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Electron Spin Resonance Force Microscopy of Spin Probes ERIC W. MOORE, SANGGAP LEE, STEVEN A. HICKMAN, SEPPE KUEHN, JOHN A. MAROHN, Cornell University — Nitroxide spin labels, such as 4-amino TEMPO can be used to as environmental, conformal and structural probes in biological and polymer systems. We report on our efforts to detect electron spin resonance of 4-amino TEMPO in a polymer matrix using the magnetic resonance force microscope as a proof of concept for future experiments on spin labeled proteins. Our microscope operates at high vacuum and low temperature, using a custom fabricated single crystal silicon cantilever in the magnet-on-cantilever geometry. The applied field is provided by a microstripline resonator at 18 GHz.

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