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Nota di bibliografia	Includes bibliographical references.
Nota di contenuto	Brief History of Radiotherapy -- Time line of Hadron Therapy -- Mechanism of Hadron Therapy at molecular level -- Strengthening concepts about variations in therapy by radiation -- Which conditions can be treated by Hadron Therapy?- Hospitals and Research Centers for cancer treatment by Hadron -- Particle therapy facilities in operation (incl. patient statistics) -- Tumors: localization -- Using boro-therapy to treat tumors -- Which therapy must be used? Where? –Conduct before and during treatment used at HIT -- After Modern Radiotherapy: estimating risk of second malignancies -- Particles and ions accelerators -- Simulations in Hadron Therapy.
Sommario/riassunto	This brief provides an in-depth overview of the physics of hadron therapy, ranging from the history to the latest contributions to the subject. It covers the mechanisms of protons and carbon ions at the molecular level (DNA breaks and proteins 53BP1 and RPA), the physics and mathematics of accelerators (Cyclotron and Synchrotron), microdosimetry measurements (with new results so far achieved), and Monte Carlo simulations in hadron therapy using FLUKA (CERN) and

MCHIT (FIAS) software. The text also includes information about proton therapy centers and carbon ion centers (PTCOG), as well as a comparison and discussion of both techniques in treatment planning and radiation monitoring. This brief is suitable for newcomers to medical physics as well as seasoned specialists in radiation oncology.