Abstract Submitted
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Universal out-of-equilibrium transport in Kondo-correlated quantum dots: a renormalized superperturbation theory on the Keldysh contour STEFAN KIRCHNER, Max Planck Institute for Physics of Complex Systems, Germany, ENRIQUE MUNOZ, Pontificia Universidad Catolica de Valparaiso, Chile, C.J. BOLECH, University of Cincinnati — The non-linear conductance of semiconductor heterostructures and single molecule devices exhibiting Kondo physics has recently attracted attention [1,2]. We address the observed sample-dependence across various systems by considering additional electronic contributions present in the effective low-energy model underlying these experiments. To this end we develop a novel version of the superperturbation theory [3] in terms of dual fermions on the Keldysh contour. We analyze the role of particle hole asymmetry on the transport coefficients. Our approach [4] systematically extends the work of Yamada and Yosida and others to the particle-hole asymmetric Anderson model and reproduce the exactly solvable resonant level model and the special case considered in [5]. It correctly describes the strong coupling physics and is free of internal inconsistencies that would lead to a breakdown of current conservation.

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