Special Issue

Reliability of WBG-Based Power Electronic Circuits in Electric Vehicles

Message from the Guest Editors

Dear Colleagues: The emergence of wide bandgap (WBG) technology has provided designers with new features, such as high frequency operation (up to MHz range), more compact design, and higher temperature endurance (up to 150 °C). Considering each of these features, this technology is opening a new era for high-frequency power conversion, new automotive and aircraft technologies, and robust power electronics design in harsh climate environments, respectively. Additionally, reliable and robust performance has become a major pre-requisite in the new application of power electronics. Therefore, characterization of faults and monitoring device health are necessary in order to enable WBG-based power modules and devices to be employed in new power electronics applications. In this regard, reliable performance aspects require deep investigation to enable these technologies to be widely used in a new generation of power conversion. This Special Issue aims to address some of the techniques, methodologies, and trends in characterization, monitoring, and elimination of probable faults in WBG-based power electronics circuits.

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Energies is an international, open access journal in energy engineering and research. The journal publishes original papers, review articles, technical notes, and letters. Authors are encouraged to submit manuscripts which bridge the gaps between research, development and implementation. The journal provides a forum for information on research, innovation, and demonstration in the areas of energy conversion and conservation, the optimal use of energy resources, optimization of energy processes, mitigation of environmental pollutants, and sustainable energy systems.

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