

Special Issue

Hydrides: Science and Technology

Message from the Guest Editor

Since the late 1940s, the synthesis methodologies and properties of hydrides have attracted the attention of chemists, physicists and engineers. From a purely scientific point of view, hydrides constitute fascinating materials with diverse crystallographic structures and bonding characteristics, exhibiting a whole spectrum of unusual chemical and physical properties. For the past 20 years they have also attracted the attention of engineers since they have the potential for very efficient generation and storage of hydrogen in the solid state. For reversible hydrides, their dehydrogenation/rehydrogenation phenomenon is an example of energy transformation that may be utilized as either hydrogen or heat storage system. Dehydrogenation of irreversible hydrides can supply very clean hydrogen gas (H₂) that is a potential energy carrier. Hydrogen gas is necessary for the implementation of the world-wide hydrogen economy in which an efficient usage of fuel cells where H₂ in contact with oxygen (O₂) is converted into an electrical energy. Engineering systems for supplying H₂ to fuel cells in the future hydrogen economy, based on solid hydrides, are the most attractive long-term solution...

Guest Editor

Prof. Dr. Robert A. Varin

Department of Mechanical and Mechatronics Engineering, University of Waterloo, Waterloo, ON N2L 3G1, Canada

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

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Energies is an international, open access journal in energy engineering and research. The journal publishes original papers, review articles, technical notes, and letters. Authors are encouraged to submit manuscripts which bridge the gaps between research, development and implementation. The journal provides a forum for information on research, innovation, and demonstration in the areas of energy conversion and conservation, the optimal use of energy resources, optimization of energy processes, mitigation of environmental pollutants, and sustainable energy systems.

Editor-in-Chief

Prof. Dr. Enrico Sciubba
Department of Mechanical and Industrial Engineering, University
Niccolò Cusano, 00166 Roma, Italy

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