Special Issue

Advanced Power Electronics Technology

Message from the Guest Editors

Nowadays, power electronics play a crucial role in our daily life, which enables large renewable energy, such as photovoltaic and wind power integration, flexible power transmission, and high-efficiency power distribution and utilization. Advanced technologies, such as competitive topologies, new generation switching devices, control technologies, to name a few, are developing every day. Modular structure-based high-voltage high-power DC/DC converters are one research topic of significant interest, which achieves direct DC/DC power conversion and is essential to a future DC grid. The wide-bandgap devices, such as GaN and SiC, have lower switching losses, higher blocking voltage, etc., compared with Si devices. One typical application is the small-size power adapter. In recent years, unconventional control strategies, such as fuzzy control, predictive control, and neural networks control, have been applied widely in power electronics systems, which bring new possibilities and keep increasing control performance. All these advanced power electronics technologies are a strong support to the modern power grid.

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Deadline for manuscript submissions

closed (20 March 2025)

Energies

an Open Access Journal by MDPI

Impact Factor 3.2
CiteScore 7.3

mdpi.com/si/151914

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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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