



Thickness dependence of the triplet spin-valve effect in superconductor–ferromagnet–ferromagnet heterostructures

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Abstract

In nanoscale layered S/F₁/N/F₂/AF heterostructures, the generation of a long-range, odd-in-frequency spin-projection one triplet component of superconductivity, arising at non-collinear alignment of the magnetizations of F₁ and F₂, exhausts the singlet state. This yields the possibility of a global minimum of the superconducting transition temperature T_c , i.e., a superconducting triplet spin-valve effect, around mutually perpendicular alignment.