



Power Electronics in Hybrid AC/DC Grids and Microgrids

Guest Editors:

Dr. Nilanjan Ray Chaudhuri

School of Electrical Engineering
and Computer Science, The
Pennsylvania State University,
University Park, PA 16802, USA

Dr. Ali Mehrizi-Sani

The Bradley Department of
Electrical and Computer
Engineering, Virginia Tech,
Blacksburg, VA 24061, USA

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Message from the Guest Editors

This Special Issue aims to focus on the existing and emerging challenges in hybrid AC/DC grids and microgrids pertaining to modeling, benchmarking, stability analysis, short-circuit fault analysis and protection, and controls. Specific topics of interest are as follows:

1. Modeling of such systems with very high penetration of CIG that can capture recently observed phenomena like SSOs and validation of models through electromagnetic transient (EMT) simulations.
2. Hybrid AC/DC grid and microgrid fault analysis and protection with very high CIG penetration.
3. Small- and large-signal stability analysis of the system in the presence of a significant CIG penetration.
4. New control approaches to solve challenges posed by traditional GFL technology in weak grid conditions as applied to the DC grid converters and CIGs.
5. Application of grid forming (GFM) technology in DC grids and CIGs when interfaced with weak AC grids.
6. Provision of ancillary support (like primary frequency support) through the DC grid and CIGs to the AC system including in microgrids.





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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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