Special Issue

Power Quality in Renewable Energy Microgrids

Message from the Guest Editor

Modern power systems are increasingly reliant on microgrids as a means to integrate distributed renewable energy resources such as solar, wind, and energy storage. These microgrids enable localized generation, enhanced reliability, and improved energy efficiency. This Special Issue aims to present the latest advances in the theory, design, modeling, and application of power quality solutions in renewable energy-based microgrids. Topics of interest for publication include, but are not limited to, the following:

- Power quality issues in microgrids with high renewable energy penetration;
- Advanced modeling and simulation of microgrid dynamics;
- Voltage and frequency control methods for microgrids;
- Mitigation of harmonics, flicker, and other disturbances due to converter interfaces;
- Power quality in hybrid microgrids and multi-microgrid clusters;
- Fault detection, protection, and resilience in microgrid environments;
- Innovative energy storage and converter control for enhanced microgrid stability;
- Smart monitoring, forecasting, and optimization techniques for microgrid power quality;
- Power quality standards and testing methodologies for microgrid applications.

Guest Editor

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Message from the Editor-in-Chief

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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