
Thermoelectricity in single quantum dot junctions

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Abstract

Single quantum dot junctions have been extensively studied by transport measurements. Beyond spectroscopy they have given insights into a variety of problems such as electron-electron interactions, magnetism and quantum interference in nanoscale devices. This experimental project aims at probing the above effects in thermal out of equilibrium conditions. For example, significant deviations from the Wiedemann-Franz law as well as unusually high thermoelectric figures of merit have been predicted for single quantum dot junctions. After reviewing the principal motivations of the project, its practical implementation and preliminary experimental results will be discussed.

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