

Abstract Submitted
for the MAR11 Meeting of
The American Physical Society

**Current-Voltage Characteristics of Graphane
Nanoribbon Transistors**¹ JUN-QIANG LU, DANIEL VALENCIA, University of
Puerto Rico at Mayaguez — Using first-principles transport calculations, we investigate current-voltage characteristics of transistors made by graphane nanoribbons (or hydrogenated graphene nanoribbons). Our results show that transistors made by graphane nanoribbons can achieve better performance than those made by graphene nanoribbons because of the intrinsic large band gap presented in graphane.

¹JQL acknowledges start-up support from the Institute for Functional Nanomaterials, University of Puerto Rico.

Jun-Qiang Lu
University of Puerto Rico at Mayaguez

Date submitted: 16 Nov 2010

Electronic form version 1.4