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High-Entropy Phases and Composites Based on Them: Manufacturing, Properties, Applications

Guest Editor:

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Deadline for manuscript submissions:
closed (30 November 2021)

Message from the Guest Editor

The purpose of this Special Issue is to discuss the problems of creating and investigating the properties and applications of high-entropy phases (HEPh), which primarily include high-entropy alloys, as well as high-entropy ceramics (oxides, nitrides, carbides, etc.).

It is planned to publish articles related to obtaining HEPh-based materials, including composite materials. Particular attention will be paid to the use of additive technologies for the production of HEPh-based materials. Theoretical articles on the use of various modeling methods to optimize the compositions and properties of HEPh-based materials will also be published. New theoretical papers on the criteria for the stability of HEPh, as well as new substantiated hypotheses about the possible causes for the manifestation of properties by those phases, will be welcomed.

Articles that describe the unusual properties of HEPh (mechanical, electrical, magnetic, etc.), as well as their corrosion resistance and resistance to ionizing radiation are welcome. Articles that present the results of studies describing the successful use of HEPh-based materials are especially invited.

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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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