

Abstract Submitted  
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**InAs 2DEGs: What's the g-factor?**<sup>1</sup> B.D. MCCOMBE, MEHDI PAKMEHR, A. KHAETSKII, State Univ of NY - Buffalo, OLIVIO CHIATTI, S.F. FISCHER, S. BUCHHOLZ, Humboldt-Universitaet Berlin, C. HEYN, W. HANSEN, Universitaet Hamburg, M. CAHAY, R.S. NEWROCK, NIKHIL BANDARI, University of Cincinnati — Interest in spin-orbit effects in semiconductors has led us to study the electron g-factor in quasi-2DEG InAs samples. We have made magnetotransport and -photoresponse (PR) measurements on InAs QW structures in magnetic fields up to 10 T. THz cyclotron resonance (CR) is manifested in PR as a resonant envelope of the amplitude of quantum oscillations, which show clear spin-splitting (for lower mobility samples) down 4T, while direct  $R_{xx}$  measurements show no spin-splitting up to 9T.  $R_{xx}$  oscillations in a higher mobility sample show well-resolved spin-splittings over a range of fields as does the PR. We have simulated the data with a theoretical expression for 2DEG SdH oscillations (coupled with CR resonant carrier heating for the PR) and extracted g-factors from fits. We also used a different (commonly used) method, SdH oscillations vs. tilt angle of the field to extract g-factors from the angle at which the SdH frequency doubles. We find very large g-factors from fits to  $R_{xx}$  and PR (14 – 20), but g-factors 2-3 times smaller for these same samples from tilted field experiments (close to estimated band g-factors). These results are discussed in terms of exchange effects.

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