energies

an Open Access Journal by MDPI

IMPACT FACTOR 3.0

CITESCORE 6.2

Design of Materials for Solid State Hydrogen Storage

Guest Editor:

Prof. Dr. Adam Revesz
Department of Materials Physics, Eötvös University, P.O.B. 32, H-1518 Budapest, Hungary

Deadline for manuscript submissions:
closed (25 June 2021)

Message from the Guest Editor

Among the different solid-state hydrogen storage systems, complex and conventional metal hydrides have drawn significant attention because of their remarkable gravimetric and volumetric capacities. The kinetics and thermodynamic destabilization of these materials can be improved either by nanocrystallization and/or by different additives. Nanocrystallization based on severe plastic deformation can be processed via high energy ball milling (HEBM), equal channel angular pressing (ECAP), and cold rolling (CR). Adding catalysts, like transition metals, their oxides, and carbon-based materials, have a substantial impact on the effectiveness of hydrogen storage.

This Special Issue would like to encourage the submission of original contributions regarding recent developments on materials synthesis for efficient hydrogen storage by processing techniques based on severe plastic deformation.

Keywords: hydrogen storage; metal hydrides; complex hydrides; catalysts; carbon-based additives; sever plastic deformation; ball-milling; equal channel angular pressing; cold rolling

energies

IMPACT FACTOR 3.0

CITESCORE 6.2

an Open Access Journal by MDPI

Editor-in-Chief

Prof. Dr. Enrico Sciubba
Department of Mechanical and Aerospace Engineering, University of Roma Sapienza, Via Eudossiana 18, 00184 Roma, Italy

Message from the Editor-in-Chief

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.

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), Ei Compendex, RePEc, Inspec, CAPlus / SciFinder, and other databases.
Journal Rank: CiteScore - Q1 (Control and Optimization)

Contact Us

Energies Editorial Office
MDPI, Grosspeteranlage 5
4052 Basel, Switzerland

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

mdpi.com/journal/energies
energies@mdpi.com
𝕏@energies_mdpi