Lattice2010



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

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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

Primary author: MAILLART, Vidushi (University of Bern and Regensburg)
Co-author: WENGER, Urs (University of Bern)
Presenter: MAILLART, Vidushi (University of Bern and Regensburg)
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