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# Handbook of Particle Detection and Imaging

- Covers basic principles to essential applications
- Details all major detector types
- Gives deep insight into applications from homeland security to medical physics with emphasis on nuclear medicine

This handbook covers the fundamental principles of interactions of particles with matter and of most types of detectors used in many fields of physics, starting from particle physics, nuclear physics up to recent experiments for solid state physics. In this second edition chapters are updated to include the most recent developments in detector physics and additional chapters on new types of detectors, like silicon photomultipliers, have been added. In addition the section about medical applications has been extended. All major detector types are described in detail by leading experts in these fields. It also gives deep insight into many applications from homeland security over radiation protection to a whole section about medical physics with strong emphasis on nuclear medicine. The book is suited to achieve a deep knowledge in the field of detector physics and imaging. It can also be used as a reference book to look up the working principles of a given detector type and to get an overview of state-of-the-art applications of the various detector types. It is also helpful for practitioners in nuclear medicine and radiology as it summarizes all detector types in this field and the basic working principles of these detectors. The area of radiation therapy is also covered in detail taking into account the most recent developments.

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