Special Issue

Progress in and Prospects of Shape Memory Alloys

Message from the Guest Editors

Among the wide variety of functional materials, shape memory alloys remain mostly attractive for use due to their unique shape recovery characteristics and mechanical properties. The scope of their application is extremely wide and ranges from intelligent devices for space technologies to medical implants. The specific interest of this Issue covers innovative characterization, diagnostics, testing approaches and investigation of novel phenomena in SMAs, including the structural and textural heredity of SMAs and their role in control of martensitic transformation as well as functional and mechanical characteristic, critical grain size for stress-induced martensitic transformation etc. Besides this, we would like to draw the attention of scholars to the problems of reproducibility. This issue remains very prevalent owing to the providing of the final set of SMAs properties is determined by a great deal of various factors: strain–temperature training modes including tension, compression, bending, torsion; form and scale factors, surface state etc. Academics are invited to submit both reviews and articles on any topic relevant to this Special Issue.

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Message from the Editorial Board

Metallic materials play a vital role in the economic life of modern societies; contributions are sought on fresh developments that enhance our understanding of the fundamental aspects related to the relationships between processing, properties and microstructure – disciplines in the metallurgical field ranging from processing, mechanical behavior, phase transitions and microstructural evolution, nanostructures, as well as unique metallic properties – inspire general and scholarly interest among the scientific community.

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