

Conjectural Enumerations of Trimer Covers of Finite Subgraphs of the Triangular Lattice (Remote)

Tuesday, 30 November 2021 16:50 (50 minutes)

The work of Conway and Lagarias applying combinatorial group theory to packing problems suggests what we might mean by “domain-wall boundary conditions” for the trimer model on the infinite triangular lattice in which the permitted trimers are triangle trimers and three-in-a-line trimers. Looking at subregions of the lattice with those sorts of boundaries, we find intriguing numerology governing the number of trimer covers. This wealth of conjecture is in stark contrast with the paucity of mathematical tools that permit exact enumeration of trimer covers as compared to dimer covers.

Presenter: PROPP, James (Umass Lowell)