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Quantum Monte Carlo Study of "Fictive Impurity" to Half-Filled Hubbard Model ANDREAS FUHRMANN[1], University of Bonn, Germany, SATOSHI OKAMOTO, ANDREW MILLIS, Columbia University — Quantum Monte Carlo (QMC) and analytical approximations are used to show that the two (and higher) impurity dynamical mean field approximation (both in the real space and DCA version) to the square lattice Hubbard model do not reproduce the paramagnetic Mott insulating phase at particle density n=1.Moreover the real space version strongly overestimates the Neel transition temperature at large U. Systematic comparison of QMC and semiclassical analytical approximation results are also presented. Research supported by DAAD, SFB 608, DFG-SPP 1073, JSPS, NSF DMR 0431350.

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