

Abstract Submitted
for the 4CF11 Meeting of
The American Physical Society

Edge effects in chemical vapor deposition grown graphene

MATTHEW YANKOWITZ, University of Arizona — The study of graphene has been extremely popular recently due to its promising properties as a replacement for silicon in next-generation electronics. While most of its basic properties are now well understood, there are still many interesting electronic edge effects which have yet to be sufficiently probed experimentally. These edge effects become especially important for nano-scale graphene devices, where electronic edge states persist throughout a considerable proportion of the device area. I will present methods for fabricating chemical vapor deposition (CVD) grown graphene on boron nitride devices. These devices are clean and atomically flat allowing the electronic edge effects to be probed with scanning tunneling spectroscopy. I will also present evidence that CVD grown graphene edges are not atomically precise enough to support electronic edge states or other interesting edge effects such as short-wavelength Friedel oscillations.

Matthew Yankowitz
University of Arizona

Date submitted: 14 Sep 2011

Electronic form version 1.4