Special Issue

Modeling and Control of Power Electronic Converters in Renewable Energy and Smart Grid Systems

Message from the Guest Editor

Motivated by the high efficiency of the bulk dc power transmission, high-voltage dc (HVDC) systems have been playing a key role in the integration of renewable energy resources into electrical grids. Point-to-point HVDC transmission can be upgraded to the multi-terminal dc (MTDC) structure to interconnect multiple scattered distributed-generation units. High-power power electronics converters are the main interfacing devices between the dc infrastructure of the MTDC system and the generation or loading entities. The main objective of this Special Issue is to address the recent challenges facing the integration of renewable energy resources into emerging high-voltage dc networks using power electronic converters. Topics of interest include the following:

- Control of power converters
- Dc-dc converters
- Dc-link voltage stability
- High-voltage dc
- Multi-terminal dc
- Photovoltaic generators
- Protection and fault-ride through
- Stability analysis
- Voltage source converters
- Weak grids
- Wind turbines

Guest Editor

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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 guestedited by leading experts in selected topics of interest.

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