



The Effect of Temperature on the Mechanical Properties of Metallic Materials

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Message from the Guest Editors

Recent notable advances in the fields of multi-principal element alloys, including high- and medium-entropy alloys and high-temperature shape memory alloys, have resulted in the development of many systems exhibiting superior and exceptional mechanical properties across a wide temperature range. Following the new design and alloying principles in these novel classes of materials, there is no doubt that new systems demonstrating superior mechanical properties for extreme temperature applications will continue to be proposed and optimized to better suit industry requirements for a wide spectrum of applications.

In this Special Issue, articles focusing on the temperature-dependent mechanical properties of novel metallic materials are welcomed. This includes the synthesis, characterization, failure mechanisms, microstructural stability, and mechanical response under static and dynamic loading conditions. Contributions will be considered noteworthy if they represent a real element of originality in terms of the development or characterization of advanced and novel metallic materials for elevated and cryogenic temperature applications.





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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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