

Effect of magnetism in electrical transportation between two superconducting layers

ABSTRACT

To investigate the interplay between superconducting and magnetic material, a multilayer consisting of two superconducting YBa₂Cu₃O₇ (YBCO) layers and sandwiched with magnetic Ni as a mediator was fabricated. The thin film of YBCO/Ni/YBCO on MgO substrate was prepared by pulsed laser deposition (PLD). The multilayer was initially characterized by XRD and then the morphology of surface was investigated by FESEM. Variation of resistivity via temperature was measured by DC electrical method with four point probe.

Keyword: YBCO; Superconducting; Pulsed laser deposition; Multilayer; Thin film