

ASTEROID SPIN AXES

Asteroid	Q	Period	Amp	L ₁	B ₁	L ₂	B ₂	L ₃	B ₃	L ₄	B ₄	Sid. period	Mod	Reference															
1 Ceres	3	9.074170	0.06	332.0	70.0	186.6	-58.0								Saint-Pe, 93 Drummond, 98 Thomas, 05 Drummond, 08 Drummond, 14														
				298.0	78.0																								
				322.0	78.0																								
				352.0	80.0																								
2 Pallas	3	7.8132	0.16	346.0	82.0										Schroll, 76 Burchi, 83 Binzel, 84 Zappala, 84 Burchi, 85 Magnusson, 86 Drummond, 89 Drummond, 89 Torppa, 03 Drummond, 08 Higley, 08 Drummond, 09 Carry, 10 Durech, 11														
				228.0	43.0																								
				211.0	38.0																								
				200.0	40.0																								
				44.0	4.0																								
				49.0	6.0																								
				54.0	-6.0																								
				100.0	-22.0																								
				70.0	15.0																								
				193.0	43.0																								
				32.0	-21.0																								
				35.6	-12.6																								
3*Juno	3	7.210	0.22	34.0	-27.0	193.1	44.2								Chang, 62 Zappala, 84 Magnusson, 86 Birch, 89 Erikson, 93 Dotto, 95 Kaasalainen, 02 Drummond, 08 Durech, 11 Viikinkoski, 15 Hanus, 16														
				30.0	-16.0																								
				35.0	-12.0																								
				71.0	49.0																								
				101.0	29.0																								
				110.0	40.0																								
				104.0	36.0																								
				108.0	34.0																								
				108.0	38.0																								
				103.0	27.0																								
				118.0	30.0																								
				103.0	27.0																								
4 Vesta	3	5.342	0.19	103.0	22.0										Cailliate, 56 Haupt, 58 Chang, 62 Gehrels, 67 Taylor, 73 Taylor, 85 Magnusson, 86 Cellino, 87 Drummond, 88 Drummond, 89 Reynoldson, 93 McCarthy, 94 Thomas, 97 Drummond, 98 Drummond, 08 Drummond, 08 Li, 11 Russell, 12														
				104.0	20.0																								
				14.0	80.0																								
				57.0	74.0																								
				126.0	65.0																								
				139.0	47.0																								
				103.0	43.0																								
				120.0	65.0																								
				85.0	58.0																								
				336.0	55.0																								
				311.0	67.0																								
				160.0	52.0																								
				343.0	56.0																								
				336.0	63.0																								
				321.0	62.0																								
				341.0	51.0																								
				325.0	55.0																								
				304.5	41.5																								
				5*Astraea	3											16.806	0.30	14.0	80.0										Taylor, 78 Zappala, 86 Erikson, 93 De Angelis, 95 Blanco, 00 Lopez-Gonzalez, 05 Higley, 08 Durech, 09 Durech, 11 Hanus, 13
																		328.0	-9.0										
131.0	49.0																												
125.0	46.0																												
114.0	57.0																												
312.0	58.0																												
115.0	55.0																												
123.8	49.7																												
126.0	40.0																												
126.0	40.0																												
145.0	15.0																												
6 Hebe	3	7.2745	0.21			355.0	50.0	344.0	30.0	164.0	-30.0	310.0	-33.0						Gehrels, 62 Gehrels, 77 Zappala, 84 Magnusson, 86 Michalowski, 88 Dotto, 95 De Angelis, 95 Blanco, 00 Torppa, 03 Durech, 11 Hanus, 13										
				130.0	33.0																								
				355.0	50.0																								
				353.0	60.0																								
				353.0	24.0																								
				355.0	27.0																								
				128.0	30.0																								
				339.0	45.0																								
				340.0	42.0																								
				340.0	42.0																								
				7*Iris	3	7.139	0.29									184.0	55.0			193.0	16.0	13.0	-16.0	198.0	-33.0				Cailliate, 56 Gehrels, 62 Taylor, 77 Magnusson, 86 Zappala, 86
																193.0	15.0												
11.0	41.0																												
15.0	25.0																												
18.0	33.0																												
18.0	33.0																												

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Asteroid	Q	Period	Amp	L ₁	B ₁	L ₂	B ₂	L ₃	B ₃	L ₄	B ₄	Sid. period	Mod	Reference						
<i>(continuation)</i>																				
8 Flora	2 2 ⁺ 2	12.865	0.11	15.0	25.0										Mitchell, 95					
				8.0	35.0	187.0	5.0							7.138847	Y	De Angelis, 95				
				20.0	10.0										7.138841	Y	Kaasalainen, 02			
				15.0	25.0										7.1388	Y	Ostro, 10			
				20.0	14.0	199.0	-2.0										Durech, 11			
				16.0	15.0	196.0	2.0										Hanus, 13			
				19.0	19.0	198.0	5.0										Hanus, 16			
				157.0	10.0													Gehrels, 62		
				148.0	45.0	328.0	45.0	148.0	-45.0	328.0	-45.0							Hollis, 87		
				135.0	43.0	327.0	32.0	147.0	-32.0	315.0	-43.0							Di Martino, 89		
139.0	14.0	319.0	-14.0											De Angelis, 95						
122.0	37.0	302.0	-37.0											Blanco, 98						
155.0	5.0	333.0	-2.0									12.799008	Y	Torppa, 03						
335.0	-5.0	155.0	6.0											Durech, 11						
155.0	6.0	335.0	-5.0									12.86667	Y	Durech, 11w						
335.0	-5.0	155.0	6.0									12.86667	Y	Hanus, 13						
9 Metis	2 2 2 3	5.079	0.36	348.0	76.0	168.0	-76.0								Chang, 62					
				156.0	15.0	336.0	-15.0									Gehrels, 62				
				191.0	56.0	21.0	-56.0								5.04	Y	Zappala, 79			
				186.0	43.0	2.0	26.0	182.0	-26.0	6.0	-43.0						Zappala, 84			
				183.0	25.0	1.0	9.0										Drummond, 88			
				180.0	30.0	0.0	20.0										5.0791776			
				181.0	23.0	0.0	7.0										5.07917			
				185.0	31.0												5.07918			
				181.0	23.0	359.0	9.0										5.07918			
				180.0	21.0												5.0791800			
10*Hygiea	4 4 3 4	27.630	0.33	180.0	22.0										5.079176					
				176.0	20.0											5.079176				
				180.0	22.0												Y	Drummond, 12		
																		Hanus, 13		
				112.0	-41.0	299.0	-39.0											27.65909		
				100.0	-34.0	285.0	-34.0											27.62326		
				117.0	-37.0	304.0	-35.0											27.62345		
				113.0	-38.0	300.0	-37.0											27.62333		
				118.0	44.0	298.0	-44.0	302.0	-42.0	102.0	42.0							Y	Blanco, 98	
				120.0	34.0	295.0	43.0											27.62321		
115.0	-30.0	300.0	-30.0											27.62321						
122.0	-44.0	312.0	-42.0											27.6591						
122.0	-44.0	312.0	-42.0											27.65905						
312.0	-42.0	122.0	-44.0											27.6591						
11 Parthenope	2 2	13.7204	0.12	73.0	-51.0	253.0	51.0	64.0	38.0	244.0	-38.0				Y	Blanco, 98				
				165.0	15.0	345.0	15.0										13.7286			
12*Victoria	3	8.6599	0.42	311.0	14.0	128.0	14.0								Y	Stephens, 08				
																	13.72205			
13 Egeria	2 3	7.045	0.47	242.0	17.0	62.0	-17.0									8.654				
				9.0	55.0	176.0	40.0										8.660796			
				137.0	55.0												8.6599			
14 Irene	2 2	15.028	0.16	174.0	-17.0										Y	Hanus, 16				
				103.0	13.0	283.0	-13.0										8.66034			
15 Eunomia	2 2	6.083	0.56	44.0	21.0	238.0	11.0								Y	Blanco, 00				
																	7.04667			
15 Eunomia	R 2 R 2 R P 2 2 3- 3- 3- 3- R 2 3- 3	6.083	0.56	90.0	-34.0	270.0	34.0									Y	Blanco, 98			
				97.0	-22.0	268.0	-24.0											15.02991		
				95.0	-11.0													15.02986		
				337.0	-82.0														6.08275	
					-90.0															6.08275
				70.0	-74.0														6.08275	
					-90.0															6.08275
				164.0	52.0	344.0	-52.0	170.0	57.0	350.0	-57.0								6.0806	
				171.0	61.0	286.0	73.0												6.0806	
																6.082753				
																Y	Piironen, 85			
																Y	Magnusson, 86			
																Y	Michalowski, 88			
																Y	Drummond, 88			
																Y	Magnusson, 90			
																Y	Drummond, 91			
																Y	De Angelis, 92			
																Y	Krugly, 92			
																Y	Michalowski, 93			
																Y	De Angelis, 95			
																Y	Kaasalainen, 02			
																Y	Nathues, 05			
																Y	Hanus, 13			

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Asteroid	Q	Period	Amp	L ₁	B ₁	L ₂	B ₂	L ₃	B ₃	L ₄	B ₄	Sid. period	Mod	Reference	
16*Psyche	2	4.196	0.42	225.0	5.0							4.19595		Zhou, 82	
				222.0	4.0	42.0	-4.0					4.1959	Y	Lupishko, 83	
				40.0	23.0	217.0	31.0	37.0	-31.0	220.0	-23.0		Y	Zappala, 84	
				39.0	35.0	220.0	40.0	40.0	-40.0	219.0	-35.0		Y	Tedesco, 85	
				41.0	33.0	223.0	37.0					4.19554	Y	Tedesco, 85	
													4.196		Zhou, 85
				37.0	14.0	216.0	21.0					4.196		Magnusson, 86	
				215.0	-17.0							4.19595	Y	Drummond, 88	
				37.0	0.0	217.0	8.0	37.0	-8.0	217.0	0.0		4.19595	Y	Lumme, 90
				35.0	-19.0	216.0	-12.0					4.19595	Y	Magnusson, 90	
				215.0	-17.0							4.195948	Y	Drummond, 91	
				33.0	25.0	211.0	29.0	31.0	-29.0	213.0	-25.0		Y	Dotto, 92	
				35.0	-27.0	215.0	-22.0					4.19595	Y	De Angelis, 93	
				222.0	9.0							4.195947	Y	Brown, 95	
17*Thetis	3	12.27048	0.40	35.0	-9.0	216.0	-2.0					4.195948	Y	Kaasalainen, 02	
				36.0	-3.0							4.195948	Y	Drummond, 08	
				33.0	-7.0	213.0	1.0					4.195948	Y	Durech, 11	
				32.0	-7.0							4.195948	Y	Hanus, 13	
				32.0	-7.0							4.195948	Y	Hanus, 16	
				69.0	43.0	268.0	55.0	88.0	-55.0	249.0	-43.0		Y	Zappala, 86	
				253.0	-33.0							12.27048	Y	Michalowski, 95	
				58.0	12.0	240.0	25.0					12.2660280	Y	Torppa, 03	
				55.0	10.0	236.0	20.0					12.26603	Y	Durech, 09	
				236.0	20.0							12.26603	Y	Durech, 11	
240.0	22.0							12.26603	Y	Hanus, 16					
18*Melpomene	3	11.570	0.34	0.0	0.0	341.0	-36.0					11.57323		Hoffmann, 90	
				199.0	-24.0	8.0	-37.0					11.57141	Y	Torppa, 03	
				11.0	14.0							11.57031	Y	Hanus, 16	
19*Fortuna	2	7.4432	0.35	68.0	52.0							7.44322	Y	Drummond, 88	
				70.0	50.0	250.0	50.0					7.44322	Y	Magnusson, 90	
				68.0	52.0							7.44322	Y	Drummond, 91	
				98.0	51.0	266.0	48.0					7.443216	Y	De Angelis, 95	
				65.0	49.0	245.0	-49.0	244.0	48.0	64.0	-48.0		Y	Blanco, 98	
				98.0	58.0	277.0	60.0					7.443221	Y	Torppa, 03	
				60.0	63.0	230.0	63.0					7.4432	Y	Lopez-Gonzalez, 05	
				110.0	58.0	49.0	-61.0					7.443224	Y	Drummond, 11	
				98.0	57.0							7.443224	Y	Durech, 11w	
				98.0	87.0							7.44322	Y	Hanus, 13	
96.0	56.0							7.44322	Y	Hanus, 16					
20*Massalia	2	8.098	0.27	10.0	78.0	190.0	-78.0							Chang, 62	
				30.0	49.0	207.0	51.0	27.0	-51.0	210.0	-49.0		Y	Barucci, 85	
				30.0	54.0	205.0	79.0	25.0	-79.0	210.0	-54.0		Y	McCheyne, 85	
				20.0	80.0	200.0	80.0					8.098		Magnusson, 86	
														Krugly, 92	
				31.0	69.0	208.0	69.0					8.09759	Y	Dotto, 95	
				27.0	38.0	207.0	38.0					8.09757	Y	Szabo, 99	
				179.0	39.0	0.0	40.0					8.09902	Y	Kaasalainen, 02	
				304.0	76.0							8.09759	Y	Hanus, 16	
21 Lutetia	2	8.1655	0.25	42.0	40.0	223.0	48.0	43.0	-48.0	222.0	-40.0	8.1666		Lupishko, 87	
				55.0	44.0	241.0	40.0					8.160624	Y	Lupishko, 87	
				48.0	31.0	233.0	38.0	53.0	-38.0	228.0	-31.0		Y	Michalowski, 92	
				33.0	9.0	214.0	15.0	2.0	0.0			8.1659	Y	Dotto, 92	
				41.0	42.0							8.16060	Y	Michalowski, 93	
				50.0	10.0	230.0	10.0					8.1636	Y	De Angelis, 95	
				240.0	37.0							8.1717	Y	Lagerkvist, 95	
				41.0	51.0	221.0	51.0					8.1659	Y	Michalowski, 96	
				53.0	-6.0							8.16827	Y	Szabo, 99	
				53.0	-5.0							8.168269	Y	Torppa, 03	
52.0	-6.0							8.168270	Y	Faury, 09					
22*Kalliope	2	4.1483	0.53	215.0	45.0	35.0	-45.0					4.148	Y	Scaltriti, 78	
				215.0	45.0	35.0	-45.0					4.13		Zappala, 79	
				13.0	17.0	214.0	42.0	34.0	-42.0	193.0	-17.0		Y	Zappala, 84	
				19.0	-11.0	199.0	14.0					4.1474	Y	Magnusson, 86	
				203.0	29.0	23.0	-29.0	201.0	22.0	21.0	-22.0		Y	Surdej, 86	
				194.0	-8.0							4.148199	Y	Drummond, 88	
				18.0	0.0	204.0	23.0	24.0	-23.0	198.0	0.0		Y	Lumme, 90	
				20.0	-23.0	195.0	2.0					4.1482	Y	Magnusson, 90	
				18.0	-23.0							4.14820	Y	Michalowski, 90	
				193.0	-7.0							4.148199	Y	Drummond, 91	
190.0	-1.0							4.1482	Y	De Angelis, 92					
10.0	12.0	203.0	45.0	23.0	-45.0	190.0	-12.0		Y	Dotto, 92					
190.0	-1.0							4.148197	Y	De Angelis, 95					

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Asteroid	Q	Period	Amp	L ₁	B ₁	L ₂	B ₂	L ₃	B ₃	L ₄	B ₄	Sid. period	Mod	Reference									
<i>(continuation)</i>																							
23*Thalia	3	12.312	0.15	196.0	3.0							4.148200	Y	Tungalag, 02									
				195.0	7.0									4.148199	Y	Kaasalainen, 02							
				197.0	-3.0												Descamps, 08						
				196.0	3.0										4.148200		Descamps, 08						
				196.0	3.0										4.148200		Durech, 11						
24*Themis	2	8.374	0.14	196.0	4.0							4.148201		Hanus, 13									
				196.0	4.0									4.148201		Hanus, 16							
				198.0	72.0	354.0	47.0								12.321504	Y	Tancredi, 91						
				15.0	-55.0	180.0	-35.0								12.3168	Y	Michalowski, 93						
				159.0	-44.0	343.0	-70.0								12.31241	Y	Lagerkvist, 95						
25 Phocaea	2+	9.9341	0.25	159.0	-45.0	343.0	-69.0								Torppa, 03								
				159.0	-40.0										12.31241		Hanus, 13						
				159.0	-40.0										12.31241		Hanus, 16						
				274.0	52.0	94.0	-52.0								8.37677	Y	Blanco, 98						
				120.3	43.7										8.37419	Y	Higley, 08						
26*Proserpina	3	13.110	0.21	331.0	52.0	137.0	59.0					9.93540		Hanus, 16									
				347.0	10.0										9.93540		Hanus, 13						
27*Euterpe	2	10.4082	0.21	47.0	0.0	227.0	4.0	47.0	-4.0	227.0	0.0			Blanco, 00									
				63.7	-37.9	240.2	-40.3								13.10957	Y	Li, 12						
				88.0	-52.0										13.10977	Y	Hanus, 16						
28 Bellona	2	15.706	0.31	261.0	-30.0	83.0	-39.0					10.40818	Y	Stephens, 12									
				82.0	44.0	265.0	39.0								10.40193		Hanus, 16						
29*Amphitrite	2	5.3921	0.15	93.0	18.0	285.0	37.0	105.0	-37.0	273.0	-18.0				Zappala, 84								
				73.0	17.0	265.0	43.0										Michalowski, 93						
				0.0	-6.0												15.70785	Y	Durech, 09				
				278.0	13.0	96.0	1.0											15.70785	Y	Hanus, 11			
				282.0	6.0	102.0	-8.0											15.70785	Y	Durech, 11			
30 Urania	3	13.686	0.45	102.0	-8.0										Hanus, 13								
				165.0	45.0	345.0	45.0	165.0	-45.0	345.0	-45.0			5.390	Y	Tedesco, 81							
				160.0	53.0	320.0	45.0	140.0	-45.0	340.0	-53.0						Y	McCheyne, 84					
				142.0	50.0	308.0	40.0	128.0	-40.0	322.0	-50.0							Y	Zappala, 84				
				135.0	-15.0	320.0	-25.0												Y	Magnusson, 86			
				136.0	-33.0															Y	Drummond, 88		
				133.0	-17.0	318.0	-25.0														Y	Magnusson, 90	
				136.0	-33.0																Y	Drummond, 91	
				145.0	-43.0																Y	De Angelis, 95	
				138.0	-21.0																Y	Kaasalainen, 02	
				138.0	-21.0																	Y	Hanus, 13
				136.0	-20.0																	Y	Hanus, 16
				31*Euphrosyne	3	5.530	0.13	114.0	34.0	293.0	33.0								Michalowski, 96				
								286.0	21.0	107.0	21.0											Y	Durech, 06
								107.0	23.0	284.0	20.0												Y
32 Pomona	1	9.448	0.31	107.0	23.0	284.0	20.0								Hanus, 13								
				186.0	67.0	317.0	4.0	137.0	-4.0	6.0	-67.0							Y	Barucci, 85				
				178.0	72.0	315.0	5.0	135.0	-5.0	358.0	-72.0								Y	McCheyne, 85			
				126.0	-31.0															Y	Michalowski, 93		
				300.0	75.0	282.0	30.0	102.0	-30.0	120.0	-75.0									Y	Licandro, 94		
33*Leukothea	2	31.900	0.43	273.0	-60.0										Kryszczynska, 96								
				200.0	0.0	330.0	-30.0												Y	Torppa, 08			
				88.0	66.0	290.0	6.0													Y	Hanus, 16		
34 Circe	3	12.15	0.24	91.0	34.0	263.0	46.0	83.0	-46.0	271.0	-34.0				Zappala, 86								
				103.0	59.0	267.0	70.0													Y	Erikson, 93		
				89.0	43.0	260.0	57.0														Y	Dotto, 95	
				83.0	33.0	253.0	43.0															Y	De Angelis, 95
				267.0	58.0																	Y	Kaasalainen, 02
35*Leukothea	2	12.15	0.24	113.0	17.0	293.0	-17.0								Blanco, 00								
				94.0	35.0	275.0	51.0												Y	Durech, 09			
				94.0	35.0	275.0	51.0														Y	Durech, 11	
				94.0	35.0	275.0	51.0															Y	Hanus, 13
35*Leukothea	2	31.900	0.43	17.0	0.0	197.0	0.0					31.962		Pilcher, 09									
				15.0	7.0	196.0	0.0													Y	Pilcher, 10		
				15.0	7.0	196.0	0.0								31.9009		Hanus, 16						

ASTEROID SPIN AXES

Asteroid	Q	Period	Amp	L ₁	B ₁	L ₂	B ₂	L ₃	B ₃	L ₄	B ₄	Sid. period	Mod	Reference					
36*Atalante	2	9.93	0.17	119.0	-19.0	299.0	19.0						Y	Blanco, 98					
	3			75.0	18.0	250.0	-30.0					9.930129	Y	Warner, 11w					
37 Fides		7.3335	0.25	45.0	-49.0	190.0	-55.0					9.92692		Hanus, 16					
	3			100.0	5.0	280.0	-5.0					7.3338	Y	Magnusson, 86					
	2			85.0	-26.0	264.0	-34.0					7.33349	Y	Torppa, 03					
38 Leda	2	12.838	0.16	270.0	19.0	89.0	27.0							Hanus, 11					
				270.0	19.0							7.33253		Hanus, 13					
39*Laetitia	2	5.138	0.53	280.0	-66.0							5.14731		Cailliate, 56					
				114.0	28.0	294.0	-28.0					5.138		Van Houten-Groeneveld, 58					
				283.0	-61.0							5.14731	Y	Cailliate, 60					
				130.0	10.0	310.0	-10.0							Y	Gehrels, 62				
				121.0	37.0	301.0	-37.0							Y	Sather, 76				
				128.0	38.0	339.0	48.0	159.0	-48.0	308.0	-38.0			Y	McCheyne, 84				
				116.0	49.0	338.0	57.0	158.0	-57.0	296.0	-49.0			Y	Zappala, 84				
				111.0	56.0	5.0	70.0	185.0	-70.0	291.0	-56.0			5.138	Y	Lupishko, 85			
				129.0	30.0	324.0	35.0							5.138		McCheyne, 85			
				318.0	26.0									5.138238	Y	Magnusson, 86			
				125.0	19.0	317.0	26.0	137.0	-26.0	305.0	-19.0					Y	Drummond, 88		
				130.0	29.0	325.0	37.0							5.138240	Y	Lumme, 90			
				319.0	28.0									5.138239	Y	Magnusson, 90			
				325.0	23.0									5.138238	Y	Drummond, 91			
				323.0	35.0									5.138237	Y	De Angelis, 95			
323.0	32.0									5.138238	Y	Kaasalainen, 02							
323.0	32.0									5.138238	Y	Carry, 10							
323.0	32.0									5.138238		Durech, 11							
322.0	30.0									5.138238		Hanus, 13							
													Y	Hanus, 16					
40*Harmonia	1	8.910	0.36	208.0	21.0							8.91005	Y	Tancredi, 91					
				22.0	28.0	203.0	38.0	12.0	34.0	201.0	41.0	8.90849	Y	Michalowski, 93					
				22.0	31.0	206.0	39.0						8.90848	Y	Lopez-Gonzalez, 99				
				22.0	31.0								8.908483		Hanus, 11				
				22.0	34.0					8.90848		Hanus, 13		Hanus, 16					
41*Daphne	2	5.988	0.45	15.0	36.0	157.0	28.0	195.0	-36.0	337.0	-28.0			Y	Barucci, 83				
				19.0	35.0	159.0	32.0	199.0	-35.0	339.0	-32.0			Y	Barucci, 85				
				186.0	-40.0	335.0	-33.0							5.98800	Y	Magnusson, 86			
				18.0	48.0	135.0	43.0	198.0	-48.0	315.0	-43.0					Y	Zappala, 86		
				334.0	-32.0									5.98799	Y	Drummond, 88			
				197.0	-36.0	344.0	-38.0							5.98799	Y	Magnusson, 90			
				340.0	-32.0									5.98798	Y	Drummond, 91			
				190.0	-27.0	343.0	-31.0							5.987983	Y	De Angelis, 95			
				198.0	-32.0									5.98798	Y	Kaasalainen, 02			
				198.0	-31.0									5.987980		Matter, 11			
198.0	-32.0									5.98798		Durech, 11							
198.0	-32.0									5.98798		Hanus, 13							
199.0	-30.0									5.98798		Hanus, 16							
42*Isis	2	13.590	0.35	122.0	-36.0	302.0	36.0						Y	Blanco, 98					
				117.0	-5.0	288.0	-16.0						13.59700		Denchev, 98				
				120.0	-14.0	294.0	-23.0						13.59700	Y	Torppa, 03				
43*Ariadne	2	5.76218	0.73	106.0	40.0	302.0	28.0							Hanus, 11					
				106.0	40.0								13.58364		Hanus, 13				
				113.0	45.0									Hanus, 16					
43*Ariadne	2	5.76218	0.73	73.0	40.0	249.0	43.0	69.0	-43.0	253.0	-40.0			Y	McCheyne, 84				
				73.0	25.0	248.0	20.0	68.0	-20.0	253.0	-25.0					Y	Barucci, 86		
				55.0	-16.0	241.0	-21.0							5.76188		Michalowski, 88			
				78.0	13.0	256.0	13.0							5.76222	Y	Drummond, 88			
				68.0	-14.0	251.0	-16.0							5.76199	Y	Magnusson, 90			
				248.0	-10.0									5.76199	Y	Drummond, 91			
				249.0	-14.0									5.76196	Y	De Angelis, 92			
				72.0	13.0	250.0	8.0	70.0	-8.0	252.0	-13.0					Y	Detal, 92		
																	Y	Krugly, 92	
								68.0	-22.0	253.0	-28.0							Y	Michalowski, 93
								72.0	13.0	250.0	8.0	70.0	-8.0	252.0	-13.0			Y	Detal, 94
								251.0	-9.0									Y	Dotto, 95
				249.0	-14.0									Y	De Angelis, 95				
44 Nysa	3	6.422	0.55	71.0	-25.0	251.0	-25.0							Y	Szabo, 99				
				253.0	-15.0									5.761990	Y	Kaasalainen, 02			
44 Nysa		6.422	0.55	178.0	-84.0							6.417083		Cailliate, 56					
				358.0	84.0								6.415425		Chang, 62				

ASTEROID SPIN AXES

Asteroid	Q	Period	Amp	L ₁	B ₁	L ₂	B ₂	L ₃	B ₃	L ₄	B ₄	Sid. period	Mod	Reference						
<i>(continuation)</i>																				
45*Eugenia	3	5.699	0.41	105.0	30.0	285.0	-30.0								Gehrels, 62					
				100.0	50.0	280.0	-50.0							6.48	Y	Zappala, 79				
				94.0	59.0	288.0	63.0							6.421		Magnusson, 83				
				100.0	60.0	265.0	55.0							6.421416		Taylor, 83				
				99.0	49.0	295.0	54.0	115.0	-54.0	279.0	-49.0					Y	Zappala, 84			
				105.0	57.0	300.0	61.0									Y	Magnusson, 86			
	2				112.0	46.0	304.0	47.0	124.0	-47.0	292.0	-46.0				Lumme, 90				
					92.0	47.0	283.0	49.0									Y	De Angelis, 93		
					99.0	58.0												Y	Kaasalainen, 02	
					115.0	-34.0	286.0	-26.0											Taylor, 88	
					127.0	-44.0												Y	Drummond, 88	
					128.0	16.0	313.0	25.0	133.0	-25.0	308.0	-16.0						Y	Lumme, 90	
47 Aglaja	3	13.178	0.17	125.0	-35.0	296.0	-26.0								Magnusson, 90					
				127.0	-44.0											Y	Drummond, 91			
				0.0	0.0												Y	Tancredi, 91		
				109.0	-27.0												Y	De Angelis, 95		
				0.0	0.0													Y	Lagerkvist, 95	
				106.0	-42.0	313.0	-41.0										Y	Lopez-Gonzalez, 99		
	2				123.0	-33.0										5.699143				
					123.0	-33.0											Y	Kaasalainen, 02		
					123.0	-33.0													Hanus, 13	
					125.0	-34.0													5.699151	
					330.0	-3.0													Millis, 89	
					139.0	33.0	313.0	19.0										Y	Michalowski, 96	
48*Doris	2	11.89	0.36	113.0	27.0	293.0	-27.0								Blanco, 98					
				297.0	61.0	108.0	47.0									Y	Hanus, 16			
				133.0	-61.0													Kristensen, 91		
				306.0	-53.0													7.782936		
				356.0	-62.0												Y	De Angelis, 95		
				160.0	-68.0													7.78294		
	1	5.6304	0.20		34.0	-60.0	175.0	-65.0								7.78484				
					169.0	-62.0	347.0	-68.0									Y	Lopez-Gonzalez, 05		
					0.0	37.0	203.0	38.0	23.0	-38.0	180.0	-37.0						Y	Barucci, 86	
					17.0	65.0													Y	Michalowski, 93
					80.0	-55.0	250.0	-40.0											Y	Dotto, 95
					84.0	-32.0	257.0	-18.0											Y	Michalowski, 95
51*Nemausa	4	7.783	0.25	63.0	46.0	261.0	60.0								5.632846					
				251.0	35.0												Y	Lopez-Gonzalez, 99		
				71.0	31.0	262.0	46.0	67.0	25.0	254.0	38.0						Y	Kaasalainen, 02		
				251.0	35.0													Y	Michalowski, 04	
				251.0	35.0													Y	Marchis, 06	
				251.0	35.0													Y	Durech, 11	
	2	7.024	0.31		255.0	35.0										5.629958				
					251.0	35.0												Y	Merline, 13	
					251.0	35.0													Y	Hanus, 13
					160.0	45.0	290.0	55.0											7.0264	
					307.0	20.0	122.0	-36.0	325.0	-37.0									7.02263	
					318.0	23.0	156.0	13.0											Y	Torppa, 08
52 Europa	2	11.89	0.36	318.0	23.0	156.0	13.0								7.022649					
				156.0	13.0	318.0	23.0										Y	Warner, 08		
				156.0	13.0													7.022641		
				156.0	13.0													Y	Durech, 11	
				152.0	19.0													7.02264		
				152.0	19.0													Y	Hanus, 16	
	2	4.8040	0.40		36.0	32.0	226.0	19.0	46.0	-19.0	216.0	-32.0				Zappala, 86				
					202.0	-26.0												Y	Drummond, 88	
					32.0	40.0	224.0	32.0											Y	Drummond, 91
					239.0	28.0													Y	Michalowski, 93
					50.0	-18.0	216.0	-34.0											Y	De Angelis, 95
					25.0	30.0	220.0	30.0											Y	Lagerkvist, 95
3	18.147	0.16		28.0	48.0	232.0	42.0								4.80404					
				37.0	22.0	223.0	18.0										Y	Michalowski, 96		
				223.0	18.0													Y	Torppa, 03	
				110.0	28.0	290.0	-28.0											Y	Durech, 11	
				103.0	-27.0	282.0	-5.0												18.122818	
																			18.1482	
2	25.208	0.22		95.0	34.0	275.0	42.0								25.1574					
				91.0	-25.0	272.0	-17.0										Y	Michalowski, 93		
2	9.2213	0.17													25.2285					
				87.0	22.0	269.0	23.0										Y	Durech, 16		
2															9.21819					
																		Y	Hanus, 11	

ASTEROID SPIN AXES

Asteroid	Q	Period	Amp	L ₁	B ₁	L ₂	B ₂	L ₃	B ₃	L ₄	B ₄	Sid. period	Mod	Reference			
63 Ausonia		9.298	0.95	127.0	38.0	298.0	28.0	118.0	-28.0	307.0	-38.0			Y	Zappala, 83		
				120.0	-30.0	305.0	-30.0								9.29757	Y	Zappala, 84
				313.0	42.0										9.294	Y	Magnusson, 86
				122.0	-26.0	310.0	-40.0								9.29758	Y	Lupishko, 87
				305.0	36.0	125.0	-36.0								9.29766	Y	De Angelis, 95
				120.0	-15.0	305.0	-21.0								9.29759	Y	Michalowski, 96
64*Angelina	3	8.752	0.42	120.0	-15.0							9.29759	Y	Torppa, 03			
												9.29759	Y	Durech, 11			
				119.0	29.0	299.0	27.0			8.75468	Y	Michalowski, 93					
				138.0	31.0	317.0	-33.0				Y	Shevchenko, 03					
65*Cybele	2	6.0814	0.12	139.0	15.0	318.0	15.0					8.75164	Y	Durech, 06			
				137.0	14.0	317.0	17.0			8.75032	Y	Durech, 11					
				135.0	6.0	315.0	5.0			8.75171	Y	Hanus, 16					
				26.0	-52.0					3.98704	Y	Drummond, 88					
66*Maja	2	9.73509	0.45	25.0	-49.0							4.04052	Y	Drummond, 91			
				34.0	-23.0					4.04052	Y	De Angelis, 95					
				53.0	-4.0	233.0	-4.0			6.081434	Y	Pilcher, 11					
											Y	Franco, 15					
				162.0	-50.0	342.0	50.0				Y	Blanco, 98					
				156.0	62.0	336.0	-62.0				Y	Blanco, 00					
68 Leto	2	14.848	0.53	49.0	-70.0	225.0	-68.0					9.73570	Y	Hanus, 16			
				103.0	43.0	290.0	23.0			14.84547	Y	Hanus, 11					
				103.0	43.0	290.0	23.0			14.84547	Y	Durech, 11					
69 Hesperia	2	5.655	0.24	103.0	43.0							14.84547	Y	Hanus, 13			
				131.0	42.0	315.0	59.0			5.65974	Y	Velichko, 89					
				243.0	51.0					5.65450	Y	Krugly, 92					
				70.0	-42.0	250.0	42.0	64.0	39.0	244.0	-39.0	Y	De Angelis, 95				
				73.0	-45.0					5.65520	Y	Blanco, 98					
				250.0	17.0	71.0	-2.0			5.65534	Y	Torppa, 03					
71*Niobe	2	35.864	0.22	250.0	17.0	71.0	-2.0					5.655340	Y	Hanus, 11			
				94.0	-14.0	274.0	14.0				Y	Blanco, 98					
				110.0	13.0	285.0	-20.0			35.617948	Y	Warner, 11w					
72 Feronia		8.097	0.15	88.0	-33.0							35.8521	Y	Hanus, 16			
				287.0	-39.0	102.0	-55.0			8.09068	Y	Hanus, 13					
73 Klytia	2	8.297	0.35	102.0	-55.0							8.09068	Y	Hanus, 13			
				38.0	75.0	237.0	73.0			8.28307	Y	Marciniak, 08					
75 Eurydike	2	5.357	0.15	266.0	68.0	44.0	83.0					8.28307	Y	Hanus, 11			
				253.0	30.0					5.35619	Y	Tungalag, 02					
76*Freia		9.973	0.33														
				139.0	25.0	0.0	40.0			9.968286	Y	Stephens, 08					
				139.0	14.0	320.0	17.0			9.973061	Y	Marciniak, 12					
77 Frigga	2	9.012	0.20	138.0	12.0	319.0	17.0					9.97306	Y	Hanus, 16			
				57.0	39.0	236.0	-40.0				Y	Blanco, 98					
79 Eurynome	3	5.978	0.25	64.0	45.0	226.0	52.0					5.97769	Y	Michalowski, 90			
				62.0	26.0	226.0	41.0			5.97770	Y	De Angelis, 93					
				56.0	28.0	236.0	38.0			5.97769	Y	De Angelis, 95					
				40.0	35.0	214.0	38.0			5.97772	Y	Michalowski, 96					
				65.0	-36.0	245.0	-36.0			5.97769	Y	Szabo, 99					
				64.0	15.0					5.97857	Y	Torppa, 08					
80 Sappho	2	14.030	0.40	228.0	30.0	54.0	24.0					5.97772	Y	Hanus, 13			
				46.0	10.0	249.0	7.0			14.0387	Y	Michalowski, 93					
				194.0	-26.0	7.0	-18.0			14.03088	Y	Durech, 06					
				6.0	-16.0	194.0	-26.0			14.03087	Y	Durech, 09					
				194.0	-26.0					14.03087	Y	Durech, 11					
82 Alkmene	3	12.999	0.54	194.0	-26.0							14.03087	Y	Hanus, 13			
				349.0	-43.0	168.0	-36.0			13.00078	Y	Durech, 06					
				164.0	-34.0	351.0	-39.0			13.00078	Y	Durech, 09					
				164.0	-25.0	349.0	-33.0			13.00079	Y	Hanus, 11					
	2+			164.0	-28.0						13.00079	Y	Timerson, 15				

ASTEROID SPIN AXES

Asteroid	Q	Period	Amp	L ₁	B ₁	L ₂	B ₂	L ₃	B ₃	L ₄	B ₄	Sid. period	Mod	Reference	
83 Beatrix	2	10.16	0.27	3.0	-37.0	172.0	-31.0					10.11311	Y	Krugly, 94 De Angelis, 95	
	2			6.0	-46.0	173.0	-38.0								Y
85 Io	2	6.875	0.18	120.0	89.0	303.0	82.0	123.0	-82.0	300.0	-89.0	6.875118 6.875261 6.874783 6.874783	Y	Dotto, 95 Erikson, 99 Torppa, 03 Durech, 11 Hanus, 13	
	2			285.0	-52.0	108.0	-46.0	290.0	-16.0						Y
	3			105.0	-45.0	295.0	-14.0								Y
	3			95.0	-65.0										Y
87*Sylvia	2	5.184	0.62	89.0	52.0	288.0	40.0					5.18364 5.18364 5.18365 5.183662 5.18364 5.18364 5.18364 5.18364	Y	Drummond, 88 Magnusson, 90 Drummond, 91 Michalowski, 93 De Angelis, 95 Kaasalainen, 02 Marchis, 06 Drummond, 08 Hanus, 13 Hanus, 16	
	2			66.0	67.0	296.0	59.0								Y
	2			89.0	52.0	291.0	42.0								Y
	2			84.0	55.0	297.0	50.0								Y
	2			86.0	45.0										Y
	3			71.0	66.0										Y
	4			71.0	66.0										Y
	4			96.0	39.0										Y
88*Thisbe	2	6.042	0.25	32.0	69.0	205.0	54.0	25.0	-54.0	212.0	-69.0	6.04133 6.04134 6.04133 6.04133 6.04134 6.04131 6.04131 6.04131 6.04132	Y	Zappala, 86 Drummond, 88 Magnusson, 90 Drummond, 91 De Angelis, 95 Torppa, 03 Durech, 11 Hanus, 13 Hanus, 16	
	1			129.0	78.0										Y
	2			40.0	70.0	200.0	70.0								Y
	2			110.0	58.0										Y
	3			243.0	74.0										Y
	3			72.0	60.0	247.0	50.0								Y
	2			72.0	60.0	247.0	50.0								Y
	2			72.0	60.0										Y
89 Julia	3	11.387	0.25	8.0	-13.0							11.38834 11.38834	Y	Durech, 11 Hanus, 13	
				8.0	-13.0										
90 Antiope	3	16.509	0.90	200.0	38.0							16.5051 16.505046	Y	Descamps, 07 Descamps, 09 Bartczak, 14	
				199.5	39.8										
				190.0	38.0										
92 Undina	2	15.941	0.20	4.0	50.0	190.0	73.0					15.93612 15.95209	Y	Warner, 11w Warner, 14	
				237.0	-26.0	69.0	-45.0								
93 Minerva	1	5.982	0.20	230.0	0.0							5.9823 5.97909 5.98313	Y	Harris, 99 Tungalag, 02 Torppa, 08 Tungalag, 12 Marchis, 13	
				189.0	10.0										
				49.0	-40.0	216.0	21.0								
				190.0	15.0										
94*Aurora	2	7.22	0.18	58.0	16.0	242.0	4.0					7.226191 7.22619	Y	Marciniak, 11 Hanus, 16	
				65.0	9.0	242.0	-7.0								
95*Arethusa	3	8.705	0.35	149.0	33.0							8.70221 8.70221	Y	Durech, 11 Hanus, 16	
				119.0	23.0										
97 Klotho	2	35.15	0.3	340.0	8.0							35.11749 35.2510 35.2510	Y	Tungalag, 02 Hanus, 11 Hanus, 13	
				359.0	30.0	161.0	40.0								
				359.0	30.0										
98*Ianthe		16.479	0.34	286.0	18.0								Y	Hanus, 16	
99*Dike		18.127	0.22	233.0	50.0								Y	Hanus, 16	
103*Hera		23.740	0.45	85.0	24.0	270.0	40.0						Y	Hanus, 16	
104*Klymene		8.984	0.3	112.0	2.0	292.0	-4.0						Y	Hanus, 16	
105 Artemis	3	37.15506	0.17	192.0	68.0							18.54998 35.15506	Y	Tungalag, 02 Higley, 08	
				233.5	-42.5	240.0	8.9								
107*Camilla		4.844	0.53	71.0	61.0	233.0	74.0					4.84393 4.84393	Y	Drummond, 88 Magnusson, 90	
				74.0	55.0	239.0	76.0								

ASTEROID SPIN AXES

Asteroid	Q	Period	Amp	L ₁	B ₁	L ₂	B ₂	L ₃	B ₃	L ₄	B ₄	Sid. period	Mod	Reference			
<i>(continuation)</i>																	
108 Hecuba	2	14.256	0.2	229.0	73.0							4.84393	Y	Drummond, 91			
	3+			230.0	69.0								4.84394	Y	De Angelis, 95		
	3			72.0	51.0	230.0	77.0						4.84393	Y	Torppa, 03		
				73.0	54.0									4.843928		Durech, 11	
				73.0	54.0									4.843928		Hanus, 13	
				72.0	51.0							4.843928		Hanus, 16			
110*Lydia		10.927	0.26	259.0	-6.0	79.0	13.0						Y	Blanco, 98			
112*Iphigenia	2	31.466	0.30	24.0	75.0	210.0	78.0							Y	Michalowski, 96		
	3			149.0	-55.0	331.0	-61.0						10.92580	Y	Durech, 07		
	2			345.0	-51.0	164.0	-43.0						10.925808	Y	Warner, 09		
				148.0	-39.0	340.0	-57.0							10.92581	Y	Hanus, 16	
113 Amalthea		9.950	0.22	101.0	-66.0	286.0	-50.0					31.4625		Hanus, 16			
115 Thyra		7.241	0.20	70.0	-18.0							9.93768	Y	Tungalag, 02			
116*Sirona	2	12.028	0.55	175.0	60.0	330.0	60.0					7.2376	Y	Dotto, 95			
	1			17.0	-30.0	197.0	30.0	178.0	-35.0	358.0	35.0			7.24142	Y	Blanco, 98	
	2			35.0	33.0										Y	Michalowski, 04	
117*Lomia		9.127	0.35	51.0	-53.0	222.0	-53.0					12.03251	Y	Durech, 16			
119 Althaea		11.484	0.36	312.0	-40.0	117.0	-18.0					9.12417		Hanus, 16			
	1+			21.0	-77.0								11.48037	Y	Tungalag, 02		
	2			0.0	-62.0								11.46512		Durech, 09		
				339.0	-67.0	181.0	-61.0					11.46514		Hanus, 11			
120*Lachesis		46.551	0.22	256.0	39.0	82.0	55.0					46.5508		Hanus, 16			
121*Hermione	2	5.55128	0.70	163.0	12.0	342.0	30.0	162.0	-30.0	343.0	-12.0			Y	De Angelis, 95		
	2			40.0	32.0	220.0	-32.0						9.238	Y	Blanco, 96		
	1			60.0	-42.0									5.55	Y	Blanco, 98	
	3			359.0	8.0	4.0	13.0							5.550877	Y	Marchis, 05	
				4.0	14.0									5.55088	Y	Descamps, 09	
				1.0	16.0							5.550881	Y	Kaasalainen, 12			
122*Gerda	2	10.685	0.26	26.0	31.0	190.0	-39.0							Y	Shevchenko, 08		
	1			26.0	31.0	190.0	39.0								Y	Shevchenko, 09	
				26.0	31.0	190.0	-39.0									Y	Shevchenko, 12
				201.0	22.0	23.0	20.0							10.68724		Hanus, 16	
125 Liberatrix		3.968	0.71	80.0	74.0							3.96821	Y	Drummond, 88			
													3.96822	Y	Magnusson, 90		
	2			228.0	71.0								3.96821	Y	Drummond, 91		
	2			15.0	47.0	181.0	53.0						3.96820	Y	De Angelis, 95		
	3			95.0	68.0	280.0	74.0						3.968198	Y	Durech, 07		
127 Johanna		12.7988	0.21	98.0	-59.0	261.0	-69.0					12.79954	Y	Marciniak, 12			
129*Antigone	2	4.9572	0.49	331.0	30.0	133.0	48.0	313.0	-48.0	151.0	-30.0			Y	Barucci, 85		
	2			20.0	50.0	180.0	72.0						4.957	Y	Magnusson, 86		
	2			196.0	64.0								4.95717	Y	Drummond, 88		
	2			38.0	27.0	202.0	53.0						4.95716	Y	Magnusson, 90		
	2			195.0	65.0								4.95717	Y	Drummond, 91		
	2			42.0	36.0	208.0	68.0	18.0	-68.0	222.0	-36.0				Y	Dotto, 92	
	2			194.0	72.0									4.95716	Y	De Angelis, 95	
	3			207.0	58.0									4.957152	Y	Torppa, 03	
	2			202.0	52.0										Y	Drummond, 09	
	3			207.0	58.0									4.957154		Durech, 11	
				207.0	58.0									4.95715		Hanus, 13	
				211.0	55.0									4.957160		Hanus, 16	
	130*Elektra			1	5.225	0.58	190.0	-81.0							5.22468	Y	Drummond, 88
2		180.0	-85.0	240.0			-40.0					5.22466	Y	Magnusson, 90			
1		190.0	-81.0										5.224683	Y	Drummond, 91		
1		246.0	-32.0	344.0			-86.0						5.22466	Y	Michalowski, 93		
1		192.0	-83.0										5.22468	Y	De Angelis, 95		
4		64.0	-88.0										5.224664	Y	Marchis, 06		

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Asteroid	Q	Period	Amp	L ₁	B ₁	L ₂	B ₂	L ₃	B ₃	L ₄	B ₄	Sid. period	Mod	Reference			
(continuation)																	
132 Aethra	4	5.1684	0.52	64.0	-88.0							5.224664	Y	Durech, 07			
	3			160.0	-85.0								5.22466	Y	Torppa, 08		
	3			64.0	-88.0									5.224664		Durech, 11	
				64.0	-88.0										5.22466		Hanus, 13
				176.0	-89.0										5.224663		Hanus, 16
133 Cyrene	3	12.708	0.26	337.0	71.0							5.168270		Durech, 06			
	3			337.0	70.0								5.168274	Y	Durech, 09		
	2+			326.0	67.0									5.16827	Y	Hanus, 11	
135 Hertha	P	8.403	0.30									12.708		Harris, 84			
	2			349.0	-54.0	145.0	-57.0							12.70868		Hanus, 11	
136*Austria	2	11.4969	0.37	135.0	46.0	310.0	43.0	130.0	-43.0	315.0	-46.0			Tancredi, 91			
	2			126.0	-28.0	310.0	-31.0							8.3476	Y	Dotto, 92	
	2			106.0	2.0	286.0	-2.0							8.40571	Y	Michalowski, 93	
	2			118.0	52.0	291.0	47.0									Y	Lagerkvist, 95
	3			96.0	55.0	273.0	52.0								8.40060	Y	Michalowski, 96
	4			272.0	52.0										8.40060	Y	Torppa, 03
137 Meliboea	1+	25.676	0.20	0.0	63.0							11.49660		Durech, 09			
				118.0	57.0	333.0	75.0						11.49665	Y	Durech, 16		
				117.0	53.0	357.0	81.0						11.49662		Hanus, 16		
138*Tolosa	1	10.101	0.45	149.0	8.0	329.0	-8.0						Y	Blanco, 00			
139 Juewa		20.991	0.20	40.0	30.0	230.0	30.0					10.0976	Y	Lopez-Gonzalez, 05			
				49.0	-42.0	222.0	-39.0						10.10306	Y	Durech, 16		
140*Siwa	1	34.445	0.15	117.0	50.0								Y	Michalowski, 93			
144*Vibilia	3	13.819	0.20	8.0	-13.0							11.38834		Durech, 11			
				248.0	56.0	54.0	48.0						13.82516		Hanus, 16		
146 Lucina	3	18.557	0.17	139.0	-14.0	305.0	-41.0					18.55397	Y	Durech, 09			
				305.0	-41.0								18.5540		Hanus, 13		
147 Protogeneia		7.8528	0.28	269.0	15.0	90.0	14.0					7.85232		Hanus, 13			
148 Gallia	2	20.664	0.32	135.0	-25.0	294.0	-8.0					20.665266	Y	Warner, 11w			
149 Medusa		26.023	0.56	333.0	-73.0	156.0	-76.0					26.0454		Hanus, 13			
150*Nuwa	1	8.1347	0.31	253.0	1.0	73.0	-1.0					8.140	Y	Blanco, 96			
	1			257.0	1.0	77.0	-1.0	73.0	-27.0	253.0	27.0			Y	Blanco, 98		
				359.0	25.0	177.0	22.0							8.13456		Hanus, 16	
152 Atala	2	6.246	0.50	202.0	63.0	348.0	41.0					6.24472	Y	Durech, 06			
	2			199.0	62.0	347.0	47.0						6.24472	Y	Durech, 09		
	3-			347.0	46.0								6.24472	Y	Hanus, 11		
	3			347.0	47.0								6.24472		Durech, 11		
153 Hilda	2	5.9587	0.20	149.0	29.0	329.0	-32.0										
	1			149.0	29.0	329.0	-32.0						5.9587	Y	Shevchenko, 08		
154*Bertha		25.224	0.20	28.0	34.0	234.0	32.0					25.2285		Hanus, 16			
155*Scylla		7.9597	0.46	201.0	69.0	356.0	53.0					7.95880		Hanus, 16			
157 Dejanira		15.825	0.52	319.0	-64.0	146.0	-33.0					15.8287		Hanus, 13			
158 Koronis	3	14.218	0.43	19.0	-69.0	201.0	-72.0	35.0	-65.0	220.0	-68.0	14.20570	Y	Slivan, 96			
	2			30.0	-64.0	225.0	-70.0						14.20569	Y	Tungalag, 03		
	3			30.0	-64.0								14.20569		Slivan, 03		
				85.0	30.0									14.20569		Durech, 11	
														Tungalag, 12			

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Asteroid	Q	Period	Amp	L ₁	B ₁	L ₂	B ₂	L ₃	B ₃	L ₄	B ₄	Sid. period	Mod	Reference
160 Una	2	11.033	0.23	125.0	-33.0	308.0	-41.0					11.033176	Y	Marciniak, 09
161*Athor	2 1+ 2	7.280	0.27	209.0 170.0 6.0 350.0	47.0 0.0 -8.0 -6.0	29.0 350.0 186.0 170.0	-47.0 0.0 8.0 4.0	1.0	48.0	181.0	-48.0	7.281 7.280087	Y Y	Blanco, 98 Pilcher, 08 Pilcher, 10 Franco, 12
162 Laurentia	2	11.8686	0.35	139.0	64.0	313.0	51.0					11.86917		Hanus, 11
163*Erigone	R	16.136	0.37	276.0	-60.0 -69.0							16.1403 16.1402	Y	Hanus, 11 Durech, 16
164*Eva		13.66	0.36	54.0	-10.0							13.66380		Hanus, 16
165 Loreley	1 3 2 3	7.226	0.17	159.0 346.0 174.0 174.0 174.0	-65.0 29.0 34.0 29.0 29.0	319.0	65.0					7.226669 7.22439 7.224387 7.22439	Y Y	Blanco, 98 Durech, 07 Hanus, 11 Durech, 11 Hanus, 13
166 Rhodope		4.715	0.36	345.0	-22.0	173.0	-3.0					4.714793		Hanus, 13
167 Urda	2+ 3 2	13.07	0.39	36.0 249.0 249.0	-77.0 -68.0 -68.0	227.0 107.0 107.0	-74.0 -69.0 -69.0					13.07 13.06133 13.06133	Y	Slivan, 96 Tungalag, 03 Warner, 08 Durech, 11
170 Maria		13.120	0.24	103.0	-18.0	289.0	-5.0					13.1313212		Kim, 14
171*Ophelia		6.66535	0.46	149.0 144.0	40.0 29.0	333.0 329.0	35.0 23.0					6.665430 6.66454	Y	Wang, 15 Hanus, 16
173*Ino	2 2 2	6.15	0.15	198.0 186.0 178.0	-21.0 -22.0 -14.0	356.0 5.0 344.0	-47.0 -21.0 -30.0					6.163 6.11651	Y Y Y	Michalowski, 93 De Angelis, 95 Michalowski, 05
174 Phaedra	2 2 2	5.744	0.58	265.0 94.0 265.0	5.0 36.0 5.0	93.0 266.0	34.0 14.0					5.75025 5.75025 5.750249	Y Y Y	Durech, 06 Hanus, 11 Marciniak, 11
176*Iduna	1	11.2877	0.43	85.0 83.0	36.0 24.0	265.0 219.0	-36.0 68.0					11.28784	Y Y	Blanco, 00 Durech, 16
178 Belisana		12.323	0.18	260.0	20.0	79.0	9.0					12.32139		Hanus, 13
179*Klytaemnestra		11.173	0.55	65.0	-6.0	248.0	-9.0					11.17342		Hanus, 16
180*Garumna		23.866	0.6	41.0	-64.0	196.0	-64.0					23.8592		Hanus, 16
182 Elsa	2 2+	80.088	0.72	72.0 67.0	-84.0 -87.0	224.0 222.0	-82.0 -85.0					80.166 80.166	Y Y	Durech, 09 Durech, 11w
183 Istria		11.77	0.31	85.0	20.0							11.76897		Hanus, 13
184 Dejopeja	3 3 3	6.455	0.3	192.0 200.0 14.0 200.0	42.0 52.0 51.0 52.0	12.0 18.0 196.0 18.0	49.0 54.0 50.0 54.0					6.44221 6.441111 6.441119 6.44111	Y Y Y	Durech, 06 Marciniak, 07 Durech, 09 Hanus, 13
185 Eunike		21.797	0.22	136.0	4.0	314.0	-18.0					21.80634	Y	Pilcher, 14
186*Celuta		19.842	0.55	88.0	-54.0	235.0	-77.0					19.8435	Y	Durech, 16

ASTEROID SPIN AXES

Asteroid	Q	Period	Amp	L ₁	B ₁	L ₂	B ₂	L ₃	B ₃	L ₄	B ₄	Sid. period	Mod	Reference
187*Lamberta	2+ R	10.670	0.32	6.0	-59.0	158.0	-48.0					10.66703	Y	Durech, 06
				153.0	-58.0	328.0	-62.0				10.66703	Hanus, 11		
188 Menippe	2	11.98	0.28	32.0	48.0	198.0	25.0					11.9765		Hanus, 11
189*Phthia		22.346	0.28	26.0	35.0	197.0	45.0					22.3416		Hanus, 16
190 Ismene	2 1	6.52	0.16	118.0	23.0	298.0	-30.0						Y	Shevchenko, 08
				118.0	23.0	298.0	-30.0					Shevchenko, 09		
192 Nausikaa	2 2 3	13.625	0.40	118.0	23.0	298.0	-30.0						Y	Shevchenko, 12
				130.0	40.0	310.0	-40.0					13.622		Scaltriti, 76
193 Ambrosia	2 2 3	6.581	0.53	325.0	-45.0							13.6241	Y	Dotto, 95
				326.0	33.0							13.62170		Kaasalainen, 02
196 Philomela		8.3340	0.40									13.6217		Marchis, 06
199 Byblis	2 2 2 2 1 3	5.2201	0.15	141.0	-11.0	328.0	-17.0					6.58166	Y	Hanus, 13
				78.0	26.0	266.0	24.0	86.0	-24.0	258.0	-26.0			
201 Penelope	2 2 2 2 2 2 2 2 3	3.7474	0.73	99.0	-16.0	273.0	-22.0						Y	Michalowski, 92
				102.0	26.0	287.0	26.0	107.0	-26.0	282.0	-26.0			
208 Lacrimosa	2 2	14.085	0.33	105.0	20.0	285.0	-20.0						Y	Licandro, 94
				277.0	20.0							8.34133		De Angelis, 95
209 Dido	2 2 2 2 2 2 2 2 3	5.7366	0.33	98.0	-20.0	278.0	20.0						Y	Kryszczynska, 96
				92.0	36.0	283.0	31.0					8.3249		Blanco, 98
210*Isabella	2 2 2 2 2 2 2 2 3	6.672	0.38	111.0	-41.0	276.0	-49.0						Y	Lopez-Gonzalez, 05
				344.0	-24.0	165.0	9.0					8.332826		Durech, 07
211 Isolda	2 2 2 2 2 2 2 2 3	18.365	0.14										Y	Hanus, 13
				78.0	-3.0	258.0	4.0					5.22063		Drummond, 88
212*Medea	2 2 2 2 2 2 2 2 3	10.283	0.16	80.0	-35.0	260.0	-25.0						Y	Magnusson, 90
				74.0	-2.0	261.0	-34.0					3.74708		Drummond, 91
214*Aschera	2 2 2 2 2 2 2 2 3	6.835	0.22	85.0	-40.0	260.0	-25.0						Y	Drummond, 91
				258.0	-22.0							3.74745		Erikson, 93
216 Kleopatra	2 2 2 2 2 2 2 2 3	5.385	1.22	93.0	-14.0								Y	Michalowski, 93
				258.0	-27.0							3.74744		De Angelis, 95
218 Bianca	2 2+ 3	6.337	0.27	84.0	-32.0								Y	Michalowski, 96
				84.0	-15.0	262.0	-1.0					3.747362		Tungalag, 02
218 Bianca	2 2+ 3	6.337	0.27	84.0	-15.0	262.0	-1.0						Y	Torppa, 03
				20.0	-75.0	176.0	-68.0	170.0	-68.0	350.0	-71.0	3.7474536		Hanus, 13
208 Lacrimosa	2 2	14.085	0.33	176.0	-68.0	20.0	-75.0						Y	Slivan, 96
				221.0	37.0							3.74745		Tungalag, 03
209 Dido	2 2 2 2 2 2 2 2 3	5.7366	0.33										Y	Durech, 11
												14.0769		Zhang, 07
210*Isabella	2 2 2 2 2 2 2 2 3	6.672	0.38	100.0	-14.0	278.0	-26.0						Y	Hanus, 16
												6.67190		Hanus, 16
211 Isolda	2 2 2 2 2 2 2 2 3	18.365	0.14										Y	Tungalag, 03
212*Medea	2 2 2 2 2 2 2 2 3	10.283	0.16	40.0	-24.0	220.0	-33.0						Y	Hanus, 16
												10.28414		Hanus, 16
214*Aschera	2 2 2 2 2 2 2 2 3	6.835	0.22	274.0	64.0	93.0	-64.0						Y	Shevchenko, 03
				123.0	-37.0	306.0	-42.0					6.83369		Durech, 16
216 Kleopatra	2 2 2 2 2 2 2 2 3	5.385	1.22	71.0	21.0	234.0	38.0						Y	Magnusson, 83
				67.0	15.0	231.0	31.0	51.0	-31.0	247.0	-15.0	5.399		Zappala, 83
218 Bianca	2 2+ 3	6.337	0.27	72.0	20.0	235.0	34.0						Y	Magnusson, 86
												5.38528		Lupishko, 87
218 Bianca	2 2+ 3	6.337	0.27	69.0	10.0								Y	Drummond, 88
				71.0	19.0	236.0	34.0					5.38529		Drummond, 88
218 Bianca	2 2+ 3	6.337	0.27	69.0	10.0								Y	Magnusson, 90
				78.0	25.0	229.0	45.0	49.0	-45.0	258.0	-25.0	5.38528		Drummond, 91
218 Bianca	2 2+ 3	6.337	0.27	72.0	18.0								Y	Dotto, 92
				73.0	21.0							5.385277		De Angelis, 95
218 Bianca	2 2+ 3	6.337	0.27	340.0	60.0								Y	Kryszczynska, 96
				305.0	17.0	121.0	-10.0					6.33717		Durech, 07
218 Bianca	2 2+ 3	6.337	0.27	305.0	17.0								Y	Durech, 11w
												6.337172		Durech, 11w

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Asteroid	Q	Period	Amp	L ₁	B ₁	L ₂	B ₂	L ₃	B ₃	L ₄	B ₄	Sid. period	Mod	Reference
220 Stephania		18.198	0.45	26.0	-50.0	223.0	-62.0					18.2087		Hanus, 13
221 Eos	1 2 1	10.443	0.12	300.0 72.0 72.0 72.0	0.0 20.0 20.0 20.0	252.0 252.0 252.0	-22.0 -22.0 -22.0					10.436	Y Y	Harris, 83 Shevchenko, 08 Shevchenko, 09 Shevchenko, 12
222 Lucia		7.80	0.38	106.0	50.0	293.0	49.0					7.83671		Hanus, 13
225 Henrietta	1 1	7.3556	0.29	241.0 135.0	-56.0 13.0								Y Y	Michalowski, 93 Michalowski, 00
226*Weringia		11.147	0.38	284.0	-14.0							11.14849		Hanus, 16
230 Athamantis	1 3-	24.0055	0.26	60.0 74.0 74.0	-51.0 27.0 27.0	240.0 238.0 237.0	51.0 28.0 29.0	91.0	-44.0	271.0	44.0	23.98450 23.9845	Y Y	Blanco, 98 Torppa, 03 Hanus, 13
233*Asterope	2 P	19.70	0.55	129.0 132.0	38.0 36.0	308.0 322.0	58.0 59.0					19.69801 19.6981 19.6981	Y	Durech, 06 Hanus, 11 Hanus, 16
234*Barbara		26.4744	0.28	144.0	-38.0							24.4744	Y	Tanga, 15
236 Honoria	1 1	12.336	0.27	358.0 178.0	66.0 -66.0	178.0 358.0	-66.0 66.0						Y Y	Blanco, 96 Blanco, 98
237*Coelestina		29.215	0.3	42.0	14.0	230.0	30.0					29.1758		Hanus, 16
238 Hypatia	2	8.8749	0.17	139.0	27.0	337.0	50.0	157.0	-50.0	319.0	-27.0		Y	De Angelis, 95
239*Adrastea		18.4707	0.51	226.0	-70.0							18.4717	Y	Durech, 16
241 Germania		15.51	0.17	94.0	44.0	256.0	42.0					15.51852	Y	Lopez-Gonzalez, 00
242 Kriemhild		4.5478	0.24	100.0	-40.0	285.0	-15.0					4.545174		Hanus, 13
243 Ida	2 3 3 2	4.634	0.86	75.0 262.0 85.0 259.0	-56.0 -67.0 -47.0 -66.0	264.0 262.0 74.0	-64.0 -55.0 -61.0	81.0	-55.0	263.0	-56.0	4.63363 4.63363 4.633638 4.633632	Y Y	Binzel, 93 Davies, 96 Kaasalainen, 01 Hanus, 13
245*Vera		14.38	0.26	265.0	-51.0	96.0	-50.0					14.35651		Hanus, 16
246*Asporina	2	16.222	0.47	242.0 235.0	-29.0 -10.0	52.0 47.0	-67.0 -36.0					16.25222 16.25222	Y	Durech, 06 Hanus, 16
247*Eukrate		12.093	0.18	103.0	-22.0							12.09480		Hanus, 16
249*Ilse		84.94	0.34	3.0	85.0	222.0	41.0					84.995		Hanus, 16
250 Bettina	2 2 1 1 2 2 1 1 3	5.0545	0.60	104.0 85.0 96.0 99.0 102.0 272.0	-16.0 -9.0 46.0 -16.0 -30.0 -32.0	260.0 283.0 272.0 272.0 272.0	-35.0 21.0 -48.0 -55.0 -11.0	103.0	-21.0	276.0	-46.0	5.05494 5.05492 5.05492 5.054940 5.05444	Y Y Y Y Y Y Y Y	Drummond, 91 Michalowski, 92 Dotto, 92 Erikson, 93 Michalowski, 93 De Angelis, 95 Lagerkvist, 95 Blanco, 00 Torppa, 03 Hanus, 13
254*Augusta		5.8949	0.75	56.0 179.0	-69.0 -52.0	215.0 25.0	-75.0 -53.0					5.89503 5.89505	Y	Durech, 16 Hanus, 16

ASTEROID SPIN AXES

Asteroid	Q	Period	Amp	L ₁	B ₁	L ₂	B ₂	L ₃	B ₃	L ₄	B ₄	Sid. period	Mod	Reference
257 Silesia		15.7095	0.30	5.0	-53.0	176.0	-46.0					15.7097		Hanus, 13
258 Tyche	2	10.041	0.43	72.0	20.0	222.0	40.0	42.0	-40.0	252.0	-20.0	10.04008	Y	Blanco, 00
	2			224.0	-4.0	40.0	-9.0							Hanus, 11
260 Huberta		8.29	0.27	23.0	-28.0	206.0	-19.0					8.29055		Hanus, 13
263*Dresda	2	16.809	0.55	103.0	73.0	282.0	76.0					16.81389	Y	Tungalag, 03
				101.0	55.0	280.0	58.0					16.8138	Y	Slivan, 09
				99.0	54.0	272.0	61.0					16.8139		Durech, 16
														Hanus, 16
264 Libussa	2	9.2276	0.33	157.0	18.0	338.0	-9.0					9.22794		Hanus, 11
265 Anna		11.681	0.48	109.0	-53.0							11.6903		Hanus, 13
268 Adorea		7.80	0.20											Tungalag, 03
270*Anahita	2	15.06	0.34	300.0	65.0							15.045521	Y	Erikson, 00
	2			285.0	53.0							15.04789	Y	Tungalag, 02
				30.0	-35.0	205.0	-48.0					15.05950	Y	Durech, 16
				15.0	-50.0	207.0	-59.0					15.05906		Hanus, 16
271*Penthesilea		18.787	0.33	225.0	49.0	42.0	53.0					18.7875		Hanus, 16
272 Antonia	R	3.8548	0.43		-70.0							3.85480		Hanus, 11
				293.0	-90.0							3.85480		Hanus, 13
274*Philagoria		17.938	0.51	138.0	-52.0	303.0	-58.0					17.94072	Y	Durech, 16
				328.0	-71.0	154.0	-65.0					17.9410		Hanus, 16
276 Adelheid	3	6.315	0.18	9.0	-4.0	198.0	-20.0					6.319204	Y	Marciniak, 07
	2			9.0	-4.0	199.0	-20.0					6.31920		Durech, 11
				9.0	-4.0	199.0	-20.0					6.31920		Hanus, 13
277 Elvira	2+	29.69	0.59	56.0	-81.0	249.0	-79.0	50.0	-79.0	240.0	-79.0	29.6922	Y	Tungalag, 03
	2			64.0	-77.0	251.0	-76.0					29.69218	Y	Slivan, 03
	2+			121.0	-84.0							29.6922	Y	Slivan, 09
														Hanus, 11
278 Paulina	3	6.497	0.41	307.0	29.0	119.0	36.0					6.49387	Y	Durech, 06
	3			123.0	45.0	311.0	28.0					6.49387	Y	Durech, 09
	2+			307.0	31.0	118.0	38.0					6.49387	Y	Hanus, 11
279*Thule		23.896	0.10	70.0	0.0	250.0	0.0							Pilcher, 14
281 Lucretia	2	4.348	0.38	353.0	-57.0	146.0	-51.0					4.348		Taylor, 76
	R				-54.0							4.349711	Y	Durech, 06
				128.0	-49.0	309.0	-61.0					4.349710		Hanus, 11
												4.349711		Hanus, 13
283 Emma	2+	6.896	0.57	80.0	37.0	261.0	28.0					6.59522	Y	Michalowski, 06
	3			85.0	37.0	251.0	22.0					6.895221	Y	Durech, 11w
														Hanus, 13
287*Nephtys	1	7.605	0.37	279.0	-54.0							7.580	Y	Blanco, 96
	1			99.0	54.0	279.0	-54.0					7.60411	Y	Blanco, 98
				356.0	36.0	158.0	39.0							Hanus, 16
290 Bruna		13.807	0.55	286.0	-80.0	37.0	-74.0					13.8055		Hanus, 13
291 Alice	2+	4.313	0.55	66.0	54.0	247.0	55.0	70.0	56.0	253.0	54.0	4.31601	Y	Kryszczyńska, 96
	3			70.0	56.0	253.0	54.0					4.31601	Y	Kryszczyńska, 08
	2			69.0	51.0	249.0	56.0					4.316011		Hanus, 11
292 Ludovica	2	8.93	0.45	106.0	40.0	295.0	19.0					8.92633	Y	Durech, 06
	2			108.0	40.0	295.0	12.0					8.92633		Hanus, 11

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Asteroid	Q	Period	Amp	L ₁	B ₁	L ₂	B ₂	L ₃	B ₃	L ₄	B ₄	Sid. period	Mod	Reference
293*Brasilia		8.17	0.30	103.0	-7.0	274.0	-34.0					8.17410		Hanus, 16
296*Phaëtusa		4.5385	0.70	145.0 146.0	53.0 53.0	326.0 330.0	60.0 52.0					4.538091 4.53809	Y	Durech, 16 Hanus, 16
297 Caecilia		4.163	0.27	223.0	-53.0	47.0	-33.0					4.151388		Hanus, 13
302 Clarissa	2 2	14.381	0.6	28.0 28.0	-72.0 -72.0	190.0 190.0	-72.0 -72.0					14.47670 14.47670		Hanus, 11 Durech, 11
306 Unitas	3 2	8.736	0.34	79.0 120.0 79.0	-35.0 66.0 -35.0	253.0	-17.0					8.73875 8.73875	Y	Durech, 06 Zhang, 07 Durech, 11
310 Margarita	2	12.070	0.37	225.0	-35.0	42.0	-33.0					12.0710		Hanus, 11
311 Claudia	2+ 2+	7.532	0.89	24.0 214.0	48.0 43.0	209.0 30.0	49.0 40.0	24.0	48.0	209.0	48.0	7.531375 7.53138	Y Y	Slivan, 02 Tungalag, 03 Slivan, 03 Hanus, 11
312 Pierretta	1+ 2	10.282	0.32	0.0 82.0	-52.0 -39.0	256.0	-58.0					10.20768 10.20764		Durech, 09 Hanus, 11
313*Chaldaea	P	8.392	0.24	219.0	33.0 34.0	45.0	10.0					8.38992 8.38993		Hanus, 11 Hanus, 16
315*Constantia		5.345	0.57	162.0	56.0	353.0	45.0					5.34750		Hanus, 16
317*Roxane		8.169	0.75	220.0	-62.0	40.0	-70.0					8.16961		Hanus, 16
321 Florentina	2+	2.871	0.52	93.0	-60.0	264.0	-61.0	91.0	-60.0	264.0	-63.0	2.870866	Y	Slivan, 03
324 Bamberga		29.43	0.12	177.0	-62.0									Drummond, 08
327*Columbia		5.9320	0.42	52.0	43.0	238.0	26.0					5.93183		Hanus, 16
334 Chicago	2 1	7.361	0.67	13.0 0.0	32.0 -59.0	188.0 180.0	42.0 59.0	198.0	-46.0	18.0	46.0	9.1979	Y Y	Michalowski, 93 Blanco, 98
335 Roberta	2	12.054	0.19	80.0	15.0	258.0	25.0	78.0	-25.0	260.0	-15.0		Y	Blanco, 00
336 Lacadiera	2	13.70	0.34	194.0	39.0	37.0	54.0					13.69552		Hanus, 11
337 Devosa	2 2 2 3	4.653	0.75	199.0 199.0 193.0 209.0	-51.0 59.0 -73.0 43.0							4.65139 4.6347 4.65139 4.6536744	Y Y Y Y	Michalowski, 92 Michalowski, 93 De Angelis, 95 Torppa, 03
338 Budrosa	2 2	4.6084	0.47	152.0 172.0 348.3 233.0	24.0 16.0 2.9 25.0	321.0	33.0	141.0	-33.0	332.0	-24.0	4.59945 4.61033	Y Y Y	Gil-Hutton, 95 Tungalag, 02 Li, 12 Tungalag, 12
340 Eduarda	2	8.0062	0.32	188.0	-43.0	18.0	-47.0					8.00613		Hanus, 11
343*Ostara		109.87	0.52	103.0	64.0	294.0	48.0					110.028		Hanus, 16
344 Desiderata		10.747	0.18											Tungalag, 03
345 Tercidina		12.371	0.23	346.0	-55.0							12.37082		Hanus, 13

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Asteroid	Q	Period	Amp	L ₁	B ₁	L ₂	B ₂	L ₃	B ₃	L ₄	B ₄	Sid. period	Mod	Reference
347 Pariana	2	4.0529	0.50	230.0	30.0							4.052986	Y	Tungalag, 03 Caspari, 10
349 Dembowska	2 2 2 2 2 2 2 2 3-	4.701	0.47	150.0 163.0 153.0 148.0 157.0 153.0 152.0 149.0	25.0 49.0 35.0 35.0 30.0 36.0 40.0 41.0	330.0 330.0 180.0 331.0 331.0	5.0 29.0 28.0 15.0	150.0	-29.0	343.0	-49.0	4.70120 4.70148 4.70120 4.70120 4.701200 4.70122 4.701216 4.701207 4.701204 4.70120	Y Y Y Y Y Y Y Y Y	Magnusson, 86 Zappala, 86 Lupishko, 87 Drummond, 88 Lumme, 90 Magnusson, 90 Drummond, 91 De Angelis, 95 Torppa, 03 Majaess, 08 Durech, 11w Hanus, 13
350 Ornamenta	3	9.178	0.26	184.0	-29.0							9.180414	Y	Marciniak, 09
351 Yrsa		13.29	0.42	20.0	-70.0	193.0	-41.0					13.3120		Hanus, 13
352 Gisela	1	7.490	0.70	213.0 24.0	53.0 -21.0	33.0 206.0	-53.0 -28.0					7.48008	Y	Blanco, 00 Hanus, 13
353*Ruperto-Carola		2.73898	0.32	47.0 183.0	-55.0 -58.0	220.0 43.0	-46.0 -64.0					2.738962 2.738963	Y	Durech, 16 Hanus, 16
354*Eleonora	1 2 2 1 2 2 2 2 2 2 2 2 3 2	4.277	0.49	0.0 132.0 137.0 355.0 159.0 170.0 148.0 4.0 5.0 356.0 144.0 144.0 162.0	35.0 45.0 44.0 36.0 22.0 39.0 35.0 9.0 22.0 20.0 54.0 54.0 43.0	357.0 3.0 175.0 339.0 6.0 350.0	38.0 28.0 -36.0 2.0 2.0 21.0	177.0 183.0	-38.0 -28.0	312.0 317.0	-45.0 -44.0	4.27718 4.277182 4.27719 4.277183 4.27718 4.277180 4.277186 4.277186 4.277184	Y Y Y Y Y Y Y Y Y Y Y Y Y	Lupishko, 81 Zappala, 84 Burchi, 85 Piironen, 85 Magnusson, 86 Drummond, 88 Magnusson, 90 Drummond, 91 De Angelis, 95 Kaasalainen, 02 Hanus, 11 Hanus, 13 Hanus, 16
355 Gabriella	2 1+ 2	4.830	0.42	332.0 0.0 341.0 159.0	71.0 69.0 78.0 88.0	164.0 197.0 341.0	78.0 70.0 83.0					4.82899 4.82899 4.82899 4.828994	Y Y Y Y	Durech, 06 Durech, 09 Hanus, 11 Marciniak, 12
360*Carlova	2 2+ 2+ 2 2+	6.183	0.49	108.0 105.0 124.0 95.0 350.0 112.0 3.0	51.0 47.0 60.0 40.0 55.0 56.0 56.0	337.0 346.0 129.0 335.0	47.0 56.0 65.0 55.0	157.0	-47.0	288.0	-51.0	6.18959 6.189594 6.1895928 6.189596 6.189592 6.18959	Y Y Y Y Y	Dotto, 95 Michalowski, 00 Durech, 06 Wang, 06 Durech, 09 Wang, 15 Hanus, 16
361*Bononia		13.83	0.25	294.0	13.0	115.0	45.0					13.80634		Hanus, 16
362*Havnia		16.92	0.17	96.0	39.0	273.0	40.0					16.918773	Y	Wang, 15
364 Isara	2	9.156	0.40	282.0	44.0	86.0	42.0					9.15751		Hanus, 13
365*Corduba		12.705	0.15	255.0	33.0	80.0	4.0					12.7054		Hanus, 16
367*Amicitia	3 2	5.05538	0.90	30.0 203.0	52.0 38.0	217.0	59.0					5.05501 5.05502	Y	Kryszczyńska, 08 Hanus, 11
369 Aëria		4.778	0.13											Tungalag, 03
371 Bohemia		10.7391	0.18	93.0	49.0	256.0	43.0					10.73965		Hanus, 13
372*Palma	2 3-	8.567	0.17	241.0 68.0	7.0 2.0	61.0	-7.0	44.0	78.0	224.0	-78.0	8.5910	Y Y	Blanco, 98 Torppa, 03

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Asteroid	Q	Period	Amp	L ₁	B ₁	L ₂	B ₂	L ₃	B ₃	L ₄	B ₄	Sid. period	Mod	Reference			
<i>(continuation)</i>																	
376 Geometria	2	7.74	0.20	221.0	-47.0	44.0	17.0					8.58189		Hanus, 11			
	2			221.0	-47.0	44.0	17.0					8.58189		Durech, 11			
				234.0	-5.0	51.0	54.0						8.57964		Hanus, 16		
377 Campania	2	11.664	0.27	50.0	36.0	230.0	38.0					7.734	Y	Kryszczynska, 96			
	3			57.0	-22.0	240.0	-35.0					7.734	Y	Michalowski, 05			
	3			68.0	2.0							7.71002	Y	Torppa, 08			
	2			239.0	45.0	63.0	53.0					7.71097		Hanus, 11			
378 Holmia	2-	4.450	0.21	266.0	0.0	86.0	0.0	86.0	3.0	266.0	-3.0		Y	Blanco, 98			
	2-			47.0	67.0	196.0	66.0					11.66440	Y	Marciniak, 08			
381*Myrrha	3-	6.572	0.36	130.0	60.0	286.0	76.0					4.440427	Y	Marciniak, 08			
382 Dodona	3-	4.113	0.42	3.0	48.0	160.0	77.0					6.57198	Y	Durech, 16			
				219.0	72.0	37.0	43.0					6.57196		Hanus, 16			
386*Siegena	1	9.763	0.18	83.0	61.0	249.0	54.0					4.113228	Y	Michalowski, 04			
				236.0	-14.0	56.0	14.0										
389*Industria	2	8.53	0.34	104.0	-10.0	289.0	25.0					9.76503	Y	Blanco, 98			
				289.0	25.0							9.76503	Y	Marciniak, 12			
				98.0	-55.0	314.0	-50.0										
				127.0	-52.0	307.0	52.0										
390 Alma	1+	3.74	0.42	293.0	-23.0	103.0	-28.0					8.49520	Y	Durech, 06			
				98.0	-38.0	291.0	-29.0					8.49520	Y	Hanus, 16			
				0.0	-64.0												
				53.0	-50.0	275.0	-76.0										
391*Ingeborg	R	26.391	0.79		-60.0							26.4145		Hanus, 13			
				305.0	-52.0							26.4149	Y	Durech, 16			
				354.0	-65.0							26.4146		Hanus, 16			
394*Arduina	1+	16.53	0.54	0.0	-71.0							16.6218		Durech, 09			
				160.0	-69.0	353.0	-80.0					16.6217		Hanus, 11			
				0.0	-79.0	191.0	-49.0					16.62157	Y	Durech, 16			
				195.0	-61.0	56.0	-79.0					16.6217		Hanus, 16			
399 Persephone	2	9.136	0.40	36.0	63.0	231.0	33.0					9.14639		Hanus, 11			
400 Ducrosa	2	6.87	0.62	328.0	56.0	158.0	62.0					6.86788		Hanus, 11			
402*Chloë		10.664	0.37	312.0	-49.0	160.0	-37.0					10.66844		Hanus, 16			
403 Cyane		12.283	0.45	65.0	35.0	275.0	33.0					12.2700		Hanus, 13			
404 Arsinoë		8.887	0.38	25.0	57.0							8.88766		Hanus, 13			
406 Erna		8.789	0.35	357.0	-49.0	161.0	-60.0					8.79079		Hanus, 13			
407*Arachne		22.62	0.45	64.0	-49.0	268.0	-63.0					22.6264	Y	Durech, 16			
409*Aspasia	2	9.022	0.19	241.0	-63.0	43.0	-58.0					22.6263		Hanus, 16			
				73.0	48.0	253.0	-48.0	216.0	35.0	36.0	-35.0						
411 Xanthe	2	11.344	0.23	65.0	55.0	205.0	45.0					9.01704	Y	Blanco, 98			
				177.0	15.0	3.0	30.0					9.021455	Y	Lopez-Gonzalez, 05			
				72.0	43.0												
				3.0	30.0												
				3.0	30.0												
				2.0	28.0												
411 Xanthe	1			58.0	40.0	240.0	-55.0					11.408	Y	Shevchenko, 08			
				58.0	40.0	240.0	-55.0										
				58.0	40.0	240.0	-55.0										

ASTEROID SPIN AXES

Asteroid	Q	Period	Amp	L ₁	B ₁	L ₂	B ₂	L ₃	B ₃	L ₄	B ₄	Sid. period	Mod	Reference
413 Edburga	2	15.773	0.53	202.0	-45.0							15.7715		Hanus, 11
416 Vaticana	3- 3 3	5.372	0.42	132.0 97.0 291.0	58.0 49.0 12.0	310.0	22.0					5.372 5.371594 5.371597	Y Y Y	Michalowski, 00 Durech, 06 Durech, 09
417 Suevia		7.034	0.22	13.0	23.0	186.0	20.0					7.01848	Y	Marciniak, 12
419*Aurelia	2	16.784	0.27	192.0 0.0	34.0 48.0	13.0 174.0	-34.0 42.0					16.80	Y	Blanco, 00 Hanus, 16
423*Diotima	2 2 3	4.775	0.20	170.0 140.0 351.0 351.0 351.0	63.0 55.0 4.0 4.0 4.0	345.0	31.0	165.0	-31.0	350.0	-63.0	4.77468 4.7753 4.775376 4.77538 4.775377	Y Y Y Y Y	Zappala, 86 Dotto, 95 Marchis, 06 Durech, 07 Hanus, 13 Hanus, 16
427*Galene		3.705	0.68	72.0	-57.0	272.0	-75.0					3.706036	Y	Durech, 16
432 Pythia	1	8.252	0.15	301.0	-65.0								Y	Blanco, 00
433 Eros	1 2 2 2+ 2 2 3 3 3 3	5.270	1.50	4.0 29.0 2.0 169.0 353.0 10.0 13.0 16.0 15.0 17.0 15.0 23.0 22.0 16.0 17.2 16.0 17.0	45.0 22.0 53.0 -62.0 13.0 46.0 28.0 12.0 9.0 10.0 20.0 37.0 9.0 6.0 11.3 19.0 11.0	184.0	-45.0					5.270254 5.270253 5.2704 5.2702 5.27011 5.27026 5.2702529 5.270226	Y Y Y Y Y Y Y Y Y Y	Rosenhagen, 32 Zessewitsch, 32 Krug, 36 Watson, 37 Beyer, 53 Cailliate, 56 Vesely, 71 Chen, 76 Dunlap, 76 Millis, 76 Scaltriti, 76 Lumme, 81 Drummond, 85 Taylor, 85 Koshkin, 86 Yeomans, 00 Kaasalainen, 01 Miller, 02
434*Hungaria	2+	26.521	0.75	159.0 109.0	65.0 67.0	117.0	64.0					26.4880 26.4879	Y	Durech, 06 Hanus, 16
435 Ella		4.623	0.45	59.0	64.0	247.0	58.0					4.622802	Y	Marciniak, 12
436 Patricia	2	16.133	0.28	124.0	-30.0	339.0	-58.0					16.1320		Hanus, 11
440 Theodora	2	4.828	0.72	80.0	-88.0	260.0	-88.0					4.83658		Hanus, 11
441 Bathilde		10.446	0.20	285.0	55.0	122.0	43.0					10.44313		Hanus, 13
446 Aeternitas	2	15.7413	0.51	356.0	52.0	210.0	60.0					15.73473	Y	Lucas, 12
451 Patientia	2 3	9.727	0.10	153.0 39.0	67.0 21.0	345.0 163.0	25.0	165.0	-25.0	333.0	-67.0	9.741190	Y Y	Zappala, 86 Di Martino, 87 Michalowski, 05
455*Bruchsalia	2	11.85	0.35	231.0 242.0	-29.0 -13.0	71.0 73.0	-31.0 -21.0					11.8400 11.8401		Hanus, 11 Hanus, 16
462*Eriphyla	2	8.659	0.39	106.0	39.0	293.0	39.0					8.65890	Y	Tunglag, 03 Slivan, 09
471 Papagena	1 2 2 3	7.113	0.14	21.0 29.0 223.0 223.0	31.0 41.0 67.0 67.0	201.0 22.0	-31.0 40.0	235.0	56.0			7.11364 7.11539 7.11539	Y	Licandro, 94 Blanco, 00 Torppa, 08 Hanus, 11 Durech, 11

ASTEROID SPIN AXES

Asteroid	Q	Period	Amp	L ₁	B ₁	L ₂	B ₂	L ₃	B ₃	L ₄	B ₄	Sid. period	Mod	Reference
474*Prudentia		8.572	0.90	150.0 301.0	-58.0 -54.0	297.0 136.0	-46.0 -64.0					8.57228 8.57227	Y	Durech, 16 Hanus, 16
480*Hansa		16.19	0.58											Tungalag, 03 Hanus, 16
482*Petrina		11.7922	0.56	352.0	18.0	173.0	-32.0					16.1894		
484 Pittsburghia		10.63	0.42	94.0 281.0	2.0 61.0	274.0 94.0	37.0 24.0					11.79212 11.79214	Y	Durech, 16 Hanus, 16
485 Genua	2+	17.59	0.16	72.0 69.0 70.0	39.0 47.0 46.0							10.64976 10.64976 10.64977	Y Y Y	Durech, 06 Durech, 09 Hanus, 11
486 Cremona	2	65.15	1.00	329.0	-36.0	170.0	-39.0					17.6193		Hanus, 11
487 Venetia	2	13.34	0.30	227.0	59.0	31.0	30.0					65.151		Hanus, 11
489*Comacina	3 3	9.02	0.39	268.0 259.0	-24.0 -30.0							13.34153 13.33170	Y Y	Erikson, 00 Tungalag, 02
490*Veritas	2+	7.930	0.58	96.0 265.0	-46.0 -16.0	265.0 88.0	-11.0 -43.0					9.02319 9.02321	Y	Durech, 06 Hanus, 16
495*Eulalia		28.967	0.30	56.0	34.0	231.0	43.0					7.92811		Hanus, 16
497*Iva	2 3	4.620	0.50	224.0 38.0	2.0 35.0	44.0 212.0	-2.0 46.0					29.2 28.96589	Y	Binzel, 87 Vokrouhlicky, 16
499 Venusia	2	13.48	0.36	121.0	-22.0	303.0	-32.0					4.620850		Hanus, 16
502*Sigune	R	10.922	0.66	37.0	50.0	212.0	46.0					13.4871		Hanus, 11
505 Cava	2 2	8.1789	0.27	178.0	-44.0 -36.0							10.92667 10.92666		Hanus, 13 Hanus, 16
506 Marion		13.546	0.35	113.0 138.0 131.0	4.0 40.0 -21.0	293.0 325.0 304.0	-10.0 27.0 -44.0					8.180050	Y Y	Young, 85 Michalowski, 96 Marciniak, 12
507 Laodica		6.737	0.29	88.0	22.0	264.0	-7.0					13.549826	Y	Wang, 15
509 Iolanda		12.306	0.45	102.0	-55.0	312.0	-49.0					4.70657		Hanus, 13
510 Mabella		19.4	0.3	245.0	65.0	98.0	38.0					12.2907		Hanus, 13
511*Davida	R	5.1297	0.25		-59.0							19.4304		Hanus, 11
	1			122.0	10.0	302.0	-10.0					5.16		Gehrels, 62
	2			306.0	34.0	126.0	-34.0					5.167		Chang, 63
	2-			285.0	45.0									Vesely, 85
	2			291.0	37.0	307.0	32.0	127.0	-32.0				Y	Drummond, 86
	2			92.0	33.0	303.0	34.0	123.0	-34.0	272.0	-33.0		Y	Zappala, 86
	3			300.0	32.0							5.129363	Y	Drummond, 88
	2+			99.0	26.0	299.0	26.0					5.129364	Y	Magnusson, 90
	3			300.0	32.0							5.129363	Y	Drummond, 91
	2			96.0	32.0	303.0	31.0					5.12936	Y	Michalowski, 93
	2+			292.0	22.0							5.129365	Y	De Angelis, 95
	4			297.0	26.0							5.129363	Y	Torppa, 03
	4			297.0	21.0							5.129363	Y	Marchis, 06
				298.0	22.0							5.129365		Conrad, 07 Hanus, 16
512 Taurinensis		5.585	0.35	324.0	65.0							5.58203		Hanus, 13
513 Centesima		5.23	0.45	149.0	4.0	332.0	15.0					5.32399	Y	Durech, 16

ASTEROID SPIN AXES

Asteroid	Q	Period	Amp	L ₁	B ₁	L ₂	B ₂	L ₃	B ₃	L ₄	B ₄	Sid. period	Mod	Reference		
516 Amherstia	2	7.49	0.55	75.0	63.0	256.0	55.0	76.0	-55.0	255.0	-63.0		Y	De Angelis, 95		
	2			76.0	30.0									Y	Michalowski, 96	
	3-			75.0	17.0	225.0	-17.0							7.47920	Y	Michalowski, 00
	2			80.0	53.0	253.0	22.0							7.48430	Y	Durech, 09
	2+			254.0	22.0	81.0	54.0							7.48431	Y	Hanus, 11
518*Halawe		14.310	0.55	120.0	-66.0	292.0	-58.0					14.31765	Y	Durech, 16		
519 Sylvania		17.962	0.40	106.0	9.0	286.0	-13.0					17.9647		Hanus, 13		
520*Franziska		16.507	0.51	122.0	-50.0	301.0	-59.0					16.5044	Y	Durech, 16		
				282.0	-79.0	114.0	-45.0						16.5045		Hanus, 16	
523*Ada		10.03	0.70	152.0	-70.0	357.0	-70.0					10.03242	Y	Durech, 16		
526*Jena		9.474	0.35	5.0	36.0	183.0	48.0					9.51664		Hanus, 16		
529 Preziosa	2	27.	0.56	175.0	-17.0	1.0	-40.0					25.9391		Hanus, 11		
531 Zerlina		16.706	0.70	78.0	-84.0							16.7073		Hanus, 13		
532*Herculina	1	9.405	0.25	132.0	-59.0								Y	Drummond, 85		
	1			96.0	-1.0								9.405	Y	Taylor, 87	
	2+			284.0	34.0								9.405034	Y	Kwiatkowski, 92	
	1			87.0	-7.0								9.40490	Y	De Angelis, 95	
	3-			291.0	18.0								9.40493	Y	Michalowski, 95	
	2			295.0	18.0								9.40491	Y	Michalowski, 96	
	3			91.0	21.0	271.0	21.0						9.40491	Y	Szabo, 99	
	288.0	11.0								9.404951	Y	Kaasalainen, 02				
	100.0	9.0								9.40494		Hanus, 16				
534 Nassovia		9.382	0.37													
	2			58.0	50.0	246.0	51.0					9.46895	Y	Tungalag, 03		
	2			60.0	47.0	247.0	49.0					9.46891	Y	Slivan, 09		
	3-			66.0	41.0	252.0	42.0					9.46889	Y	Hanus, 11		
537*Pauly		16.252	0.20													
	1			290.0	40.0	110.0	-40.0							Y	Blanco, 00	
				31.0	32.0	211.0	51.0					16.2961		Hanus, 16		
				31.0	32.0	211.0	51.0					16.2961		Hanus, 16		
540 Rosamunde		9.351	0.66	0.0	57.0							9.34778		Durech, 09		
	1+			301.0	81.0	127.0	62.0					9.34779		Hanus, 13		
543 Charlotte	2	10.718	0.28	333.0	59.0	172.0	49.0					10.7184		Hanus, 13		
544 Jetta		7.745	0.52	0.0	-66.0							7.74526		Durech, 09		
	1+			275.0	-84.0	31.0	-67.0					7.74528		Hanus, 11		
550 Senta		20.555	0.3	0.0	-64.0							20.5727		Durech, 09		
	R				-63.0							20.5726		Hanus, 11		
	2			63.0	-40.0	258.0	-58.0					20.5726		Hanus, 13		
553 Kundry	2	12.605	0.61	197.0	73.0	359.0	64.0					12.6025		Hanus, 13		
556 Phyllis	3	4.293	0.27	209.0	41.0	34.0	54.0					4.292623	Y	Marciniak, 07		
562*Salome		6.351	0.37	78.0	41.0	275.0	28.0					6.35031		Hanus, 16		
564*Dudu		8.882	0.55	73.0	-51.0	213.0	-36.0					8.88504		Hanus, 16		
565*Marbachia		4.587	0.65	334.0	-22.0	163.0	-47.0					4.58782		Hanus, 16		
567*Eleutheria		7.717	0.50	317.0	33.0	131.0	53.0					7.71743		Hanus, 16		
572 Rebekka		5.6497	0.40	1.0	54.0	158.0	39.0					5.65009		Hanus, 13		

ASTEROID SPIN AXES

Asteroid	Q	Period	Amp	L ₁	B ₁	L ₂	B ₂	L ₃	B ₃	L ₄	B ₄	Sid. period	Mod	Reference
573 Recha	2	7.16633	0.34	74.0	-24.0	252.0	-48.0					7.16586		Hanus, 11
575 Renate		3.676	0.20	183.0	-19.0	6.0	3.0					3.6603283		Warner, 00
578 Happelia		10.061	0.16	339.0	62.0							10.06450		Hanus, 13
579 Sidonia	2	16.286	0.28	96.0	7.0	276.0	-7.0					16.5		Binzel, 87
584 Semiramis	3-	5.068	0.44	327.0	-55.0							5.06893	Y	Drummond, 88
	2			110.0	-40.0	320.0	-30.0					5.0689	Y	Magnusson, 90
	2			327.0	-55.0							5.06893	Y	Drummond, 91
	3-			112.0	-51.0							5.068950	Y	Michalowski, 93
	2+			122.0	-56.0	315.0	-43.0					5.06894	Y	De Angelis, 95
	2+			334.0	-51.0							5.06895	Y	Michalowski, 96
	3-			75.0	-69.0							5.06893	Y	Torppa, 03
	2			106.0	-56.0	315.0	-32.0					5.06893		Hanus, 11
587*Hypsipyle		2.8881	0.39	232.0	36.0	55.0	32.0					13.6816		Hanus, 16
588 Achilles	1	7.306	0.31											Shevchenko, 12
590 Tomyris	2	5.562	0.93	273.0	-47.0	120.0	-46.0					5.55248		Hanus, 11
595 Polyxena	2	11.801	0.69	42.0	7.0	221.0	-4.0					11.794162	Y	Warner, 08
596*Scheila		15.8480	0.10	264.0	-18.0	89.0	-9.0					15.8666		Hanus, 16
600 Musa		5.8856	0.28	0.0	-74.0	208.0	-46.0					5.88638		Hanus, 13
601 Nerthus	2	13.59	0.29	173.0	44.0	20.0	32.0					13.5899		Hanus, 11
606 Brangäne	2	12.2950	0.20	183.0	20.0	354.0	26.0					12.29067		Hanus, 11
614 Pia	2	4.572	0.42	165.0	32.0	354.0	45.0					4.57870	Y	Durech, 09
	2+			348.0	48.0	162.0	27.0					4.57872	Y	Hanus, 11
616*Elly	P	5.297	0.44	60.0	67.0	250.0	44.0					5.29771		Hanus, 13
				62.0	62.0							5.29770	Y	Durech, 16
620*Drakonia		5.487	0.65	138.0	56.0	316.0	47.0					5.48711	Y	Durech, 16
621 Werdandi	2	11.776	0.80	247.0	-86.0	66.0	-77.0					11.77456		Hanus, 13
622*Esther	R	47.5	0.57	248.0	-61.0							47.5042		Hanus, 11
				-60.0								47.5039		Hanus, 16
624*Hektor	1	6.924	1.1	324.0	10.0							6.92253	Y	Dunlap, 69
	2-			144.0	10.0	322.0	-4.0					6.92252		Magnusson, 83
	2			152.0	29.0	314.0	15.0	134.0	-15.0	332.0	-29.0		Y	Zappala, 84
	2			152.0	27.0	315.0	16.0	135.0	-16.0	330.0	-27.0		Y	Pospieszalska-Surdej, 85
	1			150.0	30.0	314.0	15.0					6.921		Magnusson, 86
	2			314.0	17.0							6.9200		Uchida, 87
	2			134.0	-17.0	336.0	-32.0					6.92051	Y	Michalowski, 88
	2			328.0	-26.0							6.92050	Y	De Angelis, 92
	2			152.0	27.0	315.0	16.0	135.0	-16.0	332.0	-27.0		Y	Detal, 92
	2			328.0	-26.0							6.92050	Y	De Angelis, 95
	2			316.0	3.0	136.0	-3.0	147.0	20.0	327.0	-20.0		Y	Blanco, 98
	2			128.0	-14.0	308.0	-14.0					6.92051		Szabo, 99
	3			331.0	-32.0							6.920509	Y	Kaasalainen, 02
				332.0	-32.0							6.920509	Y	Marchis, 14
				333.0	-32.0							6.920509		Hanus, 15
625*Xenia		21.017	0.50	307.0	9.0	122.0	7.0					21.0122		Hanus, 16
628 Christine	2+	16.1783	0.4	24.0	-61.0	209.0	-34.0					16.17293	Y	Durech, 09

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Asteroid	Q	Period	Amp	L ₁	B ₁	L ₂	B ₂	L ₃	B ₃	L ₄	B ₄	Sid. period	Mod	Reference
629 Bernardina	2	3.763	0.39	40.0	33.0	236.0	48.0					3.76360		Hanus, 11
631 Philippina		5.899	0.69											Tungalag, 03
	2+			185.0	-3.0	13.0	26.0					5.902199	Y	Durech, 06
	2			183.0	-2.0							5.90220		Hanus, 11
632*Pyrrha		4.1167	0.40	72.0	-64.0	249.0	-72.0					4.116854	Y	Durech, 16
				74.0	-72.0	253.0	-74.0					4.11686		Hanus, 16
636*Erika	1+	14.603	0.33	0.0	-52.0							14.60755		Durech, 09
				13.0	-70.0	176.0	-60.0					14.60771	Y	Durech, 16
639*Latona		6.193	0.35	204.0	10.0	25.0	12.0					6.19127		Hanus, 16
644*Cosima		7.556	0.28	278.0	-31.0	100.0	-30.0					7.55709		Hanus, 16
650*Amalasantha		16.582	0.49	46.0	51.0							16.57586	Y	Durech, 16
652*Jubilatrix		2.6627	0.32	143.0	34.0	321.0	27.0					2.6626693		Kim, 14
660*Crescentia		7.9116	0.33	241.0	15.0	58.0	1.0					7.9140789		Kim, 14
				68.0	11.0	236.0	49.0					7.91036		Hanus, 16
665 Sabine	3	4.294	0.45	310.0	-77.0							4.2940296	Y	Michalowski, 06
669 Kypria		14.283	0.74	31.0	40.0	189.0	49.0					14.2789		Hanus, 13
670*Ottegebe		10.045	0.35	127.0	77.0	304.0	68.0					10.03991	Y	Durech, 16
				128.0	75.0							10.03991		Hanus, 16
674 Rachele	2	30.982	0.20	12.0	2.0							30.95666	Y	Tungalag, 02
				12.0	0.0									Tungalag, 12
675 Ludmilla	2	7.717	0.38	12.0	-45.0	15.0	-35.0	205.0	-50.0			7.71722	Y	Velichko, 95
	2			20.0	-36.0	215.0	-54.0					7.7172144	Y	Torppa, 03
	3-			49.0	74.0	196.0	49.0					7.715486	Y	Durech, 11w
678 Fredegundis	2	11.61624	0.27	60.0	30.0	230.0	30.0	60.0	-30.0	230.0	-30.0	11.61364	Y	Stephens, 08
679 Pax	2	8.452	0.32	65.0	-5.0	245.0	5.0						Y	Shevchenko, 08
	1			65.0	-5.0	245.0	5.0						Y	Shevchenko, 09
	2			42.0	-5.0	220.0	32.0					8.456016	Y	Marciniak, 11
				65.0	-5.0	245.0	5.0						Y	Shevchenko, 12
681*Gorgo		6.4606	0.42	310.0	-50.0	150.0	-50.0					6.46063		Hanus, 16
682*Hagar		4.8503	0.52	93.0	-71.0	277.0	-35.0					4.850417	Y	Durech, 16
				56.0	-78.0	255.0	-57.0					4.85042		Hanus, 16
683 Lanzia	2	8.630	0.20	198.0	5.0	342.0	55.0	162.0	-55.0	18.0	-55.0		Y	De Angelis, 95
	2			15.0	-52.0	195.0	-52.0					4.71397	Y	Kiss, 99
	2			244.0	44.0							8.62926	Y	Dunckel, 09
685*Hermia	2	50.40	0.92	197.0	87.0	29.0	79.0					50.387		Hanus, 11
686*Gersuind		6.3127	0.37	127.0	56.0							6.31240	Y	Durech, 16
				125.0	53.0	260.0	58.0					6.31240		Hanus, 16
687*Tinette		7.40	0.25	271.0	18.0	100.0	43.0					7.39710		Hanus, 16
689*Zita		6.425	0.62	8.0	-72.0	256.0	-61.0					6.42391	Y	Durech, 16

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Asteroid	Q	Period	Amp	L ₁	B ₁	L ₂	B ₂	L ₃	B ₃	L ₄	B ₄	Sid. period	Mod	Reference
690 Wratislavia	3-	8.64	0.31	177.0	17.0	359.0	45.0					8.61798		Michalowski, 06
692*Hippodamia	R	8.98	0.50	233.0	-52.0 -53.0							8.99690 8.99690		Hanus, 11 Hanus, 16
694 Ekard	2 2 2 2 3-	5.925	0.50	96.0 105.0 98.0 98.0 266.0	32.0 29.0 40.0 40.0 51.0	267.0	56.0					5.9219 5.92192 5.92190 5.92190 5.92200	Y Y Y Y Y	Drummond, 88 Drummond, 91 Michalowski, 93 De Angelis, 95 Torppa, 03
695 Bella	2+ 2	14.222	0.59	308.0 87.0 81.0	-51.0 -55.0 -58.0	314.0	-56.0					14.21898 14.21900 14.2190116	Y	Durech, 06 Hanus, 11 Kim, 14
698*Ernestina		5.0363	0.69	193.0 213.0	-68.0 -66.0	76.0	-49.0					5.03661 5.03660	Y	Durech, 16 Hanus, 16
699 Hela		3.3962	0.60	45.0	44.0	197.0	31.0					3.396232	Y	Marciniak, 12
700*Auravictrix	2 1	6.075	0.43	86.0 86.0 86.0 54.0	-58.0 -58.0 -58.0 33.0	265.0 265.0 265.0 249.0	56.0 56.0 56.0 47.0					6.07489	Y Y Y Y	Shevchenko, 08 Shevchenko, 09 Shevchenko, 12 Durech, 16
704 Interamnia	2 2 2	8.727	0.11	43.0 47.0 51.0 36.0 47.0	-21.0 -3.0 22.0 12.0 66.0	224.0 227.0	-22.0 1.0					8.72729	Y Y Y Y Y	Yang, 65 Michalowski, 93 De Angelis, 95 Michalowski, 95 Drummond, 08 Drummond, 09
706*Hirundo		22.027	0.9	91.0 92.0	70.0 66.0	250.0 244.0	45.0 54.0					22.0161 22.0160	Y	Durech, 16 Hanus, 16
708 Raphaela		20.918	0.45	37.0	27.0	217.0	22.0					20.8894		Hanus, 13
714 Ulula	2+ 2+ 3- 2	6.998	0.65	41.0 40.0 224.0 42.0	-5.0 -4.0 -10.0 -9.0	224.0 225.0 41.0 227.0	-9.0 -13.0 -5.0 -14.0					6.99838 6.99838 6.99837 6.998377	Y Y Y Y	Durech, 06 Durech, 09 Hanus, 11 Marciniak, 11
718*Erida		17.447	0.37	78.0	-56.0	257.0	-52.0					17.4462	Y	Durech, 16
720 Bohlinia	2	8.919	0.46	33.0	52.0	239.0	40.0	40.0	43.0	230.0	41.0	8.918602	Y	Tungalag, 03 Slivan, 03
725 Amanda		3.749	0.42	145.0	-63.0	320.0	-70.0					3.74311		Hanus, 13
727 Nipponia		5.0687	0.19	172.0	11.0	333.0	5.0					5.0687459		Kim, 14
731 Sorga		8.184	0.52	83.0	40.0	275.0	21.0					8.18633		Hanus, 13
732 Tjilaki		12.34	0.19	160.0	23.0	353.0	24.0					12.3411		Hanus, 13
733 Mocia	P	11.374	0.29		36.0							11.37611		Hanus, 11
742*Edisona		18.52	0.30	46.0	-54.0	175.0	-43.0					18.5833		Hanus, 16
744*Aguntina		17.47	0.50	44.0	-58.0	227.0	-51.0					17.4690	Y	Durech, 16
746*Marlu	R	7.787	0.23	202.0	-54.0 -66.0	64.0	-27.0					7.78887 7.78887		Hanus, 11 Hanus, 16
747 Winchester	1	9.4146	0.18	27.0	50.0							9.402	Y	Michalowski, 93

ASTEROID SPIN AXES

Asteroid	Q	Period	Amp	L ₁	B ₁	L ₂	B ₂	L ₃	B ₃	L ₄	B ₄	Sid. period	Mod	Reference		
<i>(continuation)</i>																
749*Malzovia	2	5.9279	0.30	353.0	39.0	173.0	-39.0					9.414807 9.41480	Y	De Angelis, 95		
	2			166.0	-44.0	296.0	-61.0						Y	Marciniak, 09		
	3			304.0	-60.0									Durech, 11		
753 Tiflis	2	9.85	0.8	53.0	37.0	242.0	46.0					5.92749 5.92748	Y	Durech, 16 Hanus, 16		
				55.0	46.0	246.0	55.0									
756*Lilliana	2	7.834	0.99	3.0	-13.0	194.0	80.0					9.825983	Y	Durech, 06		
757*Portlandia	2+	6.5837	0.45	5.0	36.0	199.0	57.0					9.8259		Hanus, 11		
				201.0	31.0	53.0	36.0							7.83250		Hanus, 16
758*Mancunia	2+	12.7253	0.27	321.0	-77.0	124.0	-66.0					6.58113	Y	Durech, 06		
				263.0	-69.0	90.0	-56.0							6.58112		Hanus, 16
762*Pulcova		5.839	0.30	111.0	48.0	306.0	44.0					12.72011		Hanus, 16		
769*Tatjana	2+	35.08	0.33	20.0	-12.0	196.0	-42.0					5.83977	Y	Durech, 16		
				194.0	-42.0	17.0	-14.0							5.83977		Hanus, 16
770 Bali	2+	5.8190	0.65	176.0	54.0	347.0	38.0					35.0637	Y	Durech, 16		
				68.0	44.0	256.0	40.0							5.81894	Y	Durech, 09
771 Libera	2+	5.892	0.57	70.0	50.0	262.0	45.0					5.81894	Y	Hanus, 11		
				64.0	-78.0									5.890423	Y	Marciniak, 09
776*Berbericia	1 3 3	7.668	0.26	8.0	23.0							7.66689	Y	Tungalag, 02		
				347.0	12.0									7.66701	Y	Durech, 07
				170.0	59.0	347.0	11.0							7.66701	Y	Torppa, 08
784*Pickeringia	P	13.17	0.40	346.0	25.0							7.66701	Y	Hanus, 16		
					58.0									13.1699		Hanus, 11
787 Moskva	2 2 1	6.056	0.68	99.0	67.0	283.0	30.0					13.16995	Y	Durech, 16		
				282.0	35.0	103.0	68.0							13.16998		Hanus, 16
789*Lena	2 2 1	5.848	0.50	80.0	36.0	260.0	-36.0					6.055795	Y	Shevchenko, 08		
				333.0	61.0	122.0	27.0								Y	Sworen, 09
				80.0	36.0	260.0	-36.0								Y	Shevchenko, 09
792 Metcalfia	2	9.17	0.76	80.0	36.0	260.0	-36.0					6.05581 6.0558066		Shevchenko, 12		
				331.0	59.0	126.0	27.0									Hanus, 13
797*Montana	2	4.5463	0.50	334.0	44.0	132.0	11.0					5.84239	Y	Durech, 16		
				192.0	39.0											
798*Ruth	2	8.550	0.36	88.0	-14.0	274.0	-13.0					9.17821		Hanus, 13		
				6.0	61.0	179.0	45.0							4.54619		Hanus, 16
800 Kressmannia	2	4.464	0.30	84.0	27.0							8.55068		Hanus, 16		
				345.0	37.0	172.0	34.0							4.460963		Hanus, 11
802*Epyaxa		4.392	0.70	347.0	-87.0							4.39012		Hanus, 16		
803 Picka		5.0742	0.47	218.0	34.0	53.0	41.0					5.07478		Hanus, 13		
804 Hispania	2 2	14.845	0.24	90.0	28.0	270.0	-28.0					7.37390	Y	Michalowski, 92		
				107.0	49.0	227.0	50.0	47.0	-50.0	287.0	-49.0				Y	De Angelis, 95
807 Ceraskia		7.4	0.25	325.0	23.0	132.0	26.0					7.37390		Hanus, 13		
808 Merxia	2	30.631	0.70	26.0	54.0	192.0	57.0					30.630		Hanus, 11		
809 Lundia	3	15.4142	1.12	120.0	18.0							15.418	Y	Kryszczynska, 09		

ASTEROID SPIN AXES

Asteroid	Q	Period	Amp	L ₁	B ₁	L ₂	B ₂	L ₃	B ₃	L ₄	B ₄	Sid. period	Mod	Reference
810 Atossa	2	4.385	0.55	12.0	67.0	188.0	69.0					4.38547		Hanus, 11
812 Adele		5.8587	0.69	301.0	44.0	154.0	69.0					5.85746		Hanus, 13
816 Juliana		10.58	0.53	124.0	-8.0	304.0	10.0					10.5627		Hanus, 13
819 Barnardiana		66.70	0.82	169.0	46.0	334.0	47.0					66.698		Hanus, 13
823 Sisigambis	P	146.	0.7		57.0							146.58		Hanus, 11
825 Tanina	2	6.940	0.54	33.0	53.0	216.0	63.0					6.93981	Y	Durech, 06
	3			38.0	51.0	232.0	53.0					6.93981	Y	Kryszczyńska, 08
	1+			0.0	54.0							6.93981		Durech, 09
	2			46.0	48.0	231.0	60.0					6.93981		Hanus, 11
829*Academia		7.891	0.44	71.0	-41.0	245.0	-67.0					7.89321	Y	Durech, 16
830*Petropolitana		39.0	0.15	217.0	36.0	34.0	41.0					37.347		Hanus, 16
832 Karin	2	18.35	0.65	242.0	46.0	59.0	44.0					18.3512		Hanus, 11
				52.0	49.0	230.0	47.0					18.3512976		Slivan, 12
844*Leontina		6.7859	0.26	302.0	68.0							6.78303	Y	Durech, 16
847 Agnia	2	14.827	0.51	341.0	18.0	162.0	13.0					14.8247		Hanus, 11
849 Ara	2+	4.116	0.53	214.0	-37.0	16.0	-6.0					4.116391	Y	Durech, 06
	3			17.0	-10.0	213.0	-33.0					4.116391	Y	Durech, 09
	2			10.0	-25.0	223.0	-40.0					4.116391	Y	Marciniak, 09
	3			223.0	-40.0							4.116391		Durech, 11
852 Wladilena	2	4.6134	0.32	53.0	24.0	235.0	21.0	55.0	-21.0	233.0	-24.0		Y	De Angelis, 95
				30.0	30.0	210.0	30.0	30.0	-30.0	210.0	-30.0	4.62	Y	Kiss, 99
				181.0	-48.0	46.0	-53.0					4.613301		Hanus, 13
856*Backlunda		12.08	0.33	42.0	44.0	226.0	73.0					12.02894		Hanus, 16
857 Glasenappia		8.23	0.75	227.0	48.0	38.0	34.0					8.20757		Hanus, 13
867 Kovacia		8.6772	0.86	200.0	-44.0	38.0	-50.0					8.67807		Hanus, 13
870*Manto		122.30	0.80	96.0	30.0	283.0	35.0					122.166		Hanus, 16
872*Holda		5.945	0.47	77.0	24.0	253.0	32.0					5.94052		Hanus, 16
873*Mechthild		11.006	0.33	249.0	-52.0	51.0	-61.0					11.00639		Hanus, 16
874 Rotraut		14.586	0.24	201.0	-41.0	2.0	-36.0					14.3007		Hanus, 13
875 Nymphe		12.618	0.46	42.0	31.0	196.0	42.0					12.6213		Hanus, 13
				47.0	32.0	200.0	46.0					12.6212926		Kim, 14
877*Walküre	P	17.424	0.44		53.0							17.4214		Hanus, 11
				68.0	58.0	253.0	61.0					17.4217	Y	Durech, 16
				262.0	71.0	47.0	66.0					17.4217		Hanus, 16
881*Athene		13.895	0.53	123.0	-58.0	337.0	-47.0					13.89449	Y	Durech, 16
				115.0	-77.0	338.0	-43.0					13.8943		Hanus, 16
885*Ulrike		4.90	0.72	13.0	-64.0	207.0	-60.0					4.906164	Y	Durech, 16

ASTEROID SPIN AXES

Asteroid	Q	Period	Amp	L ₁	B ₁	L ₂	B ₂	L ₃	B ₃	L ₄	B ₄	Sid. period	Mod	Reference
887 Alinda	2	73.97	0.35	190.0	33.0							73.8257		Tungalag, 02
889 Erynia	2	9.89	0.67	187.0	-60.0	335.0	-74.0					9.8749		Hanus, 11
891*Gunhild		11.892	0.37									10.556	Y	Kozdon, 16
897 Lysistrata		11.26	0.11	109.0	-55.0	299.0	-29.0					11.2742816		Kim, 14
898*Hildegard		24.855	0.36	344.0	27.0	164.0	8.0					24.8544		Hanus, 16
899 Jokaste	R	6.245	0.31		-58.0							6.24812		Hanus, 11
900*Rosalinde		16.648	0.52	276.0	70.0	90.0	39.0					16.6868		Hanus, 13
908*Buda		14.572	0.41	40.0	5.0	225.0	16.0					14.57498		Hanus, 16
915 Cosette	3	4.445	1.02	185.0	50.0	348.0	55.0					4.469741	Y	Durech, 09
	2+			350.0	56.0	189.0	61.0					4.469742	Y	Hanus, 11
918*Itha		3.47393	0.30	59.0	-59.0	249.0	-72.0					3.473810	Y	Durech, 16
920 Rogeria		8.09	0.21	238.0	-15.0	47.0	-35.0					12.5749		Hanus, 13
925 Alphonsina	2	7.880	0.31	296.0	41.0							7.87754		Hanus, 11
	2+			294.0	41.0							7.87754		Durech, 11
928*Hildrun		14.13	0.34	247.0	-29.0	86.0	-63.0					14.1163		Hanus, 16
933 Susi		4.6222	0.40	55.7	-20.8							4.62194	Y	Li, 12
934 Thüringia	2	8.166	0.66	120.0	-52.0							8.16534		Hanus, 11
936 Kunigunde	2	8.80	0.25	47.0	57.0	234.0	50.0					8.82653		Hanus, 13
943*Begonia		15.66	0.34	209.0	-75.0							15.6593	Y	Durech, 16
944*Hidalgo	3	10.063	0.53	281.0	5.0							10.05863	Y	Durech, 07
				277.0	16.0							10.05822		Hanus, 16
951 Gaspra	3	7.042	1.0	19.0	20.0							7.042		Goldader, 91
	2			20.0	22.0	198.0	13.0					7.04207	Y	De Angelis, 92
	3-			15.0	24.0							7.04207	Y	Magnusson, 92
	4			19.0	21.0								Y	Barucci, 92
	3			19.0	29.0							7.04207	Y	Davies, 94
	3			20.0	19.0							7.042058	Y	De Angelis, 95
	3			20.0	26.0							7.04201	Y	Kaasalainen, 01
	2			20.0	23.0	198.0	15.0					7.042027	Y	Tungalag, 02
														Hanus, 13
955*Alstede		5.19	0.27	54.0	38.0	240.0	13.0					5.18735	Y	Durech, 16
958 Asplinda		25.3	0.57	41.0	48.0	226.0	35.0					25.3050		Hanus, 13
966 Muschi	1+	5.355	0.44	0.0	57.0							5.35531		Durech, 09
968*Petunia		61.280	0.38	355.0	-78.0							61.160	Y	Durech, 16
979*Ilsewa		42.61	0.31	352.0	-66.0							42.8982	Y	Durech, 16
984 Gretia	3	5.778	0.73	245.0	52.0							5.778025	Y	Behrend, 97w
	2			46.0	47.0	48.0	12.0	228.0	-12.0	226.0	-47.0		Y	Blanco, 00
	3			92.0	67.0	247.0	48.0					5.778026	Y	Marciniak, 08w

ASTEROID SPIN AXES

Asteroid	Q	Period	Amp	L ₁	B ₁	L ₂	B ₂	L ₃	B ₃	L ₄	B ₄	Sid. period	Mod	Reference
986*Amelia		9.52	0.43	80.0	30.0	282.0	30.0					9.51856		Hanus, 16
994 Otthild		5.95	0.15	183.0	-50.0	41.0	-39.0					5.94819		Hanus, 13
996*Hilaritas		10.05	0.70	100.0	-56.0	281.0	-57.0					10.05154	Y	Durech, 16
998*Bodea		8.574	0.68	7.0	-59.0							8.57412	Y	Durech, 16
1002 Olbersia	2	10.244	0.38	220.0	35.0	16.0	54.0					10.2367		Hanus, 11
1003 Lilofee	P	8.255	0.57									8.24991		Hanus, 13
1010*Marlene	P	31.06	0.32		46.0							31.066		Hanus, 11
				299.0	42.0	106.0	47.0					31.0651		Hanus, 16
1011 Laodamia		5.17247	0.45	95.0	-85.5	272.0	-88.0					5.172794	Y	Apostolovska, 14
1012 Sarema	2+	10.32	0.81	51.0	64.0	254.0	53.0					10.30708	Y	Durech, 09
	2+			45.0	67.0	253.0	63.0					10.30708	Y	Hanus, 11
1013 Tombecka	2	6.053	0.50	4.0	62.0							6.05017	Y	Durech, 06
1017*Jacqueline		7.87	0.72	7.0	55.0	170.0	65.0					7.87149	Y	Durech, 16
1019 Strackea	R	4.044	0.25											Apostolovska, 11
1021*Flammario		12.160	0.40	32.0	22.0	216.0	55.0					12.15186		Hanus, 16
1022 Olympiada	2	3.822	0.35	40.0	18.0	250.0	71.0					3.833594	Y	Warner, 08
	2+			46.0	10.0	242.0	52.0					3.83359	Y	Hanus, 11
1023*Thomana		17.56	0.36	86.0	-65.0	272.0	-42.0					17.5611		Hanus, 16
1025 Riema	2	3.588	0.25	141.0	11.0	321.0	-13.0					6.557		Shevchenko, 03
1035*Amata		9.081	0.44	31.0	69.0	247.0	29.0					9.08215	Y	Durech, 16
1036*Ganymed	P	10.297	0.45									10.308		Lupishko, 87
	R			214.0	-73.0							10.31		Hahn, 89
	3-			190.0	-78.0							10.313	Y	Kaasalainen, 02
												10.31284		Hanus, 15
1040 Klumpkea		59.2	0.77	172.0	48.0							56.588		Hanus, 13
1050*Meta		6.142	0.46	60.0	-42.0	198.0	-79.0					6.14188	Y	Durech, 16
1056 Azalea		11.893	0.79	252.0	51.0	64.0	41.0					15.0276		Hanus, 13
1061*Paeonia		7.9971	1.00	155.0	-50.0							7.99710	Y	Durech, 16
1075*Helina		44.9	0.64	123.0	-33.0	284.0	-34.0					44.6768	Y	Durech, 16
1077*Campanula		3.85085	0.40	178.0	76.0	313.0	59.0					3.850486	Y	Durech, 16
1080*Orchis		16.1	0.24	255.0	27.0	71.0	28.0					16.0657		Hanus, 16
1081*Reseda		7.3002	0.34	92.0	-69.0	256.0	-76.0					7.30136	Y	Durech, 16
1082*Pirola		15.8525	0.60	123.0	-42.0	300.0	-38.0					15.8540	Y	Durech, 16

ASTEROID SPIN AXES

Asteroid	Q	Period	Amp	L ₁	B ₁	L ₂	B ₂	L ₃	B ₃	L ₄	B ₄	Sid. period	Mod	Reference
1083*Salvia		4.23	0.61	165.0	-59.0	358.0	-58.0					4.281429	Y	Durech, 16
1087 Arabis	2	5.794	0.40	334.0	-7.0	155.0	12.0					5.79501		Hanus, 11
1088 Mitaka	3 2+	3.0361	0.62	115.0	-46.0	278.0	-72.0					3.035377 3.035378	Y Y	Durech, 09 Hanus, 11
1089 Tama	1+	16.44	0.41	0.0	-21.0							16.4655 16.4461		Durech, 09 Hanus, 13
1098*Hakone		7.142	0.40	193.0	32.0	9.0	28.0					7.14117	Y	Durech, 16
1102 Pepita	2	5.1054	0.55	40.0	43.0							5.10532		Hanus, 11
1103*Sequoia	2 R	3.03784	0.53	25.0	-34.0	231.0	-30.0					5.10532		Hanus, 11
				82.0	-75.0	209.0	-76.0					3.037975 3.037977 3.037976	Y	Durech, 06 Hanus, 11 Hanus, 16
				60.0	-48.0 -59.0									
1110*Jaroslawa		97.4	0.80	236.0	75.0							97.278		Hanus, 16
1111 Reinmuthia		4.02	0.95	356.0	68.0	153.0	78.0					4.007347		Hanus, 13
1119*Euboea		11.41	0.50	71.0	61.0	280.0	54.0					11.39823 11.3981	Y	Durech, 16 Hanus, 16
				79.0	75.0	282.0	55.0							
1121*Natascha		13.197	0.51	16.0	59.0	209.0	50.0					13.19717	Y	Durech, 16
1125*China		5.367	0.62	132.0	-46.0	305.0	-49.0					5.36863		Hanus, 16
1126 Otero		3.64808	0.70	44.0	75.0	240.0	56.0					3.64800		Hanus, 13
1127*Mimi		12.749	0.95	224.0	-57.0							12.74557	Y	Durech, 16
1130 Skuld		4.810	0.50	24.0	36.0	200.0	35.0					4.80764		Hanus, 13
1135*Colchis		23.47	0.45	7.0	-54.0	168.0	-56.0					23.4827 23.4830	Y	Durech, 16 Hanus, 16
				139.0	-58.0	330.0	-81.0							
1137*Raiissa		142.79	0.56	220.0	-66.0	40.0	-77.0					143.644		Hanus, 16
1140 Crimea	2	9.77	0.30	12.0	-73.0	175.0	-22.0					9.7869		Hanus, 11 Hanus, 13
1147*Stavropolis		5.66070	0.42	78.0	-50.0	267.0	-51.0					5.66079	Y	Durech, 16
1148 Rarahu	2	6.5447	0.94	148.0	-9.0	322.0	-9.0					6.54449		Hanus, 11
1150*Achaia		60.99	0.72	126.0	-65.0	315.0	-60.0					61.071 61.072	Y	Durech, 16 Hanus, 16
				169.0	-69.0	347.0	-62.0							
1158 Luda		6.863	0.22	267.0	21.0	88.0	67.0					6.8750690		Kim, 14
1160 Illyria	P	4.1025	0.91		47.0							4.10295		Hanus, 13
1173 Anchises	R	11.60	0.57											Horner, 12
1175*Margo		6.01	0.40	184.0	-43.0	353.0	-17.0					6.01375		Hanus, 16
1185 Nikko	P	3.79	0.50		46.0							3.78615		Hanus, 11

ASTEROID SPIN AXES

Asteroid	Q	Period	Amp	L ₁	B ₁	L ₂	B ₂	L ₃	B ₃	L ₄	B ₄	Sid. period	Mod	Reference
1187*Afra		14.0701	0.40	40.0	34.0	226.0	13.0					14.06993	Y	Durech, 16
1188 Gothlandia	1+ R	3.4916	0.81	0.0 -52.0 -63.0 334.0	-84.0							3.491820 3.491820 3.491820		Durech, 009 Hanus, 11 Hanus, 13
1192*Prisma	R	6.558	0.85	133.0	-65.0 -78.0							6.55836 6.55836		Hanus, 13 Hanus, 16
1204*Renzia		7.885	0.42	130.0 142.0	-44.0 -50.0	312.0 305.0	-51.0 -45.0					7.88697 7.88695	Y	Durech, 16 Hanus, 16
1206*Numerowia		4.7743	0.63	64.0	-50.0	271.0	-69.0					4.77529	Y	Durech, 16
1207 Ostenia	1+ 2	9.073	0.7	0.0 310.0	-57.0 -77.0	124.0	-51.0					9.07129 9.07129		Durech, 09 Hanus, 11
1214 Richilde	R	9.860	0.32		-59.0							9.86687		Hanus, 11
1219*Britta	R	5.575	0.75	72.0	-66.0	241.0	-66.0					5.5750 5.57556	Y	Binzel, 87 Durech, 16
1223 Neckar	3 2+ 3-	7.81	0.45	70.0	45.0	225.0	42.0					7.75705	Y	Michalowski, 00 Tungalag, 03
1230*Riceia		6.67317		73.0 252.0	44.0 28.0	258.0 69.0	39.0 30.0	73.0	44.0	259.0	41.0	7.82124 7.82401	Y Y	Slivan, 03 Hanus, 11
1231*Auricula		3.9816	0.75	37.0	-63.0							6.67317	Y	Durech, 16
1241 Dysona		8.6080	0.25	57.0	-57.0	225.0	-85.0					3.981580	Y	Durech, 16
1244*Deira		210.6	0.50	125.0	-68.0							8.60738		Hanus, 13
1245*Calvinia		4.84	0.7	314.0	-46.0	107.0	-56.0					216.98		Hanus, 16
1248*Jugurtha		12.910	1.4	52.0	-51.0	235.0	-43.0					4.85148	Y	Durech, 16
1249 Rutherfordia		18.20	0.81	254.0	-89.0							12.19047	Y	Durech, 16
1251*Hedera		19.9000	0.61	32.0	74.0	197.0	65.0					18.2183		Hanus, 13
1255 Schilowa		29.536	0.15	124.0	-70.0	266.0	-62.0					19.9020	Y	Durech, 16
1263 Varsavia		7.1639	0.15	156.0	-4.0	338.0	15.0					29.4674		Hanus, 13
1270 Datura	2+ 1+ 2	3.359	0.61	341.0	-14.0							7.16495		Durech, 11
1275*Cimbria		5.65	0.57	0.0 60.0	59.0 76.0	264.0	77.0					3.358100 3.358100	Y	Durech, 09 Vokrouhlicky, 09
1276 Uccia	P	4.90768	0.40	85.0	-61.0	271.0	-31.0					5.65454	Y	Durech, 16
1278*Kenya		188.	0.75		-49.0							4.90748		Hanus, 13
1281*Jeanne		15.18	0.45	164.0	-66.0	281.0	-77.0					187.60		Hanus, 16
1282 Utopia		13.623	0.36	153.0	19.0	338.0	32.0					15.30379	Y	Durech, 16
1286 Banachiewiczza	R 2	8.63	0.54		-39.0							13.6228		Hanus, 11
				214.0	62.0	64.0	60.0					8.63043		Hanus, 13

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Asteroid	Q	Period	Amp	L ₁	B ₁	L ₂	B ₂	L ₃	B ₃	L ₄	B ₄	Sid. period	Mod	Reference
1289 Kutaissi	2	3.60	0.40	164.0	-76.0	340.0	-75.0					3.624174	Y	Slivan, 09
1291 Phryne	2	5.58410	0.86	106.0	35.0	277.0	59.0					5.58414		Hanus, 11
1294*Antwerpia		6.63	0.42	128.0	-66.0	246.0	-76.0					6.62521	Y	Durech, 16
1299*Mertona		4.977	0.59	73.0	35.0	253.0	56.0					4.97691	Y	Durech, 16
1301 Yvonne	2	7.320	0.90	39.0	41.0							7.31968		Hanus, 11
1307 Cimmeria	P	2.820	0.31		63.0							2.820723		Hanus, 13
1310*Villigera		7.830	0.39	3.0	63.0	240.0	26.0					7.83001		Hanus, 16
1312*Vassar		7.932	0.35	104.0	-50.0	250.0	-29.0					7.93189	Y	Durech, 16
				251.0	-23.0							7.93190		Hanus, 16
1317 Silvretta		7.048	0.45	45.0	-57.0	161.0	-46.0					7.06797		Hanus, 13
1320*Impala		6.167	0.52	151.0	-57.0	254.0	-70.0					6.17081	Y	Durech, 16
1332*Marconia		19.16	0.30	37.0	31.0	220.0	31.0					19.2264	Y	Durech, 16
1333 Cevenola	2	4.877	1.1	38.0	-86.0	220.0	-44.0					4.87932		Hanus, 11
1334*Lundmarka		6.250	0.70	79.0	-75.0							6.25033	Y	Durech, 16
1339*Désagneuxa	P	9.380	0.48	63.0	65.0	225.0	42.0					9.37510	Y	Hanus, 13
					53.0							9.37514		Durech, 16
1349*Bechuana		15.692	0.30	153.0	32.0	314.0	46.0					15.6873	Y	Durech, 16
1350*Rosselia	R	8.140	0.54	67.0	-58.0	246.0	-58.0					8.14011	Y	Hanus, 11
					-64.0							8.14008		Durech, 16
1352*Wawel		16.97	0.44	37.0	55.0	201.0	52.0					16.9542	Y	Durech, 16
				200.0	59.0	32.0	61.0					16.9543		Hanus, 16
1353*Maartje	2	22.930	0.46	266.0	73.0	92.0	57.0					22.9926		Hanus, 13
1360*Tarka		8.87	0.73	323.0	-55.0							8.86606		Hanus, 16
1366*Piccolo		16.57	0.33	352.0	49.0	201.0	55.0					16.1834		Hanus, 16
1368*Numidia	R	3.64	0.35	201.0	-50.0							3.640740		Hanus, 11
					-62.0							3.640739		Hanus, 16
1378 Leonce	2	4.3250	0.63	210.0	-67.0	46.0	-77.0					4.32527		Hanus, 13
1379 Lomonosowa	R	24.488	0.63	72.0	-62.0	265.0	-46.0					24.4845	Y	Hanus, 11
					-84.0							24.4846		Durech, 16
1382 Gerti	2	3.082	0.36	268.0	23.0	87.0	28.0					3.081545		Hanus, 11
1386 Storeria		8.67	1.40	227.0	-57.0	297.0	-67.0					8.67795		Hanus, 13
1389 Onnie	R	22.5	0.34	183.0	-56.0	0.0	-79.0					23.0447		Hanus, 11
					-75.0							23.0447		Hanus, 13
1391*Carelia		5.87822		21.0	-79.0	208.0	-43.0					5.87822	Y	Durech, 16

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Asteroid	Q	Period	Amp	L ₁	B ₁	L ₂	B ₂	L ₃	B ₃	L ₄	B ₄	Sid. period	Mod	Reference
1393*Sofala		108.	0.48											
1396 Outeniqua	P	3.08158	0.47	319.0	28.0	134.0	41.0					16.5931		Hanus, 13
1400*Tirela		13.356	0.55		62.0							3.08175		Hanus, 13
1401 Lavonne		3.9338	0.26	58.0	-80.0	297.0	-41.0					13.35384	Y	Durech, 16
1407*Lindelöf		31.151	0.34	204.0	23.0	27.0	44.0					3.93261		Hanus, 13
1419 Danzig		8.1202	0.92	147.0	36.0							31.0941	Y	Durech, 16
1423 Jose	2	12.307	0.85	22.0	76.0	193.0	62.0					8.11957		Hanus, 11
1424*Sundmania	2	93.73	0.42	78.0	-82.0							12.3127		Hanus, 13
1430*Somalia		6.913	0.45	51.0	76.0	275.0	58.0					94.537		Hanus, 16
1432 Ethiopia		9.8458	0.40	297.0	42.0	128.0	47.0					6.90907		Hanus, 16
1436 Salonta		8.870	0.33	41.0	44.0	225.0	54.0					9.84425		Hanus, 13
1446 Sillanpää	2	9.6602	0.71	223.0	18.0	57.0	35.0					8.86985		Hanus, 13
1449*Virtanen		30.495	0.69	129.0	76.0	288.0	63.0					9.65855		Hanus, 13
1450 Raimonda		12.66	0.57	89.0	61.0	302.0	61.0					30.5006	Y	Durech, 16
1459*Magnya		4.678	0.85	307.0	58.0	99.0	58.0					30.5005	Y	Hanus, 16
				231.0	-56.0	71.0	-60.0					12.6344		Hanus, 13
				159.0	-75.0							4.679100	Y	Silva, 15
				73.0	-54.0	198.0	-55.0					4.679102	Y	Durech, 16
				72.0	-59.0	207.0	-51.0					4.67911		Hanus, 16
1464 Armisticia	2	7.50	0.54	194.0	-54.0	35.0	-69.0					7.46699		Hanus, 13
1472 Muonio		8.706	0.48	249.0	61.0	42.0	62.0					8.70543		Hanus, 13
1482 Sebastiana	2	10.489	0.78	262.0	-68.0	91.0	-67.0					10.48965		Hanus, 11
1484*Postrema		12.1923	0.23	19.0	44.0	250.0	64.0					12.18978	Y	Durech, 16
1486*Marilyn		4.566	0.48	83.0	-57.0	270.0	-62.0					4.566945	Y	Durech, 16
				88.0	-66.0	267.0	-66.0					4.56695		Hanus, 16
1490 Limpopo		6.647	0.26	319.0	22.0	142.0	2.0					6.65164		Hanus, 13
1493*Sigrid	P	43.296	0.6		78.0							43.179		Hanus, 13
		183.0	0.63	69.0	350.0	69.0						43.1795	Y	Durech, 16
1494*Savo	2	5.35011	0.63	248.0	-68.0	83.0	-66.0					5.35059		Hanus, 11
				50.0	-65.0	233.0	-68.0					5.35059	Y	Durech, 16
1495 Helsinki		5.33116	0.83	355.0	-39.0							5.33131		Hanus, 13
1496*Turku		6.47	0.51	75.0	-75.0							6.47375	Y	Durech, 16
1500*Jyväskylä		8.82750		123.0	-75.0	268.0	-79.0					8.82750	Y	Durech, 16

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Asteroid	Q	Period	Amp	L ₁	B ₁	L ₂	B ₂	L ₃	B ₃	L ₄	B ₄	Sid. period	Mod	Reference
1503 Kuopio	2	9.957	0.90	34.0	-56.0	263.0	-76.0					9.9586		Hanus, 11
	2			170.0	-86.0	27.0	-61.0					9.9586		Hanus, 13
1508*Kemi		9.196	0.55	352.0	72.0	166.0	73.0					9.19182		Hanus, 16
1514 Ricouxa	1+	10.438	0.62	0.0	71.0							10.42466		Durech, 09
	2			251.0	75.0	68.0	69.0					10.42468		Hanus, 11
1518 Rovaniemi		5.249	0.26	62.0	60.0	265.0	45.0					5.25047		Hanus, 13
1521*Seinäjäki		4.32	0.15	63.0	-18.0	230.0	-37.0					4.328159	Y	Durech, 16
1527 Malmquista	2	14.077	0.54	274.0	80.0							14.0591		Hanus, 13
1528 Conrada		6.321	0.49	250.0	-51.0	93.0	-66.0					6.32154		Hanus, 13
1534*Näsi		7.94	0.51	82.0	23.0	268.0	13.0					7.93161		Hanus, 16
1545*Thernöe		17.20	0.76	164.0	-75.0	352.0	-80.0					17.20321	Y	Durech, 16
1546*Izsák		7.350	0.31	124.0	32.0	322.0	60.0					7.33200		Hanus, 16
1547*Nele		7.100	0.45	159.0	28.0	318.0	50.0					7.09742	Y	Durech, 16
1548*Palomaa		7.4961	0.50	72.0	-61.0	232.0	-32.0					7.49966	Y	Durech, 16
1551*Argelander		4.0614	0.41	3.0	-81.0	183.0	-72.0					4.058350	Y	Durech, 16
1554 Yugoslavia		3.8879	0.74	281.0	-34.0	78.0	-64.0					3.88766		Hanus, 13
1557*Roehla		5.67899		124.0	-38.0	329.0	-57.0					5.67899	Y	Durech, 16
1559 Kustaanheimo		4.302	0.25	275.0	29.0	94.0	33.0					4.30435		Hanus, 13
1561*Fricke		15.15330		320.0	71.0							15.15330	Y	Durech, 16
1566*Icarus	2	2.2726	0.22	49.0	0.0	229.0	0.0					2.273		Gehrels, 70
	2			214.0	5.0							2.27364	Y	De Angelis, 95
1568 Aisleen	2	6.683	0.41	109.0	-68.0							6.67597		Hanus, 11
1572 Posnania	3-	8.048	0.38	46.0	-65.0							8.04943	Y	Michalowski, 01
				205.0	-82.0	85.0	-63.0					8.04945		Hanus, 13
1580 Betulia	2	6.1324	0.70	140.0	20.0	320.0	-20.0					6.130	Y	Tedesco, 78
	2			80.0	12.0	212.0	-5.0					6.156	Y	Drummond, 90
	3			133.0	22.0							6.13836	Y	Kaasalainen, 04
	3			136.0	22.0							6.13836	Y	Magri, 07
1592*Mathieu		28.46	0.50	94.0	-14.0	269.0	-7.0					28.4821	Y	Durech, 16
1597*Laugier		8.02272		345.0	-78.0							8.02272	Y	Durech, 16
1600 Vyssotsky	2	3.2011	0.28	356.0	7.0	219.0	54.0					3.201264	Y	Warner, 08
1607 Mavis		6.1339	0.53	0.0	59.0	222.0	70.0					6.14775		Hanus, 13
1614*Goldschmidt		8.873	0.14									8.873	Y	Kozdon, 16
1618 Dawn	2	43.19	0.38	39.0	-60.0	215.0	-51.0					43.219		Hanus, 13

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Asteroid	Q	Period	Amp	L ₁	B ₁	L ₂	B ₂	L ₃	B ₃	L ₄	B ₄	Sid. period	Mod	Reference
1619*Ueta	P	2.720	0.44	99.0	39.0 49.0	295.0	37.0					2.717943 2.718238	Y	Hanus, 13 Durech, 16
1620 Geographos	1+ 3 3 3 3 3	5.22204	2.03	20.0 54.0 54.0 56.0 55.0 55.0	-60.0 -52.0 -52.0 -47.0 -46.0 -45.0							5.22331 5.223328 5.223328 5.223326 5.223327 5.223326	Y Y Y Y Y Y	Dunlap, 74 Michalowski, 94 Kwiatkowski, 95 Magnusson, 96 Hudson, 99 Kaasalainen, 01
1621*Druzhba		99.20	0.75	240.0	71.0							99.100		Hanus, 16
1623*Vivian	R	20.5209	0.85	52.0	-75.0 -66.0	229.0	-56.0					20.5235 20.5235	Y	Hanus, 13 Durech, 16
1627*Ivar	2 2 3 3	4.795	1.40	0.0 147.0 145.0 338.0 299.0 334.0	0.0 13.0 34.0 40.0 27.0 39.0	333.0 325.0 336.0	18.0 34.0 39.0	145.0	-34.0	325.0	-34.0	4.798 4.7989 4.795170 4.79604 4.79517	Y Y Y Y	Lupishko, 86 Velichko, 90 Kiss, 99 Kaasalainen, 04 Warner, 14 Hanus, 15
1630 Milet		32.55	0.37	304.0	34.0	121.0	40.0					32.485		Hanus, 13
1633 Chimay	2	6.5911	0.58	322.0	77.0	116.0	81.0					6.59064		Hanus, 13
1634 Ndola		64.23	0.4	261.0	45.0	66.0	34.0					64.255		Hanus, 13
1635 Bohrmann	2	5.864	0.50	5.0	-38.0	185.0	-36.0					5.86427		Hanus, 11
1643*Brown		5.932	0.48	140.0	64.0	353.0	84.0					5.93124	Y	Durech, 16
1648*Shajna		6.4140	0.65	94.0 117.0	47.0 54.0	278.0 306.0	50.0 53.0					6.41368 6.41369	Y	Durech, 16 Hanus, 16
1659 Punkaharju	2	5.01	0.43	259.0	-71.0	75.0	-22.0					5.01327		Hanus, 11
1665*Gaby	P	66.	0.27	261.0	49.0 41.0	66.0	32.0					67.905 67.911		Hanus, 11 Hanus, 16
1672*Gezelle		40.72	0.56	44.0 45.0	73.0 79.0	234.0	82.0					40.6821 40.6824	Y	Durech, 16 Hanus, 16
1676*Kariba		3.1673	0.65	71.0 74.0	74.0 74.0	279.0 281.0	56.0 60.0					3.167336 3.167338	Y	Durech, 16 Hanus, 16
1682 Karel	2	3.37485	0.47	232.0	32.0	51.0	41.0					3.37485		Hanus, 11
1685 Toro	2 2 2 2	10.1995	1.80	200.0 220.0	55.0 30.0							10.196 10.19540 10.195 10.197810	Y Y Y Y	Dunlap, 73 De Angelis, 95 Torppa, 05 Warner, 13
1687*Glarona		6.3	0.75	132.0	-65.9	274.0	70.0					6.49595	Y	Durech, 16
1691 Oort	2	10.2705	0.38	45.0	68.0	223.0	58.0					10.2684		Hanus, 13
1703 Barry	2	107.1	0.5	46.0	-76.0	221.0	-71.0					107.04		Hanus, 13
1704 Wachmann		3.314	0.40	267.0	41.0	90.0	40.0					3.31391		Hanus, 13
1708*Pólit	2	7.520	0.50	2.1	47.5							7.50776446	Y	Clark, 16
1709 Ukraina	2	7.28	0.62	165.0	-61.0	2.0	-40.0					7.30517		Hanus, 11

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Asteroid	Q	Period	Amp	L ₁	B ₁	L ₂	B ₂	L ₃	B ₃	L ₄	B ₄	Sid. period	Mod	Reference
1715*Salli		11.1667	0.22	95.0	-24.0	254.0	-48.0					11.08867		Hanus, 13
1716*Peter		11.514	0.52	52.0	-60.0	252.0	-52.0					11.51720	Y	Durech, 16
1719 Jens	R	5.87	0.55		-56.0							5.87016		Hanus, 11
				286.0	-88.0	55.0	-42.0					5.87016		Hanus, 13
1723*Klemola		6.2545	0.33	52.0	-54.0	239.0	-56.0					6.25609	Y	Durech, 16
1730*Marceline		3.837	1.00	95.0	56.0	303.0	81.0					3.836550	Y	Durech, 16
				264.0	68.0	82.0	44.0					3.836544		Hanus, 16
1733*Silke		7.89457		141.0	-63.0	302.0	-58.0					7.89457	Y	Durech, 16
1735*ITA		12.599	0.27	39.0	-46.0	178.0	-52.0					12.6103		Hanus, 16
1738*Oosterhoff	R	4.4486	0.54		-72.0							4.44896		Hanus, 13
				121.0	-62.0	301.0	-80.0					4.448955	Y	Durech, 16
1742 Schaifers	2	8.56	1.46	57.0	52.0	247.0	68.0					8.53271		Hanus, 11
1743*Schmidt		17.45	0.36	69.0	-62.0	261.0	-53.0					17.4599	Y	Durech, 16
1746*Brouwer		19.8	0.35	21.0	-67.0	158.0	-71.0					19.7255		Hanus, 16
1747 Wright	2	5.2896	0.61	227.0	31.0							5.28796		Hanus, 11
1750*Eckert		375.	0.87	176.0	60.0							377.5		Hanus, 16
1753*Mieke		8.8	0.2	121.0	67.0	321.0	35.0					10.19942	Y	Durech, 16
1758*Naantali		5.4699	0.44	150.0	-60.0							5.47369	Y	Durech, 16
1768*Appenzella		5.1839	0.53	39.0	45.0	227.0	40.0					5.18335	Y	Durech, 16
1772*Gagarin	2	10.96	0.24	0.0	-46.0	180.0	-31.0					10.94130		Hanus, 11
				183.0	22.0	358.0	5.0					10.93791		Hanus, 16
1774*Kulikov		3.830791		54.0	-50.0	237.0	-46.0					3.830791	Y	Durech, 16
1785 Wurm		3.2693	0.30	11.0	57.0	192.0	47.0					3.26934		Hanus, 13
1789*Dobrovolsky		4.812	0.7	319.0	30.0	137.0	34.0					4.811096		Hanus, 16
1792*Reni		15.95	0.54	122.0	-41.0	260.0	-50.0					15.94121	Y	Durech, 16
1793*Zoya		5.753	0.40	52.0	59.0	227.0	59.0					5.75187	Y	Durech, 16
				238.0	64.0	62.0	64.0					5.751872		Hanus, 16
1801*Titicaca		3.2106	0.50	48.0	51.0	260.0	57.0					3.211233	Y	Durech, 16
1805 Dirikis	2	23.0	0.45	4.0	48.0	188.0	61.0					23.4543		Hanus, 13
1814*Bach		7.23954		126.0	66.0	317.0	64.0					7.23954	Y	Durech, 16
1816*Liberia		3.086	0.39	73.0	-68.0							3.086156		Hanus, 16
1819*Laputa		9.8004	0.51	149.0	-48.0							9.79965	Y	Durech, 16

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Asteroid	Q	Period	Amp	L ₁	B ₁	L ₂	B ₂	L ₃	B ₃	L ₄	B ₄	Sid. period	Mod	Reference
1820*Lohmann		14.0554	0.55	62.0 264.0	67.0 65.0	250.0 69.0	58.0 55.0					14.04497 14.0449	Y	Durech, 16 Hanus, 16
1825*Klare	1	4.744	0.90	200.0 115.0 2.0	70.0 -61.0 -58.0	20.0 315.0	80.0 -69.0					4.7423303 4.742885 4.74288	Y Y	Krueng, 14 Durech, 16 Hanus, 16
1833*Shmakova		3.93	0.38	88.0	47.0	336.0	84.0					3.838235	Y	Durech, 16
1835 Gajdariya	2	6.3276	0.50	34.0	74.0	204.0	69.0					6.33768		Hanus, 13
1837*Osita		3.81862	0.48	167.0 36.0	-64.0 -52.0	352.0 228.0	-54.0 -58.0					3.81879 3.81880		Hanus, 13 Hanus, 16
1838*Ursa	P	16.141	0.80	51.0 42.0	47.0 66.0 64.0	286.0 284.0	32.0 29.0					16.1635 16.16358 16.1635	Y	Hanus, 13 Durech, 16 Hanus, 16
1840*Hus		4.780	0.85	298.0	-77.0							4.749057	Y	Durech, 16
1841*Masaryk		7.53	0.52	122.0	62.0	305.0	59.0					7.54301	Y	Durech, 16
1855*Korolev		4.6568	0.76	90.0	52.0	262.0	64.0					4.656199	Y	Durech, 16
1858*Lobachevskij		5.413	0.48	80.0	50.0	255.0	48.0					5.41208	Y	Durech, 16
1860*Barbarossa		3.255	0.35	45.0	30.0	238.0	63.0					3.254853	Y	Durech, 16
1862 Apollo	2 2 3 3	3.065	1.15	56.0 38.0	-26.0 -36.0							3.06544 3.0661 3.0662 3.065448 3.065448 3.065448	Y Y Y	Harris, 87 De Angelis, 95 Torppa, 05 Kaasalainen, 07 Durech, 08 Rozitis, 13
1865*Cerberus		6.8039	2.3	298.0 311.0	-72.0 -78.0							6.80328 6.803286		Durech, 12 Hanus, 15
1889 Pakhmutova	2	17.490	0.50	22.0	-76.0	167.0	-40.0					17.5157		Hanus, 11
1892*Lucienne		9.31	0.42	26.0	-40.0	213.0	-61.0					9.31556		Hanus, 16
1900*Katyusha		9.4999	0.74	94.0	-46.0	291.0	-48.0					9.50358	Y	Durech, 16
1902*Shaposhnikov		21.2	0.42	326.0	37.0	144.0	79.0					20.9959		Hanus, 16
1905 Ambartsumian				52.0	-64.0	241.0	-68.0					92.153		Hanus, 13
1906*Naef		11.009	0.96	72.0	-70.0							11.00818	Y	Durech, 16
1925*Franklin-Adams		2.978	0.25	277.0	57.0	66.0	48.0					2.978301		Hanus, 16
1927 Suvanto		8.164	0.63	74.0	73.0	278.0	23.0					8.16154		Hanus, 13
1930 Lucifer	2	13.056	0.44	32.0	17.0	211.0	-19.0					13.0536		Hanus, 11
1933 Tinchén		3.671	0.55	113.0	26.0	309.0	36.0					3.67062		Hanus, 13
1942*Jablunka		8.91158		156.0	-73.0							8.91158	Y	Durech, 16
1945*Wesselink		3.5457	0.45	190.0	-78.0	336.0	-60.0					3.547454	Y	Durech, 16

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Asteroid	Q	Period	Amp	L ₁	B ₁	L ₂	B ₂	L ₃	B ₃	L ₄	B ₄	Sid. period	Mod	Reference
1946*Walraven		10.223	0.88											
				259.0	-80.0	80.0	-59.0					10.2101		Hanus, 16
1949*Messina		3.6491	0.37											
				138.0	-64.0	326.0	-51.0					3.649308	Y	Durech, 16
1950 Wempe		16.788	0.98											
				90.0	-41.0							16.7953		Hanus, 13
1963 Bezovec		18.160	0.60											
				219.0	7.0							18.1655		Hanus, 13
1978*Patrice		5.881213												
				21.0	13.0	203.0	18.0					5.881213	Y	Durech, 16
1980*Tezcatlipoca	3	7.24612	1.01											
				334.0	-65.0							7.25225	Y	Kaasalainen, 04
				324.0	-69.0							7.25226		Hanus, 15
1985*Hopmann		17.480	0.44											
				107.0	-81.0							17.4787	Y	Durech, 16
1987 Kaplan	2	9.453	0.65											
				356.0	-58.0	233.0	-89.0					9.45950		Hanus, 13
1996 Adams		3.311	0.60											
				107.0	55.0							3.31114		Hanus, 13
				106.0	56.0	281.0	17.0					3.3111390		Kim, 14
1997*Leverrier		8.01532												
				96.0	46.0	274.0	40.0					8.01532	Y	Durech, 16
2001 Einstein	2	5.487	1.02											
				90.0	-70.0							5.48503	Y	Warner, 10
				87.0	-43.0							5.48503		Hanus, 16
2002 Euler		5.9929	0.31											
				30.0	44.0	188.0	47.0					5.99264		Hanus, 13
2036*Sheragul	1	5.4130	1.50											
				306.0	-35.8	117.3	-28.9					5.4159690	Y	Clark, 16
2063 Bacchus	3-	14.904	0.42											
				24.0	-26.0							15.648	Y	Benner, 99
2064*Thomsen		4.233	0.69											
				118.0	-72.0	334.0	-56.0					4.244023	Y	Durech, 16
2086 Newell	R	78.2	1.0											
					-60.0							78.09		Hanus, 13
2094 Magnitka		6.1124	0.86											
				107.0	57.0	272.0	48.0					6.11219		Hanus, 13
2100 Ra-Shalom	2	19.797	0.41											
				194.0	-73.0	359.0	-58.0					19.8201	Y	Kaasalainen, 04
				75.0	16.0							19.793	Y	Shepard, 08
				313.0	-45.0							19.8201	Y	Durech, 12
2110*Moore-Sitterly	R	3.34474	0.50											
					-70.0							3.3447293	Y	Polishook, 14
2112 Ulyanov		3.041	0.36											
				156.0	48.0	334.0	65.0					3.04071		Hanus, 13
2156 Kate	2	5.6228	0.88											
				49.0	74.0							5.62215		Hanus, 11
2275*Cuitlahuac		6.2891	1.10											
				9.0	-65.0							6.29005	Y	Durech, 16
2306*Bauschinger		21.64	0.79											
				0.0	-64.0	225.0	-65.0					21.6704		Hanus, 16
2313*Aruna		8.90	0.79											
				94.0	-80.0	283.0	-70.0					8.88618	Y	Durech, 16
				80.0	-75.0							8.88620		Hanus, 16
2358*Bahner		10.848	0.43											
				0.0	57.0	193.0	52.0					10.8528		Hanus, 16
2381*Landi		3.989	1.04											
				54.0	-87.0	237.0	-45.0					3.986045	Y	Durech, 16
				220.0	-36.0	14.0	-66.0					3.986041		Hanus, 16
2382*Nonie		15.085	0.49											
				205.0	52.0							15.1117		Hanus, 16

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Asteroid	Q	Period	Amp	L ₁	B ₁	L ₂	B ₂	L ₃	B ₃	L ₄	B ₄	Sid. period	Mod	Reference
2384 Schulhof		3.294	0.43	196.0	-60.0	45.0	-42.0					3.29367		Hanus, 13
2393*Suzuki		9.31	0.40	80.0	53.0	222.0	38.0					9.2875		Hanus, 16
2395*Aho		7.88033		160.0	47.0	340.0	46.0					7.88033	Y	Durech, 16
2425*Shenzhen		14.715	0.80	50.0	58.0	265.0	40.0					9.83818	Y	Durech, 16
2430 Bruce Helin	2	128.	0.6	177.0	-68.0							129.75		Hanus, 13
2455*Somville	2+	2.8287	0.18									2.82868	Y	Franco, 15
2483*Guinevere		14.733	1.38	19.0	70.0	194.0	59.0					14.73081	Y	Durech, 16
2495*Noviomagum		6.645	1.06	12.0	-57.0							6.65168		Hanus, 16
2501 Lohja		3.8084	0.35	124.0	84.0							3.808348	Y	Husarik, 14
2510 Shandong		5.9463	0.44	256.0	27.0	71.0	27.0					5.94639		Hanus, 13
2528*Mohler		6.49130		56.0	-64.0	246.0	-54.0					6.49130	Y	Durech, 16
2579*Spartacus		3.63599	0.39	30.6	22.6	208.6	9.0					3.637355	Y	Warner, 12w
2581*Radegast		8.7505	0.79	57.0	56.0	230.0	53.0					8.75121	Y	Durech, 16
2606 Odessa		8.2426	0.80	25.0	-81.0	283.0	-88.0					8.2444		Hanus, 13
2617 Jiangxi		11.77	0.34	224.0	76.0	1.0	54.0					11.7730		Hanus, 13
2630*Hermod		19.4283		74.0	50.0	256.0	45.0					19.4283	Y	Durech, 16
2659*Millis	2	6.132	0.84	290.0	-55.0	112.0	-54.0					6.12464		Hanus, 11
				117.0	-55.0	294.0	-52.0					6.12464	Y	Durech, 16
				109.0	-49.0	288.0	-48.0					6.12464		Hanus, 16
2709 Sagan		5.2564	0.36	302.0	-14.0	124.0	-35.0					5.25636		Hanus, 13
2713*Luxembourg		3.579	0.64	164.0	4.0	343.0	4.0					3.58132		Hanus, 16
2725*David Bender		9.956	0.37	198.0	-37.0	58.0	-57.0					9.95798		Hanus, 16
2741*Valdivia		4.096	0.47	269.0	-31.0	103.0	-59.0					4.09668		Hanus, 16
2785*Sedov		5.49	0.45	206.0	48.0	26.0	54.0					5.47761		Hanus, 16
2791*Paradise		9.81	0.34	100.0	-16.0							9.80729		Hanus, 16
2802*Weisell		14.683	0.37	255.0	-50.0	112.0	-63.0					37.705		Hanus, 16
2836*Sobolev		4.754883		82.0	-51.0	270.0	-79.0					4.754883	Y	Durech, 16
2839 Annette		10.4595	0.92	341.0	-49.0	154.0	-36.0					10.4609		Hanus, 13
2867 Šteins	3	6.049	0.30	250.0	-89.0							6.04681	Y	Lamy, 08
				94.0	-86.0							6.0467905	Y	Lamy, 08
				95.0	-85.0							6.04681	Y	Jorda, 12

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Asteroid	Q	Period	Amp	L ₁	B ₁	L ₂	B ₂	L ₃	B ₃	L ₄	B ₄	Sid. period	Mod	Reference
2948*Amosov		7.3996	1.2											
				267.0	-64.0	33.0	-73.0					7.39889		Hanus, 16
2953 Vysheslavia		6.2945	0.17											
												6.2945		Vokrouhlicky, 06
2957 Tatsuo		6.8191	0.53											
				81.0	45.0	248.0	32.0					6.82043		Hanus, 13
2962*Otto		2.678	0.15											
				230.0	-58.0							2.53632		Hanus, 16
2991 Bilbo		4.0637	0.40											
				277.0	54.0	90.0	51.0					4.06175		Hanus, 13
3015*Candy		4.625	1.05											
				142.0	-26.0	346.0	-70.0					4.625223	Y	Durech, 16
				306.0	43.0							4.63519895	Y	Clark, 16
3017 Petrovič	R	4.08033	0.62											
					-73.0							4.08037		Hanus, 13
3086*Kalbaugh	2	5.180	0.76											
				90.0	-45.0							5.17910	Y	Warner, 10
				63.0	-51.0							5.17907	Y	Durech, 16
3097*Tacitus		7.417	0.51											
				229.0	71.0	72.0	62.0					8.7759		Hanus, 13
3102 Krok		149.4	1.6											
												151.8		Pravec, 05
3103 Eger	P	5.7059	1.55											
	3											5.707		Velichko, 92
				10.0	-50.0							5.706772	Y	Kaasalainen, 02
				226.0	70.0							5.710156	Y	Durech, 12
3169 Ostro		6.503	1.2											
				50.0	54.0	230.0	-54.0							Y Descamps, 07
3170 Dzhanibekov		6.0724	0.64											
				217.0	60.0	21.0	64.0					6.07168		Hanus, 13
3199 Nefertiti		3.021	0.30											
	3			197.0	-22.0							3.020167	Y	Kaasalainen, 04
3200*Phaethon	2	3.604	0.34											
				97.0	-11.0	276.0	-15.0					3.59060		Krugly, 02
				85.0	-20.0							3.6032	Y	Ansdell, 14
3225 Hoag	2	2.3717	0.22											
				45.0	45.0	225.0	45.0					2.37219408	Y	Warner, 10
3247*Di Martino		5.445	0.51											
				53.0	-70.0	231.0	-75.0					5.44517		Hanus, 16
3258*Somnium		5.3379	0.80											
				119.0	-47.0	274.0	-71.0					5.33083		Hanus, 16
3261*Tvardovskij		5.36852												
				90.0	65.0	280.0	68.0					5.36852	Y	Durech, 16
3266*Bernardus		10.757	1.14											
				227.0	-32.0							10.75954		Hanus, 16
3279 Solon	2	8.0969	0.85											
				268.0	-70.0							8.1043		Hanus, 13
3281*Maupertuis		6.7295	1.22											
				62.0	-66.0	231.0	-74.0					6.72984	Y	Durech, 16
3285*Ruth Wolfe		3.919	0.20											
				142.0	33.0							3.93494		Hanus, 16
3286*Anatoliya		5.81029												
				52.0	51.0	293.0	76.0					5.81029	Y	Durech, 16
3301*Jansje		9.4340	0.70											
				1.0	28.0	173.0	40.0					9.42533		Hanus, 16
3375*Amy		3.255633												
				165.0	-50.0	343.0	-49.0					3.255633	Y	Durech, 16
3407*Jimmysimms		6.819	0.95											
				34.0	53.0	259.0	82.0					6.82069	Y	Durech, 16
3428*Roberts		3.278	0.58											
				63.0	49.0	231.0	49.0					3.27835		Hanus, 16

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Asteroid	Q	Period	Amp	L ₁	B ₁	L ₂	B ₂	L ₃	B ₃	L ₄	B ₄	Sid. period	Mod	Reference
3455*Kristensen		8.111	0.40											
				9.0	10.0	186.0	10.0					8.09218		Hanus, 16
3478*Fanale		3.245	0.60											
				95.0	64.0	297.0	62.0					3.244843		Hanus, 16
3492 Petra-Pepi	2	47.05	0.55											
				9.0	-57.0	202.0	-16.0					46.570		Hanus, 13
3544*Borodino		5.442	0.65											
				104.0	-57.0	267.0	-53.0					5.43459	Y	Durech, 16
				294.0	-60.0	157.0	-57.0					5.43460		Hanus, 16
3573*Holmberg		6.5431	1.03											
				142.0	50.0	318.0	52.0					6.54245	Y	Durech, 16
3657 Ermolova		2.6064	0.25											
				261.0	-41.0							2.606513	Y	Husarik, 14
3678 Mongmanwai	2	4.184	0.62											
				125.0	-65.0							4.18297		Hanus, 11
3693*Barringer		6.626	0.54											
				243.0	-43.0							6.62564		Hanus, 16
3722 Urata		5.567	0.58											
				260.0	-22.0	77.0	-9.0					5.5671		Hanus, 13
3725*Valsecchi		3.57	0.52											
				77.0	-54.0	242.0	-53.0					3.56973		Hanus, 16
3735*Třeboň		8.4709	0.55											
				51.0	-54.0	236.0	-69.0					8.47251	Y	Durech, 16
3746*Heyuan		16.3010												
				170.0	66.0	333.0	70.0					16.3010	Y	Durech, 16
3749 Balam	R	2.80483	0.14											
					-40.0							2.80494	Y	Polishook, 14
3752*Camillo		37.846	1.1											
				256.0	-14.0							37.881		Hanus, 16
3758*Karttunen		12.50101												
				74.0	-72.0	202.0	-52.0					12.50101	Y	Durech, 16
3773*Smithsonian		6.9804	1.04											
				121.0	-62.0							6.98132	Y	Durech, 16
				257.0	-51.0	81.0	-50.0					6.98132		Hanus, 16
3786*Yamada	P	4.034	0.65											
				77.0	56.0							4.03294		Hanus, 13
				100.0	61.0	236.0	63.0					4.0329422		Kim, 14
				84.0	54.0	205.0	60.0					4.032946	Y	Durech, 16
					52.0	218.0	48.0					4.03295		Hanus, 16
3787*Aivazovskij		2.97	0.18											
				75.0	59.0	238.0	57.0					2.980807		Hanus, 16
3822*Segovia		11.03204												
				43.0	58.0	265.0	72.0					11.03204	Y	Durech, 16
3896 Pordenone	R	4.009	0.37											
					-32.0							4.400366		Hanus, 13
3908 Nyx	2 3 3	4.42601	0.46											
				177.0	23.0	312.0	61.0					4.42584	Y	Drummond, 90
				43.0	71.0							4.42601	Y	Benner, 02
				292.0	71.0	290.0	68.0					4.42601	Y	Kaasalainen, 04
3910*Liszt		4.73	0.60											
				104.0	-46.0	290.0	-66.0					4.736280	Y	Durech, 16
3918*Brel		3.0980	0.28											
				71.0	58.0	238.0	47.0					3.09679		Hanus, 16
4015 Wilson-Harringt		3.5736	0.2											
				132.0	-34.0							3.576	Y	Urakawa, 12
4037*Ikeya		4.057537												
				92.0	67.0	270.0	44.0					4.057537	Y	Durech, 16
4077 Asuka	2	7.919	0.40											
				42.0	38.0	246.0	47.0					7.9231		Hanus, 11

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Asteroid	Q	Period	Amp	L ₁	B ₁	L ₂	B ₂	L ₃	B ₃	L ₄	B ₄	Sid. period	Mod	Reference
4080*Galinskij		7.3600	1.01	209.0	-74.0							7.35845		Hanus, 16
4089*Galbraith		4.9123	0.68	64.0	69.0	218.0	50.0					4.91316	Y	Durech, 16
4209 Briggs	R	12.22	0.45		-56.0							12.2530		Hanus, 13
4265*Kani		5.7279	0.75	74.0 106.0	67.0 60.0	277.0 310.0	72.0 54.0					5.727574 5.72755	Y	Durech, 16 Hanus, 16
4284*Kaho		4.0584	0.63	6.0	-21.0	193.0	0.0					4.05763		Hanus, 16
4399 Ashizuri	2	2.829	0.32	266.0	-48.0	45.0	-61.0					2.830302		Hanus, 13
4467 Kaidanovskij	P	12.	0.03		54.0							19.1454		Hanus, 13
4483 Petöfi	2	4.33309	1.03	107.0	40.0							4.33299		Warner, 11
4486 Mithra	2	67.5	0.5	337.0	19.0	154.0	-19.0					67.5	Y	Brozovic, 10
4490*Bambery		5.815	1.16	53.0	59.0							5.82345		Hanus, 16
4507 Petercollins		6.58	0.40	143.0	55.0	323.0	49.0					6.57933		Hanus, 13
4554*Fanyka		4.779	0.40	220.0	55.0	64.0	63.0					4.77502		Hanus, 16
4570*Runcorn		20.	0.1	123.0	57.0	287.0	31.0					20.1514		Hanus, 16
4606 Saheki	2	4.969	0.68	44.0	59.0	222.0	68.0					4.97347		Hanus, 13
4611 Vulkaneifel		3.756	0.70	5.0	-86.0	197.0	-50.0					3.75635		Hanus, 13
4641*Ayako		5.3126	0.88	178.0	-46.0	359.0	-50.0					5.313079	Y	Durech, 16
4660 Nereus		15.1	0.8	25.0	80.0							15.16		Brozovic, 09
4674 Pauling	1	2.5306	0.14	0.0	0.0	180.0	0.0					2.53130	Y	Warner, 11
4736 Johnwood	2-	6.210	0.93	60.0	60.0							6.21576		Warner, 10
4764*Joneberhart		5.483	0.97	219.0	-36.0							5.48411		Hanus, 16
4769 Castalia	2 2	4.095	1.0	253.0 253.0	-56.0 -56.0	62.0 242.0	-7.0 7.0					4.095		Hudson, 97 Erikson, 00
4801*Ohře		32.000	0.60	121.0	-74.0	266.0	-85.0					31.9990	Y	Durech, 16
4877*Humboldt		3.491213		218.0	-77.0	340.0	-55.0					3.491213	Y	Durech, 16
4896*Tomoegezen		8.869	0.65	276.0	-66.0							8.87996	Y	Durech, 16
4917*Yurilvovia		1.1	0.05	224.0	20.0	48.0	1.0					4.17744		Hanus, 16
4954 Eric		12.056	0.80	269.0 86.0	52.0 -54.0							12.05581 12.05207		Tungalag, 03 Warner, 11 Hanus, 13
4957 BruceMurray	3-	2.892	0.38	358.0	-50.0							2.8922	Y	Kaasalainen, 04
4979 Otawara	2	2.707	0.28	50.0	-30.0							2.70662	Y	Fornasier, 03

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Asteroid	Q	Period	Amp	L ₁	B ₁	L ₂	B ₂	L ₃	B ₃	L ₄	B ₄	Sid. period	Mod	Reference	
4995*Griffin	2	26.37	0.82	243.0	68.0	355.0	70.0					26.3920	Y	Durech, 16	
5006*Teller		10.898	0.69	84.0	66.0	301.0	57.0					10.90225	Y	Durech, 16	
5008*Miyazawakenji		13.52	0.18	144.0	-52.0	322.0	-25.0					49.239		Hanus, 16	
5026 Martes		4.4243	0.68	354.0	80.0							4.424087	Y	Polishook, 14	
5111*Jacliff		2.839	0.18	259.0	-45.0							2.83990		Hanus, 16	
5145 Pholus		9.980	0.60	149.0 145.0	26.0 30.0	325.0	-30.0	155.0	5.0	335.0	-5.0	9.98221	Y	Farnham, 01 Tegler, 05	
5195*Kaendler		5.33756		67.0	-59.0	212.0	-50.0					5.33756	Y	Durech, 16	
5208*Royer		3.866	0.44	258.0	74.0	54.0	37.0					3.88494		Hanus, 16	
5231*Verne		4.320	0.84	175.0	-45.0	359.0	-88.0					4.32058		Hanus, 16	
5281 Lindstrom				238.0	-72.0	84.0	-81.0					9.2511		Hanus, 13	
5299*Bittesini		4.679660		76.0	60.0	251.0	49.0					4.679660	Y	Durech, 16	
5317*Verolacqua		3.022	0.60	224.0	-51.0							3.02181		Hanus, 16	
5325 Silver		4.02361	0.25	288.0	72.0							4.023569	Y	Husarik, 14	
5332*Davidaguilar		5.803	1.10	266.0	-21.0							5.80285		Hanus, 16	
5461 Autumn				249.0	-26.0	79.0	-43.0					20.0929		Hanus, 13	
5488*Kiyosato		8.7872	0.71	19.0	23.0	242.0	62.0					8.76307	Y	Durech, 16	
5489*Oberkochen		5.625	0.51	23.0 195.0	-62.0 -41.0	194.0 13.0	-38.0 -66.0					5.62439 5.62439	Y	Durech, 16 Hanus, 16	
5494*Johanmohr		5.7272	0.98	137.0	-65.0	323.0	-62.0					5.72752	Y	Durech, 16	
5587 1990 SB		3	5.0522	1.26	250.0	-61.0							5.05227	Y	Kaasalainen, 04
5596*Morbidelli			5.4000	0.57	173.0	-80.0							5.40043		Hanus, 16
5625 Jamesferguson				265.0	-52.0	97.0	-78.0					6.67411		Hanus, 13	
5647 1990 TZ	6.144		0.45	253.0	77.0	119.0	-19.0					6.13867		Hanus, 13	
5685*Sanenobufukui	3.388		0.70	122.0	-63.0	327.0	-58.0					3.387871	Y	Durech, 16	
5723*Hudson	4.475115			72.0	-73.0	255.0	-58.0					4.475115	Y	Durech, 16	
5738*Billpickering	10.4		0.45	2.0	-66.0							10.38264	Y	Durech, 16	
5776*1989 UT ₂	4.34079			105.0 0.0 0.0 0.0 0.0 0.0	-76.0 -72.0 -72.0 -72.0 -72.0 -72.0	350.0	-46.0					4.340787 4.34079 4.34079 4.34079 4.34079 4.34079	Y	Durech, 16 Hanus, 16 Hanus, 16 Hanus, 16 Hanus, 16 Hanus, 16	
5841 Stone	1		2.890	0.11	195.0	0.0							2.889026	Y	Warner, 10

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Asteroid	Q	Period	Amp	L ₁	B ₁	L ₂	B ₂	L ₃	B ₃	L ₄	B ₄	Sid. period	Mod	Reference
5929*Manzano		3.7596	1.01	130.0	-71.0	244.0	-40.0					3.759432	Y	Durech, 16
5960 Wakkanai				226.0	-69.0	69.0	-61.0					4.96286		Hanus, 13
5993*Tammydickinson		9.44711		52.0	-65.0	241.0	-78.0					9.44711	Y	Durech, 16
6000*United Nations		3.262	0.45	13.0	-84.0							3.26191		Hanus, 16
6026*Xenophanes		4.4898	0.39	266.0	-54.0	80.0	-56.0					3.78170		Hanus, 16
6053 1993 BW ₃	3-	2.573	0.51	175.0	-9.0	359.0	-26.0					2.57371	Y	Pravec, 97
	3			108.0	-6.0	345.0	-14.0					2.57390	Y	Durech, 02
	2			178.0	12.0	357.0	-12.0					2.57342	Y	Kaasalainen, 02
6070 Rheinland	2	4.27333	0.58	4.0	-76.0							4.27371	Y	Vokrouhlicky, 11
				110.0	-60.0	290.0	-60.0					4.273715	Y	Polishook, 14
6087*Lupo		4.712	0.66	248.0	-16.0							4.71654		Hanus, 16
6136*Gryphon		16.476	0.61	134.0	57.0	337.0	63.0					16.4683	Y	Durech, 16
6159 1991 YH	2	10.639	0.78	266.0	67.0	62.0	67.0					10.6590		Hanus, 13
6161*Vojno-Yasenetsk		7.98095		64.0	70.0	217.0	41.0					7.98095	Y	Durech, 16
6166*Univisima		9.6	0.6	80.0	-42.0	242.0	-59.0					11.37655	Y	Durech, 16
6179 Brett	R	9.403	0.70		-42.0							9.4063		Hanus, 13
6192*1990 KB ₁		78.85	0.95	61.0	67.0	239.0	75.0					78.631		Hanus, 16
6262 Javid	2	8.02	0.45	93.0	76.0	275.0	66.0					8.02054		Hanus, 13
6276*Kurohone		6.3453	0.85	147.0	63.0	322.0	62.0					6.34850	Y	Durech, 16
6403 Steverin	2	3.4905	0.47	246.0	77.0	109.0	73.0					3.49119		Hanus, 13
6406*1992 MJ		6.819	1.18	17.0	-61.0	216.0	-52.0					6.81816	Y	Durech, 16
				20.0	-63.0	221.0	-55.0					6.81818		Hanus, 16
6410*Fujiwara		7.0073	0.85	148.0	-59.0	296.0	-81.0					7.00667	Y	Durech, 16
				243.0	-85.0							7.00669		Hanus, 16
6422*Akagi		7.74756		213.0	-38.0							7.74756	Y	Durech, 16
6458 Nouda		4.201	0.92	63.0	-2.0	240.0	21.0					4.2030968		Kim, 14
6487*Tonyspear		74.91	1.24	165.0	-90.0							74.501	Y	Durech, 16
6489 Golevka	2	6.026	1.05	345.0	45.0	350.0	25.0	190.0	-55.0			6.0262	Y	Mottola, 97
	2+			202.0	-45.0							6.0289	Y	Hudson, 00
				208.0	-47.0							6.02971	Y	Kaasalainen, 01
6510*Tarry		6.370	0.54	84.0	-72.0	249.0	-37.0					6.36490	Y	Durech, 16
6517*Buzzi		8.648	0.84	227.0	-75.0							8.64468		Hanus, 16
6590*Barolo		8.35928		171.0	59.0	313.0	63.0					8.35928	Y	Durech, 16

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Asteroid	Q	Period	Amp	L ₁	B ₁	L ₂	B ₂	L ₃	B ₃	L ₄	B ₄	Sid. period	Mod	Reference
6671*Concari		5.22042		69.0	57.0	204.0	78.0					5.22042	Y	Durech, 16
6719*Gallaj		4.4305	0.95	60.0	-63.0	252.0	-59.0					4.429487	Y	Durech, 16
6755*Solov'yanenko		8.1681	0.28	224.0	54.0	47.0	58.0					8.1680		Hanus, 16
6882*Sormano		3.6901	0.71	43.0	-33.0	248.0	-58.0					3.998344	Y	Durech, 16
6905*Miyazaki		2.7418	0.14	33.0	7.0	214.0	-4.0					2.733348		Hanus, 16
7001*Noether		9.581	0.65	13.0	-66.0							9.58191	Y	Durech, 16
7043 Godart	2	8.4531	0.68	73.0	62.0	235.0	80.0					8.4518		Hanus, 13
7055 1989 KB	R	4.16845	0.59		-61.0							4.16878		Hanus, 13
7072*Beijingdaxue		5.3041	0.99	72.0	56.0	262.0	64.0					5.304419	Y	Durech, 16
7106*Kondakov		7.59690		63.0	58.0	268.0	81.0					7.59690	Y	Durech, 16
7169*Linda	2	27.864	0.88	11.0	-60.0	198.0	-61.0					27.864		Hanus, 13
7201 Kuritariku				22.0	67.0	249.0	64.0					48.849		Hanus, 13
7233*Majella		3.812	0.66	298.0	-87.0	80.0	-71.0					3.81240		Hanus, 16
7289*Kamegamori		3.8311	0.73	108.0	-39.0	268.0	-54.0					3.831182	Y	Durech, 16
7318*Dyukov		4.856	0.63	65.0	-64.0	239.0	-44.0					4.856335	Y	Durech, 16
7343 Ockeghem		3.7547	0.23	70.0	50.0	260.0	-40.0					3.7554		Polishook, 14
7360 Moberg	R	4.5842	0.41		-18.0							4.58533		Hanus, 13
7517 Alisondoane		9.701	1.13	314.0	-60.0	123.0	-51.0					9.7094		Hanus, 13
7632 Stanislav				234.0	-50.0	46.0	-45.0					5.29073		Hanus, 13
7660*1993 VM ₁		5.924	0.86	321.0	-44.0							5.91818		Hanus, 16
7783*1994 JD		31.83	0.85	70.0	-71.0							31.8661	Y	Durech, 16
7835*Myroncope		7.43019		72.0	-64.0	288.0	-55.0					7.43019	Y	Durech, 16
7896*Švejk		16.20582		86.0	36.0	266.0	35.0					16.20582		Durech, 16
7905*Juzoitami		2.7276	0.66	105.0	-76.0	226.0	-55.0					2.72744		Hanus, 13
7964*1995 DD ₂		10.224	0.84	74.0	-73.0	264.0	-49.0					10.22553	Y	Durech, 16
8043*Fukuhara		22.7606		96.0	-41.0							22.7606		Hanus, 16
8132 Vitginzburg		7.28	0.47	33.0	-66.0	193.0	-48.0					7.27529		Hanus, 13
8359 1989 WD		2.89111	0.70	121.0	-68.0	274.0	-68.0					2.89103		Hanus, 13
8567*1996 HW ₁	3	8.7573	1.00	281.0	-31.0							8.76243	Y	Magri, 11
				283.0	-34.0							8.76239		Hanus, 16

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Asteroid	Q	Period	Amp	L ₁	B ₁	L ₂	B ₂	L ₃	B ₃	L ₄	B ₄	Sid. period	Mod	Reference
8573*Ivanka		8.03312		100.0	-70.0	344.0	-78.0					8.03312	Y	Durech, 16
8860*Rohloff		18.8411		37.0	-58.0							18.8411		Hanus, 16
9440*1997 FZ ₁		5.196349		97.0	-64.0	278.0	-65.0					5.196349	Y	Durech, 16
9542*Eryan		2.79473		200.0	-5.0	21.0	-22.0					2.79473		Hanus, 16
9563*Kitty		5.3673	0.64	272.0	-28.0	91.0	-34.0					5.38191		Hanus, 16
9969 Braille	4	226.4	1.	314.0	65.0							226.4	Y	Oberst, 01
9971*Ishihara		6.7152	1.06	42.0	76.0	223.0	60.0					6.71574	Y	Durech, 16
9983*Rickfienberg		5.2963	1.30	120.0	-58.0	248.0	-77.0					5.29616	Y	Durech, 16
10064*Hirosetamotsu		8.052	0.74	78.0	-45.0	240.0	-57.0					12.1277		Hanus, 16
10115 1992 SK	3	7.319	1.03	99.0	-3.0							7.31832	Y	Busch, 06
10281*1981 EE ₄₅		7.572	0.70	183.0	-88.0							7.57192	Y	Durech, 16
10472*1981 EO ₂₀		5.98599		73.0	37.0	249.0	43.0					5.98599	Y	Durech, 16
10627*Ookuninushi		4.334986		3.0	49.0	204.5	89.0					4.334986	Y	Durech, 16
10772 1990 YM		68.7	1.3	16.0	46.0							68.82		Hanus, 13
10826 1993 SK ₁₆		13.835	0.61	260.0	-56.0	60.0	-34.0					13.8327		Hanus, 13
11052*1990 WM		5.06904		194.0	-49.0	351.0	-78.0					5.06904	Y	Durech, 16
11058*1991 PN ₁₀		6.517	0.78	234.0	-64.0							6.51669		Hanus, 16
11148*Einhardress		7.77240		121.0	-69.0	296.0	-64.0					7.77240	Y	Durech, 16
11700*1998 FT ₁₁₅		5.52303		82.0	-64.0	280.0	-72.0					5.52303	Y	Durech, 16
11958*Galiani		9.801	0.96	12.0	47.0							8.24720	Y	Durech, 16
11995*1995 YB ₁		12.66498		70.0	-80.0	238.0	-68.0					12.66498	Y	Durech, 16
12045*Klein		8.9686	0.55	77.0	-22.0							9.00648	Y	Durech, 16
12384*Luigimartella		6.4399	0.80	4.0	-50.0	160.0	-60.0					6.44220	Y	Durech, 16
12551*1998 QQ ₃₉		11.19841		123.0	50.0	299.0	44.0					11.19841	Y	Durech, 16
12753*Povenmire		17.5752	1.12	138.0	-28.0	295.0	-48.0					17.5740	Y	Durech, 16
12774*Pfund		7.34295		121.0	53.0	308.0	62.0					7.34295	Y	Durech, 16
12979*Evgalvasil'ev		5.78331		45.0	-68.0	203.0	-62.0					5.78331	Y	Durech, 16
13002 1982 BJ ₁₃				58.0	-50.0	245.0	-57.0					3.13844		Hanus, 13
13059*Ducuroir		13.8496	0.78	117.0	71.0	311.0	73.0					13.84864	Y	Durech, 16

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Asteroid	Q	Period	Amp	L_1	B_1	L_2	B_2	L_3	B_3	L_4	B_4	Sid. period	Mod	Reference
13338*1998 <i>SK</i> ₁₁₉		4.129105		86.0	-42.0	240.0	-70.0					4.129105	Y	Durech, 16
13535*1991 <i>RS</i> ₁₃		5.22705		127.0	-64.0	318.0	-60.0					5.22705	Y	Durech, 16
13952*Nykvist		7.349	0.99	13.0	58.0	193.0	67.0					7.35225	Y	Durech, 16
14031*Rozyo		2.900652		41.0	-62.0	180.0	-60.0					2.900652	Y	Durech, 16
14044*1995 <i>VS</i> ₁		9.25874		95.0	-47.0	253.0	-57.0					9.25874	Y	Durech, 16
14197*1998 <i>XK</i> ₇₂		10.7	0.67	192.0	-74.0	38.0	-62.0					10.6453		Hanus, 16
14203*Hocking		9.08566		106.0	81.0	240.0	52.0					9.08566	Y	Durech, 16
14257*2000 <i>AR</i> ₉₇		13.584	0.67	57.0	67.0							13.57929	Y	Durech, 16
14691*2000 <i>AK</i> ₁₁₉		3.652	0.78	38.0	-54.0	248.0	-68.0					3.652412	Y	Durech, 16
15621 Erikhovland		5.3426	0.85	0.0	-35.0							5.34226		Hanus, 13
15677*1980 <i>TZ</i> ₅		5.6144	0.78	75.0	-64.0	226.0	-75.0					5.61479	Y	Durech, 16
16009 1999 <i>CM</i> ₈		16.70	0.65	283.0	44.0							8.3476		Hanus, 13
16173*2000 <i>AC</i> ₉₈		6.4842	0.36	37.0	-48.0	209.0	-37.0					6.48550		Hanus, 16
16216*2000 <i>DR</i> ₄		10.36816		130.0	-66.0							10.36816	Y	Durech, 16
16403 1984 <i>WJ</i> ₁		7.5391	0.18	216.0	30.0	13.0	48.0					7.53748		Hanus, 13
16468*1990 <i>HW</i> ₁		94.13		119.0	-84.0							94.13		Hanus, 16
16786*1997 <i>AT</i> ₁		4.0231	0.50	178.0	56.0	307.0	60.0					4.020902	Y	Durech, 16
16847*Sanpoloamosciano		8.182	0.56	91.0	-24.0							8.1845		Hanus, 13
16955*1998 <i>KU</i> ₄₈		5.2597	0.50	122.0	-48.0	264.0	-51.0					5.26062	Y	Durech, 16
17111*1999 <i>JH</i> ₅₂		8.89847		157.0	46.0	328.0	62.0					8.89847	Y	Durech, 16
18487*1996 <i>AU</i> ₃		6.512	0.72	245.0	-45.0	91.0	-70.0					6.59077		Hanus, 16
19848 Yeungchuchiu		3.450	0.70	190.0	-68.0							3.45104		Hanus, 13
20329*Manfro		8.80724		92.0	-55.0	258.0	-63.0					8.80724	Y	Durech, 16
20570*Molchan		4.1315	0.54	40.0	-52.0	244.0	-59.0					4.132007	Y	Durech, 16
20725*1999 <i>XP</i> ₁₂₀		3.601296		170.0	67.0	334.0	45.0					3.601296	Y	Durech, 16
21028 1989 <i>TO</i>		3.6644	0.47	86.0	0.0	292.0	-62.0					3.66527	Y	Stephens, 15
21411*Abifraeman		11.02020		249.0	-63.0							11.02020	Y	Durech, 16
22018*1999 <i>XK</i> ₁₀₅		17.0575		61.0	45.0	228.0	31.0					17.0575	Y	Durech, 16
22298*1990 <i>EJ</i>		2.985538		64.0	-42.0	244.0	-72.0					2.985538	Y	Durech, 16

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Asteroid	Q	Period	Amp	L ₁	B ₁	L ₂	B ₂	L ₃	B ₃	L ₄	B ₄	Sid. period	Mod	Reference	
23578*Baedeker	3	8.17154		141.0	-53.0							8.17154	Y	Durech, 16	
23707*1997 TZ ₇		5.06632		185.0	79.0	334.0	35.0					5.06632	Y	Durech, 16	
23873*1998 RL ₇₆		13.8559	1.23		56.0	-74.0							13.86111	Y	Durech, 16
25143 Itokawa		12.132	1.05												
26241*1998 QY ₄₀		12.8346	0.71		355.0	-84.0	39.0	-87.0					12.132	Y	Ostro, 01
					320.0	-75.0							12.15	Y	Abe, 02
26387*1999 TG ₂		5.14720			40.0	45.0							12.83303	Y	Kaasalainen, 03
26460 2000 AZ ₁₂₀		5.48	0.90		94.0	-46.0	325.0	-79.0					5.14720	Y	Ohba, 03
26792 1975 LY					9.0	-87.0	230.0	-47.0					5.45444	Y	Durech, 16
27225*1999 GB ₁₇		3.853858			226.0	68.0							79.15		Hanus, 13
28133*Kylebardwell		5.46284			72.0	54.0	266.0	31.0					3.853858	Y	Durech, 16
28736*2000 GE ₁₃₃		4.658	0.44		126.0	-49.0	310.0	-56.0					5.46284	Y	Durech, 16
28887*2000 KQ ₅₈		6.8429	0.55		249.0	-52.0	134.0	-84.0					4.65442		Hanus, 16
					11.0	-61.0	191.0	-21.0					6.84315	Y	Durech, 16
					182.0	-35.0	354.0	-78.0					6.84315		Hanus, 16
29075 1950 DA		2.1216	0.20		88.6	77.7	187.4	-89.5					2.12160	Y	Busch, 07
29308*1993 UF ₁		9.810	0.94		71.0	-56.0	246.0	-83.0					9.79348	Y	Durech, 16
29777*1999 CK ₄₆		3.6295	0.49		32.0	56.0	224.0	40.0					3.627265	Y	Durech, 16
31060*1996 TB ₆		5.103	0.80		103.0	-52.0	253.0	-76.0					5.104323	Y	Durech, 16
					216.0	-66.0	74.0	-39.0					5.10432		Hanus, 16
31383 1998 XJ ₉₄	4.1678	0.58		110.0	-74.0	279.0	-63.0					4.16818		Hanus, 13	
31485*1999 CM ₅₁	6.001	0.68		94.0	-36.0	316.0	-56.0					6.00262	Y	Durech, 16	
32575*2001 QY ₇₈	4.5344	0.86		60.0	-70.0	223.0	-64.0					4.535495	Y	Durech, 16	
32776*Nriag	3.985	0.60		239.0	-59.0	102.0	-76.0					3.98679		Hanus, 16	
32799*1990 QN ₁	9.49636			71.0	75.0	258.0	72.0					9.49636	Y	Durech, 16	
32814 1990 XZ	2.8509	0.19		71.0	34.0	320.0	-20.0					2.85022	Y	Stephens, 15	
33116*1998 BO ₁₂	6.345	0.36		244.0	69.0	45.0	54.0					6.34669		Hanus, 16	
33342*1998 WT ₂₄	3.697	0.65		15.0	-22.0							3.6970		Busch, 08	
				1.0	10.0							3.69375	Y	Warner, 16	
33776*1999 RB ₁₅₈	16.9593			46.0	64.0	247.0	42.0					16.9593	Y	Durech, 16	
33854*2000 HH ₅₃	4.423484			114.0	-56.0	236.0	-78.0					4.423484	Y	Durech, 16	
33974*2000 ND ₁₇	4.67868			132.0	-55.0	347.0	-65.0					4.67868	Y	Durech, 16	

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Asteroid	<i>Q</i>	Period	Amp	L ₁	B ₁	L ₂	B ₂	L ₃	B ₃	L ₄	B ₄	Sid. period	Mod	Reference
34318*2000 <i>QV</i> ₁₉₂		6.35105		81.0	-70.0	237.0	-36.0					6.35105	Y	Durech, 16
34484*2000 <i>SR</i> ₁₂₄		6.174	0.80	236.0 116.0	-55.0 -59.0	268.0	-80.0					6.17519 6.17516	Y	Durech, 16 Hanus, 16
35218*1994 <i>WU</i> ₂		11.56991		138.0	-56.0	304.0	-68.0					11.56991	Y	Durech, 16
35928*1999 <i>JV</i> ₁₀₇		7.26361		137.0	-52.0	302.0	-75.0					7.26361	Y	Durech, 16
35965*1999 <i>LH</i> ₁₃		6.76072		63.0	-70.0	245.0	-55.0					6.76072	Y	Durech, 16
36303*2000 <i>JM</i> ₅₄		4.93652		55.0	-48.0	225.0	-46.0					4.93652	Y	Durech, 16
36487*2000 <i>QJ</i> ₄₂		8.1509	0.64	127.0	-66.0	332.0	-50.0					8.14982	Y	Durech, 16
36944*2000 <i>SD</i> ₂₄₉		6.09677		96.0	-69.0	295.0	-76.0					6.09677	Y	Durech, 16
40104*1998 <i>QE</i> ₄		4.4747	0.60	144.0	-87.0							4.475241	Y	Durech, 16
40478*1999 <i>RT</i> ₅₄		3.886734		184.0	-66.0	358.0	-65.0					3.886734	Y	Durech, 16
40806*1999 <i>TX</i> ₄₁		6.41500		82.0	-69.0	269.0	-64.0					6.41500	Y	Durech, 16
42923*1999 <i>SR</i> ₁₈		8.392	1.20	46.0	69.0							8.3889		Hanus, 16
43163*1999 <i>XB</i> ₁₂₇		5.20660		154.0	-59.0							5.20660	Y	Durech, 16
44600*1999 <i>RU</i> ₁₀		6.211	1.09	267.0	-24.0							6.21130	Y	Durech, 16
44612 1999 <i>RP</i> ₂₇		4.9070	0.49	60.0	-50.0	240.0	-50.0					4.907068	Y	Polishook, 14
45864*2000 <i>UO</i> ₉₇		5.13544		44.0	-66.0	179.0	-84.0					5.13544	Y	Durech, 16
46376*2001 <i>XD</i> ₃		5.73569		121.0	55.0							5.73569	Y	Durech, 16
47035 1998 <i>WS</i>		3.99	0.15	72.0	71.0							3.99590	Y	Warner, 12
47508*2000 <i>AQ</i> ₅₈		5.05521		12.0	-49.0	196.0	-26.0					5.05521	Y	Durech, 16
47574*2000 <i>AF</i> ₁₇₁		4.324751		104.0	-36.0	279.0	-49.0					4.324751	Y	Durech, 16
48268*2002 <i>AK</i> ₁		4.250546		72.0	-69.0	234.0	-35.0					4.250546	Y	Durech, 16
48842*1998 <i>BA</i> ₄₄		6.1841	0.64	86.0	83.0	254.0	43.0					6.17996	Y	Durech, 16
52723*1998 <i>GP</i> ₂		11.90781		86.0	-39.0	224.0	-56.0					11.90781	Y	Durech, 16
52820 1998 <i>RS</i> ₂				228.0	-57.0	58.0	-48.0					2.13412		Hanus, 13
54509 YORP		0.2029	0.89	180.0	-8.5							0.20290068	Y	Taylor, 07
54850*2001 <i>OZ</i> ₁₁		4.222157		20.0	-68.0	189.0	-48.0					4.222157	Y	Durech, 16
55200*2001 <i>RO</i> ₁₉		18.3910		14.0	-70.0	186.0	-58.0					18.3910	Y	Durech, 16
57394 2001 <i>RD</i> ₈₄		6.74	0.60	65.0	68.0	241.0	59.0					6.7199		Hanus, 13
64480*2001 <i>VG</i> ₄₅		6.49717		128.0	-60.0	265.0	-72.0					6.49717	Y	Durech, 16

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Asteroid	Q	Period	Amp	L_1	B_1	L_2	B_2	L_3	B_3	L_4	B_4	Sid. period	Mod	Reference
65803 Didymos		2.2593	0.24	157.0	19.0	329.0	-70.0							Scheirich, 09
66063 1998 RO ₁		2.4924	0.16	277.0	37.0	274.0	48.0							Scheirich, 09
66076*1998 RD ₅₃		8.93855		100.0	-54.0	233.0	-66.0					8.93855	Y	Durech, 16
66391 1999 KW ₄		2.7650	0.4	341.0	-56.0									Scheirich, 09
67404*2000 PG ₂₆		5.398	0.70	149.0	69.0							5.39877		Hanus, 16
69117*2003 EX ₂		4.74608		13.0	70.0							4.74608	Y	Durech, 16
71011*1999 XE ₄₅		4.69449		91.0	-24.0	264.0	-31.0					4.69449	Y	Durech, 16
74155*1998 QK ₉₃		15.9680		264.0	50.0							15.9680	Y	Durech, 16
75167*1999 VF ₁₂₈		10.27743		190.0	-56.0	350.0	-55.0					10.27743	Y	Durech, 16
75495*1999 XM ₁₈₁		14.6818	0.69	64.0	-32.0	252.0	-64.0					14.69041	Y	Durech, 16
76214*2000 EV ₆₄		9.27775		168.0	28.0							9.27775	Y	Durech, 16
77677*2001 MA ₂₅		5.304712		139.0	-69.0	326.0	-55.0					5.304712	Y	Durech, 16
78420*2002 QU ₄₀		4.90	1.1	123.0	-46.0	327.0	-45.0					4.91365	Y	Durech, 16
79436*1997 TD ₆		3.635352		70.0	-53.0	201.0	-68.0					3.635352	Y	Durech, 16
80112*1999 RN ₆₁		4.923622		70.0	-58.0	247.0	-39.0					4.923622	Y	Durech, 16
80276*1999 XL ₃₂		5.56	0.77	60.0	38.0	275.0	63.0					5.57148	Y	Durech, 16
81740*2000 JA ₄₆		9.343	0.45	100.0	-72.0	310.0	-47.0					9.34151	Y	Durech, 16
81911*2000 NV ₉		6.95480		136.0	23.0	334.0	49.0					6.95480	Y	Durech, 16
82642*2001 PX ₅		11.61144		53.0	37.0	241.0	67.0					11.61144	Y	Durech, 16
85489*1997 SV ₂		5.79502		317.0	-56.0							5.79502	Y	Durech, 16
85532*1997 WD ₂₁		4.7682	0.53	117.0	-75.0							4.76820	Y	Durech, 16
86257*1999 TK ₂₀₇		32.408	1.51	28.0	-60.0							32.4029		Hanus, 16
88161*2000 XK ₁₈		6.806	0.80	195.0	53.0	340.0	70.0					6.80480	Y	Durech, 16
89764*2002 AW ₆₁		5.93513		8.0	-45.0	152.0	-60.0					5.93513	Y	Durech, 16
91063*1998 FX ₆₂		15.2404	0.80	53.0	-44.0	191.0	-60.0					11.66510	Y	Durech, 16
94808*2001 XM ₁₆₇		10.66092		9.0	-59.0	197.0	-63.0					10.66092	Y	Durech, 16
96461*1998 HS ₃₆		12.67641		166.0	-60.0	344.0	-72.0					12.67641	Y	Durech, 16
97346*2000 AF ₁₀		7.65364		11.0	42.0	222.0	50.0					7.65364	Y	Durech, 16
99667*2002 JO ₁		5.07877		86.0	-57.0	262.0	-42.0					5.07877	Y	Durech, 16

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Asteroid	<i>Q</i>	Period	Amp	<i>L</i> ₁	<i>B</i> ₁	<i>L</i> ₂	<i>B</i> ₂	<i>L</i> ₃	<i>B</i> ₃	<i>L</i> ₄	<i>B</i> ₄	Sid. period	Mod	Reference
99942 Apophis		30.56	1.14									30.56		Pravec, 14
101955 Bennu	3	4.2968	0.3	250.0	-75.0							4.29746	Y	Nolan, 13
153591 2001 <i>SN</i> ₂₆₃		3.423	0.27	45.0	-88.0									Becker, 15
162173 Ryugu		7.627	0.16	309.0	-80.0							7.6273922		Abe, 08
				125.0	90.0							7.63	Y	Hasegawa, 08
				73.0	-62.0									Muller, 11
162421 2000 <i>ET</i> ₇₀	3	8.947	0.60	80.0	-50.0							8.96	Y	Naidu, 13
175706 1996 <i>FG</i> ₃		3.5942	0.15	242.0	-84.0									Scheirich, 09
185851 2000 <i>DP</i> ₁₀₇		2.7754	0.21	291.0	80.0	31.0	-61.0							Scheirich, 09
276049 2002 <i>CE</i> ₂₆		3.2930	0.07	317.0	-20.0								Y	Shepard, 06
308635 2005 <i>YU</i> ₅₅	1	19.31	0.20	22.0	-35.0	339.0	84.0							Merline, 11
				170.0	83.0									Merline, 12
				60.0	-60.0									Muller, 13
341843 2008 <i>EV</i> ₅	3	3.725	0.15	180.0	-84.0							3.725	Y	Busch, 11
374851 2006 <i>VV</i> ₂	2	2.425	0.57	29.0	37.0							2.410541	Y	Vereshchagina, 11
436724*2011 <i>UW</i> ₁₅₈	2	0.61073	2.05									0.610752	Y	Carbognani, 16

F o o t n o t e. The Table includes information about spin axis properties (ecliptic coordinates of spin vector pole and sidereal period) for any minor planet for which corresponding data have been reported. For each object the Table contains the summary line (the first one) and detail entries. The summary line gives the number and name (if any) of the object along with the adopted period of lightcurve and amplitude. The details line gives the additional information such as quality rating, pole solutions, sidereal period, and publication reference. Posting on a web site are given as the current year + “*w*” (e. g., Warner, 11w). An asterisk (*) between the asteroid number and name denotes a new or significantly changed entry.

The *Q* value in details line gives assessment of the quality of the pole solution and closely parallels the reliability ratings assigned to lightcurves.

- 0 Later proven to be wrong.
- 1 May be completely wrong.
- 2 Good determination, pole likely correct to 15 – 20°, but may be ambiguous with two or more solutions that are possible, or the sense of rotation is not determined.
- 3 Reliable determination of both spin axis direction and sense of rotation, i. e., prograde or retrograde.
- 4 Reliable determination. Same as *Q* = 3 but a shape model has been determined by inversion, adaptive optics observations, or radar, or ambiguous models have been eliminated by occultation profile matching.
- P A prograde rotation has been determined but no specific pole position has been determined.
- R A retrograde rotation has been determined by no specific pole position has been determined.

If the *Q* value is blank, the given pole solution has not yet been reviewed under the new rating system. Then in details lines ecliptic longitude and latitude of the first solution, those of the second one and so on are given. In column “Sid. period” the sidereal period of spin axis solution is given. In the penultimate column symbol “Y” means that shape model has been reported.

A more complete and thorough catalog is maintained by Kryszczyńska et al. at the Poznan Observatory in Poland. This catalog can be accessed via <http://vesta.astro.amu.edu.pl/Science/Asteroids/>. Josef Durech also maintains a list of spin axis solutions, with shape models and data files. His site is at <http://astro.troja.mff.cuni.cz/projects/asteroids3D/>.