Gaussian Fluctuations in Directed Polymers

SPEAKER: Shuta Nakajima, Nagoya University
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(上海纽约大学310教室, 上海市浦东新区世纪大道1555号)

ABSTRACT

In this talk, we consider the discrete directed polymer model with i.i.d. environment and we study the fluctuations of the partition function. It was proven by Comets and Liu that for sufficiently high temperature, the fluctuations converge in distribution towards the product of the limiting partition function and an independent Gaussian random variable. We extend the result to the whole $L^2$-region, which is predicted to be the maximal high-temperature region where the Gaussian fluctuations should occur under the considered scaling. This is joint work with Clément Cosco.

BIOGRAPHY

Shuta Nakajima is a postdoctoral researcher at Nagoya University. He earned his Ph.D. from Kyoto University. His main research interests focus on First-passage percolation and Directed polymer.