



Clinical Radiotherapy Physics

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Book Condition: New. Publisher/Verlag: Springer, Berlin | An in-depth introduction to radiotherapy physics emphasizing the clinical aspects of the field. This second edition gradually and sequentially develops each of its topics in clear and concise language. It includes important mathematical analyses, yet is written so that these sections can be skipped, if desired, without compromising understanding. The book consists of seven parts covering basic physics (Parts I-II), equipment for radiotherapy (Part III), radiation dosimetry (Parts IV-V), radiation treatment planning (Part VI), and radiation safety and shielding (Part VII). An invaluable text for radiation oncologists, radiation therapists, and clinical physicists. | 1 Scope of Clinical Radiotherapy Physics.- 2 Atoms, Molecules, and Matter.- 3 Propagation of Energy by Electromagnetic Waves.- 4 Nuclear Transitions and Radioactive Decay.- 5 Radioactive Decay Calculations.- 6 Collision and Radiation Loss in Charged-Particle Interactions.- 7 Photon Interactions.- 8 Conventional X-Ray Machines.- 9 Equipment for Radioisotope Teletherapy.- 10 Particle Accelerators.- 11 Quantification of Radiation Field: Radiation Units and Measurements.- 12 Instruments for Radiation Detection.- 13 Basic Ratios and Factors for the Dosimetry of External Beam.- 14 Beam Dosimetry: Additional Corrections - Special Situations.- 15 Treatment Dose Distribution Planning: Photon Beams.- 16 Physical Aspects of Electron Beam Therapy.- 17 Physics...



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