Special Issue

Power Converter Control Applications in Low-Inertia Power Systems

Message from the Guest Editors

As power electronic (PE) interfaced generation (PEIG) and load (PEIL) behave differently than conventional generation and load, it is of importance to study the possible impact of different types of PE-based energy sources in low-inertia power systems. In most research projects, control and optimization of high shared PE-based generation with different types of energy sources is considered as an immediate challenge of the future power grid. Technological advances, such as the use of modern power electronic systems, energy storage, intelligence-based methods, and advanced control techniques in power systems, as well as the large-scale penetration of renewable energy sources, have led to a reformulation of the conventional power systems, moving toward a more flexible scheme. Wind and photovoltaic systems together with hybrid energy storage systems (HESS) are among the main technologies that are expected to become essential in future power systems. Embedding HESS to the modern power system will offer a bigger degree of freedom by applying advanced control concepts that are resilient and affordable with flexible operational capabilities.

Guest Editors

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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.

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