

Session G18 - Spectroscopic Properties.

*FOCUS session, Tuesday morning, March 19
116, Indiana Convention Center*

**[G18.014] Nuclear Magnetic Resonance Force
Microscopy Using Single-Crystal Silicon Double-
Torsional Micro-Oscillators**

C.W. Miller, M.D. Chabot, T.C. Messina, Y.J. Lee, J.T. Markert (University of Texas at Austin)

We report the results of a 1-D single shot nuclear magnetic resonance force microscopy experiment using single-crystal silicon double-torsional micro-oscillators. The experiment was performed using an ammonium sulfate sample of roughly $(15 \text{ }\mu\text{m})^3$ in the sample-on-oscillator configuration. With a signal-to-noise ratio of about 6, the force from the sample was measured to be $1.5 \times 10^{-14} \text{ N/Hz}^{1/2}$. Efforts are underway to map the $\Omega\text{-H}_1$ (modulation amplitude-rf field strength) parameter space for a similar experiment. We also report our design and capabilities for 2 and 3-D scanning NMR-FM.