**Thermoelectricity in a single quantum dot junction**

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Thermoelectricity and thermal transport in nanoscale devices are interesting not only for applications in energy harvesting, but also for providing fundamental insights into the quantum transport processes at play, some of which charge transport at thermal equilibrium might not be sensitive to. We study these effects in devices in which a single quantum dot, in the form of a 5 nm gold nanoparticle, is connected between two leads and can be electrostatically gated. In devices with weak tunnel couplings to the leads, we measure the local heat balance in the presence of both a thermal and a voltage bias, resulting from a combination of thermal transport and Joule dissipation. We further determine the generated thermopower, which we analyse in terms of a thermal engine. Finally, we study the thermopower of a more strongly coupled quantum dot junction, displaying spin-1/2 Kondo correlations. We observe a 2e-periodic signal in the quantum dot charge, in excellent agreement with predictions.