Inn'formal Probability Seminar

Vivek Dewan (Grenoble Alpes University)

"From percolation to random metrics"

Abstract

The model of percolation given by sub-level sets of continuous Gaussian fields on R^d with fast decorrelation features many analogous properties with Bernoulli percolation on Z^d, including a sharp phase transition. The extent of these analogies is the subject of many recent investigations. One natural direction is to try and extend the comparison to the random pseudometric model of first passage percolation (FPP). This lattice model consists in assigning independently a non-negative random variable of the same law to each edge, and defining the distance T(x,y) between two vertices x and y as the least sum of these random variables among all edge paths between x and y.

We will explain how a natural counterpart of such a model can be defined in the setting of continuous Gaussian fields. We will then present results which show, just like in the lattice case, that the important criterion in the behaviour of the model is whether or not the zero-distance clusters percolate.

Monday | 30.01.2023 | 16:15

SR 609 | civil engineer building