

Abstract Submitted
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Electrostatic Deposition of Graphene ANTON SIDOROV, ElectroOptics Research Institute and Nanotechnology Center, University of Louisville, GAMINI SUMANASEKERA¹, Department of Physics, University of Louisville, MEHDI YAZDANPANA, ElectroOptics Research Institute and Nanotechnology Center, University of Louisville, ROMANEH JALILIAN, P. OUSEPH, Department of Physics, University of Louisville, ROBERT COHN, ElectroOptics Research Institute and Nanotechnology Center, University of Louisville — Loose graphene sheets, one to a few atomic layers thick are often observed on freshly cleaved HOPG surfaces. A simple and reliable technique using electrostatic attraction is demonstrated to transfer these graphene sheets to a selected substrate. Sheets from one to 22 layers thick have been transferred by this method. One sheet after initial deposition is measured by atomic force microscopy to be only atomic layer thick (~ 0.35 nm). A few weeks later, this height is seen to increase to ~ 0.8 nm. Raman spectroscopy of a single layer sheet shows the emergence of an intense D band which dramatically decreases as the number of layers in the sheet increase. The intense D band in monolayer graphene is attributed to the graphene conforming to the roughness of the substrate.

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