Special Issue

Fault Diagnosis Technology in Machinery Manufacturing

Message from the Guest Editors

Fault diagnosis in machinery manufacturing is a critical aspect that ensures the reliability, safety, and efficiency of industrial operations. In the age of Industry 4.0, production equipment is becoming more integrated and intelligent, introducing new challenges for data-driven process monitoring and fault diagnosis. This journal explores the current technologies and methodologies used in diagnosing faults in machinery. It highlights the integration of traditional techniques, such as vibration analysis and thermal imaging, with modern advancements like machine learning, artificial intelligence (AI), and the Internet of Things (IoT). These innovations enable real-time monitoring, predictive maintenance, and data-driven decision-making. This journal also integrates the challenges in implementing fault diagnosis systems, including data management, integration with existing systems, and the need for skilled personnel. Through recent R&D advancements, insights have been provided into the future trends in fault diagnosis technologies, emphasizing the potential for increased automation and accuracy, as well as the development of smarter manufacturing processes.

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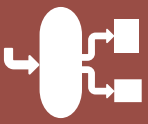

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