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CMOS Integrated Circuits for Sensor Applications

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Message from the Guest Editor

Dear Colleagues,

The development of CMOS technology during past several decades has stimulated many efforts to fabricate sensors directly on CMOS substrates. The attractive features of this approach include the miniaturization of the devices, low power consumption, batch fabrication at industrial standards, and low cost. Yet, sensor-specific materials and additional fabrication steps may be introduced as postprocessing after the CMOS fabrication. From the other side, the monolithic integration of a sensor with the necessary circuitry allows for implementing both signal amplification and signal conditioning on the same chip. Hence, despite the limited number of IC compatible materials available to realize silicon integrated sensors, it is often possible using the interface circuitry to compensate all the limitations. This makes integrated sensors competitive with discrete sensors. Moreover, the quality and reliability standards of established industrial CMOS processes render single-chip systems very attractive for rapid commercialization. The goal of this Special Issue is to draw attention to both aspects of using CMOS technology for sensor integration.













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Message from the Editor-in-Chief

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