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Quench dynamics in the Anderson impurity model
DEEPAK IYER, NATAN ANDREI, Department of Physics and Astronomy, Rutgers, The State University of New Jersey — We study the non-equilibrium behavior of an interacting quantum dot following a quench, where it is suddenly attached to a lead. The system is modeled by a single level Anderson impurity model with infinite on-site repulsion attached via tunneling to non-interacting leads. We use the open system Bethe Ansatz solution of the Anderson model and develop a formal framework to implement Yudson's contour integral formalism in the presence of a Fermi sea. This framework allows the calculation of the full time evolution of the multi-particle wave function and various observables of the system.

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