Abstract Submitted
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Three-dimensional Imaging using Magnetic Resonance Force Microscopy I. H. LEE, The Ohio State University, K.C. FONG, The Ohio State University, YU. OBUKHOV, The Ohio State University, D.V. PELEKHOV , The Ohio State University, P.C. HAMMEL, The Ohio State University — We describe techniques for obtaining 3D spin density images using Magnetic Resonance Force Microscopy. The apparatus, specifically designed to test imaging techniques, operates in vacuum at room temperature. We record the spatial dependence of the force generated by the Electron Spin Resonance signal from a DPPH particle mounted on the cantilever as it is scanned over a spherical NdFeB particle used as a high gradient probe magnet. Details of apparatus design, experimental data, challenges and approaches to 3D MRFM image deconvolution will be presented.

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