Minisymposium 7 - Stochastic algorithms and Markov processes

A model of Brownian directed polymer in a Gaussian random environment

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In this talk, we will study a Gibbs measure based on a model of Brownian directed polymer in a Gaussian random medium. This model is a continuous analog of some models of discrete random walks in a iid Gaussian potential, and is mainly parametrized by the spatial covariance Q of the random environment. Our hope is that the high number of methods at hand in this case (Brownian scaling, Malliavin calculus, Gaussian tools, analogy with Lyapounov exponents for SPDEs) will allow us to give a rather complete description of the Gibbs measure under consideration, and we will present here some estimates on the partition function of the model, as well as a lower bound on the growth of the polymer.