

Influence of electromagnetic radiation on characteristics of superconductor-manganite nanocomposite

We study temperature dependence of resistance and current-voltage characteristics of nanocomposite $\text{MgB}_2\text{-La}_{0.67}\text{Ca}_{0.33}\text{MnO}_3$ formed by components with substantially different granules size: MgB_2 (5-10 μm) and $\text{La}_{0.67}\text{Ca}_{0.33}\text{MnO}_3$ (20-30 nm). Nanocomposite under consideration is a three-dimensional structure of weakly coupled Josephson-type S-FM-S contacts (S-superconductor, FM-ferromagnetic metal). Electromagnetic radiation effects on the superconducting resistive transition and the current-voltage characteristics of the nanocomposite were detected and discussed.

Primary authors: BOLIASOVA, Olha; Ms KONONENKO, Viktoriya (Donetsk Institute for Physics and Engineering, the NAS of Ukraine); Prof. KRIVORUCHKO, Vladimir (Donetsk Institute for Physics and Engineering, the NAS of Ukraine); Dr TARENKOV, Vladimir (Donetsk Institute for Physics and Engineering, the NAS of Ukraine)

Presenter: BOLIASOVA, Olha