

INVESTIGATION OF THE FERROMAGNETIC RESONANCE OF HIGH-THIN METAL FERROMAGNETIC FILMS

The non-planar angular dependence of the ferromagnetic resonance (FMR) was measured for CoFeB, films of different thicknesses made by magnetron sputtering. Angle outside the plane the dependence of the FMR resonance field and the line width were analyzed using the Landau-Lifshitz-Hilbert equation with allowance for broadening of the line width due to magnetic inhomogeneities in the film. Magnetic irregularities were considered fluctuations the magnitude and direction of the effective demagnetization field, which contains both demagnetization and perpendicular field of anisotropy for the film. Calculations of the angular variations of the line width are consistent with the experimental quantitatively. With the help of the experiment, it was found that it is sufficient to use only uniform broadening, since the samples are performed fairly qualitatively. The value of $\alpha = 0.0065$. After the calculations, it was revealed that the experimental values are as close as possible to the theoretical values.

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