

INTRODUCTION TO HADRON THERAPY

P.R. Altieri

PhD candidate, University of Bari and Italian National Institute of Nuclear Physics (INFN)

e-mail address: palma.altieri@ba.infn.it

Abstract

Hadron therapy is increasingly considered the best radiotherapy for cancer due to its superior dose distribution. Compared to photons or electrons used in the conventional radiation therapy, the hadrons (mainly protons, neutrons and light ions) have a depth dose profile such that the energy is released to the tumor target with a high accuracy, so avoiding the surrounding healthy tissues.

The aim of this talk is to give an overview of the hadron therapy starting from the history of such a therapeutic treatment. Afterwards the physical basics will be described as well as the biological properties, in order to show the advantages of protons and carbon ions with respect to X-rays in radiation oncology. Finally the most interesting results achieved in this multidisciplinary research field will be discussed and the future challenges introduced.

- Presentation 25 minutes
-