Special Issue

Mathematical Models for Fault Detection and Diagnosis

Message from the Guest Editor

In numerous engineering and technological systems, the capability to detect and diagnose faults is of paramount importance for ensuring reliability, safety, and optimal performance. Mathematical modeling plays a pivotal role in this context, as it provides a rigorous framework for analyzing and understanding the underlying mechanisms of fault occurrence and propagation. This Special Issue focuses on the development and application of mathematical models for fault detection and diagnosis, with an emphasis on innovative approaches and computational methods. Contributions are encouraged from researchers working on the development of novel mathematical models, the analysis of their theoretical properties, and the design of efficient computational methods for fault detection and diagnosis. Papers that demonstrate the practical applicability of these models in real-world systems and that provide insights into the challenges and opportunities in this research area are particularly welcome. This Special Issue seeks to foster interdisciplinary collaboration and to advance the state of the art in mathematical modeling for fault detection and diagnosis.

Guest Editor

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Message from the Editor-in-Chief

The journal *Mathematics* publishes high-quality, refereed papers that treat both pure and applied mathematics. The journal highlights articles devoted to the mathematical treatment of questions arising in physics, chemistry, biology, statistics, finance, computer science, engineering and sociology, particularly those that stress analytical/algebraic aspects and novel problems and their solutions. One of the missions of the journal is to serve mathematicians and scientists through the prompt publication of significant advances in any branch of science and technology, and to provide a forum for the discussion of new scientific developments.

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