Special Issue

Emerging Trends in Power Electronic Converters for Energy Storage Applications

Message from the Guest Editors

Emerging trends in power electronics signify a shift towards greater efficiency, miniaturization, and enhanced reliability. Semiconductor advancements, novel circuit topologies, and innovative control strategies are propelling the development of converters that redefine energy management in various applications. On the other hand, energy storage is now the linchpin of energy transition. With renewable energy sources like solar and wind gaining prominence, energy storage systems have emerged as critical components to address intermittency challenges. Power electronic converters serve as the linchpin connecting emerging trends, energy storage technologies, and diverse applications but also empower energy storage systems with the capability to respond dynamically to changing energy demands. As a result, energy storage applications across various sectors, from grid-scale solutions to portable electronics, are ushering in a more sustainable and efficient energy future.

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Deadline for manuscript submissions

closed (31 March 2025)

Applied Sciences

an Open Access Journal by MDPI

Impact Factor 2.5
CiteScore 5.5

mdpi.com/si/185761

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