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Title: Tiling problems and matrix valued orthogonal polynomials

Abstract:

I will present an approach to the asymptotic analysis of certain tiling models via matrix valued orthogonal polynomials. The method applies in particular to domino tilings of the Aztec diamond with periodic weights and it gives a precise description of the three phases (solid, liquid, gas) in this model. This is ongoing joint work with Maurice Duits (KTH Stockholm).