

Abstract Submitted
for the MAR16 Meeting of
The American Physical Society

Quantum Monte Carlo with known sign structures JOHAN NILSSON, Uppsala University — We investigate the merits of different Hubbard-Stratonovich transformations (including fermionic ones) for the description of interacting fermion systems, focusing on the single band Hubbard model as a model system. In particular we revisit an old proposal of Batrouni and Forcrand (PRB 48, 589 1993) for determinant quantum Monte Carlo simulations, in which the signs of all configurations is known beforehand. We will discuss different ways that this knowledge can be used to make more accurate predictions and simulations.

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Date submitted: 06 Nov 2015

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