

MULTISCALE SIMULATIONS FOR COMPOSITE MATERIALS AND MECHANICAL SYSTEMS

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Key words: Multiscale, Composite Materials, Mechanical Systems

ABSTRACT

In recent ten years, many scientists and engineers pay more and more attention to the numerical simulations in the design and the forming process of new materials and mechanical systems. Therefore, we propose to organize a minisymposium on Multiscale Simulations for Composite Materials and Mechanical Systems. In this symposium, the main objective is listed as follows:

1. Multiscale predictions for physical and mechanical parameters of composite materials, including the materials with periodic configurations and the materials with random distributions.
2. Multiscale simulations for fracture, localized softening and/or strengthen, micro-structural evolution of materials and mechanical systems.
3. Multiscale modeling, computational methods, and their software techniques in physical and mechanics simulations of materials and mechanical systems.
4. Applications to the design and forming/molding of materials, polymer, alloy, mechanical systems and so on.