Special Issue

High Performance Power Converters: Design, Control, Devices and Applications

Message from the Guest Editors

Optimal design, topologies, and control algorithms for improving of the efficiency of power converters have been actively developed and regarded as the core technology in various industry applications, such as home appliances, electric vehicles, renewable energies, energy storage systems, and so on. With the help of wide bandgap (WBG) power semiconductor devices such as SiC and GaN devices, in recent times, the dramatic improvement of efficiency of power converters has become the main issue. Therefore, this Special Issue focuses on emerging technologies to meet the recent requirements of power converters for various industry applications. Topics of primary interest include but are not limited to the following:

- Topologies and control methods for high efficiency;
- Optimal design approaches for high efficiency;
- Power converters based on wide bandgap devices;
- Passive component design for efficiency improvement;
- Soft-switching methods for power converters.

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Message from the Editor-in-Chief

Electronics is a multidisciplinary journal designed to appeal to a diverse audience of research scientists, practitioners, and developers in academia and industry. The journal is devoted to fast publication of latest technological breakthroughs, cutting-edge developments, and timely reviews of current and emerging technologies related to the broad field of electronics. Experimental and theoretical results are published as regular peer-reviewed articles or as articles within Special Issues guest-edited by leading experts in selected topics of interest.

Editor-in-Chief

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manuscripts are peer-reviewed and a first decision is provided to authors approximately 16.8 days after submission; acceptance to publication is undertaken in 2.4 days (median values for papers published in this journal in the first half of 2025).