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Local Probe Investigation of Metal Adsorbates on a Gated Graphene Device REGIS DECKER, VICTOR W. BRAR, University of California Berkeley, Lawrence Berkeley National Laboratory, HANS-MICHAEL SOLOWAN, YUANBO ZHANG, University of California Berkeley, ALEX ZETTL, MICHAEL F. CROMMIE, University of California Berkeley, Lawrence Berkeley National Laboratory — Understanding the scattering properties of electrons from adsorbates and defects in graphene is important for controlling the behavior of different graphene nanostructure-based devices. Here we report a scanning tunneling microscopy and spectroscopy study of metal adsorbates on a single monolayer of graphene. In our experiments the graphene is placed on a layer of insulating SiO_2 that sits above a doped silicon back-gate electrode. We will discuss our observations of the electronic local density in the vicinity of metal atoms, as well as how these properties respond to electrical gating of the graphene monolayer with respect to the silicon back-gate electrode.

Regis Decker
University of California Berkeley, Lawrence Berkeley National Laboratory

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