

Abstract Submitted
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Micromagnetic Modeling of Magnetic Resonance Force Imaging of Individual Ferromagnetic Nanowires¹ DENIS V. PELEKHOV, The Ohio State University, Columbus OH, I. MARTIN, Los Alamos National Laboratory, Los Alamos NM, I. LEE, YU. OBUKHOV, R. ADUR, P. BANERJEE, The Ohio State University, Columbus OH, F. WOLNY, T. MÜHL, B. BÜCHNER, IFW, Dresden Germany, P.C. HAMMEL, The Ohio State University, Columbus OH — Magnetic Resonance Force Microscopy (MRFM) is a scanned probe technique capable of spatially resolved Ferromagnetic Resonance Imaging (FMR) on magnetic samples via excitation of a localized FMR mode confined by the inhomogeneous field of the MRFM probe magnet. FMR imaging using MRFM is capable of spatially resolved mapping of the magnetic properties, such as saturation magnetization, of a sample under investigation. We present the results of micromagnetic modeling of magnetic resonance force imaging of individual ferromagnetic nanowires with the typical diameter of 20 nm. We will discuss issues of force sensitivity and the spatial resolution of the method.

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