Abstract Submitted
for the MAR12 Meeting of
The American Physical Society

Unusual electron self-energy in graphene CHOONGYU HWANG, Lawrence Berkeley National Laboratory, DAVID SIEGEL, University of California, Berkeley, SUNG-KWAN MO, Lawrence Berkeley National Laboratory, WILLIAM REGAN, University of California, Berkeley, ARIEL ISMACH, YUEGANG ZHANG, Lawrence Berkeley National Laboratory, ALEX ZETTL, ALESSANDRA LANZARA, University of California, Berkeley — Electron-Electron interactions bear important information on fundamental electronic properties such as electron effective mass, conductivity, and charge mobility. By using angle-resolved photoemission spectroscopy, we study unusual electron self-energy in graphene induced by the electron-electron interactions, which are distinguished from those of an ordinary Fermi liquid. Our findings provide a new route for two-dimensional electron systems toward device applications.

Choongyu Hwang
Lawrence Berkeley National Laboratory

Date submitted: 27 Nov 2011 Electronic form version 1.4