Seminar/Talk

Height function delocalisation on cubic planar graphs

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

Delocalisation plays an important role in statistical physics. This talk will discuss the delocalisation transition in the context of height functions, which are integer-valued functions on the square lattice or similar two-dimensional graphs. By drawing a link with a phase coexistence result for site percolation on planar graphs, we prove delocalisation for a broad class of height functions on planar graphs of degree three. The proof also uses a new technique for symmetry breaking. The analysis includes several popular models such as the discrete Gaussian model, the solid-on-solid model, and the uniformly random K-Lipschitz function. Inclusion of the first model also implies the BKT phase transition in the Villain model on the triangular lattice. The talk is based on arXiv:2012.09687.

Tuesday, October 5, 2021 04:45pm - 05:45pm
Heinzel Seminar Room (I21.EG.101), Office Building West

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