Mechanical Properties of Randomly Cross-Linked Semiflexible Fibrous Materials

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A randomly cross-linked filamentous structure constitutes the building block of various structural and biological materials, such as the cytoskeleton, tissue scaffolds, and textiles. The primarily objective of this minisymposium is to bring together computational and experimental scientists whose research is focused on understanding physical origins of the unique mechanical properties of random fiber networks. It is of particular interest to foster multidisciplinary interactions between experts in different fields, e.g., mechanics, materials science, and biology. The topics of the mini-symposium may include, but are not limited to, the following topics: computational and experimental models for gels, polymer networks, collagenous tissue, and cytoskeleton, experimental and imaging techniques to characterize network microstructure, image-based multiscale models, etc.