Special Issue

Symmetry Fluid Dynamics in Materials and Metallurgical Processes

Message from the Guest Editors

In materials and metallurgical processes, fluid flow and fluid dynamics are very important in the process units. For example, the ironmaking blast furnaces, primary steelmaking furnaces, secondary steelmaking, continuous casting in the steel industry, flash smelting, electrolysis in the copper industry, the Bayer process in the stirred leaching reactor, electrolysis, and casting in the aluminum industry. The symmetry or asymmetry of fluid flow in reactors, for example, a basic oxygen convertor, gas stirred ladles, or mechanical stirring reactor, is very important for heat and mass transfer as well as product property improvement. In this Special Issue, original research articles and reviews are welcome. Research areas may include (but are not limited to) iron and steel, aluminum, and copper materials and metallurgical processes. We look forward to receiving your contributions.

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Deadline for manuscript submissions

closed (31 December 2025)

Symmetry

an Open Access Journal by MDPI

Impact Factor 2.2
CiteScore 5.2

mdpi.com/si/203973

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Message from the Editor-in-Chief

Symmetry is ultimately the most important concept in natural sciences. It is not surprising then that very basic and fundamental research achievements are related to symmetry. For instance, the Nobel Prize in Physics 1979 (Glashow, Salam, Weinberg) was received for a unified symmetry description of electromagnetic and weak interactions, while the Nobel Prize in Physics 2008 (Nambu, Kobayashi, Maskawa) was received for the discovery of the mechanism of spontaneous breaking of symmetry, including CP symmetry. Our journal is named *Symmetry* and it manifests its fundamental role in nature.

Editor-in-Chief

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