Special Issue

Wireless and Passive Surface Acoustic Wave Sensor

Message from the Guest Editor

The surface acoustic wave (SAW) generated by the so-called piezoelectric effect was confined to the piezoelectric substrate surface at a depth of one or two wavelengths, and hence was very sensitive towards the external perturbations. So, a SAW-based device explores a new approach to build many sensors for sensing chemical or physical measurands. Larger sensitivity, fast response, low power consumption, and small size were achieved from the sensor prototypes. Another outstanding property is that they work without a battery and wireless interrogation, as they are connected only by a radio frequency link to a transceiver. This feature makes it very promising in extreme or harsh or unattended scenarios. We are interested in articles that explore wireless and passive SAW sensors. Potential topics include, but are not limited to, the following:

- Wireless and passive SAW physical sensors (temperature, pressure, strain, torque...)
- Wireless and passive SAW gas sensors
- Design theory of wireless SAW sensors
- Piezoelectric materials of wireless SAW sensors

Keywords

- SAW
- wireless and passive
- piezoelectric effect
- physical sensor
- chemical sensor

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Message from the Editor-in-Chief

As the world of science becomes ever more specialized, researchers may lose themselves in the deep forest of the ever increasing number of subfields being created. This open access journal Applied Sciences has been started to link these subfields, so researchers can cut through the forest and see the surrounding, or quite distant fields and subfields to help develop his/her own research even further with the aid of this multi-dimensional network.

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