

# **Steady-State Nonequilibrium Dynamical Mean Field Theory: an auxiliary Lindblad Master Equation approach**

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Abstract:

We present a method to compute electronic steady state properties of strongly correlated quantum systems out of equilibrium within dynamical mean-field theory (DMFT).

The DMFT solver is based on the exact solution of an auxiliary system consisting of a small number of bath sites coupled to the interacting impurity and to two Markovian reservoirs. The steady state Green's function of the auxiliary system is solved by exact diagonalisation of the corresponding many-body non-Hermitian Lindblad equation. The approach can be regarded as the non-equilibrium extension of the exact-diagonalization based DMFT, and introduces appropriate absorbing boundary conditions for a many-body system. Some results are also presented for the nonequilibrium Anderson impurity model.