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New Sensitivity Regimes in Nuclear Magnetic Resonance DANIEL TENNANT, ISAAC MANZANERA, JEREMY PASTER, JOHN MARKERT, University of Texas at Austin, MARKERT LAB TEAM — Conventional NMR experiments using inductive techniques require a sample size of approximately 10^{12} nuclear spins. This limitation can be overcome by utilizing cantilevers, traditionally used for Atomic Force Microscopy, as the measuring tool. This technique has the potential to image individual nuclear spins and has already shown itself to be successful in capturing single electron spins. In this talk, I will outline the details of this procedure, present preliminary data from a trial sample of Ammonia Sulfate, and discuss future experiments.

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