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*Integrable Combinatorics.*

Integrability occurs in physical problems with sufficiently many symmetries, and allows for exact, often elegant solutions with deep geometric and algebraic meaning. Such problems often boil down to that of enumerating weighted configurations of particular systems, which can be rephrased in purely combinatorial terms.

In this talk, we review manifestations of integrability in various combinatorial enumeration problems such as Lorentzian Triangulations, Alternating Sign Matrices, Domino Tilings, Current Algebra Tensor Product Multiplicities, and their interplay with the underlying structure of Cluster Algebra and its quantum deformation. (Received January 11, 2015)