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Loop formulation of supersymmetric models on the lattice

Thursday 5 August 2010 11:00 (30 minutes)

We review the construction of twisted supersymmetry and Q-exact actions on the lattice in low dimensions and discuss the formulation of such supersymmetric lattice models as an interacting gas of bosonic and fermionic loops. We comment on the relevance of the fermion sign problem for the vanishing of the Witten index and show how this sign problem can be solved by employing the Prokof'ev-Svistunov worm algorithm together with topological boundary conditions.

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