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Asymmetry/Symmetry in Lithium-Ion Batteries

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Message from the Guest Editors

Various energy storage technologies, including fuel cells, capacitors, sodium-ion batteries and lithium-ion batteries, are playing an increasingly important role in daily life, especially lithium-ion batteries. Therefore, research into new material systems for lithium-ion batteries with a low cost, high safety and high energy density is crucial to meet the growing demand for this technology.

Lithium-ion battery electrolytes greatly impact the safety, operating temperature range and cycle performance of a battery, and thus have become a research hotspot. For this Special Issue, we are interested in studying the effects of different asymmetric structures on battery performance based on the application of asymmetric solvents and asymmetric salts in lithium/sodium ion batteries. We welcome all contributions on the use of asymmetry/symmetry in the application of electrochemical processes to technologies such as lithium-ion batteries, capacitors, fuel cells, etc., and in particular research on electrolyte solvent molecules and salts, which play a key role in lithium-ion/sodium-ion batteries.

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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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