

Abstract Submitted
for the MAR09 Meeting of
The American Physical Society

Infrared spectroscopy of electronic bands in bilayer graphene¹

ALEXEY KUZMENKO, ERIK VAN HEUMEN, DIRK VAN DER MAREL, University of Geneva, PHILIPPE LERCH, Paul Scherrer Institute, Switzerland, PETER BLAKE, KONSTANTIN NOVOSELOV, ANDRE GEIM, University of Manchester — We present infrared spectra (0.1-1 eV) of electrostatically gated bilayer graphene as a function of doping and compare them with tight binding calculations. All major spectral features corresponding to the expected interband transitions are identified in the spectra: a strong peak due to transitions between parallel split-off bands and two onset-like features due to transitions between valence and conduction bands. A significant electron-hole asymmetry is observed.

¹This work was supported by the Swiss National Science Foundation (grant #200021-120347).

Alexey Kuzmenko
University of Geneva

Date submitted: 26 Nov 2008

Electronic form version 1.4