Abstract Submitted
for the MAR09 Meeting of
The American Physical Society

Longitudinal and Transverse Transport properties of disordered graphene VINCENT UGARTE, VIVEK AJI, Department of Physics and Astronomy, University of California-Riverside, California 92521, USA — We present results of calculations of the properties of thermal and electrical transport coefficients of disordered graphene in a weak magnetic field. In particular, we are interested in the effect of vanishing density of states and unitary scattering on transport coefficients near the Dirac point. The effect of impurity states is included within a self-consistent t-matrix approximation. We find a peak in both the Nernst coefficient and thermopower around the chemical potential which grows as one approaches the Dirac point. We compare our results to recent experimental data and discuss the importance of unitary scattering in various limits of temperature and chemical potential.

Vincent Ugarte
Department of Physics and Astronomy,
University of California-Riverside, California 92521, USA

Date submitted: 23 Nov 2008 Electronic form version 1.4