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Force detected electron spin resonance from N@C_{60} thin films
PALASH BANERJEE, K.C. FONG, D.V. PELEKHOV, P.C. HAMMEL, Dept of Physics, Ohio State University, Columbus OH 43210 — We report on force-detected electron spin resonance studies of thin films of endohedral fullerene N@C_{60}. The electron spin associated with the nitrogen atom exhibits long spin-lattice relaxation times (T_1) at low temperatures. By combining microwave pulses with periodic adiabatic spin inversions in large gradients, we are able to selectively manipulate and detect the spins in submicron volumes. We also discuss our progress in detecting *statistical fluctuations* of the spin magnetization in this system using ultrasensitive force detection techniques.

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