Abstract Submitted
for the MAR15 Meeting of
The American Physical Society

Visualization of Photo-induced Doping patterns in Graphene/Boron Nitride Heterostructures via Scanning Tunneling Microscopy[1] JAIRO VELASCO JR., LONG JU, DILLON WONG, JUWON LEE, SALMAN KAHN, HSIN-ZON TSAI, CHAD GERMANY, University of California at Berkeley, TAKASHI TANIGUCHI, KENJI WATANABE, NIMS, ALEX ZETTL, FENG WANG, MIKE CROMMIE, University of California at Berkeley — Photo-induced doping in graphene-boron nitride (G/BN) heterostructures enables flexible and repeatable writing and erasing of charge doping in graphene using optical irradiation. So far, however, this phenomenon has been explored using spatially averaging probes such as electron transport, and there have been no local studies into the underlying microscopic behavior. Here we report a combined scanning tunneling microscopy (STM) and optoelectronic measurement scheme that has been utilized to investigate the microscopic mechanisms at work in this process. We will discuss the latest experimental progress towards the visualization of light-induced charge doping patterns on G/BN heterostructures via STM.

[1]J.V.J acknowledges support from the UC President's Postdoctoral Fellowship

Jairo Velasco Jr.
University of California at Berkeley

Date submitted: 14 Nov 2014 Electronic form version 1.4