Institut für Optimierung und Diskrete Mathematik

Vortrag im Seminar Diskrete Mathematik und Optimierung

Dienstag 07.05.2013, 14:15

Seminarraum C208, Steyrergasse 30, 2. Stock

The interaction of a gap with a free boundary in a two-dimensional dimer system

Christian Krattenthaler

(Universität Wien)

I shall consider a rhombus tiling model (equivalently, a dimer model on a hexagonal graph) with a free boundary. The correlation of a small triangular hole in this model will be determined. This is done by finding a compact expression in form of a single sum for the number of tilings (dimer coverings) which avoid this hole for a sequence of finite size regions with a free boundary, and then by determining the asymptotics from this expression by standard asymptotic techniques. The enumeration involves - not very surprisingly - a non-trivial determinant evaluation.

This is joint work with Mihai Ciucu.

Mihyun Kang