

Special Issue on
Non-Local Modeling of Carbon Nanotubes for NEMS Technologies

CALL FOR PAPERS

Due to their excellent electric, thermal, and mechanical properties, carbon nanotubes are currently considered very prominent materials in the field of nanotechnologies. An important target in industry is that of developing new structures and devices for microelectromechanical systems (MEMS) and nanoelectromechanical systems (NEMS).

Carbon nanotubes are also suitable as reinforcement in composite materials, improving the mechanical properties when compared to those of traditional composites. Nanostructures exhibit size-effects, whose evaluation is conveniently carried out by nonlocal continuum mechanics. This approach is still in the focus of an active scientific debate concerning consistency of theoretical formulation, fitting of experimental data, and predictive capabilities of phenomena in the small-scale range.

This special issue is devoted to collect innovative theoretical proposals and numerical methodologies aimed to improve the current state of the art on this matter.

Both theoretical and experimental contributions are welcome.

Potential topics include but are not limited to the following:

- ▶ Nonlocal constitutive laws
- ▶ Static analysis, buckling, and vibration of nanobeams, nanoplates, and nanoshells
- ▶ Functionally graded nanostructures
- ▶ Homogenization of nanocomposites
- ▶ Nanoactuators and nanosensors
- ▶ MEMS and NEMS

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