

Oscillations of the critical temperature in superconducting Nb/Ni bilayers

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Abstract

We investigated Nb/Ni bilayers prepared by magnetron sputtering on glass substrates. The quality of the films was characterized by small-angle X-ray diffraction analysis. The thickness of the layers was determined by the Rutherford backscattering spectrometry (RBS). For specimens with constant Nb layer thickness we observed distinct oscillations of the superconducting critical temperature upon increasing the thickness of the Ni layer. The results are interpreted in terms of Fulde-Ferrell-Larkin-Ovchinnikov (FFLO) like inhomogeneous superconducting pairing in the ferromagnetic Ni Layer.

Keywords

FFLO pairing, Superconductor/ferromagnet proximity effect