

Abstract Submitted
for the MAR09 Meeting of
The American Physical Society

Spin lifetime properties of a quantum well GaAs sample measured by optically detected magnetic resonance¹ BENJAMIN HEATON, JOHN COLTON, STEVE BROWN, DANIEL JENSON, MICHAEL JOHNSON, AARON JONES, Brigham Young University — Optically detected Kerr rotation techniques were used to measure spin properties in GaAs. The samples studied were MBE-grown 14 nm n-type GaAs quantum wells. Magnetic resonance was observed with great sensitivity as the probe laser was tuned to the exciton resonance. The g-factor was measured to be $|g|=0.35$. The T_2^* lifetime measured from the width of the ODMR peaks was 52 ns. Results from pulsed microwave Rabi oscillation and spin echo experiments (to measure the T_2 spin coherence lifetime) are presented.

¹This work was supported by NSF grants 0419501, 0456074, and 0802831

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Date submitted: 21 Nov 2008

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