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Nonlinear FMR spectra in yttrium iron garnet

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Abstract

© Kazan Federal University (KFU). Results of demagnetizing effect studies in yttrium iron garnet $Y_3Fe_5O_{12}$ thin films are reported. Experiments were performed on X-Band of electron paramagnetic resonance spectrometer at room temperature. The ferromagnetic resonance (FMR) spectra were obtained for one-layer single crystal YIG films for different values of the applied microwave power. Nonlinear FMR spectra transformation by the microwave power increasing in various directions of magnetic field sweep was observed. It is explained by the influence of the demagnetization action of nonequilibrium magnons.

Keywords

EPR, Magnons, Yttrium iron garnet