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Worm algorithm for the O(N) Gross-Neveu model

Tuesday, 15 June 2010 17:00 (20 minutes)

We study the lattice O(N) Gross-Neveu model with Wilson fermions in the
loop gas formulation. Employing the Prokof'ev-Svistunov worm algorithm
we can simulate fluctuating fermionic boundary conditions and use them
to tune the system exactly to the critical point. We show how the worm
algorithm can be extended to sample directly the correlation functions
of fermion bound states involving an arbitrary number of Majorana
fermions and present results for various observables.

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talk

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