Seminar of Probability and Stochastic Process

Thursday, 8th December, from 11h15 to 12h00
MA A1 10, EPFL, Ecublens

Prof. Yvan Velenik

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On the phase transition of a self-attractive polymer under tension

Abstract:

We consider a general class of self-attractive polymer models, with one endpoint fixed and the other subject to the action of a force. This model is equivalent to that of a drifted annealed random walk in a random potential. The competition between the self-attractivity, which favors collapsed configurations, and the effect of the force, which favors stretched configurations, results in the existence of a phase transition as the intensity of the force crosses a critical, direction-dependent, threshold. In this talk, I'll discuss the order of the transition, as well as the behavior of the polymer at the phase transition.

This talk is based on a joint work with Dmitry Ioffe.

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