

Special Issue

Vibration Monitoring and Signal Processing in Mechanical Systems

Message from the Guest Editor

Mechanical systems are essential to industries such as manufacturing, transportation, and energy. To ensure their efficiency, safety, and longevity, effective monitoring and analysis of vibrations, which indicate system health, are crucial. Advanced signal processing techniques extract valuable insights from complex vibration data, driving the development of smarter, more reliable systems. This Special Issue on Vibration Monitoring and Signal Processing in Mechanical Systems seeks to showcase leading-edge research and applications in this evolving field. We invite original submissions focusing on vibration measurement, diagnostic techniques, signal analysis, and technologies that enhance mechanical system performance. We welcome contributions on topics such as:

- Advanced signal processing for vibration analysis.
- AI and machine learning in vibration diagnostics.
- Real-time monitoring of mechanical components.
- Fault detection and prediction in rotating machinery.
- Vibration analysis in extreme conditions.
- Sensor development and data acquisition methods.
- Case studies of vibration monitoring in industrial applications.

Guest Editor

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About the Journal

Message from the Editor-in-Chief

Machines is an international, peer reviewed journal on machinery and engineering. It publishes research articles, reviews and communications.

Our aim is to encourage scientists to publish their experimental and theoretical results in as much detail as possible. There is no restriction on the length of the papers. Full experimental and/or methodical details must be provided.

There are, in addition, unique features of this journal: Manuscripts regarding research proposals and research ideas will be particularly welcomed; Electronic files or software regarding the full details of the calculation and experimental procedure - if unable to be published in a normal way can be deposited as supplementary material.

Editor-in-Chief

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Rapid Publication:

manuscripts are peer-reviewed and a first decision is provided to authors approximately 17.6 days after submission; acceptance to publication is undertaken in 2.7 days (median values for papers published in this journal in the second half of 2025).