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# Radiofrequency forward Mössbauer scattering method in study of magnetic materials

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## Abstract

Mössbauer spectra in forward scattering scheme were measured for iron borate (FeBO 3) exposed to radiofrequency (rf) field below the Neel temperature. The spectra have satellites spaced by doubled rf field frequency. The semiclassical model of Mössbauer transmission through a thick magnetic sample under rf reversals of a hyperfine field is proposed. This model reproduces all features of the measured spectra. Experiments and model calculations indicate additional possibilities of this measurement scheme for study the soft magnetic materials. © 2013 Springer Science+Business Media Dordrecht.

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## Keywords

Magnetic materials, Mössbauer forward scattering, Quantum interference, Radiofrequency thickness effects