At the crossroads of physics and mathematics: the joy of integrable combinatorics (Philippe60)



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Elliptic Calogero-Moser system and Gauge Theories

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There is a remarkable correspondence between massive vacua of certain supersymmetric gauge theories and equilibrium position of mechanical integrable systems. Here I focus on the elliptic Calogero-Moser system, which can be seen as the interactions of particles on a two-dimensional torus. Despite its simplicity, the equilibria exhibit a surprisingly rich structure, with connections with modular forms, Galois theory, generalized symmetries, and phases of gauge theories.

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