



Manufacturing and Characterization of Metallic Electrode Materials

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Message from the Guest Editor

Global energy shortage issues are becoming more and more prominent, with stronger requirements for the development of new energy storage devices and technologies. Such devices and technologies have seen vigorous development in recent years, particularly those based on metallic electrode materials, including Li/Na/K/Mg/Ca/Zn/Al metal batteries, metal-air batteries, solar energy storage, catalytic hydrogen production, and so on. Some advanced materials exhibit excellent electrochemical properties, such as high energy density, large capacity, long life cycle, and even good safety.

From an industrial perspective, the position of lithium-ion batteries in the field of chemical energy storage cannot be replaced in the short term. Currently, metallic electrode materials still have certain defects. In order to meet the energy storage demand, novel high-performance metallic electrode material systems should be explored, while large-scale production processing of next-generation chemical energy storage devices should be developed. In addition, advanced characterization methods are continuing to emerge, providing basic data support for the regulation of their structure and properties.





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Message from the Editorial Board

Metallic materials play a vital role in the economic life of modern societies; contributions are sought on fresh developments that enhance our understanding of the fundamental aspects related to the relationships between processing, properties and microstructure – disciplines in the metallurgical field ranging from processing, mechanical behavior, phase transitions and microstructural evolution, nanostructures, as well as unique metallic properties – inspire general and scholarly interest among the scientific community.

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