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Thermodynamics of the Two-Dimensional Hubbard Model
JAMES LEBLANC, Max-Planck Institute for the Physics of Complex Systems, EMANUEL GULL, University of Michigan — The application of a numerically exact continuous time impurity solver with the DCA dynamical mean field theory has allowed us to study the thermodynamics of the two-dimensional Hubbard model for finite, but large cluster sizes. Variation in cluster size, upwards of 50-sites, allows for extrapolation to the thermodynamic limit. We present results relevant to cold gas systems, such as entropy, double occupancy and nearest-neighbour spin correlations as well as discuss the implications of these calculations on pseudogap physics of the High-Tc Cuprate superconductors away from half filling.

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