Special Issue

Signal Processing for Fault Detection and Diagnosis in Electric Machines and Energy Conversion Systems

Message from the Guest Editor

Electrical machines and energy conversion systems in general have become increasingly important over the last few decades. With the aim to achieve sustainability, the electrification of a wide range of applications is advancing, including in the consumer and industry sector, road vehicles and marine vessels. As electric energy conversion systems and electric drives become more sophisticated, the appearance of an unpredicted fault may result in abnormal operation or system shutdown, decreasing its reliability. Therefore, timely fault diagnosis has become a prerequisite component to achieve reliability or fault-tolerant operation. The areas covered in this Special Issue include, but are not limited to:

Signal processing techniques for condition monitoring, fault detection and diagnosis of electric machines and drives;
Fault detection and diagnosis of power electronic converters;
Fault detection and diagnosis of energy conversion systems;
Signal processing methods for fault detection;
Signal processing methods for fault-tolerant systems;
Artificial intelligence and machine learning methods for fault detection and diagnosis of electric machines and energy conversion systems.

Guest Editor

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Message from the Editor-in-Chief

The concept of entropy is traditionally a quantity in physics that has to do with temperature. However, it is now clear that entropy is deeply related to information theory and the process of inference. As such, entropic techniques have found broad application in the sciences.

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Editor-in-Chief

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