ΠΑΝΕΠΙΣΤΗΜΙΟ ΚΡΗΤΗΣ

ΤΜΗΜΑ ΦΥΣΙΚΗΣ

ΓΕΝΙΚΟ ΣΕΜΙΝΑΡΙΟ ΤΜΗΜΑΤΟΣ ΦΥΣΙΚΗΣ

PHYSICS COLLOQUIUM

Thursday, 3 November 2011

17:00 -18:00

3rd Floor Seminar Room

"Mechanical properties of graphene"

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Abstract

The mechanical response of graphene is calculated under various loads (uniaxial or biaxial stresses, shear stress), using molecular dynamics simulations and ab initio results. Nonlinear bond stretching and angle bending potentials are obtained through first principles methods. Stress-strain curves and the corresponding elastic constants are presented for graphene sheets as well as graphene nanoribbons.