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Surface Acoustic Wave and Bulk Acoustic Wave Sensors

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Message from the Guest Editors

It has been known for almost four decades that surface acoustic wave (SAW) and, more recently, bulk acoustic wave (BAW) devices can be used as sensors for a multitude of measurements. Physical, chemical, or biological sensors, based on microacoustics, show some distinct advantages compared to other technologies: They are mainly based on oxide ceramics and metals and, thus, can withstand higher temperatures than silicon. Their output signals such as frequency and phase lend themselves well to digital measurement; and they are typically operated at frequencies also used in mobile communications and can be interrogated wirelessly. However, there do not exist many commercial systems based on SAW or BAW sensors. This Special Issue serves to explore the state-of-the-art of the technology and to identify possible routes for further work that might help to overcome innovation hurdles.

- SAW/BAW sensors
- SAW/BAW sensor modeling and signal processing
- signal conditioning
- design and fabrication
- novel applications

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Special Issue

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Message from the Editor-in-Chief

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