



Advanced Simulation and Modeling Technologies of Metallurgical Processes

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Message from the Guest Editor

The numerical methods for metallurgical processes nowadays cover a wide array of applications, such as multiphase flow, multi-physics processes, optimization, and process simulation. The detailed and vast amounts of simulation data allow a thorough analysis of the relevant processes and their interactions that reveal the underlying physics. Hereby, we tried to select contributions which focus on innovative models/techniques/methods and provide some new insights into the different areas of metallurgical processes in ironmaking and steelmaking.

In this Special Issue, we seek to provide a wide set of articles on various aspects of simulation and modeling technologies in metallurgical processes. Articles on the ironmaking and steelmaking process are desired, such as data-driver modeling in sintering, blast furnaces and basic oxygen furnaces, gas-solid flow behavior by means of CFD, particle motion behavior by means of the discrete element method (DEM), new process development based on carbon peaking and carbon neutralization, the application of mathematical models, new methods of visualization and intelligence, and so on.





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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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