Special Issue

Shape Memory Alloys: Material, Structure, Modeling and Application

Message from the Guest Editors

In the past several decades, shape memory alloys (SMAs) have been at the forefront of material research. Owing to their excellent super-elasticity and shape memory effects resulting from their solid–solid thermo-elastic martensite transformation as well as their strong biological compatibility, SMAs have been used for a wide variety of applications in various fields, such as biomedicine, microelectromechanical systems, aerospace, civil engineering, etc. Currently, the most important problems with SMAs include (1) how to improve the basic thermo-mechanical properties of the material; (2) how to understand the underlying physical mechanism of super-elasticity and the shape memory effect; (3) how to develop theoretical models in different spatial and time scales; and (4) how to design SMA-based devices and structures for use in engineering applications. This Special Issue, titled “Shape memory alloys: material, structure, modeling and application”, will focus on the preparation, characterization, modeling, and application for SMAs and their structures. We invite the submission of research articles, communications, and reviews on these topics.

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Message from the Editorial Board

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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