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Recent Advances in SAW Resonators

Guest Editors:

Dr. Yujie Ai
Institute of Semiconductors Chinese Academy of Sciences, Beijing, China

Dr. Fabio Di Pietrantonio
Institute for Microelectronics and Microsystems (IMM), Italian National Research Council (CNR), via del Fosso del Cavaliere 100, 00133 Rome, Italy

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Message from the Guest Editors

SAW resonators are the key components of SAW communication devices such as filters, duplexers, multiplexers, and oscillators. They are also the key sensing components for various SAW sensors. The performance of SAW communication devices and sensors is strongly dependent on the performance of SAW resonators. The improvement of the quality factor (Q) of SAW resonators can effectively reduce the insertion losses of filters and increase the communication distance of passive wireless SAW sensors. An increase in the effective electromechanical constant (K_t^2) of SAW resonators can increase the bandwidth of SAW filters. The center frequency of most commercial SAW filters is below 3 GHz, due to the difficulty in developing SAW resonators with both large K_t^2 and high Q at very high frequency. The recent advances in SAW resonators will bring enormous new opportunities for the development of next-generation SAW communication devices and sensors. This Special Issue aims to showcase a collection of manuscripts from scholars worldwide working on various aspects of SAW device development, from fundamental research to practical applications.

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Micromachines Editorial Office
MDPI, St. Alban-Anlage 66
4052 Basel, Switzerland

Tel: +41 61 683 77 34
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