Special Issue

Advances in Shape Memory Polymers: Preparation, Microstructure and Mechanical Properties

Message from the Guest Editors

Shape memory polymers (SMPs) and their composites are a kind of intelligent material that can switch between a temporary shape and the initial shape under corresponding external stimuli. These materials can undergo controlled changes in their properties, enabling innovative applications across various fields. Adaptive systems based on shape memory polymers for energy absorption, vibration control, and reconfigurable structures can respond to external cues. These advancements have significant implications for a wide range of applications, including in the aerospace, automotive, biomedical device, and robotics industries. Topics of interest include, but are not limited to, the following: Synthesizing and curing kinetics of SMPs and SMPCs; Multifunctional SMPs and nanocomposites; Multi-stimuli-triggered SMPs and SMPCs; Remotely and sequentially controlled SMPs and SMPCs; Self-healing SMPs and SMPCs; Four-dimensional printing of SMPs and SMPCs; Biomedical applications; Aerospace and space applications; Civil infrastructure applications; Textile applications.

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Materials (ISSN 1996-1944) was launched in 2008. The journal covers twenty-five comprehensive topics: biomaterials, energy materials, advanced composites, advanced materials characterization, porous materials, manufacturing processes and systems, advanced nanomaterials and nanotechnology, smart materials, thin films and interfaces, catalytic materials, carbon materials, materials chemistry, materials physics, optics and photonics, corrosion, construction and building materials, materials simulation and design, electronic materials, advanced and functional ceramics and glasses, metals and alloys, soft matter, polymeric materials, quantum materials, mechanics of materials, green materials, general. *Materials* provides a unique opportunity to contribute high quality articles and to take advantage of its large readership.

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