



All papers

Go!

Mathematics > Probability

Self-avoiding walk is sub-ballistic

Hugo Duminil-Copin, Alan Hammond

(Submitted on 2 May 2012)

We prove that self-avoiding walk on Z^d is sub-ballistic in any dimension d at least two. That is, writing $\|u\|$ for the Euclidean norm of $u \in Z^d$, and SAW_n for the uniform measure on self-avoiding walks $\gamma: \{0, \dots, n\} \rightarrow Z^d$ for which $\gamma_0 = 0$, we show that, for each $v > 0$, there exists $c > 0$ such that, for each positive integer n , $SAW_n(\max\{\|\gamma_k\| : k \in \{0, \dots, n\}\} > v n) < e^{-cn}$.

Comments: 27 pages and four figures

Subjects: **Probability (math.PR)**; Mathematical Physics (math-ph); Combinatorics (math.CO)

Cite as: **arXiv:1205.0401 [math.PR]**
(or **arXiv:1205.0401v1 [math.PR]** for this version)

Submission history

From: Alan Hammond [[view email](#)]

[v1] Wed, 2 May 2012 12:17:38 GMT (40kb)

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

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

Download:

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

Current browse context:

math.PR

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

[new](#) | [recent](#) | [1205](#)

Change to browse by:

[math](#)
[math-ph](#)
[math.CO](#)

References & Citations

- [NASA ADS](#)

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

