

Simulation of magnetization reversal in Phi-0 junction by the pulse of magnetic field

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In Superconductor-Ferromagnet-Superconductor structure with noncentrosymmetric ferromagnetic interlayer is observed anomalous Josephson effect. In this structure current-phase relation demonstrates phase shift Φ_0 , which is proportional to the magnetisation of ferromagnetic layer and such junction are called Φ_0 junction.

In this work we simulate dynamics of single junction SQUID (superconducting quantum interference device) with the Φ_0 junction. We demonstrate that under the pulse of external magnetic field can be realised magnetization reversal in the ferromagnetic layer. The influence of the model parameters of the systems on magnetization reversal is investigated in detail. We expect that, the observed features might find applications in different fields of superconducting spintronics.

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