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Optimal Design of Power Converters II

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Message from the Guest Editor

With the help of wide bandgap (WBG) power semiconductor switching devices in recent times, the enhancement of power density and efficiency of power converters has become the main issue. In order to meet this requirement, the stable operation of WBG devices is being actively researched, and the design of heat dissipation systems and system integration along with passive components are also main research issues. Conventional high-frequency transformers and inductors are replaced by planar typed ones, and studies of the design of planar type HFTRs and inductors considering stray capacitance are being reported.

This Special Issue focuses on the emerging technologies to meet the recent requirements of power converters for various industry applications, including the following nonexclusive topics:

- Topologies and control algorithms for high efficiency
- Design approaches for high power density
- Design of gate drive circuits, including short circuit protection for WBG devices
- Design procedures of planar typed transformers and inductors
- Heat dissipation systems and system integration, including modeling and simulation techniques



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Special Issue



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Message from the Editor-in-Chief

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