

RECONSTRUCTION OF DOMAIN STRUCTURE IN FERRITE-GARNET UNDER APPLIED MECHANICAL STRAIN

Abstract Content

The paper considers the possibility of changing the magnetic state of the yttrium ferrite-garnet epitaxial films when subjected to mechanical stresses. The observed regularities of the domain structure rearrangement are considered on the basis of the Stoner-Wolfart energy model with an additional allowance for the inhomogeneities of magnetization and uniaxial anisotropy induced by mechanical deformation. Changes of the magnetic hysteresis loops shape is explained, and relations between the magnitudes of the applied mechanical stresses and local changes in the magnetization are obtained.

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