1. Record Nr. UNICAMPANIASUN0131973

Autore	Gupta, Sajal
Titolo	Endometriosis : A Comprehensive Update / Sajal Gupta, Avi Harlev, Ashok Agarwal
Pubbl/distr/stampa	ix, 115 p. ; 24 cm
ISBN	8-3-319-18307-7
Edizione	[Cham : Springer, 2015]
Descrizione fisica	Pubblicazione in formato elettronico
Altri autori (Persone)	Agarwal, Ashok
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia

2. Record Nr. UNINA9910465399903321

Autore	Leroy Claude
Titolo	Silicon solid state devices and radiation detection [[electronic resource] /] / Claude Leroy, Pier-Giorgio Rancoita
Pubbl/distr/stampa	Singapore ; ; Hackensack, N. J., : World Scientific Publishing Co. Pte Ltd, c2012
ISBN	1-299-28104-4 981-4390-05-4
Descrizione fisica	1 online resource (430 p.)
Altri autori (Persone)	RancoitaPier-Giorgio
Disciplina	539.20287
Soggetti	Semiconductor nuclear counters - Design and construction Semiconductor nuclear counters - Materials Silicon carbide Electronic books.
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Description based upon print version of record.
Nota di bibliografia	Includes bibliographical reference (p. 373-400) and index.

Nota di contenuto	Contents; Preface; 1. Interactions of Charged Particles and Photons; 1.1 Passage of Massive Charged Particles Through Matter; 1.1.1 Collision-Loss Processes of Massive Charged Particles; 1.1.1.1 Maximum Transferable Energy to Atomic Electrons; 1.1.1.2 Bragg Curve and Peak; 1.1.1.3 Energy-Loss Minimum, Density Effect and Relativistic Rise; 1.1.1.4 Restricted Energy-Loss and Fermi Plateau; 1.1.1.5 Energy-Loss Fluctuations and the Most Probable Energy-Loss; 1.1.1.6 Improved Energy-Loss Distribution and Effective Most Probable Energy-Loss; 1.1.1.7 Nuclear Energy-Loss of Massive Particles 1.2 Collision and Radiation Energy-Losses of Electrons and Positrons 1.2.1 Collision Losses and the Most Probable Energy-Loss; 1.2.2 Radiation Energy-Losses; 1.3 Nuclear and Non-Ionizing Energy Losses of Electrons; 1.3.1 Scattering Cross Section of Electrons on Nuclei; 1.3.1.1 Interpolated Expression for RMott; 1.3.1.2 Screened Coulomb Potentials; 1.3.1.3 Finite Nuclear Size; 1.3.1.4 Finite Rest Mass of Target Nucleus; 1.3.2 Nuclear Stopping Power of Electrons; 1.3.3 Non-Ionizing Energy-Loss of Electrons; 1.4 Interactions of Photons with Matter; 1.4.1 Photoelectric Effect; 1.4.2 Compton Effect 1.4.3 Pair Production 1.4.3.1 Pair Production in Nuclear and Atomic Electron Fields; 1.4.4 Absorption of Photons in Silicon; 2. Physics and Properties of Silicon Semiconductor; 2.1 Structure and Growth of Silicon Crystals; 2.1.1 Imperfections and Defects in Crystals; 2.2 Energy Band Structure and Energy Gap; 2.2.1 Energy Gap Dependence on Temperature and Pressure in Silicon; 2.2.2 Effective Mass; 2.2.2.1 Conductivity and Density-of-States Effective Masses in Silicon; 2.3 Carrier Concentration and Fermi Level; 2.3.1 Effective Density-of-States 2.3.1.1 Degenerate and Non-Degenerate Semiconductors 2.3.1.2 Intrinsic Fermi-Level and Concentration of Carriers; 2.3.2 Donors and Acceptors; 2.3.2.1 Extrinsic Semiconductors and Fermi Level; 2.3.2.2 Compensated Semiconductors; 2.3.2.3 Maximum Temperature of Operation of Extrinsic Semiconductors; 2.3.2.4 Quasi-Fermi Levels; 2.3.3 Largely Doped and Degenerate Semiconductors; 2.3.3.1 Bandgap Narrowing in Heavily Doped Semiconductors; 2.3.3.2 Reduction of the Impurity Ionization-Energy in Heavily Doped Semiconductors; 3. Transport Phenomena in Semiconductors 3.1 Thermal and Drift Motion in Semiconductors 3.1.1 Drift and Mobility; 3.1.1.1 Mobility in Silicon at High Electric Fields or Up to Large Doping Concentrations; 3.1.2 Resistivity; 3.2 Diffusion Mechanism; 3.2.1 Einstein's Relationship; 3.3 Thermal Equilibrium and Excess Carriers in Semiconductors; 3.3.1 Generation, Recombination Processes, and Carrier Lifetimes; 3.3.1.1 Bulk Processes in Direct Semiconductors; 3.3.1.2 Bulk Processes in Indirect Semiconductors; 3.3.1.3 Surface Recombination; 3.3.1.4 Lifetime of Minority Carriers in Silicon; 3.4 The Continuity Equations 3.4.1 The Dielectric Relaxation Time and Debye Length
Sommario/riassunto	This book addresses the fundamental principles of interaction between radiation and matter, the principles of working and the operation of particle detectors based on silicon solid state devices. It covers a broad scope in the fields of application of radiation detectors based on silicon solid state devices from low to high energy physics experiments, including in outer space and in the medical environment. This book also covers state-of-the-art detection techniques in the use of radiation detectors based on silicon solid state devices and their readout electronics, including the latest develo