

Abstract Submitted
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Microwave Absorption of Edge States in Quantum Hall Droplets¹

JIE ZHANG, LINGJIE DU, RUIYUAN LIU, RUIRUI DU, Department of Physics and Astronomy, Rice University, Houston, Texas , LOREN PFEIFFER, KEN WEST, Department of Electrical Engineering, Princeton University — Microwave absorption spectroscopy has been proposed as a unique tool in studies of edge physics of quantum Hall droplets (Cano et al., Phys. Rev. B 88, 165305 (2013)). In our ongoing experiment we pattern co-planar waveguide (CPW) and micrometer-size discs on the same chip of a high-mobility GaAs/AlGaAs two-dimensional electron gas. The CPW is placed inside a broad-band sample holder, which is fitted with millimeter wave coax cables. The whole setup is top-loaded into a 300 mK helium3 cryostat equipped with a superconducting solenoid. In this talk the construction of the spectrometer, preliminary data, and discussions will be presented.

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