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Electronic Structure of Graphene Moire Superlattice on Hexagonal Boron Nitride GUORUI CHEN, MENGQIAO SUI, Fudan University, China, JEIL JUNG, National University of Singapore, Singapore, YIJUN YU, Fudan University, China, WEI YANG, Chinese Academy of Sciences, China, KENJI WATANABE, TAKASHI TANIGUCHI, National Institute for Materials Science, Japan, GUANGYU ZHANG, Chinese Academy of Sciences, China, SHAFFIQUE ADAM, National University of Singapore, Singapore, YUANBO ZHANG, Fudan University, China — The electronic structure of graphene is strongly modified by the Moire superlattice when placed on a hexagonal boron nitride (hBN) substrate at certain alignment angle. The folding of the original graphene energy bands into the superlattice Brillouin zone generates additional band degeneracy points (referred to as second generation Dirac points) apart from the original Dirac point. Here we show that the band modification by the Moire superlattice has further implications, and a new generation of Dirac points are observed at high doping levels. By systematically probing the new Dirac points at varying alignment angles, we show that the third generation Dirac points are general features of Graphene Moire superlattice on hBN. We discuss the electronic structure of graphene Moire superlattice determined from the observed degeneracy of the three generations of Dirac points.

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