Abstract Submitted
for the MAR07 Meeting of
The American Physical Society

Raman Spectroscopy of single and double layer graphene YAN YIN, SEBASTIAN REMI, SVETLANA ANISSIMOVA, ANNA SWAN, BENNETT GOLDBERG, Boston University — Dirac fermions and novel quantum Hall effects. Graphene also holds the promise of one day replacing silicon in microchips. Early Raman scattering has identified basic features of the G-band and D-band, where the former shows intensity dependence associated with addition of single layers, and the later displays significant intensity only for the single and double layer systems. We have performed room temperature Raman scattering with a spatial resolution of 0.5 microns consistent with this work. More recently, Pinczuk and Kim and co-workers have shown low-temperature Raman scattering that displays evidence of electron density dependent screening. We investigate the interlayer hopping with temperature-dependent Raman scattering and in our low-temperature Raman, we specifically investigate the novel coupling and edge states predicted by Castro Neto and co-workers.

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Date submitted: 20 Nov 2006 Electronic form version 1.4