Charge and spin Seebeck effects in a multiterminal quantum dot
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The system composed of a quantum dot in contact to a superconductor, a ferromagnetic and a normal metal electrodes has been studied. In the limit of infinitely large superconducting gap and weak coupling between the dot and electrodes we investigate the subgap charge and spin transport via standard master equation technique. In this system the pure spin current flows in the normal leads under appropriate bias. Here, we are interested in the electrical and spin currents induced by the temperature difference between the electrodes. The currents as well as the corresponding thermopower coefficients have been calculated. Assuming typical values of thermal conductance we have also discussed the charge and spin thermoelectric figures of merit which characterize the efficiency of a device.

Subject category:
5. Nano-structure, Surfaces, and Interfaces

Presentation mode:
poster

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