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Design, Simulations, and Reliability of Power Converter

Guest Editor:

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Deadline for manuscript submissions:
closed (30 June 2024)

Message from the Guest Editor

The need for the most efficient and cost-effective design, control, operation, and maintenance of power converters and power electronic-based power systems has increased as the applications of power converters have seen significant growth in recent years in areas such as distributed generation, particularly in renewable energies, transmission and distribution systems, electric vehicles, and microgrids.

Along with converter design, reliability is a significant concern when it comes to the successful operation of power converters. Predicting the converter reliability throughout its useful life and wear-out phases is necessary for the operation of multi-converter systems in terms of appropriate topology selection, converter component sizing, maintenance scheduling, and selection of the control strategy. The mechanical robustness and environmental factors also affect the power converter failure.

For this Special Issue, we therefore seek research articles that address the broad aspects of power converter modeling and design as well as investigations into its reliability. The studies can be carried out at either the system level or the component level.

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Message from the Editor-in-Chief

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