



Machines and Industrial Equipment Fault Diagnosis Based on Signal Analysis

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Message from the Guest Editors

Preventive diagnosis of machines and industrial equipment eliminates the risks of catastrophic failures. The vibroacoustic signals are generated each time a fault is manifesting in a certain mechanism or equipment (rolling bearing, gear, electrical motor, compressor, belt transmission, etc.). There are mainly three methods of signal processing and diagnosis, based on processing of the acquired signals in time, frequency, or time-frequency domains. The main problem the researchers and industrial maintenance engineers are facing is represented by the fact that the acquired signal containing the fault features signature is non-stationary. Furthermore, the fault signal is usually of small amplitude and is drowned in lot of noise. Consequently, improvements to the existing diagnosis methods or new methods proposals are welcome, including monitoring, signal decomposition, evaluation and analysis, diagnosis (establishment of failure types and root causes), smart decision and optimized techniques (automatic features recognition, expert system, neural networks, fuzzy logic), application of feedback actions, and final actions (maintenance required or replacement).

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Message from the Editor-in-Chief

Our primary goal is to encourage scientists and engineers to publish their theoretical results and developed methods in as much detail as possible. There is no limit to the maximum length of papers. Whenever possible, authors are encouraged to provide relevant data and developed code so that the results can be reproduced. Our goal is to provide a platform for scientists and engineers to share new approaches to signal processing in various application domains.

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