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Non-Equilibrium Transport Through a Single Level Quantum Dot

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A single level interacting quantum dot coupled to two normal electrodes characterised by different temperatures and chemical potentials have been studied. The resulting strongly non-equilibrium situation is analysed by means of the equation of motion technique for the Green functions as developed recently by. M. Lavagna [1]. The method uses the famous Lacroix approximation, but takes the higher order renormalisations approximately into account. We apply the technique to study linear transport coefficients in the whole temperature range. At lowest temperatures the method describes formation of the Kondo cloud and results in the appearance of additional transport channel, the so called Abrikosov-Suhl resonance. We calculate conductance and the Seebeck coefficient of the system. The results of the calculations have been compared with other works using different techniques.

[1] M. Lavagna, Journal of Physics: Conference Series **592** 012141 (2015).