Special Issue

Advanced Applications of Smart Power Technologies and Wide-Bandgap Semiconductors

Message from the Guest Editor

In recent years, wide bandgap (WBG) semiconductors and, in particular, silicon carbide (SiC) and gallium nitride (GaN) have been extensively proposed for power systems to improve current and future power electronics in different fields, such as industrial, automotive, aerospace, and energy conversion. Compared with conventional technologies, WBG semiconductors promise the realization of smaller, faster, more efficient, and rugged devices with low losses and high levels of quality and safety. However, the design and electrical characterization of WBG-based devices for smart power and advanced applications impose the deployment of intensive experimental and modelling efforts for the analysis of the critical aspects of their operation under specific bias conditions, especially in high-voltage, high-frequency, and high-temperature circuits.

- Application area of WBG semiconductors;
- SiC- and GaN-based devices;
- Novel design and modelling approaches;
- Heterojunction structures;
- Analysis of the material physical properties;
- Smart power technologies;
- Power generation;
- Power conversion systems;
- Energy harvesting;

Guest Editor

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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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