

Abstract Submitted
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Imaging grain boundaries in monolayer graphene by transmission electron microscopy KWANPYO KIM, Department of Physics, UC Berkeley, ZONGHOON LEE, National Center for Electron Microscopy, Lawrence Berkeley National Laboratory, WILLIAM REGAN, Department of Physics, UC Berkeley, C. KISIELOWSKI, National Center for Electron Microscopy, Lawrence Berkeley National Laboratory, M. CROMMIE, A. ZETTL, Department of Physics, UC Berkeley — Using transmission electron microscopy (TEM), we investigate the structure of grain boundaries in large-area monolayer polycrystalline graphene sheets at micron and atomic length scales. At micron scale, grain boundary mapping is performed by electron diffraction and dark field imaging techniques. The atomic scale imaging by an aberration-corrected ultra-high resolution TEM reveals an alternating pentagon-heptagon structure along the high-angle tilt grain boundary.

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