

Abstract Submitted
for the MAR15 Meeting of
The American Physical Society

Magneto-photoluminescence study of InAs quantum dots emitting at 1150nm¹ LAURA KINNISCHTZKE, YIMING LAI, ANTONIO BADOLATO, NICK VAMIVAKAS, Univ of Rochester — Self-assembled InAs/GaAs quantum dots are frequently designed to emit light in the range of 920-980nm, and the spectroscopic characterization of neutral and charged excitons in this range is well understood. We study the magnetic field dependence of low-temperature photoluminescence from InAs self-assembled quantum dots emitting close to 1 eV (1150 nm). The dots are incorporated into a field-effect device to map out the fine structure of charged and neutral excitons using magneto-photoluminescence spectroscopy in the Faraday geometry up to 7 Tesla. Previously developed models of Coulomb blockade and fine structure in InAs/GaAs QDs can be extended to measure the effective g-factor of the exciton complexes in these lower-energy quantum dots.

¹We acknowledge support from NSF grant no. DMR-1309734

Laura Kinnischtzke
Univ of Rochester

Date submitted: 14 Nov 2014

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