

Abstract Submitted  
for the MAR12 Meeting of  
The American Physical Society

**The Use of Confocal Raman Spectroscopy to Quantitatively Study the Interactions Between Immersive Water and Graphene/Graphene Oxide Surfaces** HANNAH NARCROSS, BYUNG HO JEON, JONG-WON LEE, CHANG YEOL RYU, Rensselaer Polytechnic Institute — The unique mechanical, chemical, optical, and electrical properties of graphene allow for many potential applications in biomaterials. Understanding and quantifying the surface interactions between graphene/graphene oxide and aqueous liquid is essential for the design of such graphene-based nanocomposites. Graphene sheets were produced by the mechanical exfoliation of graphite. We have used depth Confocal Raman Spectroscopy (CRM) profiles to measure graphene wettability using a water immersive objective lens, and demonstrated how surface energy between graphene/graphene oxide and immersive aqueous liquid can be affected to simultaneously measure the depth image profiles. Contact angles were also measured to further investigate the compatibility between graphene/graphene oxide and its environment.

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Date submitted: 10 Nov 2011

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