

Even with new trade partnerships emerging, and modest growth in REE production in the U.S., Australia, and Brazil, the future of the international REE market remains highly uncertain (Vella 2020; Boyd 2020). ... while ...

Discovering the application of rare earth elements in advanced energy storage field is a great chance to relate rare earth chemistry with the energy storage technology. This ...

The new generation of optical information storage based on rare-earth luminescence not only has a large storage capacity and a long storage life, but is also difficult ...

However, in recent decades, new technologies have emerged that rely on metals of previously limited use: lithium, cobalt, and the rare earth (RE) elements, among others. Rare earths are finding increasing use in ...

ConspectusRare earth interface structure materials (RE-ISM) play a crucial role in the field of inorganic synthesis and provide an effective means of achieving the refined ...

The rare earths are of a group of 17 chemical elements, several of which are critical for the energy transition. Neodymium, praseodymium, dysprosium and terbium are key to the production of ...

This controlled switching opens up new applications for rare earth materials, such as energy-efficient and fast information storage devices. Until now, rare earths have not been used in magnetic ...

ConspectusRare earth interface structure materials (RE-ISM) play a crucial role in the field of inorganic synthesis and provide an effective means of achieving the refined utilization of rare earth elements. By ...

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This review focuses on the current research status of rare earth elements in the field of aqueous rechargeable zinc batteries, including the cathode, anode and electrolyte, and the corresponding unique role of rare ...

Perovskite manganites exhibit a broad range of structural, electronic, and magnetic properties, which are widely investigated since the discovery of the colossal magnetoresistance effect in 1994. As compared to ...

Rare-earth (Re) substitution in BiFeO_3 can result in a tuning of the crystal structure from ferroelectric $R3c$ to antiferroelectric $Pnma$, making $(\text{Bi,Re})\text{FeO}_3$ among ...

Rare earth in the field of new energy storage

Rare-earth alloys are emerging catalytic materials in the field of energy conversion. They have unique electronic structures and spatial characteristics. The families of all rare-earth-alloy catalyti...

Here, we review the applications of various rare earth promoted transition metal sulfides in energy storage and conversion in recent years, which focuses on three ways in rare ...

BaTiO₃ ceramics are difficult to withstand high electric fields, so the energy storage density is relatively low, inhabiting their applications for miniaturized and lightweight ...

This article has described the applications of rare earths in traditional metallurgy, biomedicine, magnetism, luminescence, catalysis, and the energy storage field. In recent years, the rare earth industry's new development model has been ...

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