Seminar/Talk

Benjamini-Schramm conjecture and the loop O(n) model

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Host: Laszlo Erdös, Jan Maas

We witness many phase transitions in everyday life (eg. ice melting to water). The mathematical approach to these phenomena revolves around the percolation model: given a graph, call each vertex open with probability p independently of the others and look at the subgraph induced by open vertices. Benjamini and Schramm conjectured in 1996 that, at p=1/2, on any planar graph, either there is no infinite connected components or infinitely many.We prove a stronger version of this conjecture and use this to establish fractal macroscopic behaviour in the loop O(n) model. The latter includes a random discrete Lipschitz surface as a particular case.Joint work with Matan Harel and Nathan Zelesko.

Monday, April 28, 2025 05:00pm - 06:15pm
Central Bldg / O1 / Mondi 2a (I01.O1.008)

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