

**AUD (#0197):** Total of 69 orbits.  $\lambda_o = 155^\circ$ ,  $\lambda_g - \lambda_o = 47.5^\circ$ ,  $\beta_g = 81.6^\circ$ ,  $\Delta r = 3^\circ$ ,  $\Delta \lambda_o = 5^\circ$ ,  $\theta = -15^\circ$ . Should be called ‘zeta Draconids’, though there is another ‘ZDR’ in the SD. All ‘AUD’ in the SD have incorrect values, because they are derived from orbits contaminated with sporadics and AXD.

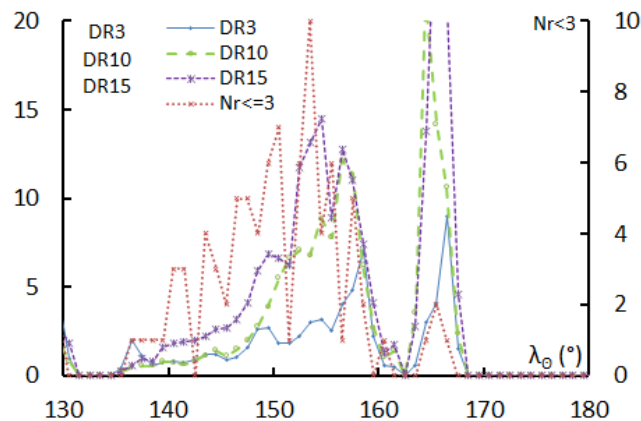
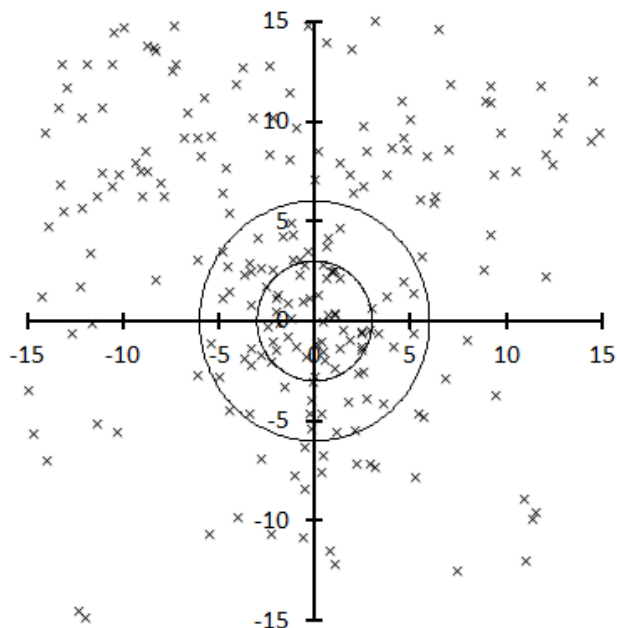


Table 1 – Number per year.

Year	N	Year	N
2007	2	2013	7
2008	1	2014	1
2009	11	2015	1
2010	14	2016	2
2011	3	2017	7
2012	15	2018	5

Table 2 – Activity profiles.

	$\lambda_o$	Max
Nr<=3	153.5	10
DR3	158.5	7.0
DR10	156.5	12.2
DR15	154.5	14.5

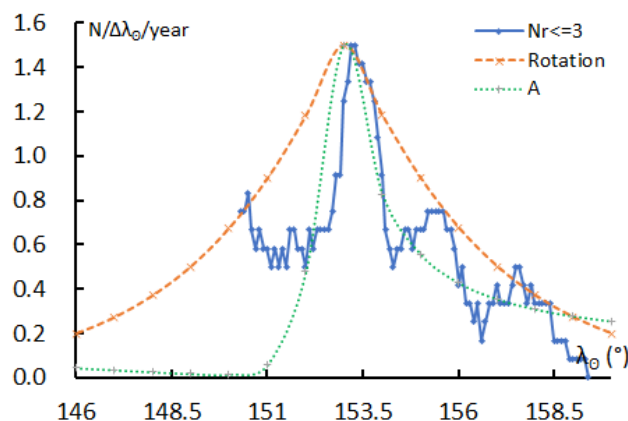


Table 3 – Evolution of the orbital parameters during the activity period.

$\lambda_o$	$\lambda_g - \lambda_o$	$\beta_g$	$\alpha_g$	$\delta_g$	$v_g$	$e$	$q$	$i$	$\omega$	$\Omega$	$\lambda_{II}$	$\beta_{II}$	$a$
140	185.0	74.9	292.3	55.7	23.4	0.599	0.973	38.1	206.6	140.0	341.5	-16.0	2.43
141	183.4	76.3	290.6	56.8	23.2	0.601	0.980	37.8	204.0	141.0	340.4	-14.5	2.46
142	181.4	77.7	288.7	57.7	23.1	0.603	0.986	37.6	201.5	142.0	339.3	-12.9	2.49
143	178.9	79.1	286.7	58.7	22.9	0.606	0.992	37.3	199.1	143.0	338.4	-11.4	2.52
144	175.7	80.4	284.5	59.5	22.8	0.609	0.996	37.1	196.7	144.0	337.4	-10.0	2.55
145	171.4	81.7	282.1	60.3	22.6	0.612	1.000	36.8	194.3	145.0	336.5	-8.5	2.58
146	165.6	83.0	279.6	61.0	22.4	0.615	1.004	36.5	192.0	146.0	335.7	-7.1	2.60
147	157.4	84.2	276.9	61.6	22.3	0.618	1.006	36.2	189.8	147.0	334.9	-5.7	2.63
148	145.6	85.1	274.2	62.0	22.1	0.621	1.008	35.8	187.5	148.0	334.1	-4.4	2.66
149	129.0	85.8	271.3	62.4	21.9	0.624	1.010	35.5	185.4	149.0	333.4	-3.1	2.69
150	108.3	86.0	268.3	62.7	21.8	0.628	1.011	35.1	183.3	150.0	332.7	-1.9	2.71
151	88.1	85.7	265.2	62.8	21.6	0.631	1.011	34.8	181.2	151.0	332.0	-0.7	2.74
152	72.1	85.0	262.1	62.9	21.5	0.634	1.011	34.4	179.2	152.0	331.4	0.4	2.76
153	60.9	84.0	259.1	62.8	21.3	0.638	1.010	34.0	177.3	153.0	330.7	1.5	2.79
154	53.1	82.8	256.0	62.6	21.1	0.641	1.009	33.6	175.4	154.0	330.1	2.6	2.81
155	47.5	81.6	253.1	62.3	21.0	0.644	1.008	33.2	173.5	155.0	329.6	3.5	2.83
156	43.4	80.2	250.2	61.9	20.8	0.647	1.006	32.7	171.7	156.0	329.0	4.5	2.85
157	40.3	78.9	247.4	61.3	20.6	0.650	1.003	32.3	169.9	157.0	328.4	5.4	2.87
158	37.9	77.5	244.8	60.7	20.5	0.653	1.001	31.8	168.2	158.0	327.9	6.2	2.88
159	36.0	76.1	242.3	60.0	20.3	0.655	0.998	31.3	166.5	159.0	327.4	7.0	2.90

Table 3 – Continued, evolution of the orbital parameters during the activity period.

$\lambda_{\theta}$	$\lambda_g - \lambda_{\theta}$	$\beta_g$	$\alpha_g$	$\delta_g$	$v_g$	$e$	$q$	$i$	$\omega$	$\Omega$	$\lambda_{\Pi}$	$\beta_{\Pi}$	$a$
160	34.4	74.7	240.0	59.2	20.2	0.658	0.995	30.9	164.9	160.0	326.9	7.7	2.91
161	33.1	73.2	237.9	58.3	20.0	0.660	0.992	30.4	163.3	161.0	326.5	8.4	2.92
162	31.9	71.8	235.9	57.3	19.8	0.662	0.988	29.9	161.7	162.0	326.0	9.0	2.93
163	31.0	70.4	234.0	56.3	19.7	0.664	0.984	29.4	160.2	163.0	325.6	9.6	2.93
164	30.1	68.9	232.3	55.2	19.5	0.666	0.980	28.8	158.7	164.0	325.2	10.1	2.94
165	29.4	67.5	230.8	54.1	19.3	0.668	0.976	28.3	157.3	165.0	324.8	10.6	2.94