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STM/STS studies of Ca-intercalated bilayer graphene RYOTA SHIMIZU, KATSUAKI SUGAWARA, Advanced Institute for Materials Research (WPI-AIMR), Tohoku University, KOHEI KANETANI, Department of Physics, Tohoku University, KATSUYA IWAYA, Advanced Institute for Materials Research (WPI-AIMR), Tohoku University, TAKAFUMI SATO, Department of Physics, Tohoku University, TAKASHI TAKAHASHI, Advanced Institute for Materials Research (WPI-AIMR), Tohoku University; Department of Physics, Tohoku University, TARO HITOSUGI, Advanced Institute for Materials Research (WPI-AIMR), Tohoku University — We have performed low temperature scanning tunneling microscopy/spectroscopy (STM/STS) measurements on a two-dimensional Ca-intercalated bilayer graphene epitaxially grown on a 6H-SiC(0001) substrate. The STM topographic images clearly resolve each intercalated Ca atom with graphene-based honeycomb lattice. Furthermore, we found a clear $\times 2.5$ modulation in the topography, implying charge density wave or Moiré pattern originated from the interaction with the SiC substrate. Comparison with ARPES measurements provided us of further insight into the Fermi surface deduced from STS.

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