Special Issue

Condition Monitoring and Fault Diagnosis in Power Electronics and Energy Storage Systems

Message from the Guest Editors

Nowadays, power electronics and energy storage systems (ESSs) are essential in a number of applications. These systems are frequently subjected to mechanical and electrical stresses, temperature fluctuations, and vibration, all of which enhance the risk of equipment failures. In order to overcome these issues and eliminate unintended failures by early fault detection, it is desirable to diagnose the underlying degradation. Topics include, but are not limited to, the following research areas: Fault detection and fault tolerance in energy storage systems;
Advancements in semiconductor and packaging reliability;
Failure modes, failure mechanisms, and failure physics;
Fault diagnosis and failure prognosis tools;
Battery management systems (BMS);
Life time diagnostic of supercapacitors;
State-of-charge and state-of-health estimation;
Lifetime modeling and RUL estimation tools ;
Thermal performance of energy storage systems;
Fault diagnosis of power electronics in energy storage systems;
Artificial intelligence and machine learning for the performance analysis, diagnosis, and management of power electronics and energy storage systems.

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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.

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