

Special Issue

Symmetry in Electrochemical Process and Application

Message from the Guest Editor

Increasingly severe environmental and energy challenges have led to an urgent demand for green and efficient energy storage systems. Various energy storage technologies, including commercialized lithium-ion batteries (LIBs), capacitors, and especially fuel cells, play critical roles in portable electronic devices in vehicles. Therefore, research on new electrode materials with a reduced cost, improved safety, and high-energy density is crucial to satisfy the ever-growing demand for this technology. Symmetric electrodes have recently become a research focus because they employ the same active materials as both cathodes and anodes in energy storage systems, leading to a reduced manufacturing cost and a simplified fabrication process. Most importantly, this feature also endows symmetric energy storage systems with improved safety, a longer lifetime, and the ability to charge in both directions. For this Special Issue, we are interested in research on different symmetric electrodes based on the applications of symmetric electrodes in different energy storage electrochemical systems. Papers considering the possibility of mass production are also encouraged.

Guest Editor

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Message from the Editor-in-Chief

Symmetry is ultimately the most important concept in natural sciences. It is not surprising then that very basic and fundamental research achievements are related to symmetry. For instance, the Nobel Prize in Physics 1979 (Glashow, Salam, Weinberg) was received for a unified symmetry description of electromagnetic and weak interactions, while the Nobel Prize in Physics 2008 (Nambu, Kobayashi, Maskawa) was received for the discovery of the mechanism of spontaneous breaking of symmetry, including CP symmetry. Our journal is named *Symmetry* and it manifests its fundamental role in nature.

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