



Non Gaussian extrema counts for CMB maps

[Dmitri Pogosyan](#), [Christophe Pichon](#), [Christophe Gay](#)

(Submitted on 10 Jul 2011)

In the context of the geometrical analysis of weakly non Gaussian CMB maps, the 2D differential extrema counts as functions of the excursion set threshold is derived from the full moments expansion of the joint probability distribution of an isotropic random field, its gradient and invariants of the Hessian. Analytic expressions for these counts are given to second order in the non Gaussian correction, while a Monte Carlo method to compute them to arbitrary order is presented. Matching count statistics to these estimators is illustrated on fiducial non-Gaussian "Planck" data.

Comments: 4 pages, 1 figure

Subjects: **Cosmology and Extragalactic Astrophysics (astro-ph.CO)**; Mathematical Physics (math-ph)

Cite as: **arXiv:1107.1863 [astro-ph.CO]**
(or **arXiv:1107.1863v1 [astro-ph.CO]** for this version)

Submission history

From: Dmitri Pogosyan [[view email](#)]

[v1] Sun, 10 Jul 2011 14:51:45 GMT (251kb,D)

[Which authors of this paper are endorsers?](#)

Link back to: [arXiv](#), [form interface](#), [contact](#).

Download:

- [PDF](#)
- [Other formats](#)

Current browse context:

astro-ph.CO

[< prev](#) | [next >](#)

[new](#) | [recent](#) | [1107](#)

Change to browse by:

[astro-ph](#)

[math](#)

[math-ph](#)

References & Citations

- [INSPIRE HEP](#)
([refers to](#) | [cited by](#))
- [NASA ADS](#)

Bookmark([what is this?](#))

