

Insalate di Matematica

presents

The Directed Polymer model: a “bridge” between Statistical Mechanics and Stochastic Analysis

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U5 - Room 3014 and
Webex meeting

Università di Milano Bicocca

Abstract

How can we define the Directed Polymer model? What happens if we perturb the model by adding a random disorder and how does this perturbation affect the global shape of the polymer? We will answer these questions by introducing the directed polymer in random environment. This probabilistic model comes from Statistical Mechanics, but it is also linked to the Stochastic Analysis world and in particular to the Stochastic Heat Equation. This connection will give us the motivation to present two Gaussian limits related to the directed polymer and some tools for the proof of these results.



Keywords:

Directed Polymer · random environment · partition function · Gaussian limits · polynomial chaos expansion

"Obvious" is the most dangerous word in mathematics. - Eric Temple Bell

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