

Abstract Submitted
for the MAR10 Meeting of
The American Physical Society

Mean Field Theory Calculation of Isentropic Curves of the Fermion Hubbard Model ALEKSANDER ZUJEV, RICHARD SCALETTAR, UC Davis — Recent experiments on optical lattices have focussed attention on understanding how many body correlations change when the entropy (rather than the temperature) is varied as a control parameter. Quantum Monte Carlo (QMC) simulations have addressed some of the issues involved, but, for fermions, are limited by the sign problem. In this talk, we present results for the isentropic curves of the square lattice fermion Hubbard model in mean field theory (MFT). The topology of these curves on the phase diagram is explored, and compared to what is found in QMC when the latter is available. We also compare to MFT calculations for other models.

Aleksander Zujev
UC Davis

Date submitted: 19 Nov 2009

Electronic form version 1.4