



Mathematics > Number Theory

# Local statistics of lattice points on the sphere

Jean Bourgain, Peter Sarnak, Zeév Rudnick

(Submitted on 31 Mar 2012)

We study the spatial distribution of the representation of a large integer as a sum of three squares, on the small and critical scale as well as their electrostatic energy. The main results announced give strong evidence to the thesis that the solutions behave randomly. This is in sharp contrast to what happens with sums of two or four or more squares

Comments: 2 figures  
 Subjects: **Number Theory (math.NT)**  
 MSC classes: 11E36  
 Cite as: **arXiv:1204.0134 [math.NT]**  
 (or **arXiv:1204.0134v1 [math.NT]** for this version)

## Submission history

From: Zeev Rudnick [[view email](#)]  
 [v1] Sat, 31 Mar 2012 20:57:18 GMT (86kb)

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

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

## Download:

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

Current browse context:

math.NT

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

[new](#) | [recent](#) | [1204](#)

Change to browse by:

[math](#)

## References & Citations

- [NASA ADS](#)

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

