

Abstract Submitted  
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**Atomic-Scale Topographic and Electronic Structure of Graphene Films on Ultraflat Insulating Materials** CHRISTOPHER GUTIERREZ, LI-UYAN ZHAO, FERESHTE GHAHARI, CORY DEAN, KWANG RIM, JAMES HONE, GEORGE FLYNN, PHILIP KIM, ABHAY PASUPATHY, Columbia University — Graphene, a unique two-dimensional material, has attracted much attention for its exotic electronic properties. But owing to its nature as a single monolayer, many of these interesting properties depend heavily on the substrate on which the graphene rests. Scanning tunneling microscope (STM) experiments offer the unique ability to investigate the effect of the substrate on the surface roughness (via topography maps) as well as the local electronic properties (via spectroscopy maps) of graphene. In this talk we will present such experimental results of graphene on atomically flat insulating substrates such as mica and boron nitride, as well as suspended graphene sheets. We will describe experiments performed both on exfoliated graphene flakes as well as large-area graphene films grown by chemical vapor deposition (CVD).

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