

MS: Mathematical models for composite materials and heterogeneous media in Engineering and applied sciences

Organizers: M. Amar, A.M. Bersani, P. Boisse

Abstract: The thermal, mechanical and electrical properties of composite materials play a very important role, mainly in view of their application in many fields of applied sciences, such as Medicine, Biology, Mechanics, Construction Science, Industrial Processes.

In this framework, mathematical modelling and numerical simulation have widely shown to be fundamental research tools.

The mathematical modelling of processes involving composite materials and heterogeneous media containing microstructures often relies on PDEs, asymptotic analysis and homogenization, where the macroscopic models obtained as homogenization limits are systems of partial differential equations, usually involving effects depending on the microgeometries.

This mini-symposium aims at offering an overview of different models and techniques for a wide spectrum of applications: its purpose is to encourage the exchange of information between theoretical and applicative researchers.