

Special Issue

Weak Signal Detection and Fault Diagnosis

Message from the Guest Editors

When the working status of various equipment is abnormal, this is often first discovered by detecting weak signals. It is of the utmost importance to accurately detect the characteristics of weak signals, identify them, and confirm whether these weak abnormal signals are faults through intelligent diagnostic methods. Although research in this field began many years ago, research using artificial intelligence technology has only been ongoing for a decade or so. The intelligent diagnosis of these faint abnormal signals, which are often hard to see, time-varying, nonlinear, extremely weak, and have low recognition accuracy due to environmental factors, is quite significant. Of course, finding dynamic cross domain diagnostic patterns is an important research method. There are also some weak fault diagnosis studies that integrate model-driven and data-driven approaches, which are important research directions in fault diagnosis. We look forward to receiving papers on the research achievements of our peers in this field for different operating equipment.

- weak signal
- fault diagnosis
- artificial intelligence
- recognition accuracy
- cross domain diagnostic
- integration

Guest Editors

Prof. Dr. Shunming Li

College of Energy and Power Engineering, Nanjing University of Aeronautics and Astronautics, Nanjing 210016, China

Prof. Dr. Guangfu Bin

Hunan Provincial Key Laboratory of Health Maintenance for Mechanical Equipment, Hunan University of Science and Technology, Xiangtan 411201, China

Deadline for manuscript submissions

30 June 2026



Machines

an Open Access Journal
by MDPI

Impact Factor 3.0
CiteScore 6.1



mdpi.com/si/262239

Machines
Editorial Office
MDPI, Grosspeteranlage 5
4052 Basel, Switzerland
Tel: +41 61 683 77 34
machines@mdpi.com

[mdpi.com/journal/
machines](https://mdpi.com/journal/machines)





Machines

an Open Access Journal
by MDPI

Impact Factor 3.0
CiteScore 6.1



[mdpi.com/journal/
machines](https://mdpi.com/journal/machines)



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

Prof. Dr. Antonio J. Marques Cardoso
CISE–Electromechatronic Systems Research Centre, University of Beira Interior, Calçada Fonte do Lameiro, P-6201-001 Covilhã, Portugal

Author Benefits

High Visibility:

indexed within Scopus, SCIE (Web of Science), Inspec, and other databases.

Journal Rank:

JCR - Q2 (Engineering, Mechanical) / CiteScore - Q1 (Control and Optimization)

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).