

Mini-symposium

Size-dependent continua: recent advances, theory and applications

Many new materials, as nanocomposites for example, but, in general, many small-scale structures, widely employed in nano-technologies and the like, exhibit *size effects* depending on inherent length scale material parameters affecting their overall mechanical behaviour. Such circumstance, supported by laboratory experiments of recent years, led researchers to rephrase or to build, among others, suitable micro-continuum field theories oriented to the analysis of the aforementioned size effects e.g.: *couple stress theory*, *nonlocal integral theory*, *nonlocal gradient theory*, *higher-order theory*, *peridynamic theory* and so on. In the last decades, the above theories have found application in many important engineering fields and in particular in the development of devices furnished by the micro- and nano-technologies. Static and dynamic approaches, buckling problems, vibrations problems have been widely addressed and tackled from, sometimes, very different, theoretical starting basis.

The mini symposium is aimed to discuss the advances in the theories as well as in the related analytical and/or numerical models promoted by the current research on size-dependent continua. Theoretical novel models as well as innovative applications are very welcome in the spirit of a deep critical comparison and fruitful debate between Researchers acting on the addressed-research theme.