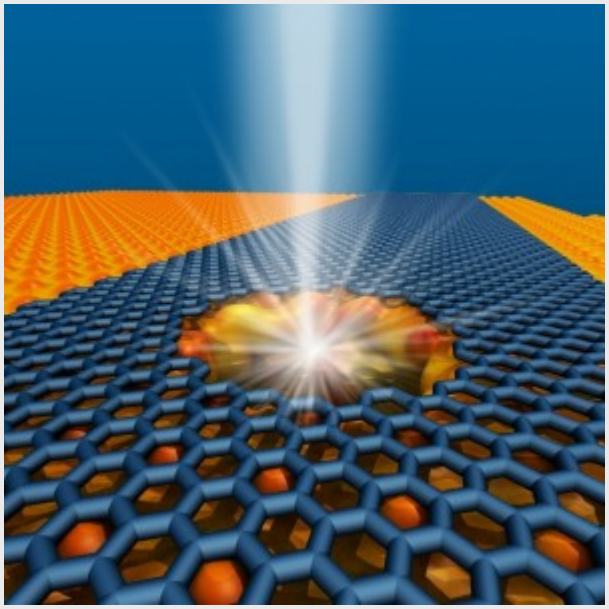
Transport in Atomically Resolved Graphene Nanoribbons

Date: Friday, 22nd November (2013).



Time: 12:00h
Place: Departamento de Física de la Materia Condensada, Facultad Ciencias, Módulo 3 , Aula de Seminarios (5ª Planta)
Prof. A.T. Charlie Johnson (Department of Physics & Astronomy; Director Nano/Bio Interface Center, University of Pennsylvania, USA).
ABSTRACT:

Graphene has attracted intense research focus as an emerging material for high performance electronics components due to its superior intrinsic carrier mobility, thermal conductivity, and quasi-ballistic transport at room temperature. The Johnson group has advanced the synthesis of high quality large-area graphene by atmospheric pressure chemical vapor deposition, which has enabled experiments that would be difficult if not impossible to perform with exfoliated graphene material. Examples to be discussed include translocation of DNA through graphene nanopores and synthesis of single-crystal monolayer heterostructures of graphene and hexagonal boron nitride. Finally I will focus on recent experiments where graphene nanoribbons have been fabricated, structurally characterized with atomic resolution, and electrically probed, all in situ in an aberration-corrected transmission electron microscope.
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