Special Issue

Magnetic Shape Memory Material

Message from the Guest Editor

Shape memory materials (SMMs) are fascinating materials with the potential for application as smart materials that have attracted significant research attention. However, one of the main drawbacks of the non-magnetic SMMs is their slow dynamic response, which is restricted by thermal activation. Since the discovery in 1996 of large magnetic field-induced strains of Ni2MnGa Heusler alloys associated with the magnetic field-induced reorientation of martensitic variants, the study of magnetic shape memory materials (MSMMs) has been a topic of extensive research. It has been observed that the magnetic control of the shape memory leads to a much faster dynamic response when compared to thermal control. Thus, these alloys are envisaged as a promising class of smart materials to be used in sensors and actuators. This Special Issue presents a focused collection of leading original research and reviews on magnetic shape memory materials related to design, processing, modification, functionalization, and application, especially those for use in engineering applications.

Guest Editor

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