

Abstract Submitted
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Method for determining the conductance tensor of quantum junctions from the ground state alone¹ ARMIN RAHMANI, CHANG-YU HOU, CLAUDIO CHAMON, Boston University, IAN AFFLECK, University of British Columbia — Conductance is related to dynamical correlation functions and is considered a non-equilibrium quantity. Here we propose a method to obtain the small-bias low-temperature conductance tensors of quantum junctions through equilibrium calculations such as time-independent DMRG. Using the dependence of a finite system ground state energy on the boundary conditions, we determine the junction conductance by finding the S-matrix. The method is applicable to interacting junctions connected to an arbitrary number of non-interacting leads.

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