

Adrian Bachtold

ICN and CIN2 Barcelona, Bellaterra, Spain

adrian.bachtold@cin2.es

NEMSs based on Nanotubes: From Thermal Motors to Resonators.

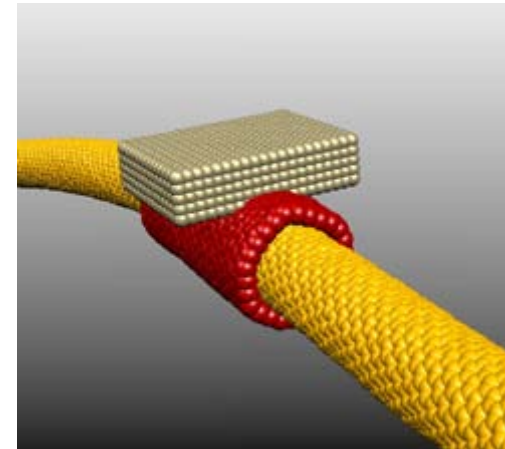
Vendredi 21 janvier 2010 à 11H45

!!!!!! amphi SCHWARTZ!!!!!!,
BAT1R3 – Institut de Mathématique de Toulouse
Université Paul Sabatier

Carbon nanotubes have unique mechanical and electrical properties that can be exploited in various nanoscale devices. Because carbon nanotubes are exceptionally robust mechanically and their electrical conduction can be ballistic over long distances, they have attracted considerable interest as nanoelectromechanical systems (NEMS). In this talk, I will review some of our group's recent results on nanotube NEMSs, including the control of mechanical resonators using individual electrons tunneling onto and out of the nanotube [1] and the development of thermal motors in which the motion depends on the arrangement of the atoms in the nanotube [2].

[1] B. Lassagne, Y. Tarakanov, J. Kinaret, D. Garcia-Sanchez, A. Bachtold, Science 325, 1107 (2009)

[2] A. Barreiro, R. Rurali, E.R. Hernandez, J. Moser, T. Pichler, L. Forro, and A. Bachtold, Science 320, 775 (2008)



Contacts :

Pierre Pujol, IRSAMC-LPT– CNRS, 05 61 55 68 32

<http://www.sfpnet.fr>