# Kondo effect in spin-polarized transport through a quantum dot: limit of a finite correlation parameter U

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9.7 cm

Kondo effect in electronic transport through a quantum dot is investigated theoretically with the use of non-equilibrium Green function formalism. The system is described by the Anderson model with a finite correlation parameter U. Renormalization of the dot energy level and correlation parameter U is taken into account. It leads to some shift of the electron and hole energy levels and to a splitting of the Kondo peak in DOS in the presence of ferromagnetic electrodes. The approach gives results similar to those obtained in the approach in which the exchange interaction with ferromagnetic electrodes is described by an effective molecular field. Both approaches give very similar results also for a dot attached to non-magnetic electrodes, but in an external magnetic field. The splitting of the Kondo anomaly in the differential conductance occurs for magnetic field exceeding a certain value and is slightly lower than the doubled Zeeman splitting. A reduction of the splitting is a result of the effective field induced in the system by an external magnetic field.

13.4 cm

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