

Abstract Submitted
for the MAR11 Meeting of
The American Physical Society

Microwave induced electron heating in the regime of radiation-induced magnetoresistance oscillations in the GaAs/AlGaAs system¹ A.N. RAMANAYAKA, R.G. MANI, Georgia State University, W. WEGSCHEIDER, Laboratorium fuer Festkoerperphysik, ETH Zurich — We examine the influence of microwave photoexcitation on the amplitude of Shubnikov-de Haas (SdH) oscillations at large filling factors in a two dimensional GaAs/AlGaAs electron system. A SdH lineshape analysis indicates that increasing the incident microwave power has a weak effect on the amplitude of the SdH oscillations, in comparison to the influence of modest temperature changes at liquid Helium temperatures on the dark-specimen SdH effect. The results indicate negligible electron heating under modest microwave photoexcitation, in good agreement with theoretical predictions for this regime.

¹ARO W911NF-07-01-0158, DOE DE-SC0001762

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Date submitted: 18 Nov 2010

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