# NONLINEAR INTERACTION OF DIPOLE AND EXCHANGE SPIN WAVES IN YTTRIUM-IRON GARNET FILMS

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S u m m a r y

Changes of the relaxation parameter and propagation losses of long dipole magnetostatic waves (MSWs) with wave number $\sim 10^2$ cm$^{-1}$ under the action of parametrically excited short exchange spin waves (ESWs) with wave number $\sim 10^5$ cm$^{-1}$ in yttrium-iron garnet films are experimentally detected. ESWs were excited by a parallel pumping of the spin wave instability. At the maximum concentration of ESWs $\sim 10^{18}$ cm$^{-3}$, the increase of MSW propagation losses was 13.5 dB. The dependences of the relaxation frequency and MSW losses on the concentration of ESWs are determined. The Hamiltonian coefficient that is responsible for the three-magnon confluence of MSWs is experimentally determined.