

The study compares the effectiveness of water cooling and heating in metal hydride surface across different temperatures, highlighting their impact on the efficiency of hydrogen ...

Metal-based hydrides and intermetallic substances offer a practical alternative for storing energy from renewable sources. Given the appropriate adjustment of pressure and temperature constraints, they ...

In this paper, the metal hydrogen storage materials are summarized, including metal alloys and metal-organic framework. TiFe-based hydrogen storage alloys have become one of the ...

Hydrogen energy has become one of the most ideal energy sources due to zero pollution, but the difficulty of storage and transportation greatly limits the development of hydrogen energy. In this ...

Hydrogen is a key element in the energy transition. Hydrogen-metal systems have been studied for various energy-related applications, e.g., for their use in reversible hydrogen storage ...

The current world is increasingly focusing on renewable energy sources with strong emphasis on the economically viable use of renewable energy to reduce carbon emissions and ...

This narrative review explores the potential of metal hydrides (MHs) for hydrogen storage, a key technology in advancing renewable energy applications. Hydrogen, valued for its high ...

Stationary applications of metal hydrogen storage certainly offer great potential in the future to satisfy energy demands held by many sectors. Principally, they are essential backup power ...

As a class of multifunctional materials, metal hydrides with great potential for energy-related applications such as rechargeable batteries, hydrogen energy storage, thermal storage, and ...

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