

Abstract Submitted
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Transport in Metal/Graphene Tunnel Junctions CHRIS MALEC, DRAGOMIR DAVIDOVIC, Georgia Tech — We present a technique to fabricate thin oxide barriers between graphene and Al and Cu to create tunnel junctions and directly probe graphene in close proximity to a metal. We map the differential conductance of our junctions versus probe and back gate voltage, and observe fluctuations in the conductance that are directly related to the graphene density of states. We develop a simple theory of tunneling into graphene to extract experimental numbers, and take into account the electrostatic gating of graphene by the tunneling probe. Results of measurements in magnetic fields will also be discussed, including evidence for incompressible states in the Quantum Hall regime.

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