Special Issue

Recent Advancements in Micromachined Ultrasonic Transducers

Message from the Guest Editors

Micromachined Ultrasonic Transducers (MUT) are new types of ultrasonic transducers that have emerged in recent years as a result of the rapid development of microelectromechanical systems (MEMS) technology. Based on the different working principles, MUT is mainly divided into two categories: piezoelectric micromechanical ultrasound transducers (PMUTs) and capacitive micromechanical ultrasound transducers (CMUTs). Compared with conventional piezoelectric transducers, MUTs have significant advantages such as a compact structure, low power consumption, and easy integration. These features make them widely used in the fields of medical imaging and therapy, industrial nondestructive testing, and non-contact manipulation, and they have gradually become a research hotspot in next-generation ultrasonic transducers. Therefore, this Special Issue aims to present research papers, short communications, and review articles that focus on the latest technological breakthroughs in the field of MUT, including innovative structural optimization design, development of advanced manufacturing processes, and expansion of cutting-edge application areas.

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