THE KONDO EFFECT IN A SINGLE QUANTUM DOT ASYMMETRICALLY COUPLED TO MAGNETIC ELECTRODES

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The Kondo effect is studied theoretically in the framework of the non-equilibrium Green function formalism as well as 'Poor man's scaling' technic. The system under consideration consists of a single quantum dot asymmetrically coupled to ferromagnetic electrodes, whose magnetic moments are non-collinear. The spin-dependent density of states and transport characteristics like differential conductance and tunneling magnetoresistance through the system are obtained using the equation of motion method. Numerical illustration of the mentioned quantities is presented. Moreover, within the scaling approach the spin splitting of the dot level is discussed and numerical illustration of the Kondo temperature for asymmetrical coupling to the leads is presented.