

Abstract Submitted  
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**Direct TEM observation of dislocations of graphene and bilayer graphene** Y. ABE, Tokyo Inst. Technol., T. TANAKA, Tokyo Inst. Technol., JST-CREST, H. SAWADA, E. OKUNISHI, Y. KONDO, JEOL Ltd., Y. TANISHIRO, K. TAKAYANAGI, Tokyo Inst. Technol., JST-CREST — Graphene is attracted much attention because it exhibits outstanding electronic transport properties arising from two-dimensional carbon atomic structure and it is expected for electronic devices. Recently, the long-range modulation of graphene lattice has been discussed to be an important factor of fluctuations of electronic properties. In this study, we found periodic dislocation of graphene and its bi-layer. We use novel aberration corrected transmission electron microscope (TEM), R005, which can resolve single carbon atoms of graphene. The periodic dislocations suggest long-range interactions and the mechanisms are discussed in the present study.

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