Abstract Submitted
for the MAR12 Meeting of
The American Physical Society

Vibrational spectroscopy of molecules adsorbed on graphene YAQING BIE, JASON HORNG, FENG WANG, UC Berkeley — Graphene, being a monolayer membrane, is extremely sensitive to the environment. Understanding how it interacts with adsorbed molecules and polymers is fundamental for improving graphene electronic devices. Previous studies show that electrons in graphene can couple efficiently to phonon vibrations of the substrate, which can become a limiting factor for graphene mobility. Here we investigate the interactions between vibrations of adsorbed molecules with graphene using vibrational spectrsocopy. We performed the vibrational spectroscopy using a broadband tunable infrared laser source and a high precision spectrometer. We will discuss how the vibration frequencies of the adsorbed molecules get modified through their interactions with graphene.

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Date submitted: 28 Nov 2011 Electronic form version 1.4