Abstract Submitted
for the MAR09 Meeting of
The American Physical Society

Study on the Electronic Band Structures of Doped Graphene
C.G. HWANG, Materials Sciences Division, Lawrence Berkeley National Laboratory, Berkeley, CA, KEVIN T. CHAN, D. SIEGEL, Department of Physics, University of California, Berkeley, CA, Materials Sciences Division, Lawrence Berkeley National Laboratory, Berkeley, CA, A.V. FEDOROV, Advanced Light Source, Lawrence Berkeley National Laboratory, Berkeley, CA, MARVIN L. COHEN, Department of Physics, University of California, Berkeley, CA, Materials Sciences Division, Lawrence Berkeley National Laboratory, Berkeley, CA, J.B. NEATON, The Molecular Foundry, Lawrence Berkeley National Laboratory, Berkeley, CA , A. LANZARA, Department of Physics, University of California, Berkeley, CA, Materials Sciences Division, Lawrence Berkeley National Laboratory, Berkeley, CA —
Graphene, a carbon sheet self-assembled on a SiC substrate, has been found to undergo changes in an electronic property as a function of doping concentration. Depending on the species of dopants, charge carrier density is gradually modified with increasing dopant coverage. By using angle resolved photoemission spectroscopy, we study how the graphene pi bands are modified by changing doping concentration and we discuss the effect of doping on many-body interaction such as electron-phonon coupling. These results provide new information on the role of electron-phonon coupling for superconductivity in the graphite intercalated compounds.

C.G. Hwang
Materials Sciences Division, Lawrence Berkeley National Laboratory

Date submitted: 11 Dec 2008 Electronic form version 1.4