Signal Processing for Radiation Detectors
Mohammad Nakhostin

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DESCRIPTION

Presents the fundamental concepts of signal processing for all application areas of ionizing radiation

This book provides a clear understanding of the principles of signal processing of radiation detectors. It puts great emphasis on the characteristics of pulses from various types of detectors and offers a full overview on the basic concepts required to understand detector signal processing systems and pulse processing techniques. *Signal Processing for Radiation Detectors* covers all of the important aspects of signal processing, including energy spectroscopy, timing measurements, position-sensing, pulse-shape discrimination, and radiation intensity measurement.

The book encompasses a wide range of applications so that readers from different disciplines can benefit from all of the information. In addition, this resource:

- Describes both analog and digital techniques of signal processing
- Presents a complete compilation of digital pulse processing algorithms
- Extrapolates content from more than 700 references covering classic papers as well as those of today
- Demonstrates concepts with more than 340 original illustrations
Signal Processing for Radiation Detectors provides researchers, engineers, and graduate students working in disciplines such as nuclear physics and engineering, environmental and biomedical engineering, and medical physics and radiological science, the knowledge to design their own systems, optimize available systems or to set up new experiments.

ABOUT THE AUTHOR

MOHAMMAD NAKHOSTIN earned his PhD in 2008 from the department of Quantum Science and Energy Engineering at the Tohoku University, Sendai, Japan, where he worked as assistant professor till 2010. He is currently a research fellow at the University of Surrey, UK. He has worked on the development of gaseous, semiconductor, and scintillation detectors and their readout electronics systems for a wide range of applications from plasma neutron diagnosis to medical imaging.

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