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Descrizione fisica	1 online resource (various pagings) : illustrations (some color)
Collana	IOP series in nuclear spectroscopy and nuclear structure
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Soggetti	Nuclear counters Radiation - Measurement
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Nota di bibliografia	Includes bibliographical references.
Nota di contenuto	Chapter 1. Nuclear structure and radioactive decay -- Chapter 2. Interaction of ionising radiation with matter -- Chapter 3. Radioactive sources in the laboratory -- Chapter 4. The right detector for the job -- Chapter 5. Scintillator detectors for gamma-ray detection -- Chapter 6. Semiconductor detectors for gamma-ray detection -- Chapter 7. Applications of gamma-ray detection for society, medicine and other areas of science -- Chapter 8. Charged particle detection -- Chapter 9. Neutron detectors -- Chapter 10. Readout electronics and data analysis -- Chapter 11. Closing remarks.
Sommario/riassunto	Radiation detection is key to experimental nuclear physics as well as underpinning a wide range of applications in nuclear decommissioning, homeland security and medical imaging. This book presents the state-of-the-art in radiation detection of light and heavy ions, beta particles, gamma rays and neutrons. The underpinning physics of different detector technologies is presented, and their performance is compared and contrasted. Detector technology likely to be encountered in contemporary international laboratories is also emphasized. There is a strong focus on experimental design and mapping detector technology to the needs of a particular measurement problem. This book will be invaluable to PhD students in experimental nuclear physics and nuclear technology, as well as undergraduate students encountering projects

based on radiation detection for the first time. Key Features Provides clear, concise descriptions of key detection techniques Describes detector types with “telescopic depth”, so readers can go as deep as they wish Covers real-world applications including short case studies in industry
