Special Issue

Thermodynamic Properties of Metallurgical Melts

Message from the Guest Editors

Many high-temperature metallurgical processes, such as the steelmaking, aluminum electrolysis and pyrometallurgical refining of crude copper, are carried out in molten reaction medium. On the other hand, in smelting processes such as blast furnace ironmaking, matte making smelting of copper sulfide concentrate and blast furnace smelting of lead agglomerate, products in molten state and intermediate products are obtained. We call these reaction media and reaction products (or intermediate products) in the molten state in the pyrometallurgical process “metallurgical melts”. According to the main composition of the melt, metallurgical melts are generally divided into four types: metal melt, metallurgical slag, metallurgical molten salt and metallurgical matte. This Special Issue includes but is not limited to research work in the fields of metallurgical melt thermodynamic properties, clean steel production, efficient resource utilization, etc. We expect scholars and researchers from academic and industrial circles around the world to contribute to the Special Issue.

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Deadline for manuscript submissions

closed (15 April 2024)

Metals

an Open Access Journal by MDPI

Impact Factor 2.5
CiteScore 5.3

mdpi.com/si/128660

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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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