Special Issue

Modern Control and Diagnosis for Electrical Machines and Drives

Message from the Guest Editors

Recent research has focused on advanced control strategies and condition monitoring for electrical machines and drives. Early fault detection and diagnosis reduce maintenance costs and downtime across industries. As systems demand higher efficiency and reliability, effective fault detection and control are crucial. This Special Issue highlights innovative control strategies, fault analysis, condition monitoring, fault detection, and fault-tolerant techniques for electrical machines and drives. It features research addressing challenges in maintaining system reliability under faults. Topics include:

- Control strategies, fault modeling, and analysis for induction motors, permanent magnet synchronous machines, multiphase machines, etc.
- Power electronics: fault-tolerant inverters, modular multilevel converters, IGBTs, SiC MOSFETs, and electrostatic discharge testing.
- Signal processing for fault detection: time-, frequency-, and time-frequency domain methods.
- AI for fault detection and classification: machine learning (SVM, random forests, k-NN, decision trees) and deep learning (CNNs, RNNs).
- Hybrid models combining signal processing and AI techniques.

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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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