Special Issue

Robotics and Sensors Based on Ultrasonic Monitoring Techniques for NDE Applications

Message from the Guest Editor

The modern world is full of major structural assets that need to be regularly inspected to prevent unscheduled and costly breakdowns or catastrophic failures. Robotic systems that offer high mechanical and electrical robustness, flexibility, reliability and a high degree of autonomy with respect to energy usage are well suited for inspection of many structures and installations. A step-change in robotic inspection capability is required to meet the industry's longer term needs. Potential topics include, but are not limited to, the following:

- Novel robotic designs that improve inspection access, especially in complex industrial environments.
- The use of UAVs for non-destructive testing, especially those that can perform quantitative non-destructive testing (NDT).
- Novel sensors that are well suited to robotic inspection, such as those that do not require coupling or precise placement.
- Systems for precise probe deployment, such as around welds.
- Systems for inspection robot localisation.
- Wireless inspection systems.
- Autonomous NDT systems.
- Human–machine interfaces for enhanced inspection.

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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