Special Issue

New Trends in Grid-Forming Inverters for the Power Grid

Message from the Guest Editors

The increased penetration of renewable energies and the transition to low-inertia and decentralized power systems have made grid-forming inverters (GFIs) a relevant topic of research and development. A GFI's ability to establish and regulate voltage and frequency is crucial to ensuring grid stability and resilience in modern and future power systems. This Special Issue aims to provide a comprehensive review of progress, challenges, and future direction for GFIs and their applications. We invite submissions on a wide range of topics related to GFIs, including, but not limited to, the following: Control strategies; Synthetic inertia and frequency stability; Black-start capabilities; Fault ride-through and robustness; Integration with renewable energy systems; Coordination and scalability; Harmonic mitigation and power quality; Standardization and interoperability; Emerging applications; Simulation, testing, and real-world deployment;

Guest Editors

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As the world of science becomes ever more specialized, researchers may lose themselves in the deep forest of the ever increasing number of subfields being created. This open access journal Applied Sciences has been started to link these subfields, so researchers can cut through the forest and see the surrounding, or quite distant fields and subfields to help develop his/her own research even further with the aid of this multi-dimensional network.

Editor-in-Chief

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