

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.

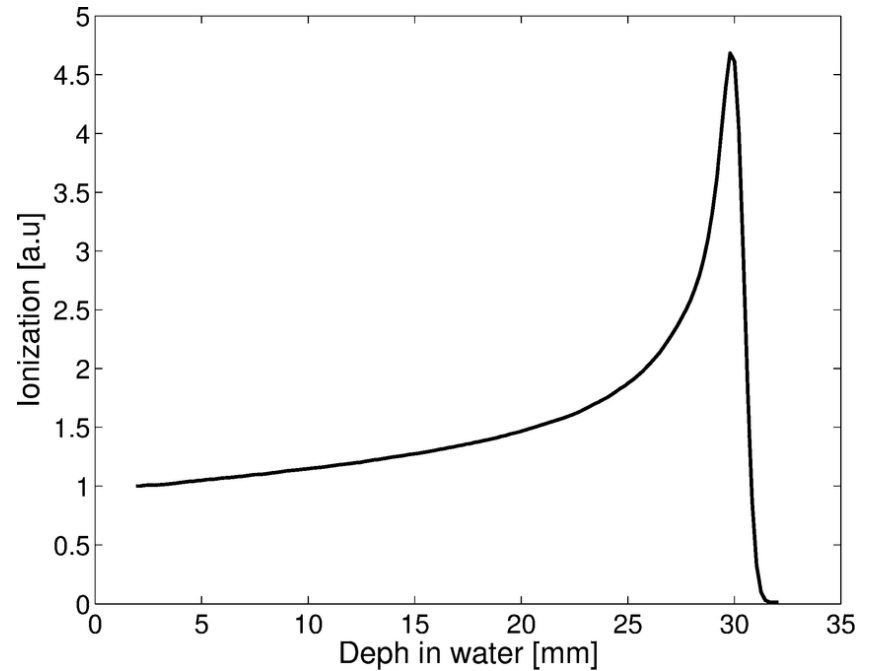
The diagram shows a 'Quiz Answersheet' on the left and a vertical progression of energy levels on the right. A large '0' is positioned to the left of the energy levels, and a large 'W' is positioned to the right of the answersheet. The answersheet has 7 rows, each with four options (A, B, C, D). Row 1 has a checkmark in option A. The energy levels are represented by a vertical stack of boxes, each with a radio button and text. A grey triangle points downwards from the top, indicating the progression. The energy 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 radio button for the 0.511 MeV level is checked.

Question Number	Options	Energy Level	Description
1	A. <input checked="" type="radio"/> B. <input type="radio"/> C. <input type="radio"/> D. <input type="radio"/>	7 TeV	Full beam energy of the LHC
2	A. <input type="radio"/> B. <input type="radio"/> C. <input type="radio"/> D. <input type="radio"/>	172.9 GeV	Mass of the top quark
3	A. <input type="radio"/> B. <input type="radio"/> C. <input type="radio"/> D. <input type="radio"/>	91.2 GeV	Mass of the Z boson
4	A. <input type="radio"/> B. <input type="radio"/> C. <input type="radio"/> D. <input type="radio"/>	938.3 MeV	Mass of the proton
5	A. <input type="radio"/> B. <input type="radio"/> C. <input type="radio"/> D. <input type="radio"/>	105.7 MeV	Mass of the muon
6	A. <input type="radio"/> B. <input type="radio"/> C. <input type="radio"/> D. <input type="radio"/>	2.5 MeV	Mass of the up quark
7	A. <input type="radio"/> B. <input type="radio"/> C. <input type="radio"/> D. <input type="radio"/>	0.511 MeV	Mass of the electron

Let's see which energy level you can reach!

Really?

Which physical principle
is
important for Hadron
Therapy?



1

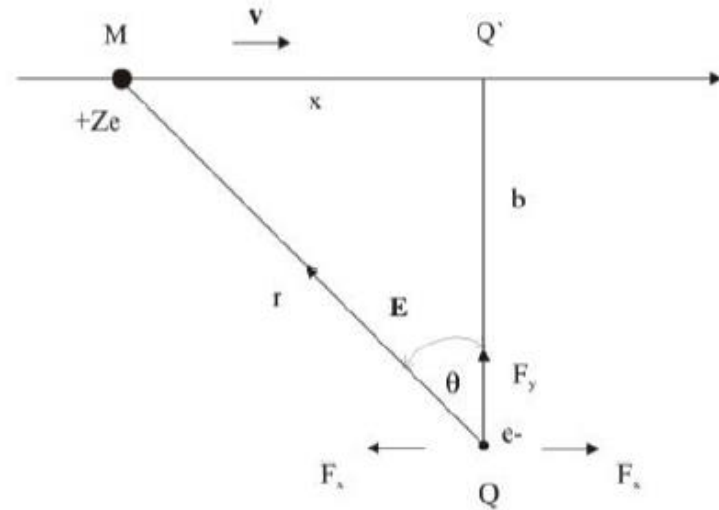
A. Brad's valey

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

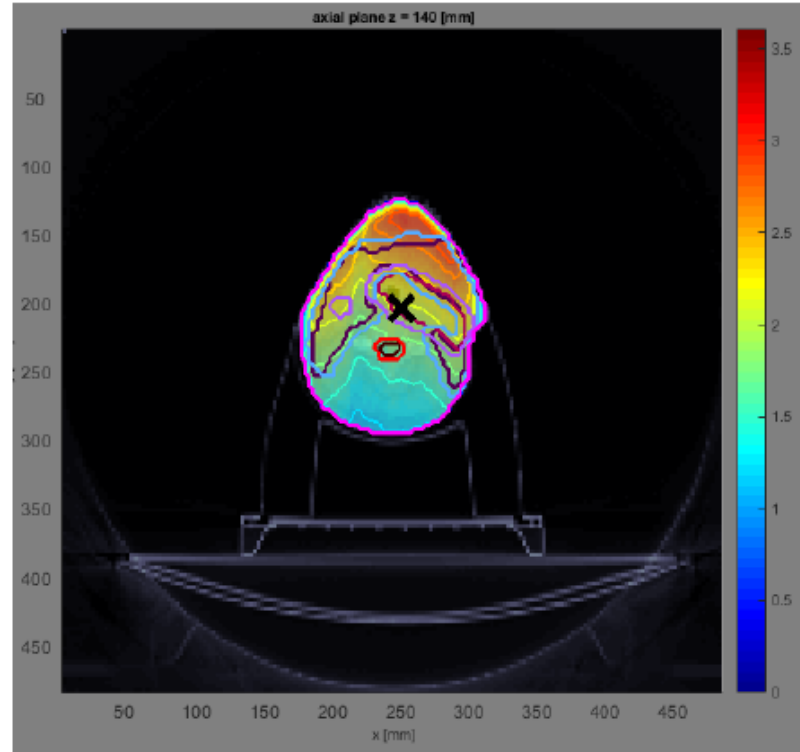
A. Electromagnetic force

B. Weak force

C. Strong force

D. Gravitational force

From the picture below, what particles are used to treat tumor?



3

A. Protons

B. Photons

C. Carbon ions

D. Pions

Most commonly used ions for therapy?



Periodic Table of the Elements

4

A. Uranium ions

B. Argon ions

C. Oxygen ions

D. Carbon ions

What is the unit for absorbed dose?



5

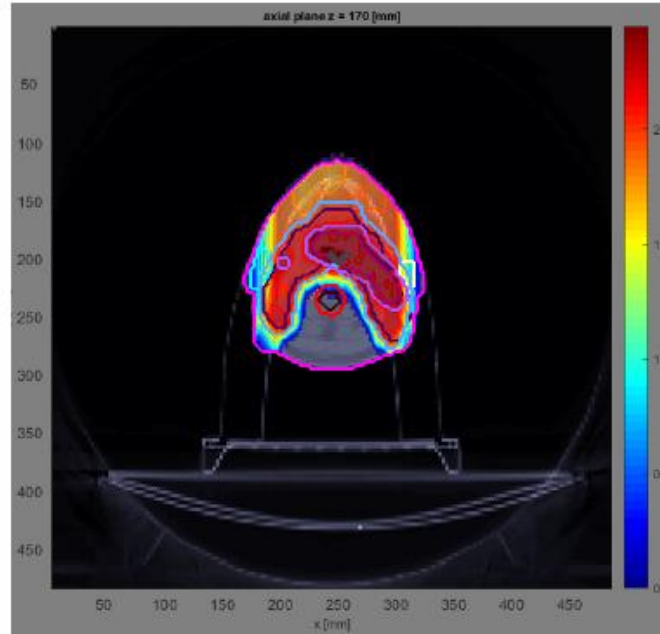
A. 1 Joule

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

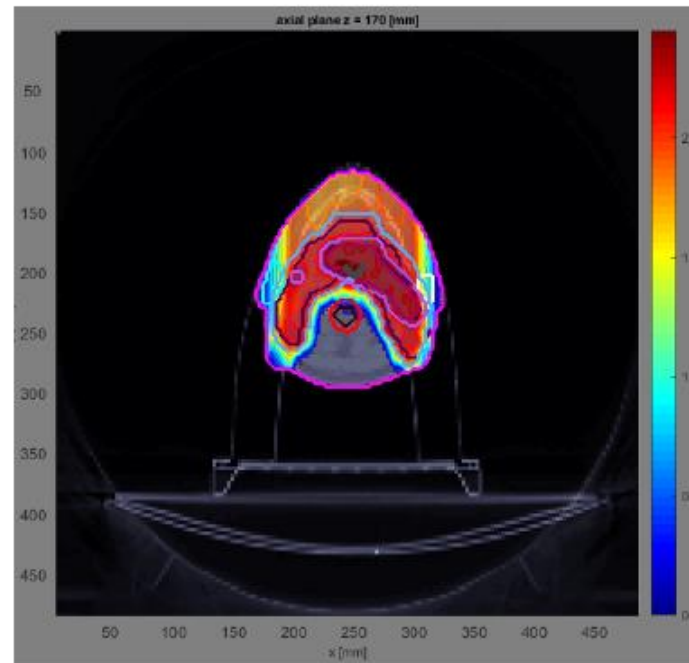
A. bigger

B. smaller

C. I don't know

D. equal

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



7

A. smaller

B. bigger

C. equal

D. I don't know

Which energy level
did you reach?