



sensors



Special Issue Reprint

Acoustic and Ultrasonic Sensing Technology in Non-Destructive Testing

www.mdpi.com/books/reprint/11192

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ISBN 978-3-7258-4487-6 (Hardback)

ISBN 978-3-7258-4488-3 (PDF)



This Special Issue presents cutting-edge research on acoustic and ultrasonic sensing technologies for non-destructive testing (NDT). It brings together seventeen original contributions covering advanced ultrasonic wave techniques, novel transducer designs, intelligent signal processing, and interdisciplinary applications. These articles span diverse fields including civil and mechanical engineering, materials science, environmental sensing, and biological monitoring, with key themes including damage detection using Lamb and guided waves, fiber optic and piezoelectric sensor innovations, machine learning for defect classification, and the structural health monitoring of critical infrastructure. The reprint of this collection highlights how traditional ultrasonic methods evolve through integration with computational intelligence, flexible materials, and novel imaging strategies, offering a comprehensive overview of the current trends, challenges, and innovations in ultrasonic sensing and their application to complex real-world systems.



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