

**Andreev reflection through a spin-split discrete level of a quantum dot coupled to ferromagnetic and superconducting electrodes**

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The spin-dependent Andreev reflection tunneling through a quantum dot coupled to one ferromagnetic and one superconducting electrode is studied within the nonequilibrium Green function technique. Effects due to spin splitting of the dot discrete level are analyzed in both linear and nonlinear bias voltage regimes. It is shown that the coherent intradot spin rotation strongly affects the current-voltage characteristics leading to such effects as double-peak linear Andreev reflection conductance or negative differential conductance in nonequilibrium situation. New phenomena in Andreev reflection current, induced by Zeeman splitting of the dot discrete level are also discussed.

9.7 cm

13.4 cm

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