

Special Issue

Symmetry in Energy Materials

Message from the Guest Editors

- Solid oxide cells (SOCs) are an energy conversion technologies that exhibit considerable applicative potential in the generation of sustainable electricity and production of green hydrogen. These versatile devices enable the efficient conversion of chemical energy stored in a range of fuels, including hydrogen, methane, and methanol, into electricity when operating in fuel cell mode. In electrolysis mode, SOCs can effectively utilize renewable energy sources, such as solar and wind power, for the co-electrolysis of CO₂ and H₂O, facilitating the production of clean fuels and contributing to a carbon-neutral future.
- This Special Issue aims to advance the state of the art in SOC technology by fostering innovations in the development of electrolytes, electrodes, and catalysts while enhancing our fundamental understanding of electrochemical processes and degradation mechanisms. The use of symmetrical cells and model samples plays a critical role in material screening, mechanism analysis, and innovative in situ/operando characterization techniques...

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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.

Editor-in-Chief

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