

Inn'formal Probability Seminar

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“Locality of supercritical percolation for graphs of polynomial growth”

Abstract:

Let G be a graph. We assume the geometry to be homogeneous (a.k.a. vertex-transitive), meaning that selecting a vertex or another yields the same rooted graph, up to isomorphism: in other words, wherever you sit, you see the same thing around you. Working in finite dimension is nice so we assume that the cardinality of the ball of radius r is upperbounded by a polynomial in r .

Let us perform percolation on such a graph. Pick a parameter $p \in [0, 1]$ and erase edges independently, with retention parameter p . Connected components of this random subgraph are called "clusters", and studying them is the field of percolation theory.

Let G be a graph in our framework. Assume that we do not know all of it but only its ball of radius r , for r large. With only this partial, local knowledge of G , can we still say much about the behaviour of percolation on G ?

Based on a joint work with Christoforos Panagiotis, the talk shall be devoted to answering this question.

Tuesday | 18.11.2025 | 13.45
SR 13 | Architecture building