

Title:

Random walk on dynamical percolation
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Abstract

We study the behavior of random walk on dynamical percolation. In this model, the edges of a graph G are either open or closed, and refresh their status at rate μ .

At the same time a random walker moves on G at rate 1 but only along edges which are open. The regime of interest here is when μ goes to zero as the number of vertices of G goes to infinity, since this creates long-range dependencies on the model. When G is the d -dimensional torus of side length n , we prove that in the subcritical regime, the mixing times is of order n^2/μ . We also obtain results concerning mean squared displacement and hitting times.

This is a joint work with Yuval Peres and Jeff Steif.