

Special Issue

The Evolving Landscape of Ultrasonic Sensing and Testing

Message from the Guest Editor

Ultrasonic sensing, having been used in nature for millions of years for communication, navigation, and food foraging, has evolved. This natural technology has been adapted to human applications following the invention of piezoelectric materials, which made its usage possible. Today, a new era in ultrasonic testing is emerging, driven by progress in manufacturing processes, the development of new materials, advanced computational algorithms such as AI, high-performance computing tools, and the integration of robotics and automation. This Special Issue aims to capture recent advancements in ultrasonic testing and provide insight into the future direction of this technology—working toward a safer and more efficient world.

- ultrasonic testing
- signal processing
- automation
- AI
- ML
- digital twin
- ultrasonic imaging
- ultrasonic process monitoring
- scanning acoustic microscopy
- ultrasound metrology

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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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