universität innsbruck

Department of Mathematics

Inn'formal Probability Seminar

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"Arcs in the double dimer model"

Abstract:

The double dimer model is a model of statistical mechanics obtained by superimposing independent dimer covers of a graph, resulting in a configuration of loops and doubled edges. In 2011, Kenyon found conformal invariance in the model and conjectured convergence of the loop ensemble to CLE_4 in the scaling limit (which is still open). In doing so, he developped powerful techniques to compute probabilities of events and their asymptotic.

In this talk, we will review some elementary facts concerning the dimer and double dimer models, and present the tools developped by Kenyon. We will provide a combinatorial proof of these results, and show how it can be extended to study a new model. This new model that we introduce is similar to the double dimer model, and features not only loops and doubled edges but also arcs. It is the natural discrete counterpart of a continuous model named the ALE (arc-loop ensemble).

Tuesday | 5.12.2023 | 14:15
SR 609 | Civil Engineer Building