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Semiconductor Radiation Detectors: Sensors, Readout Electronics and Applications

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Message from the Guest Editor

Semiconductor radiation detectors (SRDs) are a wide class of sensors for the measurement of radiation, that, according to their material, can be classified into either elemental (Si, Ge, C, etc.) or compound (SiC, GaAs, GaN, etc.) semiconductor detectors. Due to their versatility, in terms of physical and electrical properties, geometry, and doping profiles, SRDs can be adopted for high-resolution spectroscopy, imaging, timing, and dosimetry purposes, as well as for light transducers in scintillator-based detection systems, with a widespread usage in scientific, medical, and industrial applications.

This Special Issue is dedicated to the advances in radiation detection systems based on SRDs, inviting contributions with a focus on fundamental and applicative studies of the sensors, on the design and development of the front-end electronics, and on the characterization and calibration of complete SRD systems.

Potential topics include but are not limited to:

- semiconductor radiation detectors
- X-ray and gamma-ray detectors
- application-specific integrated circuits
- silicon drift detectors (SDDs)
- silicon photomultipliers (SiPMs)
- low-gain avalanche diodes (LGADs)



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Special Issue



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Message from the Editor-in-Chief

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