

Abstract Submitted
for the MAR12 Meeting of
The American Physical Society

Sorting Category: 12.1.2 (E)

Dynamics of Graphene Edges Interaction under Joule-heating XU ZHANG, Department of Electrical Engineering and Computer Science, MIT, Cambridge, MA, XIAOTING JIA, Department of Materials Science and Engineering, MIT, Cambridge, MA, EDUARDO CRUZ-SILVA, Department of Physics, Rensselaer Polytechnic Institute, Troy, NY, LEE-PING WANG, Department of Chemistry, MIT, Cambridge, MA, JESSICA CAMPOS-DELGADO, Laboratory for Nanoscience and Nanotechnology Research (LINAN), México, PAULO ANTONIO ARAUJO, Department of EECS, MIT, Cambridge, MA, VINCENT MEUNIER, Department of Physics, Rensselaer Polytechnic Institute, NY 12180, MAURICIO TERRONES, Department of Physics, Pennsylvania State University, PA, TOMAS PALACIOS, Department of Electrical Engineering and Computer Science, MIT, Cambridge, MA, MILDRED DRESSELHAUS, Department of Electrical Engineering and Computer Science, Department of Physics, MIT, Cambridge, MA — The edge physics of graphene plays an essential role in the electronic properties of nanometer scale graphene. Studying the Joule-heating of a graphene sample supported by an integrated TEM-STM instrument is an effective way to sharpen graphene edges, and therefore produce smooth graphene nanoribbons, which will be studied in this work. Through observation of the movement of graphene platelets heat-treated within a crystalline domain of graphene substrate underneath, we advance our understanding about the mechanism of edge reconstruction, edge-edge interaction, in addition to the graphene substrate interaction for single layer graphene.

Xu Zhang
xuz@mit.edu

Dept of Electrical Engineering and Computer Science,
MIT, Cambridge, MA 02139-4307, USA

- Prefer Oral Session
 Prefer Poster Session

Date submitted: 08 Dec 2011

Electronic form version 1.4