Seminar/Talk

High moments of the 2D partition function

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Host: M. Beiglböck, N. Berestycki, L. Erdös, J. Maas, F. Toninelli

We consider the model of directed polymers in dimension 1+2, in the temperature region where the partition function stays bounded in L2. In this regime, it is known that the diffusively rescaled log-partition function converges to a Gaussian log-correlated field. One natural question is to understand the behavior of the maximum of this rescaled field, which is related to the problem of understanding the probability distribution of the favorite point of the polymer trajectory. One major issue is that the field itself (before taking the limit) is not Gaussian, and one has to quantify how close it is to a Gaussian field. To do so, one has to compute high moments (going to infinity with the volume) of the partition function. I will explain how we were able to obtain sharp moment estimates and discuss the background and open questions.Joint work with Ofer Zeitouni.

Wednesday, June 8, 2022 04:45pm - 05:45pm
Heinzel Seminar Room (I21.EG.101), Office Building West

This invitation is valid as a ticket for the ISTA Shuttle from and to Heiligenstadt Station. Please find a schedule of the ISTA Shuttle on our webpage: https://ista.ac.at/en/campus/how-to-get-here/ The ISTA Shuttle bus is marked ISTA Shuttle (#142) and has the Institute Logo printed on the side.