

The Solitary Superconductivity in Dirty F1F2S Trilayer with Arbitrary Interfaces

Avdeev M., Proshin Y.

Kazan Federal University, 420008, Kremlevskaya 18, Kazan, Russia

Abstract

© 2016 Springer Science+Business Media New York We theoretically study the proximity effect in ferromagnet–superconductor trilayer in the F(Formula presented.)F(Formula presented.)S design. Electron–electron pairing interaction in F layers is taken into account. The boundary value problem is considered in the frame of Usadel equations. The conditions of the solitary superconductivity appearance in F(Formula presented.)F(Formula presented.)S system are theoretically investigated taking into account of arbitrary transparencies of interfaces. The experimental observation of this effect and its spin-valve application are discussed.

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Keywords

Ferromagnet, Interface, Layered structures, Proximity effect, Spin valve, Superconductivity