Laboratoire de Physique Théorique et Hautes Energies

Unité Mixte de Recherche (UMR 7589) de Sorbonne Université et du CNRS

SEMINAIRE du LPTHE

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Dimers and circle patterns

The dimer model is a model from statistical mechanics corresponding to random perfect matchings on graphs. Circle patterns are a class of embeddings of planar graphs such that every face admits a circumcircle. In this talk I describe a correspondence between dimer models on planar bipartite graphs and circle pattern embeddings of these graphs. As special cases of this correspondence we recover the Tutte embeddings for resistor networks and the s-embeddings for Ising models. This correspondence is also the key for studying Miquel dynamics, a discrete integrable system on circle patterns.

Bibliothèque du LPTHE, tour 13/14, 4ème étage

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