Influence of external magnetic field on transport properites of quantum dots attached to non-collinearly polarized magnetic leads

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Transport properties of a single level quantum dot attached to non-collinearly polarized magnetic leads and under the influence of external magnetic field have been analyzed theoretically. Description of the considered system has been modeled by the Anderson Hamiltonian with a finite Coulomb repulsion parameter. The analysis has been performed using the equation of motion method for the non-equilibrium Green function within the Hartree-Fock approximation and also in the Kondo limit.

Numerical illustration of the transport characteristics such as differential conductance and tunneling magnetoresistance, as well as spin accumulation and density of states for few magnetic configurations has been shown.

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