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Nota di contenuto	Chapter1. Radiation Detection Materials Introduction -- Chapter2. Inorganic Perovskite CsPbBr3 Gamma-ray Detector -- Chapter3. The Impact of Detection Volume on Hybrid Halide Perovskite-Based Radiation Detectors -- Chapter4. Cs-based Perovskite Thin Films For Neutron Detection -- Chapter5. Radiation Detection Technologies Enabled by Halide Perovskite Single Crystals -- Chapter6. Metal Halide Perovskites for High Energy Radiation Detection -- Chapter7. Thallium Based Materials for Radiation Detection -- Chapter8. CdZnTeSe: A promising material for radiation detector applications -- Chapter9. Radiation detection using n-type 4H-SiC Epitaxial Layer Surface Barrier Detectors -- Chapter10. Room-Temperature Radiation Detectors Based on Large-Volume CdZnTe Single Crystals -- Chapter11. Phase Diagram, Melt Growth and Characterization of Cd0.8Zn0.2Te Crystals for X-Ray Detector -- Chapter12. Melt growth of high resolution CdZnTe

	detectors -- Chapter13. Solution Growth of CdZnTe Crystals for X-Ray Detector -- Chapter14. Laser-Induced Transient Currents in Radiation Detector Materials -- Chapter15. Cadmium Zinc Telluride detectors for safeguards applications.
Sommario/riassunto	This book offers readers an overview of some of the most recent advances in the field of advanced materials used for gamma and X-ray imaging. Coverage includes both technology and applications, with an in-depth review of the research topics from leading specialists in the field. Emphasis is on high-Z materials like CdTe, CZT and GaAs, as well as perovskite crystals, since they offer the best implementation possibilities for direct conversion X-ray detectors. Authors discuss material challenges, detector operation physics and technology and readout integrated circuits required to detect signals processes by high-Z sensors. Provides coverage of a broad range of topics, from international experts in academia and industry; Includes in-depth analysis of how to optimize X-ray detection and electronics for X-ray detection; Covers both technology and applications in a number of different domains.