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Evolution of the Mott-Hubbard insulator transition in bulk nonequilibrium; dynamical mean field theory RYAN HEARY, JONG HAN, State University of New York at Buffalo — The equilibrium dynamical mean-field theory (DMFT) is extended to the steady-state nonequilirium in which the Hubbard lattice is populated by left and right movers. The nonequilibrium boundary condition is imposed in the non-interacting limit by applying a chemical potential shift between the left and right movers of the homogeneous bulk system. The success of this theory lies in the fact that the local Green function can be calculated nonperturbatively using the imaginary-time formulation of the steady-state nonequilibrium [1]. We study the evolution of metallic quasi-particle excitations near the Mott-Hubbard insulator transition as a function of the chemical potential bias. The nonequilibrium DMFT algorithm will be presented along with the nonlinear nonequilibirum destruction of the Kondo resonance.
[1] J. E. Han, R. J. Heary, Imaginary-time formulation of steady-state nonequilibrium: application to strongly correlated transport, *accepted to Phys. Rev. Lett.* arXiv:0704.3198.

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