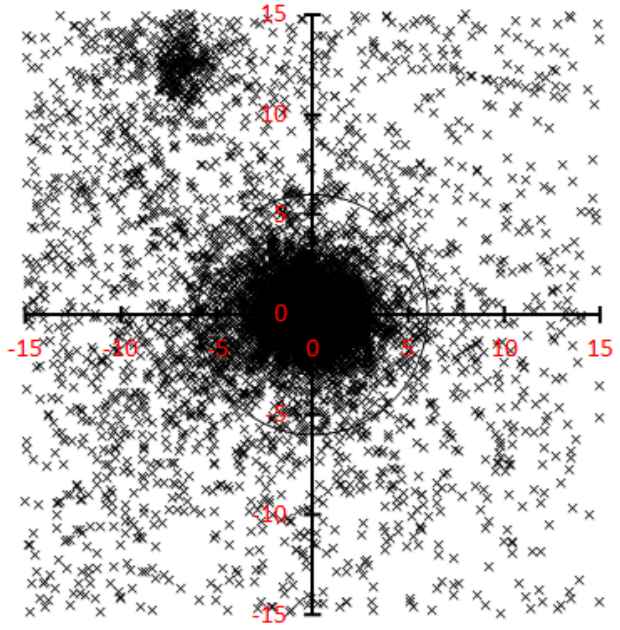
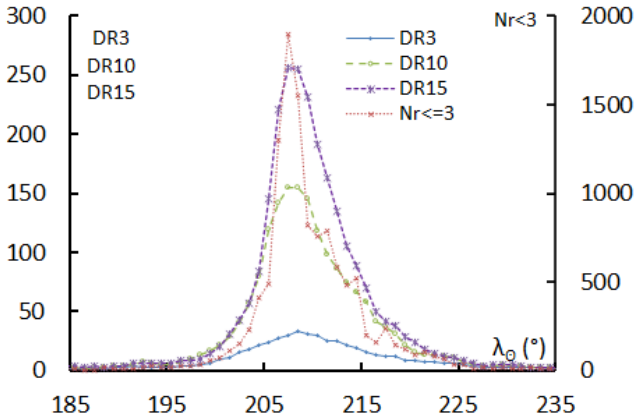
ORI (#0008): Total of **10440** orbits. $\lambda_\odot$ = 209°, λ_g–$\lambda_\odot$ = 246.7°, β_g = 37.5°, Δr = 3°, $\Delta\lambda_\odot$ = 8°. SonotaCo net caught Orionids outbursts between 2007 and 2009 and the published results, especially DR_{max} and N_{max} reflect such high activity level.





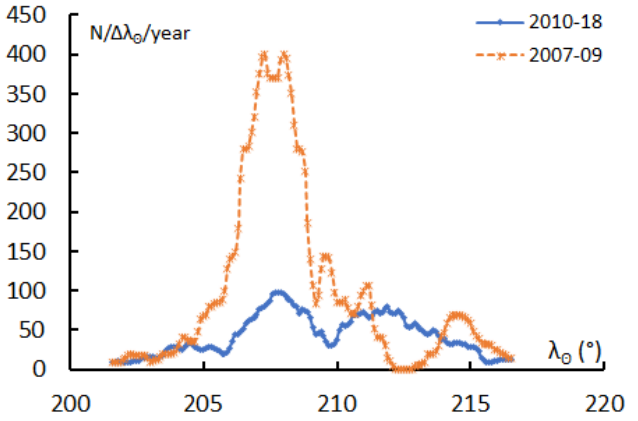


Table 1 – Number per year.

Year	N	Year	N
2007	1505	2013	201
2008	1040	2014	599
2009	1926	2015	705
2010	277	2016	736
2011	722	2017	354
2012	1177	2018	1198

Table 2 – Activity profiles.

	$\lambda_\odot$	Max
Nr<=3	207.5	1897
DR3	208.5	33.8
DR10	208.5	155.1
DR15	207.5	255.7

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

$\lambda_\odot$	λ_g–$\lambda_\odot$	β_g	α_g	δ_g	v_g	e	q	i	ω	Ω	λ_Π	β_Π	a
180	254.7	–9.9	74.5	12.7	68.2	0.940	0.801	161.5	54.2	0.0	307.2	14.9	13.38
181	254.4	–9.8	75.3	12.9	68.1	0.938	0.794	161.6	55.3	1.0	307.1	15.0	12.89
182	254.1	–9.8	76.0	13.0	68.0	0.937	0.787	161.7	56.3	2.0	307.0	15.2	12.45
183	253.9	–9.7	76.7	13.2	67.9	0.935	0.779	161.8	57.4	3.0	307.0	15.3	12.06
184	253.6	–9.6	77.4	13.3	67.9	0.934	0.772	161.8	58.4	4.0	306.9	15.4	11.70
185	253.3	–9.5	78.2	13.4	67.8	0.933	0.764	161.9	59.5	5.0	306.8	15.5	11.37
186	253.0	–9.4	78.9	13.6	67.7	0.932	0.756	162.0	60.5	6.0	306.7	15.6	11.08
187	252.8	–9.4	79.6	13.7	67.6	0.931	0.749	162.1	61.6	7.0	306.7	15.7	10.81
188	252.5	–9.3	80.3	13.8	67.6	0.930	0.741	162.1	62.6	8.0	306.6	15.8	10.57
189	252.2	–9.2	81.1	14.0	67.5	0.929	0.733	162.2	63.6	9.0	306.5	15.9	10.34
190	251.9	–9.1	81.8	14.1	67.4	0.929	0.725	162.3	64.6	10.0	306.4	16.0	10.14
191	251.7	–9.1	82.5	14.2	67.3	0.928	0.717	162.4	65.7	11.0	306.4	16.0	9.96
192	251.4	–9.0	83.3	14.3	67.3	0.928	0.709	162.4	66.7	12.0	306.3	16.1	9.79
193	251.1	–8.9	84.0	14.4	67.2	0.927	0.701	162.5	67.7	13.0	306.3	16.1	9.63
194	250.9	–8.8	84.7	14.5	67.1	0.927	0.693	162.6	68.7	14.0	306.2	16.2	9.49
195	250.6	–8.7	85.5	14.6	67.0	0.927	0.685	162.7	69.7	15.0	306.2	16.2	9.36
196	250.3	–8.7	86.2	14.7	67.0	0.927	0.677	162.8	70.7	16.0	306.1	16.3	9.25
197	250.0	–8.6	87.0	14.8	66.9	0.927	0.669	162.8	71.7	17.0	306.1	16.3	9.14
198	249.8	–8.5	87.7	14.9	66.8	0.927	0.661	162.9	72.7	18.0	306.0	16.3	9.05
199	249.5	–8.4	88.5	15.0	66.7	0.927	0.653	163.0	73.7	19.0	306.0	16.3	8.96

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

$\lambda_\odot$	λ_g–$\lambda_\odot$	β_g	α_g	δ_g	v_g	e	q	i	ω	Ω	λ_Π	β_Π	a
200	249.2	–8.4	89.2	15.1	66.7	0.927	0.644	163.1	74.7	20.0	306.0	16.3	8.88
201	248.9	–8.3	89.9	15.2	66.6	0.928	0.636	163.1	75.7	21.0	305.9	16.3	8.82
202	248.7	–8.2	90.7	15.2	66.5	0.928	0.628	163.2	76.6	22.0	305.9	16.3	8.76
203	248.4	–8.1	91.4	15.3	66.4	0.929	0.620	163.3	77.6	23.0	305.9	16.3	8.71
204	248.1	–8.0	92.2	15.4	66.4	0.929	0.612	163.4	78.6	24.0	305.9	16.3	8.66
205	247.9	–8.0	92.9	15.5	66.3	0.930	0.603	163.5	79.5	25.0	305.9	16.2	8.63
206	247.6	–7.9	93.7	15.5	66.2	0.931	0.595	163.6	80.5	26.0	305.9	16.2	8.60
207	247.3	–7.8	94.4	15.6	66.1	0.932	0.587	163.6	81.4	27.0	305.9	16.2	8.58
208	247.0	–7.7	95.2	15.6	66.1	0.932	0.579	163.7	82.4	28.0	305.9	16.1	8.56
209	246.8	–7.6	95.9	15.7	66.0	0.933	0.571	163.8	83.3	29.0	305.9	16.1	8.56
210	246.5	–7.5	96.7	15.7	65.9	0.934	0.562	163.9	84.3	30.0	306.0	16.0	8.56
211	246.2	–7.5	97.4	15.8	65.8	0.935	0.554	164.0	85.2	31.0	306.0	16.0	8.56
212	246.0	–7.4	98.2	15.8	65.8	0.936	0.546	164.1	86.1	32.0	306.0	15.9	8.57
213	245.7	–7.3	99.0	15.9	65.7	0.937	0.538	164.1	87.0	33.0	306.1	15.8	8.59
214	245.4	–7.2	99.7	15.9	65.6	0.939	0.530	164.2	87.9	34.0	306.1	15.8	8.62
215	245.1	–7.1	100.5	15.9	65.5	0.940	0.522	164.3	88.8	35.0	306.2	15.7	8.65
216	244.9	–7.1	101.2	16.0	65.5	0.941	0.514	164.4	89.7	36.0	306.3	15.6	8.69
217	244.6	–7.0	102.0	16.0	65.4	0.942	0.506	164.5	90.6	37.0	306.3	15.5	8.74
218	244.3	–6.9	102.7	16.0	65.3	0.943	0.498	164.6	91.5	38.0	306.4	15.4	8.80
219	244.1	–6.8	103.5	16.0	65.2	0.945	0.490	164.7	92.4	39.0	306.5	15.3	8.86
220	243.8	–6.7	104.3	16.0	65.2	0.946	0.482	164.8	93.3	40.0	306.6	15.2	8.93
221	243.5	–6.6	105.0	16.0	65.1	0.947	0.474	164.9	94.2	41.0	306.7	15.1	9.01
222	243.2	–6.6	105.8	16.0	65.0	0.949	0.467	165.0	95.0	42.0	306.8	15.0	9.10
223	243.0	–6.5	106.5	16.0	64.9	0.950	0.459	165.0	95.9	43.0	306.9	14.9	9.20
224	242.7	–6.4	107.3	16.0	64.9	0.952	0.451	165.1	96.8	44.0	307.0	14.8	9.31
225	242.4	–6.3	108.1	16.0	64.8	0.953	0.443	165.2	97.6	45.0	307.1	14.6	9.42
226	242.2	–6.2	108.8	16.0	64.7	0.954	0.436	165.3	98.5	46.0	307.3	14.5	9.55
227	241.9	–6.1	109.6	16.0	64.6	0.956	0.428	165.4	99.3	47.0	307.4	14.4	9.69
228	241.6	–6.1	110.3	16.0	64.6	0.957	0.421	165.5	100.1	48.0	307.5	14.2	9.85
229	241.4	–6.0	111.1	16.0	64.5	0.959	0.413	165.6	101.0	49.0	307.7	14.1	10.01
230	241.1	–5.9	111.9	16.0	64.4	0.960	0.406	165.7	101.8	50.0	307.8	14.0	10.19
231	240.8	–5.8	112.6	15.9	64.3	0.962	0.398	165.8	102.6	51.0	308.0	13.8	10.39
232	240.6	–5.7	113.4	15.9	64.3	0.963	0.391	165.9	103.4	52.0	308.2	13.7	10.60
233	240.3	–5.6	114.1	15.9	64.2	0.965	0.384	166.0	104.3	53.0	308.3	13.5	10.84
234	240.0	–5.6	114.9	15.8	64.1	0.966	0.377	166.1	105.1	54.0	308.5	13.4	11.09
235	239.7	–5.5	115.7	15.8	64.0	0.967	0.370	166.2	105.9	55.0	308.7	13.2	11.37
236	239.5	–5.4	116.4	15.7	64.0	0.969	0.362	166.3	106.7	56.0	308.9	13.1	11.67
237	239.2	–5.3	117.2	15.7	63.9	0.970	0.355	166.5	107.5	57.0	309.1	12.9	12.00
238	238.9	–5.2	117.9	15.6	63.8	0.972	0.349	166.6	108.3	58.0	309.3	12.7	12.37
239	238.7	–5.1	118.7	15.6	63.7	0.973	0.342	166.7	109.0	59.0	309.5	12.6	12.77
240	238.4	–5.0	119.5	15.5	63.7	0.975	0.335	166.8	109.8	60.0	309.7	12.4	13.21

