

Special Issue

Symmetry, Fault Detection, and Diagnosis in Automatic Control Systems

Message from the Guest Editor

Symmetric and asymmetric faults are widely present in automatic control systems.

Three-phase short circuit fault is a type of symmetrical fault, which is a serious fault that must be avoided as much as possible. or its impact must be cut off as soon as possible, such as taking timely fault-tolerant measures.

Asymmetric faults such as single-phase grounding, two-phase short circuit, and two-phase short circuit grounding faults also need to be detected and diagnosed early.

For some complex energy and power systems, it is necessary to regularly monitor the health status of the system, effectively provide health assessments, and ensure the long-term safety of the system.

This Special Issue of the journal *Symmetry* invites contributions illustrating the symmetrical and asymmetric fault phenomena in automatic control systems, exploring detection and diagnosis methods for symmetrical and asymmetrical faults, fault-tolerant strategies and methods, and studying health assessment and management methods for automatic control systems.

Guest Editor

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Message from the Editor-in-Chief

Symmetry is ultimately the most important concept in natural sciences. It is not surprising then that very basic and fundamental research achievements are related to symmetry. For instance, the Nobel Prize in Physics 1979 (Glashow, Salam, Weinberg) was received for a unified symmetry description of electromagnetic and weak interactions, while the Nobel Prize in Physics 2008 (Nambu, Kobayashi, Maskawa) was received for the discovery of the mechanism of spontaneous breaking of symmetry, including CP symmetry. Our journal is named *Symmetry* and it manifests its fundamental role in nature.

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