THE WEIZMANN INSTITUTE OF SCIENCE
FACULTY OF MATHEMATICS AND COMPUTER SCIENCE

Geometric Functional Analysis and Probability Seminar

Room 155, Ziskind Building
on Thursday, Jul 25, 2019
at 13:30

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Anchored expansion in supercritical percolation on nonamenable graphs.

Abstract:
Let G be a transitive nonamenable graph, and consider supercritical Bernoulli bond percolation on G. We prove that the probability that the origin lies in a finite cluster of size n decays exponentially in n. We deduce that:

1. Every infinite cluster has anchored expansion almost surely. This answers positively a question of Benjamini, Lyons, and Schramm (1997).

2. Various observables, including the percolation probability and the truncated susceptibility are analytic functions of p throughout the entire supercritical phase.

Joint work with Tom Hutchcroft.