

ABSTRACT

Report on research practice: 28 pages, 5 figures, 1 table, 17 sources.

Since nanotechnology is getting more and more popular and are used in almost every industry, study the properties and characteristics of nanoscale systems is an urgent task. Magnetic tunnel structures and their diffuse characteristics are no exception. Despite all the existing methods to study diffusion, scientists do not stop searching for a method more accurate, fast and easy to implement.

The literature associated with nanofilms, particular magnetic tunnel junction and diffusion techniques to study thin films, was studied.

A method for evaluating the diffusion coefficient of a conductive material in the dielectric layer by the change of conductivity type was developed. To test this method, the MTJ structure Fe/MgO/Fe/Al, as well as a plant for reading current-voltage characteristics were developed.

MTJ, NANOFILMS, IRON, MAGNESIUM OXIDE, ALUMINUM,
DIFFUSION COEFFICIENT, TUNNELING CURRENT