metals

an Open Access Journal by MDPI

IMPACT FACTOR 2.6

CITESCORE 4.9

Numerical Modeling of Metallurgical Processes: Continuous Casting and Electroslag Remelting

Guest Editor:

Prof. Dr. Zhongqiu Liu
School of Metallurgy,
Northeastern University,
Shenyang 110819, China

Deadline for manuscript submissions:
closed (31 December 2021)

Message from the Guest Editor

The multiscale transport phenomena in the metallurgical processes of continuous casting (CC) and electroslag remelting (ESR) have a great influence on the casting quality. Study on the hydrodynamic behaviors of the multiscale and multiphysical fields in the mold can provide guidance in optimizing the operating process and designing a novel mold with high performance, which is very important for promoting the quality improvement of steel or superalloy products and the improvement of production. A considerable number of new methods have been developed and applied in CC and ESR processes, such as large eddy simulation, population balance model, and volume average solidification model. Moreover, some novel metallurgical technologies (feeding steel strip, vacuum ESR, rotating electrode, etc.) have also been mainly investigated by CFD. This Special Issue aims to present the latest research related to advanced numerical techniques for CC and ESR processes. Research reports associated with novel metallurgical technology are also welcome.

metals

IMPACT FACTOR 2.6

CITESCORE 4.9

an Open Access Journal by MDPI

Editors-in-Chief

Prof. Dr. Hugo F. Lopez
Department of Materials Science and Engineering, College of Engineering & Applied Science, University of Wisconsin-Milwaukee, 3200 N. Cramer Street, Milwaukee, WI 53211, USA

Prof. Dr. Yong Zhang
Beijing Advanced Innovation Center of Materials Genome Engineering, State Key Laboratory for Advanced Metals and Materials, University of Science and Technology Beijing, 30 Xueyuan Road, Beijing 100083, China

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.

Author Benefits

Open Access: free for readers, with article processing charges (APC) paid by authors or their institutions.
High Visibility: indexed within Scopus, SCIE (Web of Science), Inspec, CAPlus / SciFinder, and other databases.
Journal Rank: JCR - Q2 (*Metallurgy and Metallurgical Engineering*) / CiteScore - Q1 (Metals and Alloys)

Contact Us

Metals Editorial Office
MDPI, Grosspeteranlage 5
4052 Basel, Switzerland

Tel: +41 61 683 77 34
www.mdpi.com

mdpi.com/journal/metals
metals@mdpi.com
𝕏@Metals_MDPI