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Local Transport Measurements on Graphene Using Scanning Tunneling Potentiometry WEIGANG WANG, KO MUNAKATA, MICHAEL ROZLER, FRANCOISE KIDWINGIRA, MALCOLM BEASLEY, Stanford University — Scanning tunneling potentiometry (STP) is a local transport measurement that was demonstrated some time ago, but has only recently been developed in a generally useful form. Near equilibrium, STP measures the electrochemical potential along a sample surface with near nanometer spatial resolution. With our newly developed STP system, we report preliminary results on few-layer graphene at room temperature and 4.2K. Room temperature STP data show a constant drift in the electric properties. At low temperature, however, our data show no such drift. Possible evidence for Landauer resistivity dipoles will be presented. Work supported by the AFOSR.

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