

Abstract Submitted
for the MAR12 Meeting of
The American Physical Society

Fabrication of a tunable quantum point contact in bilayer graphene PATRICK MAHER, CARLOS FORSYTHE, Columbia University, TAKASHI TANIGUCHI, KENJI WATANABE, NIMS, PHILIP KIM, Columbia University — The realization of a quantum point contact (QPC) in graphene is of interest for both physical and technological reasons. Fabricating a tunable QPC thus far, however, has been technologically challenging due to the inability to electrostatically deplete graphene. Recent advances have allowed for the creation of high mobility dual-gated bilayer samples sandwiched in hexagonal boron nitride. These samples display a robust, tunable band gap, which opens the door to electrostatically defining the conductance channel. In this presentation, we report the fabrication and characterization of point contact structures in high mobility dual-gated bilayer graphene samples employing hBN as both the top and bottom dielectric layer.

Patrick Maher
Columbia University

Date submitted: 13 Dec 2011

Electronic form version 1.4