Special Issue

Multilevel Power Converters Based on Wide-Bandgap Semiconductor Devices: Technologies, Modulation, Control and Applications

Message from the Guest Editors

The ever-increasing development of renewable energy sources (PV, wind, fuel cell, etc.) requires innovative power converter solutions to increase the efficiency of conversion. Multilevel power converters (MPC) have attracted increasing attention. Moreover, single-stage converters based on an impedance source (Z-source) allow increasing the efficiency with respect to traditional solutions. Wide-bandgap (WBG) semiconductor devices (silicon carbide (SiC) and gallium nitride (GaN)), provide significant benefits in comparison with the conventional devices based on silicon (Si). Due to the several opportunities provided by WBG in terms of converter performance improvement, these emerging technologies of switching power semiconductor devices can bring significant advantages to MPC. In order to promote further research and development of MPC based on WBG devices, the aim of this Special Issue is to provide a common environment for discussion, presentation of innovative solutions, and exchange of ideas among expert researchers in this field. The contributions can also include refinements on existing techniques, comparison between different solutions and economic analysis.

Guest Editors

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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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