FMR AND SMFMR INVESTIGATIONS OF EPITAXIAL Fe/GaAs(001) THIN FILMS COVERED BY Si OR Ge

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Magnetic anisotropy and magnetoelastic properties in epitaxial iron films prepared by DC magnetron sputtering on single crystal GaAs (001) substrates and covered by a protective Si or Ge layer have been investigated by means of the ferromagnetic resonance (FMR) and strain modulated ferromagnetic resonance (SMFMR). The uniaxial and cubic anisotropy constants as well as two magnetoelastic constants have been shown to be strongly dependent on the thickness of the film. The surface contribution to the cubic anisotropy and magnetoelastic constants have been obtained.

9.7 cm

13.4 cm

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