

Exercise 1

An isotope of Uranium ${}_{92}^{235}\text{U}$ has a nuclear mass of 235.043930 u. Calculate the binding energy per nucleon in MeV.

(Ans. 7.59 MeV)

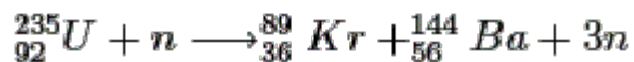
Exercise 2

The most abundant isotope of Uranium ${}_{92}^{238}\text{U}$ has a nuclear mass of 238.050788 u. Calculate the binding energy per nucleon in MeV.

(Ans. 7.57 MeV)

Exercise 3

Calculate the energy released in the fission reaction



The masses of the product are as follows :

${}_{36}^{89}\text{Kr} = 88.917630$ u and ${}_{56}^{144}\text{Ba} = 143.922953$ u.

(Ans. 173.27 MeV.)

Exercise 4

Calculate the energy released in the fusion process (use mass data given above) ${}_{1}^{2}\text{H} + {}_{1}^{3}\text{H} \longrightarrow {}_{2}^{4}\text{He} + {}_{0}^{1}\text{n}$

(Ans. 17.59 MeV)