

Publication

π -0 transition in superconductor-ferromagnet-superconductor junctions

JournalArticle (Originalarbeit in einer wissenschaftlichen Zeitschrift)

ID 102810

Author(s) Chtchelkatchev, NM; Belzig, W; Nazarov, YV; Bruder, C

Author(s) at UniBasel [Bruder, Christoph](#) ;

Year 2001

Title π -0 transition in superconductor-ferromagnet-superconductor junctions

Journal JETP letters

Volume 74

Number 6

Pages / Article-Number 323-327

Superconductor-ferromagnet-superconductor (SFS) Josephson junctions are known to exhibit a transition between π and 0 states. In this letter, we find the π -0 phase diagram of an SFS junction depending on the transparency of an intermediate insulating layer (I). We show that, in general, the Josephson critical current is nonzero at the π -0 transition temperature. Contributions to the current from the two spin channels nearly compensate each other, and the first harmonic of the Josephson current as a function of phase difference is suppressed. However, higher harmonics give a nonzero contribution to the supercurrent. (C) 2001 MAIK "Nauka / Interperiodica".

Publisher American Institute of Physics

ISSN/ISBN 0021-3640

edoc-URL <http://edoc.unibas.ch/dok/A5252852>

Full Text on edoc No;

Digital Object Identifier DOI 10.1134/1.1421408

ISI-Number WOS:000172035300008

Document type (ISI) Article

Additional Information Variant title: π -0 transition in superconductor-ferromagnet-superconductor junctions