Springer Reference
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Handbook of Particle Detection and Imaging

- Covers a wide range of topics, from basic principles to various applications
- The second edition presents even more detector types, medical applications and recent applications in particle physics experiments
- Authors are experts in the respective fields and give state-of-the-art descriptions of most types of detectors used in particle and nuclear physics as well as in many applications for nuclear medicine
- Offers in-depth coverage of detectors and detector systems for nuclear medicine and radiotherapy

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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