

Abstract Submitted
for the MAR10 Meeting of
The American Physical Society

Resonant Subband Landau Level Coupling in the Wide Quantum Well L.-C. TUNG, National High Magnetic Field Laboratory-FSU, X.-G. WU, Dept. Physics. Institute of Semiconductor, Chinese Academy of Science, L. N. PFEIFFER, K. W. WEST, Dept. of Electrical Engineering, Princeton Univ., R. R. DU, Dept. Physics and Astronomy, Rice Univ., Y.-J. WANG, National High Magnetic Field Laboratory-FSU — Subband energies and intersubband couplings in an ultra high-mobility GaAs/Al_{0.24}Ga_{0.76}As wide quantum well have been investigated by magneto-infrared spectroscopy. In this ultra clean and symmetric wide quantum well, couplings between the 1st and up to the 4th electric subbands have been observed, including a symmetry-forbidden coupling between the 1st and 3rd subbands. The results can be interpreted in terms of the magnetoplasma coupling in a quasi-three-dimensional system or the resonant subband Landau level coupling with a slab plasma frequency dependent depolarization shift in a two-dimensional system. The latter appears to be a better interpretation for the observed anticrossings in this system.

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Date submitted: 19 Nov 2009

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