Abstract Submitted
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Imaging defects on epitaxial graphene/SiC(0001) using non-contact AFM[1] L. LI, Y. LIU, M. WEINERT, University of Wisconsin, Milwaukee — Graphene exhibits linear dispersion at the Dirac point, which leads to novel properties that can be further tailored by the introduction of defects into the honeycomb lattice. In this work, we created defects on epitaxial graphene/SiC(0001) using N and Ar plasma, and studied the atomic structure of the defects using an integrated approach with non-contact atomic force microscopy (AFM) with Q-plus sensor and density functional theory (DFT) calculations. With atomic resolution AFM imaging, straightforward identifications of single- and di-vacancy defects, as well as other more convoluted vacancy complexes can be made. In addition, local contact potentials of these defects are also obtained by frequency shift-bias spectroscopy. These results and comparisons with DFT calculations will be discussed at the meeting.

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