Special Issue

Achievements and Trends in Solid Oxide Fuel Cells in Clean Energy

Message from the Guest Editor

Achievement of the peak carbon emissions target and carbon neutrality is critical for building a green and sustainable future. It is therefore necessary to develop and apply advanced technologies with high efficiency and zero-emission capabilities, such as solid oxide fuel cells (SOFCs). SOFCs exhibit great potential in transportation, large-scale power generation, data center power supply, domestic combined heat and power systems, and the chemical industry. However, challenges exist in the road to wide industrial application of SOFC systems. Issues involving materials, electrode structure, the cell fabrication process, electrochemical performance, in situ characterization, stack durability, system integration, and flexible fuels still need to be resolved. Topics of interest for publication include material design and characterizatio, design of electrode microstructure, high-conductivity electrolytes, preparation process development, electrocatalytic performance, electrochemical measurement and analysis, long-term performance testing, system integration and optimization, flexible fuels.

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Energies is an international, open access journal in energy engineering and research. The journal publishes original papers, review articles, technical notes, and letters. Authors are encouraged to submit manuscripts which bridge the gaps between research, development and implementation. The journal provides a forum for information on research, innovation, and demonstration in the areas of energy conversion and conservation, the optimal use of energy resources, optimization of energy processes, mitigation of environmental pollutants, and sustainable energy systems.

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