One-dimensional polymers in random environments

黃建豪 [1]

[1] 國立政治大學

Abstract

We put the range of one-dimensional simple random walk in the disordered environments in the Gibbs' setting. The walk affects by forces such as random potentials and external fields. Those effects may push the walk away (super-diffusive) or pull the walk around the origin (sub-diffusive). Under a suitable scaling of those forces with heavy-tailed distributions of random potentials, one can see a rich phase diagram. Especially, for the typical case which researchers are interested in, we get the end-to-end fluctuation exponent is 2/3. This is a joint work with Q. Berger, N. Torri and R. Wei. For details, please see arXiv: 2002.06899.

Keyword: Random polymer, Range, Heavy-tailed distributions