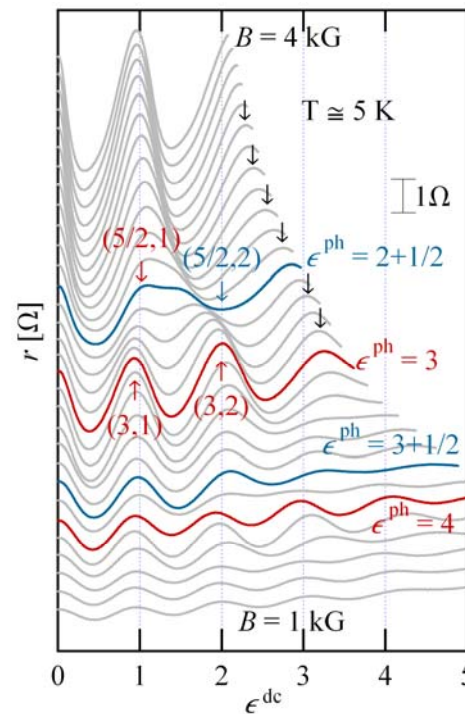
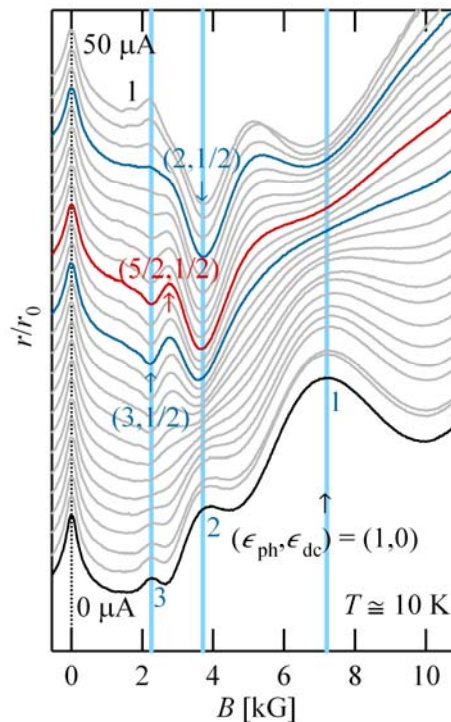
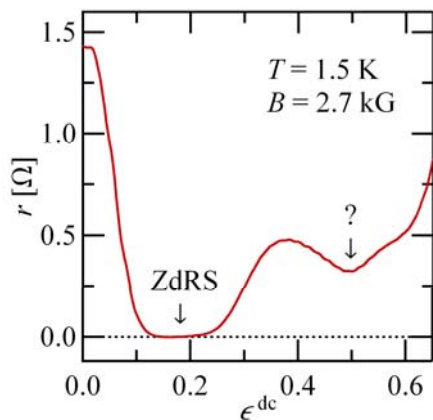
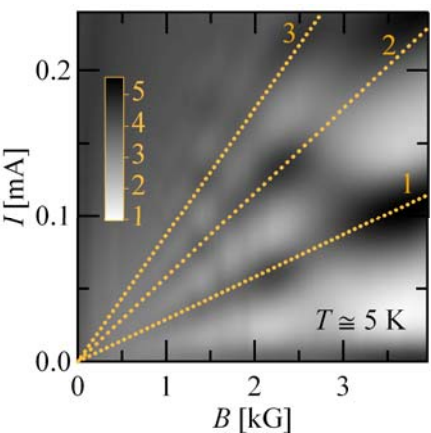


# Resonant Phonon Scattering in Two-dimensional Electron Systems (2DES) Driven by dc Electric Fields

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 NNIN Facility utilized: Nanofabrication Center

- Non-linear transport in 2DES:
  - ◆ Use electric field as a tuner for acoustic phonon resonances
- MAJOR OBSERVATIONS:
  - ◆ Electric field tuned phonon scattering
  - ◆ Resistance peaks at the crossover to supersonic regime due to intra Landau level transitions
  - ◆ dc-induced zero-differential resistance state



## ● Publications

- ◆ Zhang, Zudov, Pfeiffer, West, Phys. Rev. Lett. **100**, 036805 (2008)