Special Issue

Advances in Thermodynamics of Metallic Minerals

Message from the Guest Editor

Thermodynamics is a part of physics concerned with the energy changes associated with materials' chemical transformations under the influence of temperature, as well as related energy states and transitions. Metals participate in these processes and can transfer free electrons in the processes of energy transitions, phase transformations, heat and energy transfer, heat capacity, and many others. This Special Issue aims to cover the latest research on mineral thermodynamics, including solid-phase synthesis, heat capacity, phase transitions, and thermal phenomena. The obtained new knowledge about metallic minerals thermodynamics will enable the detailed study of their crystal chemistry, microstructure, calorimetry, heat capacity, thermal conductivity, and potential applications. The combination of thermal methods with other analytical techniques, such as the mass spectrometry or IR spectroscopy analysis of evolving gases, X-ray spectroscopy, spectroscopy, microscopy, etc., yields powerful tools to study the processes of microstructure formation, phase transformation, crystal and amorphous state detection, structural defects, and energetic effects.

Guest Editor

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Deadline for manuscript submissions

closed (31 July 2024)

Metals

an Open Access Journal by MDPI

Impact Factor 2.5
CiteScore 5.3

mdpi.com/si/146305

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About the Journal

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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