Electrocatalysis and energy storage batteries

This review compiles crucial research findings and recent breakthroughs in electrocatalytic processes utilizing the SECM methodology, specifically focusing on ...

These characteristics make them appealing candidates for effective energy storage and electrocatalytic energy conversion applications. This review explores the recent ...

Whether in fuel cells, metal-air batteries, water electrolysis for hydrogen production, or CO2 reduction (CO2RR), electrocatalysis plays a fundamental role in enhancing energy efficiency ...

Therefore, accelerating the internal electrochemical reactions of Li-S batteries is the key to realize their large-scale applications. This article ...

This Research Topic aims to foster collaboration between the electrocatalysis and battery research communities, highlighting recent progress, shared barriers, and innovative strategies ...

With a strong chemical affinity for polysulfides, the electrocatalyst enables efficient adsorption and accelerated electron transfer reactions. Resulting cells with catalyzed cathodes ...

Therefore, accelerating the internal electrochemical reactions of Li-S batteries is the key to realize their large-scale applications. This article reviews significant efforts to address the above ...

Post-Li metal||S batteries have emerged as a promising system for practical applications. Yet, the insufficient understanding of quantitative cell parameters and the ...

First, we review and discuss the conventional catalysts used in lithium-sulfur batteries (LSBs) and

lithium-oxygen batteries (LOBs). In this part, we expect that the catalysts ...

This issue focuses on the design and optimization of advanced electrocatalysts for key reactions like fuel cells, batteries, water splitting, CO 2 reduction, and others.

Renewable energy sources offer a sustainable solution to meet the energy needs of the future. To overcome the intermittency of solar and wind we are focusing on strategies to address energy ...

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