

Abstract Submitted
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Currents and Greens functions of impurities out of equilibrium - results from inchworm Quantum Monte Carlo QIAOYUAN DONG, University of Michigan, ANDREY ANTIPOV, Microsoft Station Q, JOSHPH KLEINHENZ, University of Michigan, GUY COHEN, Tel Aviv University, EMANUEL GULL, University of Michigan — We develop an unbiased impurity solver for Anderson Impurity Model, which forms a fundamental component for non-equilibrium dynamical mean field theory, using the inchworm quantum Monte Carlo method. It is capable of computing the dynamics of strongly correlated impurity problems with time dependent parameters and overcomes the dynamical sign problem in the sense that as t is increased, the effort for reaching longer times increases sub-exponentially with controlled errors. We introduce a hierarchy to compute Greens functions, spectral functions, and currents for inchworm quantum Monte Carlo and show results in both equilibrium and voltage quench cases.

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