.6	0.924	1.518	40.8	20.8	103	W	47*	57									
7	15	0	10.14	+ 6	46.4	0.863	1.517	39.8	20.7	107	W	50*	59										7	25	0	10.14	+ 6	46.4	0.863	1.517	39.8	20.7	107	W	50*	59									
7	25	0	27.47	+ 7	38.2	0.807	1.521	38.1	20.5	113	W	53*	56										8	4	0	42.20	+ 7	59.4	0.755	1.528	35.6	20.3	119	W	53	56									
8	4	0	42.20	+ 7	59.4	0.755	1.528	35.6	20.3	119	W	53	56										8	9	0	48.38	+ 7	57.0	0.732	1.534	34.1	20.2	122	W	53	56									
8	14	0	53.65	+ 7	45.4	0.710	1.540	32.3	20.1	126	W	53	56										8	14	0	53.65	+ 7	45.4	0.710	1.540	32.3	20.1	126	W	53	56									
8	24	1	1.27	+ 6	54.0	0.672	1.555	27.9	19.8	134	W	52	57										8	24	1	1.27	+ 6	54.0	0.672	1.555	27.9	19.8	134	W	52	57									
9	3	1	4.68	+ 5	26.0	0.644	1.574	22.5	19.6	143	W	50	59										9	3	1	4.68	+ 5	26.0	0.644	1.574	22.5	19.6	143	W	50	59									
9	13	1	3.93	+ 3	27.2	0.629	1.596	16.1	19.4	154	W	48	61										9	13	1	3.93	+ 3	27.2	0.629	1.596	16.1	19.4	154	W	48	61									
9	18	1	2.23	+ 2	20.3	0.628	1.608	12.7	19.3	159	W	47	62										9	18	1	2.23	+ 2	20.3	0.628	1.608	12.7	19.3	159	W	47	62									
9	23	0	59.85	+ 1	11.4	0.631	1.621	9.3	19.2	165	W	46	63										9	23	0	59.85	+ 1	11.4	0.631	1.621	9.3	19.2	165	W	46	63									
9	28	0	56.99	+ 0	2.9	0.638	1.634	6.1	19.1	170	W	45	64										9	28	0	56.99	+ 0	2.9	0.638	1.634	6.1	19.1	170	W	45	64									
10	3	0	53.86	- 1	2.6	0.650	1.648	4.0	19.0	173	W	44	65										10	3	0	53.86	- 1	2.6	0.650	1.648	4.0	19.0	173	W	44	65									
10	8	0	50.70	- 2	2.7	0.667	1.663	4.7	19.1	172	E	43	66										10	8	0	50.70	- 2	2.7	0.667	1.663	4.7	19.1	172	E	43	66									
10	13	0	47.76	- 2	55.4	0.690	1.678	7.2	19.3	168	E	42	67										10	13	0	47.76	- 2	55.4	0.690	1.678	7.2	19.3	168	E	42	67									
10	18	0	45.22	- 3	39.2	0.717	1.694	10.1	19.6	163	E	41	68										10	18	0	45.22	- 3	39.2	0.717	1.694	10.1	19.6	163	E	41	68									
10	23	0	43.24	- 4	13.3	0.749	1.710	13.0	19.8	157	E	41	68										10	23	0	43.24	- 4	13.3	0.749	1.710	13.0	19.8	157	E	41	68									
11	2	0	41.31	- 4	52.2	0.825	1.744	18.0	20.2	147	E	40	69										11	2	0	41.31	- 4	52.2	0.825	1.744	18.0	20.2	147	E	40	69									
11	12	0	42.40	- 4	54.1	0.918	1.779	22.1	20.6	138	E	40	69										11	12	0	42.40	- 4	54.1	0.918	1.779	22.1	20.6	138	E	40	69									
11	22	0	46.47	- 4	24.8	1.025	1.815	25.1	21.0	129	E	41	68										11	22	0	46.47	- 4	24.8	1.025	1.815	25.1	21.0	129	E	41	68									
12	2	0	53.14	- 3	31.3	1.143	1.852	27.2	21.3	121	E	41	68										12	2	0	53.14	- 3	31.3	1.143	1.852	27.2	21.3	121	E	41	68									







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Table with columns for date (21/22), alpha\_2000, delta\_2000, delta, r, beta, V, psi, and 45/-26 degrees for three minor planets: 7341 1991 VK, 430544 2002 GM2, and 499986 2011 NP. The table continues with 499986 2011 NP and 486739 2014 EW24. Each entry includes numerical data and position coordinates.



EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

Table with columns for date (21/22), alpha, delta, distance, r, beta, V, psi, and longitude/latitude for various minor planets like 264932, 387541, 66063, and 439931. It includes numerical data and directional indicators (W, E).



EPHEMERIDES OF NEAS AND SOME UNUSUAL MINOR PLANETS

Table with columns for year, coordinates (alpha, delta), and orbital elements (Delta, r, beta, V, psi, 45, -26). It lists data for several minor planets: 418797 2008 VF, 250680 2005 QC5, 250680 2005 QC5 (continuation), 203471 2002 AU4, 509352 2007 AG, and 162142 1998 VR.







