

In the light of this direction, functional metal sulfide materials based on colloidal routes with defined components and nanostructures are considered as excellent candidates for ...

In view of the importance of transition metal sulfides in energy storage materials, this review majorly introduces existing synthetic methods of transition metal sulfides ...

1 · High-entropy sulfides, characterized by multiple metal cations, offer unique electronic and structural properties that make them promising candidates for energy storage applications. In ...

Over the preceding years, there has been a notable rise in scientific inquiry focused on nanocrystals composed of transition metal sulfides (TMSs) mat...

The general solution route and thermal evaporation under controlled conditions have been utilized for oriented growth of various metal sulfide nanostructure ...

Sodium-ion battery (SIB), one of most promising battery technologies, offers an alternative low-cost solution for scalable energy storage. Developing advanced electrode ...

Transition metal sulfide (TMS)/MXene composites have received tremendous attention as reliable electrode materials for high-performance energy storage systems including ...

With high capacity, cost-effective production, and adaptability to advanced designs, flame-made metal sulfides are well-positioned for future LIB applications. 36 Research ...

Metal sulfide hollow nanostructures (MSHNs) have received intensive attention as electrode materials for electrical energy storage (EES) systems due to their unique structural features ...

Energy Storage Mechanism, Challenge and Design Strategies of Metal Sulfides for Rechargeable Sodium/Potassium-Ion Batteries Qingguang Pan, Zhaopeng Tong, Yuanqiang Su, Sheng Qin, ...

The energy storage field has witnessed a dramatic expansion in terms of short charging time of supercapacitors, especially in the highly active electrode materials. Metal ...

In the past decades, energy storage devices have drawn widespread attention in diverse fields including hybrid electric vehicles and smart portable el...

Transition metal sulfides (TMSs) have been widely employed in energy storage applications due to their high

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theoretical capacity, improved electrical conductivity, and ...

Transition metal sulfides based on graphene have been extensively investigated in the field of electrochemical energy storage applications, including lithium-ion batteries, ...

High-entropy metal sulfides (HEMSs) have recently emerged as promising electrodes in electrochemical energy storage applications. However, ...

Metal sulfides (MSs) with abundant resources have various physicochemical characteristics. The lower bond energy of M-S in MSs is conducive to the charge-discharge ...

Advanced electrodes with a high energy density at high power are urgently needed for high-performance energy storage devices, including lithium-ion batteries (LIBs) and supercapacitors ...

Further, this article also discloses the fundamental properties of metal oxide/sulfide-based nanocomposites in energy storage, antimicrobial and heavy metal ion ...

Secondly, by combining transition metal sulfides with other energy storage materials, such as carbon materials and metal oxides, the ...

In summary, we have magnificently deposited the transition metal sulfides on nickel foam as a binder-free electrode for energy storage devices ...

The rapid development of population, industry, and urbanization have generated significant issues including energy consumption and water ...

Worldwide, the research on advanced materials for energy storage devices has drawn greater attention. Numerous works on different energy storage materials has been ...

In this context, special emphasis is placed on nickel, cobalt, molybdenum, tin, manganese, and tungsten metal sulfides and their composites as advanced electrode ...

As a new crystalline porous organic-inorganic hybrid materials, metal organic frameworks (MOFs) have been proved to be the ideal precursors for the preparation of metal ...

Transition metal sulfides are among the most favored materials for energy storage applications. In this work, an innovative approach to synthesize three distinct samples ...

The advancement of efficient energy storage technologies has become a critical area of focus in recent years. Transition metal sulfides (TMSs), due to their superior redox ...

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Citation: Yunhe Li, Yuanqing Li, Jiangwei Shang, Xiuwen Cheng. Application of metal sulfides in energy conversion and storage [J]. Chinese Chemical Letters, 2023, 34 ...

Metal sulfides, known as being analogous to metal oxides, have emerged as a new class of materials for energy conversion and/or storage applications due to their low cost and high ...

Metal sulfides, known as being analogous to metal oxides, have emerged as a new class of materials for energy conversion and/or storage applications due ...

Advanced electrodes with a high energy density at high power are urgently needed for high-performance energy storage devices, including lithium-ion ...

Transition metal sulfides (TMSs) exhibit as a kind of promising materials in the field of supercapacitors, owing to the large interlayer space and high theoretical capacity. ...

Abstract Advanced electrodes with a high energy density at high power are urgently needed for high-performance energy storage devices, including lithium-ion batteries ...

Mixed metal sulfides are promising electrode materials for electrochemical energy storage and conversion systems. This review highlights the recent progresses in ...

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