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Non-Equilibrium Crossover near a Non-Fermi-Liquid Quantum Critical Point: Conductance of a Dissipative Quantum Dot GU ZHANG, Duke University, E. NOVAIS, UFABC, Brazil, HAROLD BARANGER, Duke University — We study the non-equilibrium conductance of a dissipative system as it crosses over from a non-Fermi liquid (NFL) critical point to the Fermi liquid (FL) ground state. The system consists of a spin-polarized quantum dot connected to two dissipative leads whose resistance is R. The NFL critical point of this system is similar to that of the two-channel Kondo model; it is unstable under hybridization asymmetry or detuning of the level in the dot, both of which cause flow to a FL ground state. For a particular value of the resistance, $R = R_Q$, using results from Sela and Affleck [PRB 2009] and the Keldysh formalism, we calculate analytically the non-equilibrium conductance in the crossover regime. From this result, one can make a conjecture for the general case, $R \neq R_Q$. Comparison to existing experiments [Mebrahtu, et al. Nat.Phys. 2013] shows good agreement.

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