Abstract Submitted
for the MAR09 Meeting of
The American Physical Society

Impact of Atomic Hydrogen Adsorption on Transport Properties of Graphene JYOTI KATOCH, Department of Physics, University of Central Florida, JIANHAO CHEN, Dept of Physics, Center for Nanophysics and Advanced Materials, and Materials Research Science and Engineering Center, Univ. of Maryland, College Park, MASA ISHIGAMI, Department of Physics, University of Central Florida — We have measured transport properties of graphene as a function of surface coverage by atomic hydrogen in ultra high vacuum. Hydrogen adsorption is reversible at moderate temperatures and alters electronic properties of graphene at atomic scale. We will discuss dependence of minimum conductivity and field-effect carrier mobility on the density of adsorbed hydrogen.

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Date submitted: 21 Nov 2008 Electronic form version 1.4