

Abstract Submitted
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Structural and electronic characterization of epitaxial graphene on SiC (0001) using scanning tunneling microscopy/spectroscopy¹ DAVID TORRANCE, NIKHIL SHARMA, PHILLIP FIRST, Georgia Institute of Technology — Epitaxial graphene exhibits high-quality crystallinity and is compatible with current industrial fabrication methods, which makes it a strong candidate for future electronic devices. One important and contested aspect of this material system is the interface region between graphene and SiC, and how this reconstruction alters the growth rate, structure, and electronic properties of graphene films. We have investigated epitaxial graphene on SiC (0001) in the very early stages of ultra-high vacuum growth using scanning tunneling microscopy/spectroscopy (STM/STS). Topographical maps of monolayer graphene islands formed in the initial stages of epitaxial growth will be presented along with STS measurements of these features and the surrounding interfacial reconstruction. We further discuss transitions between regions of different structure.

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