

STA_SE (#0002): Total of **531** orbits. $\lambda_o = 202.6^\circ$, $\lambda_g - \lambda_o = 194.8^\circ$, $\beta_g = -4.4^\circ$, $\Delta r = 3^\circ$, $\Delta \lambda_o = 5^\circ$. Southern Taurids' are very complex but we can clearly distinct two components STA_SE and STA_SF. The former represents the early and regular activity of STA and the latter is main and periodic.

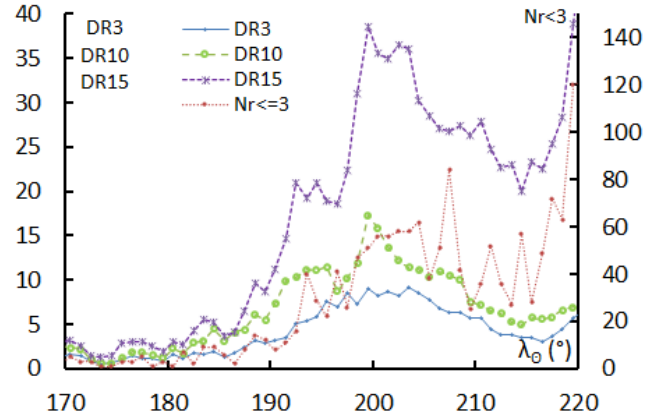
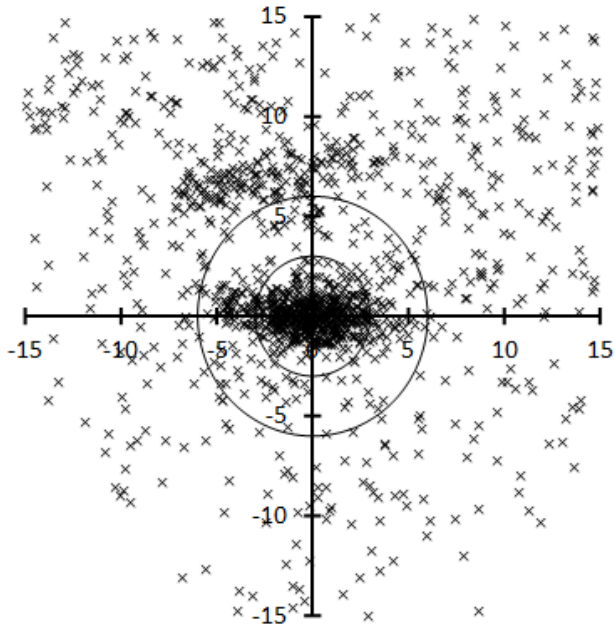


Table 1 – Number per year.

Year	N	Year	N
2007	13	2013	42
2008	54	2014	50
2009	91	2015	61
2010	26	2016	52
2011	17	2017	8
2012	80	2018	37

Table 2 – Activity profiles.

	λ_o	Max
Nr<=3	204.5	62
DR3	199.5	9.2
DR10	199.5	17.1
DR15	199.5	38.6

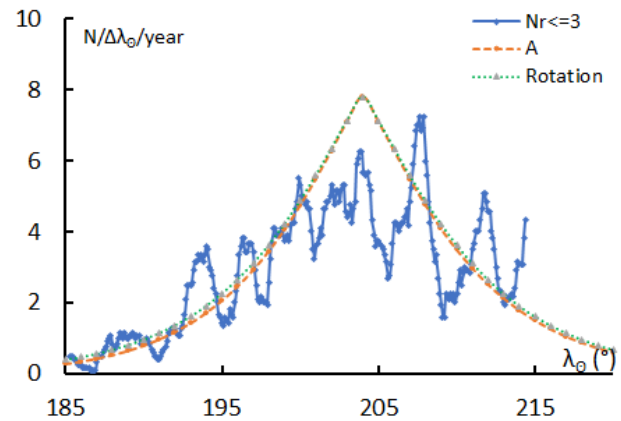


Table 3 – Evolution of the orbital parameters during the activity period.

λ_o	$\lambda_g - \lambda_o$	β_g	α_g	δ_g	v_g	e	q	i	ω	Ω	λ_{Π}	β_{Π}	a
185	200.4	-4.0	25.0	6.1	30.5	0.858	0.226	6.3	132.6	5.0	137.8	4.6	1.59
186	200.1	-4.0	25.7	6.3	30.4	0.856	0.230	6.3	132.0	6.0	138.2	4.7	1.60
187	199.8	-4.0	26.4	6.6	30.3	0.854	0.235	6.2	131.4	7.0	138.6	4.7	1.61
188	199.6	-4.1	27.1	6.8	30.2	0.853	0.239	6.2	130.8	8.0	139.0	4.7	1.62
189	199.3	-4.1	27.8	7.0	30.1	0.851	0.244	6.2	130.2	9.0	139.4	4.7	1.63
190	199.0	-4.1	28.4	7.3	29.9	0.849	0.248	6.1	129.6	10.0	139.8	4.7	1.64
191	198.7	-4.2	29.1	7.5	29.8	0.847	0.253	6.1	129.0	11.0	140.2	4.7	1.65
192	198.5	-4.2	29.8	7.7	29.7	0.845	0.257	6.1	128.4	12.0	140.6	4.7	1.66
193	198.2	-4.2	30.5	7.9	29.6	0.843	0.262	6.0	127.8	13.0	141.0	4.8	1.67
194	197.9	-4.2	31.2	8.2	29.5	0.842	0.266	6.0	127.2	14.0	141.4	4.8	1.68
195	197.7	-4.3	31.9	8.4	29.4	0.840	0.271	6.0	126.6	15.0	141.8	4.8	1.69
196	197.4	-4.3	32.6	8.6	29.3	0.838	0.276	5.9	126.0	16.0	142.2	4.8	1.70
197	197.1	-4.3	33.3	8.8	29.1	0.836	0.280	5.9	125.4	17.0	142.6	4.8	1.71
198	196.8	-4.4	34.0	9.0	29.0	0.834	0.285	5.9	124.8	18.0	143.0	4.8	1.72
199	196.6	-4.4	34.7	9.2	28.9	0.833	0.290	5.8	124.2	19.0	143.3	4.8	1.73
200	196.3	-4.4	35.4	9.5	28.8	0.831	0.294	5.8	123.6	20.0	143.7	4.8	1.74
201	196.0	-4.4	36.2	9.7	28.7	0.829	0.299	5.8	123.0	21.0	144.1	4.8	1.75
202	195.8	-4.5	36.9	9.9	28.6	0.828	0.304	5.7	122.4	22.0	144.5	4.8	1.76
203	195.5	-4.5	37.6	10.1	28.5	0.826	0.308	5.7	121.8	23.0	144.9	4.8	1.77
204	195.2	-4.5	38.3	10.3	28.4	0.824	0.313	5.7	121.2	24.0	145.3	4.9	1.78

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

λ_{θ}	$\lambda_g - \lambda_{\theta}$	β_g	α_g	δ_g	ν_g	e	q	i	ω	Ω	λ_{Π}	β_{Π}	a
205	194.9	-4.5	39.0	10.5	28.2	0.823	0.318	5.6	120.6	25.0	145.7	4.9	1.79
206	194.7	-4.6	39.7	10.7	28.1	0.821	0.323	5.6	120.0	26.0	146.1	4.9	1.80
207	194.4	-4.6	40.4	10.9	28.0	0.819	0.328	5.6	119.3	27.0	146.5	4.9	1.81
208	194.1	-4.6	41.1	11.1	27.9	0.818	0.332	5.6	118.7	28.0	146.9	4.9	1.82
209	193.8	-4.7	41.8	11.3	27.8	0.816	0.337	5.5	118.1	29.0	147.2	4.9	1.83
210	193.6	-4.7	42.5	11.4	27.7	0.815	0.342	5.5	117.5	30.0	147.6	4.9	1.84
211	193.3	-4.7	43.3	11.6	27.6	0.813	0.347	5.5	116.9	31.0	148.0	4.9	1.85
212	193.0	-4.7	44.0	11.8	27.5	0.811	0.352	5.4	116.3	32.0	148.4	4.9	1.86
213	192.8	-4.8	44.7	12.0	27.3	0.810	0.356	5.4	115.7	33.0	148.8	4.9	1.87
214	192.5	-4.8	45.4	12.2	27.2	0.808	0.361	5.4	115.1	34.0	149.2	4.9	1.88
215	192.2	-4.8	46.1	12.4	27.1	0.807	0.366	5.4	114.5	35.0	149.6	4.9	1.89
216	191.9	-4.8	46.9	12.5	27.0	0.805	0.371	5.3	113.9	36.0	150.0	4.9	1.90
217	191.7	-4.9	47.6	12.7	26.9	0.804	0.376	5.3	113.3	37.0	150.4	4.9	1.91
218	191.4	-4.9	48.3	12.9	26.8	0.802	0.381	5.3	112.7	38.0	150.7	4.9	1.93
219	191.1	-4.9	49.0	13.0	26.7	0.801	0.385	5.2	112.0	39.0	151.1	4.9	1.94
220	190.8	-4.9	49.8	13.2	26.6	0.799	0.390	5.2	111.4	40.0	151.5	4.9	1.95
221	190.6	-5.0	50.5	13.4	26.4	0.798	0.395	5.2	110.8	41.0	151.9	4.9	1.96
222	190.3	-5.0	51.2	13.5	26.3	0.797	0.400	5.2	110.2	42.0	152.3	4.8	1.97
223	190.0	-5.0	51.9	13.7	26.2	0.795	0.405	5.1	109.6	43.0	152.7	4.8	1.98
224	189.8	-5.0	52.7	13.8	26.1	0.794	0.410	5.1	109.0	44.0	153.1	4.8	1.99
225	189.5	-5.1	53.4	14.0	26.0	0.792	0.414	5.1	108.4	45.0	153.5	4.8	2.00