Special Issue

Thermodynamic Modeling of Metallurgical Processes

Message from the Guest Editors

Thermodynamic modeling is important, especially for the design of metallurgical processes. Many technological problems will be solved by the thermodynamic modeling approach, because the critical assessment in the multicomponent systems enables us to provide the useful thermodynamic knowledge on the complicated chemical reactions in the various metallurgical processes. This Special Issue invites research that contributes to thermodynamic modeling of metallic systems integrated with critical experiments or aided by first-principles calculations. In particular, thermodynamic applications, including pyrometallurgy, extractive metallurgy, and electrochemical processes, are encouraged. Research may address but is not limited to the area below:

- Refining of liquid steel and alloys;
- Extraction of valued metals from industrial wastes;
- Solid-phase equilibria and phase transformation of alloy systems;
- Process simulation based on thermodynamic calculation;
- Experimental and computational studies that investigate chemical and physical properties of alloys and compounds.

Guest Editors

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Deadline for manuscript submissions

closed (31 August 2021)

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About the Journal

Message from the Editor-in-Chief

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.

Editor-in-Chief

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manuscripts are peer-reviewed and a first decision is provided to authors approximately 18.7 days after submission; acceptance to publication is undertaken in 2.7 days (median values for papers published in this journal in the second half of 2025).

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