Andreev reflection at ferromagnetic metal- triplet superconductor junctions

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Properties of tunneling conductance spectra of a ferromagnetic-insulator-anisotropic spin triplet superconductor junction are theoretically investigated. The Andreev reflection and transmission of quasiparticles at the interfaces, parallel and perpendicular to the c-axis of the superconductor Sr_2RuO_4, are discussed for unitary $p-$wave $d_z(\vec{k}) = \hat{z}\Delta_0(\sin(ak_x) + i\sin(ak_y))$,and $f-$wave $d_z(\vec{k}) = \hat{z}\Delta_0(\sin(ak_x) + i\sin(ak_y))\cos(ck_z)$. Moreover, selected non-unitary $f-$ wave pairing states are discussed, as well. The choice of symmetry pairing is motivated by recent experiments on Sr_2RuO_4. Asymmetry of the Andreev reflection amplitude with respect to the boundary normal is analyzed. The behaviour of the resonance peak in this reflection is also performed. The essential influence of the magnitude and direction of the exchange field on the conduction spectrum is investigated. Especially the evolution of a zero-conductance peak into a zero conductance deep has been shown.

9.7 cm

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13.4 cm

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