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Scanning Tunneling Spectroscopy of Potassium on Graphene DANIEL CORMODE, BRIAN LEROY, MATTHEW YANKOWITZ, University of Arizona — We investigate the effect of charged impurities on the electronic properties of large single crystal CVD grown graphene using scanning tunneling microscopy. Mono- and multilayer crystals were prepared by transferring graphene from copper onto exfoliated boron nitride flakes on 300 nm SiO_2 substrates. The boron nitride provides an ultra flat surface for the graphene. Potassium atoms are controllably deposited on the graphene at low temperature by heating a nearby getter source. Scanning tunneling spectroscopy and transport measurements were performed in ultra high vacuum at 4.5 K. Transport measurements demonstrate the shifting of the Dirac point as the samples are doped, while STM measurements demonstrate the size, arrangement and local electronic influence of the potassium atoms.

Daniel Cormode
University of Arizona

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