

Abstract Submitted
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Nonequilibrium dynamics in a two-channel Kondo system due to a quantum quench¹ ZURAB RATIANI, ADITI MITRA, New York University — Recent experiments by Potok et al. have demonstrated a remarkable tunability between a single-channel Fermi liquid fixed point and a two-channel non-Fermi liquid fixed point. Motivated by this we study the nonequilibrium dynamics due to a sudden quench of the parameters of a Hamiltonian from a single-channel to a two-channel anisotropic Kondo system. We find a distinct difference between the long time behavior of local quantities related to the impurity spin as compared to that of bulk quantities related to the total (conduction electrons + impurity) spin of the system. In particular, the local impurity spin and the local spin susceptibility are found to equilibrate, but in a very slow power-law fashion which is peculiar to the non-Fermi liquid properties of the Hamiltonian. In contrast, we find a lack of equilibration in the two particle expectation values related to the total spin of the system.

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