Special Issue

Grid-Forming Converters in Power Systems

Message from the Guest Editor

This Special Issue aims to present and disseminate the most recent advances related to the theory, design, modelling, analysis, control, and application of control of grid-forming converters in power systems. Topics of interest for publication include, but are not limited to, the following:

- Control strategies for grid-forming converters, including virtual synchronous machine control, droop-based methods, and so on.
- Stability analysis and enhancement of grid-forming converters in strong/weak grids and high renewable penetration scenarios.
- Grid-forming converters for renewable energy integration, including solar PV, wind, and energy storage systems.
- Applications in microgrids and islanded systems, focusing on black-start capability and autonomous operation.
- Advanced modeling and simulation techniques for grid-forming converters in EMT and phasor-domain studies.
- Fault ride-through and grid support functionalities, such as voltage/frequency regulation and inertia emulation.
- Interaction between grid-forming and grid-following converters in hybrid power systems.
- Protection and fault management in grids dominated by grid-forming converters.

Guest Editor

Dr. Yunhui Huang
School of Automation, Wuhan University of Technology, Wuhan 430070, China

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Energies
Editorial Office
MDPI, Grosspeteranlage 5
4052 Basel, Switzerland
Tel: +41 61 683 77 34
energies@mdpi.com

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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.

Editor-in-Chief

Prof. Dr. Enrico Sciubba
Department of Mechanical and Industrial Engineering, University Niccolò Cusano, 00166 Roma, Italy

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