dmat universidade de aveiro departamento de matemática

CIDMA CENTRO DE I&D EM MATEMÁTICA E APLICAÇÕES CENTER FOR R&D IN MATHEMATICS AND APPLICATIONS

Colóquio CIDMA / DMat

01 de Outubro, 16h00

Sala Sousa Pinto

Large random tilings of a hexagon

Arno Kuijlaars

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Large random tilings of a hexagon have the fascinating behavior of separation of phases (frozen and rough; also called solid and liquid) that are separated by a well-defined Arctic curve. In a weighted tiling model with period weights a third phase (smooth; or gaseous) appears where correlations between tiles decay at an exponential rate. After a general introduction, I will discuss a technique based on matrix valued orthogonal polynomials and Harnack curves to analyse a particular case of the three-periodic lozenge tiling model.
There will be many nice pictures!

Short bio:

Arno Kuijlaars (born 1963) is a Dutch mathematician who works in complex analysis, orthogonal polynomials, and approximation theory. He is a professor at the Katholieke Universiteit Leuven. Among others his research connects orthogonal polynomials and Riemann-Hilbert problems with problems in random matrix theory and asymptotic analysis. In 1998, he received the triennially awarded Popov prize, the highest prize in approximation theory and in 2010 he was invited speaker at the International Congress of Mathematicians at Hyderabad. In 2013 he was elected corresponding member of the Royal Netherlands Academy of Arts and Sciences.

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