

Abstract Submitted
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Nano-Objects Developing at Graphene/Silicon Carbide Interface¹ SHIRLEY CHIANG, U. California Davis and CEA Saclay, U. Paris-Sud/Orsay, France, SEBASTIEN VIZZINI, HANNA ENRIQUEZ, CEA Saclay and U. Paris-Sud/Orsay, France, HAMID OUGHADDOU, CEA Saclay, U. Paris-Sud/Orsay, and U. Cergy-Pontoise, France, PATRICK SOUKIASSIAN, CEA Saclay and U. Paris-Sud/Orsay, France — We use scanning tunneling microscopy and spectroscopy to study epitaxial graphene grown on a 4H-SiC(000-1)-C-face substrate. The results reveal amazing nano-objects at the graphene/SiC interface leading to electronic interface states. Their height profiles suggest that these objects are made of packed carbon nanotubes confined vertically and forming mesas at the SiC surface. We also find nano-cracks covered by the graphene layer that, surprisingly, is not broken, with no electronic interface state. Therefore, unlike the above nano-objects, these cracks should not affect the carrier mobility.

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