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## Mechanical detection of ferromagnetic resonance spectrum in a normally magnetized yttrium-iron-garnet disk

Charbois V., Naletov V., Ben Youssef J., Klein O.  
*Kazan Federal University, 420008, Kremlevskaya 18, Kazan, Russia*

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### Abstract

The ferromagnetic resonance spectrum of a normally magnetized yttrium-iron-garnet disk, with thickness of 4.75  $\mu\text{m}$  and radius of 80  $\mu\text{m}$ , is measured at room temperature both by magnetic resonance force microscopy and by standard detection of the microwave susceptibility. The comparison indicates that magnetic resonance force microscopy represents one of the most potent means of obtaining the complete ferromagnetic resonance spectra of micron-size samples. In the weak coupling regime, the measured data can be quantitatively understood within the framework of the Damon and Eshbach model. © 2002 American Institute of Physics.

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