Abstract Submitted
for the MAR14 Meeting of
The American Physical Society

A dual fermion approach for disordered interacting systems: Application to the Anderson-Hubbard model PATRICK HAASE, Georg-August Universitaet Goettingen, SHUXIANG YANG, HANNA TERLETSKA, Louisiana State University, THOMAS PRUSCHKE, Georg-August Universitaet Goettingen, JUANA MORENO, MARK JARRELL, Louisiana State University — We have recently generalized the dual fermion approach to the disordered interacting fermionic systems. Here it is applied to the Anderson-Hubbard model at finite temperature. With both disorder and Coulomb interaction treated on equal footing, and non-local correlations taken into account, we analyze the underlying competing physics related to metal-insulation transitions and anti-ferromagnetic transition by looking into both one- and two-particle quantities.

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Date submitted: 15 Nov 2013 Electronic form version 1.4