Special Issue

Vibration, Acoustics and Sensors Solutions for Machine Condition Monitoring

Message from the Guest Editor

The field of machine condition monitoring, using vibrations and acoustics signals, has progressed at a high rate, emerging from the mere use of traditional signal processing techniques to the application of advanced signal processing algorithms and the utilization of machine learning and artificial intelligence applications for incipient fault detection, diagnosis, and prognosis. This, along with the availability of high-tech sensors and digital twins, has contributed extensively to the vital area of predictive maintenance and to the health and usage monitoring systems (HUMs) of assets. Potential topics of this Special Issue include, but are not limited to, the following:

- Advanced signal processing techniques to extract fault features;
- Signal processing and data fusion to detect, diagnose, and trend faults in rotating machines;
- Sensor devices and sensing applications for machine condition monitoring;
- Machine learning and AI applications applied to vibrations and acoustics signals for predictive maintenance and prognostics and health management;
- Dynamic simulations and virtual twins for the better understanding of rotating machines and the development of health and HUMs.

Guest Editor

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Sensors is a leading journal devoted to fast publication of the latest achievements of technological developments and scientific research in the huge area of physical, chemical and biochemical sensors, including remote sensing and sensor networks. Both experimental and theoretical papers are published, including all aspects of sensor design, technology, proof of concept and application. Sensors organizes Special Issues devoted to specific sensing areas and applications each year.

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