



Multi-scale Mechanics of Polymer Composites: Addressing Irregular and Non-periodic Architectures

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Message from the Guest Editor

Complexity and diversity of composite architectures continuously increases. Forming, draping, steering, hybridization, weaving/braiding for net-shaped parts create challenges for computationally efficient analysis. Classical multi-scale approaches are often based on idealized notion of representative volume and its regular surrounding. It appears to have serious limitations for many modern composites. Managing data flow between various hierarchical scales or spatial domains demand new modelling strategies. The current collection of papers aims at giving a snapshot of different state-of-the-art approaches and attempts to overview some of the key challenges. The focus of the issue is on computational methods applied to non-periodic architectures or strongly irregular strain fields (due to stress concentrators, component shape, etc).

Dr. Dmitry Ivanov
Guest Editor





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