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Advanced Power Electronics Technology

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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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Special Issue



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Message from the Editor-in-Chief

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