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Observation of locally excited ferromagnetic resonance via magnetic resonance force microscopy EVGUENI NAZARETSKI, Los Alamos National Laboratory, DENIS PELEKHOV, Physics Department, Ohio State University, IVAR MARTIN, Los Alamos National Laboratory, PETER C. HAMMEL, Physics Department, Ohio State University, ROMAN MOVSHOVICH, Los Alamos National Laboratory, LOS ALAMOS NATIONAL LABORATORY TEAM, PHYSICS DEPARTMENT, OHIO STATE UNIVERSITY TEAM — Magnetic resonance force microscopy spectra of a 50 nm thick permalloy film were measured as a function of the probe-sample distance and the angle between the film plane and the direction of the externally applied magnetic field. At larger angles the multiple resonance modes were observed at small probe-sample distances. Micromagnetic simulations which include the inhomogeneous magnetic field of the probe tip reveal the *localized* nature of the exited resonance modes, opening a way to spatially resolved ferromagnetic resonance measurements in a continuous ferromagnetic media.

Evgueni Nazaretski
Los Alamos National Laboratory

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