The continuum directed random polymer. (English summary)


Summary: “Motivated by discrete directed polymers in one space and one time dimension, we construct a continuum directed random polymer that is modeled by a continuous path interacting with a space-time white noise. The strength of the interaction is determined by an inverse temperature parameter $\beta$, and for a given $\beta$ and realization of the noise the path is a Markov process. The transition probabilities are determined by solutions to the one-dimensional stochastic heat equation. We show that for all $\beta > 0$ and for almost all realizations of the white noise the path measure has the same Hölder continuity and quadratic variation properties as Brownian motion, but that it is actually singular with respect to the standard Wiener measure on $C([0,1])$.”

References


Note: This list reflects references listed in the original paper as accurately as possible with no attempt to correct errors.

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