Tareas 4 – Física Nuclear

13 de Febrero 2020

1. Iron-55 decays by electron capture. What are its end products?

2. For each of the following reactions, identify the particle "X":

$$^{23}\mathrm{Mg} \rightarrow\ e^- + \nu_e + X$$

$$X \rightarrow\ ^{186}\mathrm{Os} + \alpha$$

$$^{11}\mathrm{C} \rightarrow\ e^+ + \nu_e + X$$

$$^{12}\mathrm{N} \rightarrow\ ^{12}\mathrm{C} + \nu_e + X$$

$$p + X \rightarrow\ ^{2}\mathrm{H} + e^+ + \nu_e$$

3. Calculate the kinetic energy of an alpha particle from the decay of ^{239}Pu.

4. Why does the proton cycle dominates over the carbon cycle at lower temperature?