

Rules of the Game

7 questions, each with 4 answers to choose from (A, B, C, D).

Mark your answer on your answer sheet before the timer ends.

We will then reveal the correct answer.

If you have answered correctly you may tick off the next energy level.

The interface is titled "Quiz Answersheet" and features a vertical list of 7 questions. Each question is numbered and has two columns of radio button options labeled A, B, C, and D. Question 1 has a checkmark in the B option. To the right of the questions is a vertical ladder of energy levels, each with a radio button and a text label. A grey arrow points downwards from the top of the ladder, indicating the progression path. The ladder levels are: 7 TeV (Full beam energy of the LHC), 172.9 GeV (Mass of the top quark), 91.2 GeV (Mass of the Z boson), 938.3 MeV (Mass of the proton), 105.7 MeV (Mass of the muon), 2.5 MeV (Mass of the up quark), and 0.511 MeV (Mass of the electron). The 0.511 MeV level has a checkmark in its radio button. On the left side of the ladder, a large blue "0" is positioned next to the 0.511 MeV level, and a blue "W" is positioned next to the 172.9 GeV level. The entire interface is enclosed in a black border.

Quiz Answersheet

1 A. B.
C. D.

2 A. B.
C. D.

3 A. B.
C. D.

4 A. B.
C. D.

5 A. B.
C. D.

6 A. B.
C. D.

7 A. B.
C. D.

Your score
Tick off one energy step for each correctly answered question, starting at the bottom

7 TeV
Full beam energy of the LHC

172.9 GeV
Mass of the top quark

91.2 GeV
Mass of the Z boson

938.3 MeV
Mass of the proton

105.7 MeV
Mass of the muon

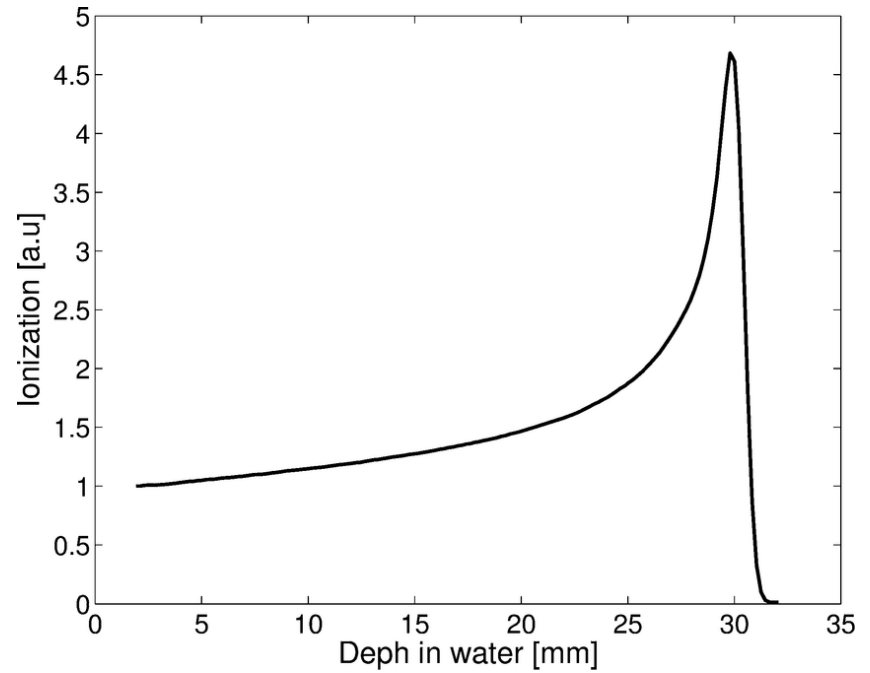
2.5 MeV
Mass of the up quark

0.511 MeV
Mass of the electron

Let's see which energy level you can reach!

REGIETY?

Which physical principle is important for Hadron Therapy?



1

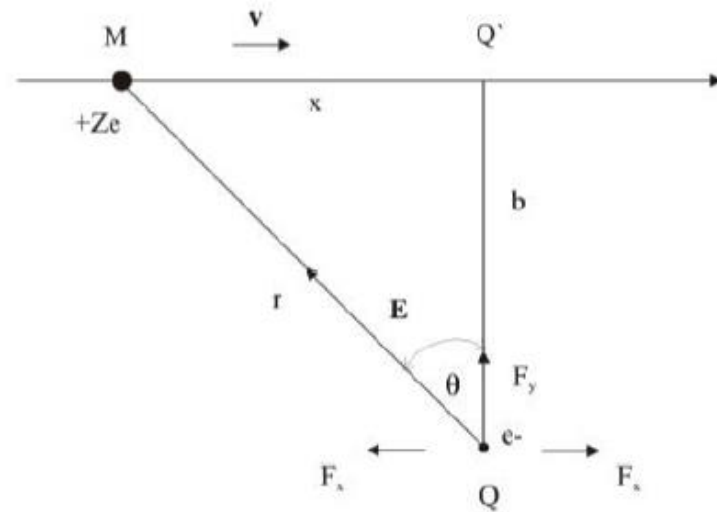
A. Brad's valey

B. Bragg valey

C. Bragg peak

D. Bill's peak

Which type of interaction is dominant between proton/ion beam with electrons from molecules of human body?



2

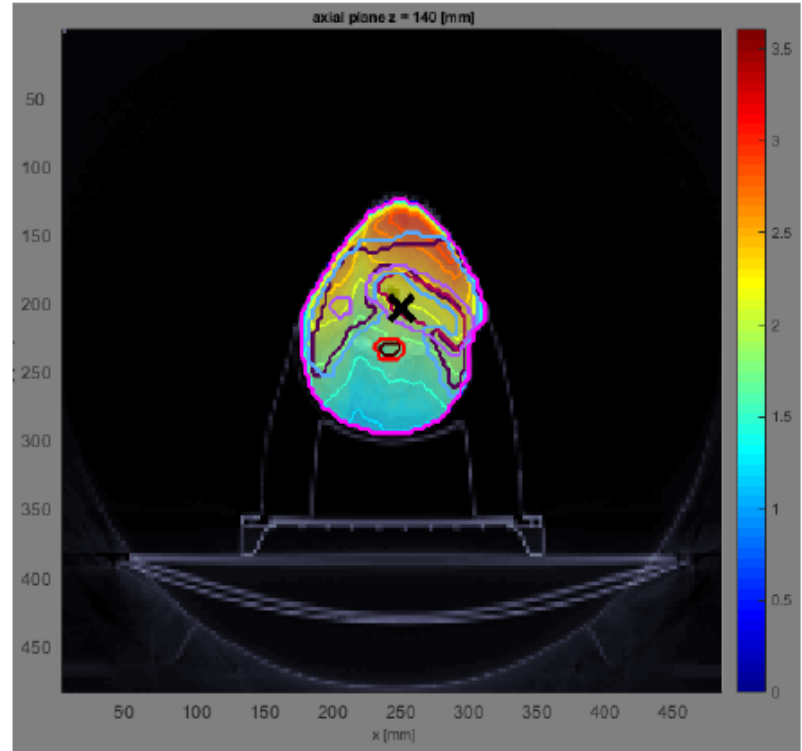
A. Electromagnetic force

B. Weak force

C. Strong force

D. Gravitational force

From the picture below, what kind of particles create such dose distribution?



3

A. Protons

B. Photons

C. Carbon ions

D. Pions

Most commonly used ions for therapy?



Periodic Table of the Elements

A standard periodic table of elements, color-coded by groups. The colors include: Alkali Metals (pink), Alkaline Earths (purple), Transition Metals (blue), Group 11 (orange), Group 12 (green), Nonmetals (yellow), Noble Gases (light blue), Lanthanides (light green), and Actinides (red). The table includes element symbols, atomic numbers, and names. A legend at the bottom identifies the color-coded groups.

4

A. Uranium ions

B. Argon ions

C. Oxygen ions

D. Carbon ions

What is the unit for absorbed dose?



5

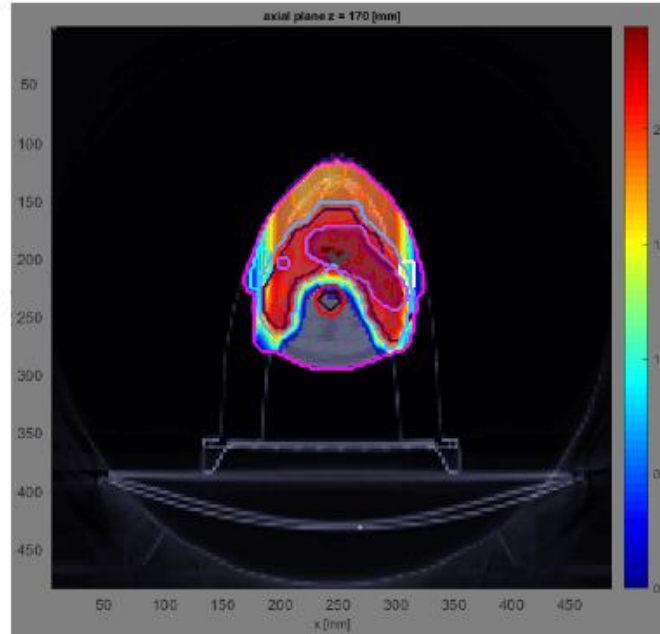
A. 1 Joule

B. 1 Newton

C. 1 Green

D. 1 Gray

Dose on the critical organs using
proton/ion therapy instead of X-ray
therapy is:



6

A. bigger

B. smaller

C. I don't know

D. equal

How do we call a treatment using ionizing radiation to kill cancer?



7

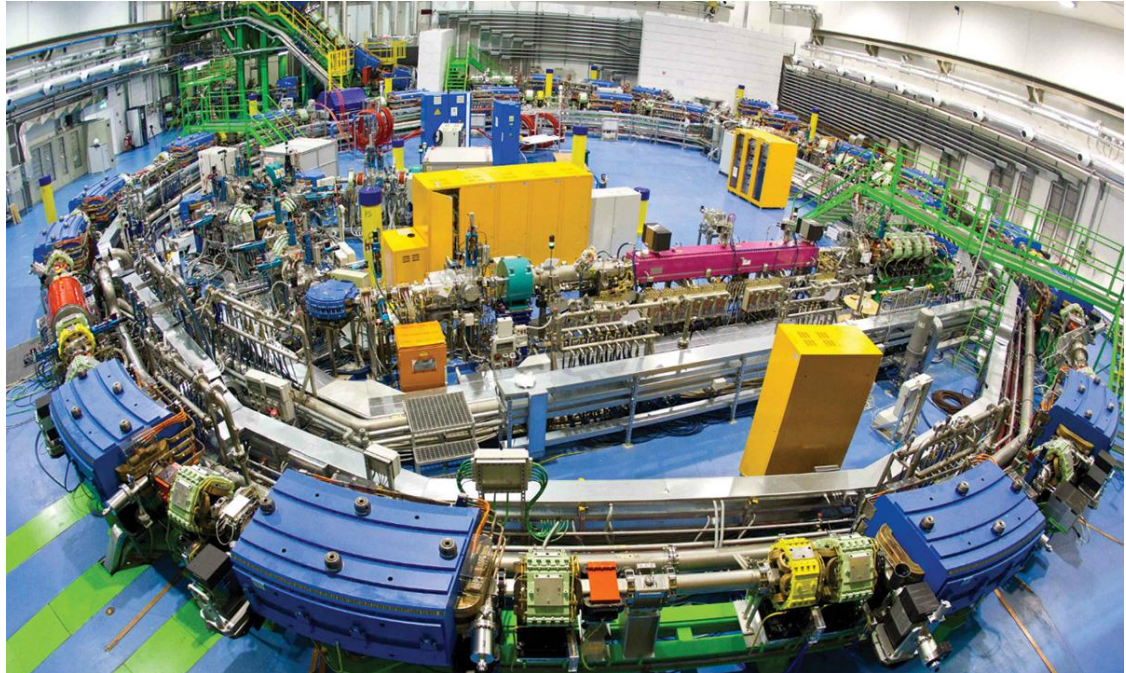
A. Radiotherapy

B. Radiodiagnostics

C. Radiophone

D. Radiology

Synchotrons are used for accelerating



9

A. Photons

B. Heavy particles

C. The patient

D. I don't know

We use a CT machine for



A. Radiation delivery

B. Reducing background radiation

C. Shielding the OARs

D. Imaging

10

Which energy level did
you reach?