Linear Stochastic Growth Models

Nobuo Yoshida
Kyoto Universty, Kyoto

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abstract: Linear stochastic evolution is a framework to discuss many classical models in a unified way. The models described in this framework include oriented site/bound percolation, contact path process, and directed polymers in random environment. We first review basic results on localization/delocalization transition. We then report some recent results on a dichotomy between extinction and exponential growth (joint work with Ryoki Fukushima) and a complete localization result for Brownian directed polymers in random environment (joint work with Francis Comets).