

Random Tilings, Random Partitions and Stochastic Growth Processes

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Combinatorial identities and the correlation function of gaps in dimer packings

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Abstract

The correlation function of gaps in dimer packings on a lattice was introduced in the literature by Fisher and Stephenson in 1963. In this talk we explain how for certain geometries of the gap distributions the correlation function can be found exactly, using combinatorial identities. This leads to refinements of the classical problem of determining the asymptotics of the correlation function as the gaps recede away from each other so that the gap distribution maintains its geometry.