



Single-Stage DC-AC Power Conversion Systems

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Message from the Guest Editors

Dear Colleagues,

Power inverters have been successfully used to integrate renewable energy into microgrids. The conventional inverter topologies provide DC–AC power conversion with a step-down (buck) voltage gain. To accommodate low DC voltage generated by renewable energy sources such as PV, a front-end DC–DC boost converter is required to generate a sufficient DC link voltage for the rear-end inverter. In recent years, significant research has been devoted to establishing novel topologies that combine voltage boosting and AC voltage generation into a single-stage power conversion. This single-stage power conversion system could be an attractive solution to improve efficiency, reliability, and compactness.

The aim of the Special Issue is to attract original research and review papers in the field of power electronics. Major topics include, but are not limited to:

- Multilevel boost inverters;
- Buck–boost inverters;
- Impedance source inverters;
- Switched-capacitor inverters;
- Modulation and control techniques for power inverters;
- Power inverter design, reliability, and power density for renewable energy systems.





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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.

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