FMR IN THE $(La_{0.7}Ca_{0.3})_{1-x}Mn_{1+x}O_3$ FILMS.

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9.7 cm

Measurements of FMR in both in-plane ($H_{\|}$) and out-of-plane ($H_{\perp}$) magnetic field configurations have been performed on the epitaxial $(La_{0.7}Ca_{0.3})_{1-x}Mn_{1+x}O_3$ films. The FMR line in the field $H_{\|}$ is nearly symmetrical from 300 to 4.2 K, while the FMR signal in the perpendicular field has the Dysonian-like shape. The FMR linewidth increases abruptly near the FM transition temperature. Temperature dependences of resonance field H_{res} are well described by the Brillouin function. The angular dependences of H_{res} were found to be in a reasonable agreement with the linear Landau -. Lifshitz equation of motion. By comparing H_{res} for orientations parallel and perpendicular to the film plane, we conclude that the effective anisotropy of the films has the easy-plane character. From the temperature and angular dependences of FMR spectra, the main magnetic parameters were estimated.

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