

Special Issue

Electro-Oxidation and Corrosion of Metal Electrodes

Message from the Guest Editor

The rapid consumption of traditional fossil energy brings about many environmental problems, which increases the urgency of developing a new generation of electrochemical energy storage and conversion devices. Current scientific research shows that optimizing the existing material synthesis methods and revealing the mechanism of electrode reaction processes can promote the rapid development of energy storage devices. The development of energy storage technology is closely related to the energy density, cycle life, application cost and safety of energy storage systems. However, the mechanisms of the electro-oxidation and corrosion of metal electrodes for current energy devices, including flow cells and secondary rechargeable cells, are still not clear. Thus, determining the mechanisms of the electro-oxidation and corrosion of metal electrodes in emerging energy storage/conversion devices is a necessity. Research reports associated with new developments in electrode/electrolyte synthesis as well as computational simulation methods for the materials science of energy devices are also welcome.

Guest Editor

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Message from the Editor-in-Chief

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.

Editor-in-Chief

Prof. Dr. Yong Zhang

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