

Seminar of Probability and Stochastic Process

Tuesday, 19th April, from 11h15 to 12h15

[ME A0 407](#), EPFL, Ecublens

[Dr. Julien Poisat](#)

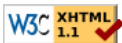
Lyon University

Random pinning model with finite range correlations

Abstract:

Suppose that a Markov chain collects a random reward/penalty each time it visits a particular state (take the simple random walk on \mathbb{Z} and the state 0 for instance). Modify the weights of the paths of the Markov chain by a Hamiltonian equal to the rewards collected up to time N , and let N tend to infinity. In the space of parameters (mean and variance of disorder), a phase transition occurs at a critical curve. This model is called random pinning model and usually the disorder sequence is a sequence of i.i.d. random variables. In this talk I will consider a model where the random sequence is Gaussian with finite range dependence. Using Markov Renewal Theory we can have an expression for the annealed critical curve and generalize the results of disorder irrelevance obtained for i.i.d. disorder.

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