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Power-Electronic-Based Smart Grid and Its Control Technology

Guest Editors:

Dr. Wenjie Liu

Dr. Haitao Zhang

Dr. Qiao Peng

Prof. Dr. Weilin Li

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Message from the Guest Editors

The smart grid comprises an energy-generation, transmission, and distribution network and control units enhanced by digital control, monitoring, and telecommunications capabilities. Progress in power electronics technologies and modern control methods has enabled the smart grid towards new kinds of power-electronic-based grid operation, which can achieve almost all the needs of the smart grid for better power quality, reliability, and resilience. On the other hand, the high penetrations of power electronics converters and renewable energy in smart grids complicate the control process. Topics of interest for this Special Issue include, but are not limited to:

- Renewable energy and storage system integration;
- Hybrid power supply systems;
- Power-electronic-based smart grids;
- Energy harvesting systems;
- Advances in power converters and control technologies;
- System stability analysis and optimization;
- Frequency fluctuations and control strategies;
- Dynamics power distribution technology;
- Reactive power compensation.

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Editor-in-Chief

Prof. Dr. Flavio Canavero
Department of Electronics and Telecommunications, Politecnico di Torino, 10129 Torino, Italy

Message from the Editor-in-Chief

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Electronics Editorial Office
MDPI, Grosspeteranlage 5
4052 Basel, Switzerland

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