

Special Issue

Electromagnetic Properties of Metallic Materials

Message from the Guest Editor

High-efficiency motors are a very important subject. It is estimated that 40–50% of all the world's electricity is spent on rotating electrical machines. This highlights the relevance of both soft and hard magnetic materials used in electrical motors. As a consequence of the significant demand for high-efficiency electrical steels, new types of electrical steels have been developed. The main commercial types of hard magnets remain Nd-Fe-B of the 2:14:1 type, SmCo, alnico and barium and strontium ferrites. However, the demand for rare-earth elements is increasing considerably due to applications in electrical vehicles and wind turbines, especially off-shore wind turbines, which consume large amount of rare-earth magnets. Thus, alternatives for rare-earth magnets are also an interesting subject of discussion. This Special Issue welcomes improvements on old materials, and also welcomes research developments for new alternative materials.

Guest Editor

Prof. Dr. Marcos Flávio de Campos

Technology Center, UFF–Federal Fluminense University, 27255-125
Volta Redonda, RJ, Brasil

Deadline for manuscript submissions

closed (20 July 2024)



Metals

an Open Access Journal
by MDPI

Impact Factor 2.5
CiteScore 5.3



mdpi.com/si/185357

Metals

Editorial Office
MDPI, Grosspeteranlage 5
4052 Basel, Switzerland
Tel: +41 61 683 77 34
metals@mdpi.com

mdpi.com/journal/

[metals](https://mdpi.com/journal/metals)





Metals

an Open Access Journal
by MDPI

Impact Factor 2.5
CiteScore 5.3



[mdpi.com/journal/
metals](https://mdpi.com/journal/metals)



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.

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

Author Benefits

High Visibility:

indexed within Scopus, SCIE (Web of Science), Inspec, Ei Compendex, CAPlus / SciFinder, and other databases.

Journal Rank:

JCR - Q2 (Metallurgy and Metallurgical Engineering) /
CiteScore - Q1 (Metals and Alloys)

Rapid Publication:

manuscripts are peer-reviewed and a first decision is provided to authors approximately 18 days after submission; acceptance to publication is undertaken in 2.6 days (median values for papers published in this journal in the first half of 2025).