Special Issue

Experimental and Numerical Analysis of Photovoltaic Inverters

Message from the Guest Editors

Solar photovoltaic technology is the key to achieving carbon neutrality. This requires further innovations in modules, power converters, and control technologies. It is essential to study the effects of aging on PV modules and inverters, as well as the operational conditions of the entire system, through experimental and numerical analysis in order to ensure their long-term performance and reliability, which can help to develop more robust and efficient inverters. In this context, this Special Issue on the experimental and numerical analysis of photovoltaic inverters will collect the latest research on PV technologies, in particular power converters. The topics of interest include, but are not limited to:

- The modeling of solar PV modules;
- The modeling and control of PV inverters;
- Advanced PV cell technologies;
- Novel power converters design for PV applications;
- Data acquisition and analysis in PV systems;
- The condition monitoring of PV modules and inverters;
- Experimental verifications with big data;
- Artificial intelligence in PV systems;
- The control and testing of PV systems.

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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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