

Abstract Submitted
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Imaging the first few layers of Multilayer Epitaxial Graphene grown on SiC (000 $\bar{1}$) JEREMY HICKS, M. SPRINKLE, B. ZHANG, Georgia Institute of Technology, A. TEJEDA, A. TALEB-IBRAHIMI, P. LE FÉVRE, F. BERTRAN, Synchrotron SOLEIL, W.A. DE HEER, E.H. CONRAD, Georgia Institute of Technology — Multilayer Epitaxial Graphene (MEG) grown on the C-terminated (000 $\bar{1}$) face of SiC has been shown to behave as a series of nearly independent graphene sheets, distinguishing it from few-layer graphite. We present photoemission data from MEG films of 10 Å or less, finding that the first few graphene layers on top of SiC are easily visible and are n-doped in a similar fashion to graphene grown on the Si-terminated face. Combined with the characteristic diversity of rotations in MEG films, we have obtained numerous different combinations of cone doping and rotation angles, allowing us to explore a variety of phenomena associated with the graphene-SiC interface interaction. We find that, unlike similarly-doped graphene grown on the Si-terminated face, there exists no large mismatch between the conduction and valence bands. Other potential effects of the substrate are discussed, as well as efforts in modifying the graphene-SiC interface.

Jeremy Hicks
Georgia Institute of Technology

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