

Special Issue

Fatigue-Sensing Technologies for Manufacturing Materials and Machinery Parts

Message from the Guest Editors

With advanced sensing technologies, including various sensor types such as strain gauges, piezoelectric sensors, fiber optic sensors, and so on, the reliability and lifespan of critical industrial components and parts can be examined and measured. These sensors are integrated into machinery parts to provide the real-time monitoring of material conditions, allowing for the early detection of fatigue-related issues before a catastrophe occurs. These NDT methods are essential for routine inspections and quality control in manufacturing environments. Data analysis and machine learning techniques in fatigue monitoring can predict the onset of fatigue and estimate the remaining useful life of components. These predictive models are crucial for implementing condition-based maintenance strategies, which help prevent unexpected downtime and reduce maintenance costs.

- fatigue sensing
- predictive maintenance
- machine learning
- nondestructive testing (NDT)
- material fatigue
- digital manufacturing
- structural health monitoring

Guest Editors

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