



metals



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Metals in Hydrogen Technology

Guest Editor:

Dr. Claudio Pistidda

Helmholtz-Zentrum Hereon
GmbH, Institute of Hydrogen
Technology, Max-Planck-Straße
1, 21502 Geesthacht, Germany

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Message from the Guest Editor

Dear Colleagues,

The world transition to a sustainable and reliable carbon free economy is the greatest challenge of the 21st century. Hydrogen is widely considered as a key element for a potential energy solution. The possibility to produce hydrogen utilizing renewable energy sources and to store in it energy, presents multiple advantages. On the one hand, energy will be harvested and stored nearly without the production of harmful pollutants, and on the other hand the security of energy supply will be granted. In addition, the implementation of hydrogen as “energy carrier” is expected to result in an effective and synergic utilization of renewable energy sources. Hydrogen storage technology is a key roadblock towards the use of H₂ as an energy carrier. Although, in the last decades enormous progress has been made in the development of hydrogen storage materials and hydrogen infrastructures, a lot still has to be done to efficiently support such epochal transition. The study of interaction between metals, metal alloys and metal-based compounds and hydrogen is of primary importance.



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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.

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Metals Editorial Office
MDPI, St. Alban-Anlage 26
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