



materials



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Technology and Applications of Shape Memory Materials

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Message from the Guest Editors

Dear Colleagues,

Shape memory alloys (SMAs), as functional materials, are widely used in fields such as aerospace, civil engineering, and biomedical engineering. SMAs have functional properties such as the shape memory effect and superelasticity. SMAs are mainly be NiTi-based, iron-based, copper-based, magnesium-based, etc. NiTi-based SMAs are the most common.

The properties of SMAs include phase transformation temperatures, hysteresis, plateau stress, recoverable strain, recovery stress, etc. The performance of SMAs is closely related to their composition and microstructure. The performance of shape memory alloys is sensitive to their composition, and changes in composition can greatly alter the phase transformation temperatures of the alloys, thereby altering their performance.

The aim of this Special Issue is to understand the relationship between the performance and microstructure of SMAs, explore technical methods to improve the performance of SMAs, prospect the application prospects of nanocrystalline SMAs, and pay special attention to the performance and influencing factors of nanocrystalline SMAs.



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Special Issue



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Message from the Editor-in-Chief

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