Abstract Submitted
for the MAR13 Meeting of
The American Physical Society

Electrical Characterization of Graphene Flakes Synthesized Using Liquid Phase Exfoliation of Graphite in Isopropyl Alcohol SAIKAT TALAPATRA, BALEESWARAIAH MUCHHARLA, MITCHELL CONNOLLY, ANDREW WINCHESTER, SUJOY GHOSH, Southern Illinois University Carbondale, SWASTIK KAR, Northeastern University, Boston, SOUTHERN ILLINOIS UNIVERSITY CARBONDALE TEAM, NORTHEASTERN UNIVERSITY, BOSTON COLLABORATION — Liquid-phase exfoliation processes for synthesis of nano structures is often a simpler route to get functional nanomaterials in large scale. Here we will report on the synthesis of graphene flakes using exfoliation of bulk graphite in isopropyl alcohol. We will also present electrical characterization of thin film devices made from these exfoliated flakes. Temperature dependence of resistance performed for 10K <T <300K shows a slow linear increase in resistance with decrease in temperature. Behavior of thin film devices made from these exfoliated flakes under electrochemical gating environment will be presented and discussed.

Baleeswaraiah Muchharla
Southern Illinois University Carbondale

Date submitted: 09 Nov 2012 Electronic form version 1.4