

La formula no es correcta al considerar la energia del limite termico igual a la energia de enlace nuclear ya que la energia del limite termico resulta ser varias veces superior a la energia de enlace:

$$\text{Energía de Enlace Nuclear} = \Delta mc^2 = T_d = T_{nat} \left(1 + \frac{16n^2}{Z}\right)$$

Formula general

$$M_z = Z(1.5033 \times 10^{-10} J) + N(1.5054 \times 10^{-10} J) - 9.9466 \times 10^{-11} J \left(1 + \frac{16n^2}{26}\right)$$

Ejemplos

$^{56}_{26}\text{Fe}$

$$M_z = 26(1.5033 \times 10^{-10} J) + 30(1.5054 \times 10^{-10} J) - 9.9466 \times 10^{-11} J \left(1 + \frac{16 \cdot (2)^2}{26}\right) = 8.0805 \times 10^{-9} J$$

$$\frac{8.0805 \times 10^{-9} J}{1.6605402 \times 10^{-27} kg \cdot (2.99792458 \times 10^8 ms^{-1})^2} = 54.144 \frac{J}{(kg)m^2} s^2$$

$$M_z = 26 \cdot (1.5033 \times 10^{-10} J) + 32 \cdot (1.5054 \times 10^{-10} J) - 9.9466 \times 10^{-11} J \left(1 + \frac{16n^2}{26}\right)$$

$^{62}_{28}\text{Ni}$

$$M_z = 28(1.5033 \times 10^{-10} J) + 34(1.5054 \times 10^{-10} J) - 9.9466 \times 10^{-11} J \left(1 + \frac{16 \cdot 3^2}{28}\right) = 8.7166 \times 10^{-9} J$$

$$\frac{8.7166 \times 10^{-9} J}{1.6605402 \times 10^{-27} kg \cdot (2.99792458 \times 10^8 ms^{-1})^2} = 58.406 \frac{J}{(kg)m^2} s^2$$

$^{66}_{30}\text{Zn}$

$$M_z = 30(1.5033 \times 10^{-10} J) + 36(1.5054 \times 10^{-10} J) - 9.9466 \times 10^{-11} J \left(1 + \frac{16 \cdot 3^2}{30}\right) = 9.3524 \times 10^{-9} J$$

$$\frac{9.3524 \times 10^{-9} J}{1.6605402 \times 10^{-27} kg \cdot (2.99792458 \times 10^8 ms^{-1})^2} = 62.666 \frac{J}{(kg)m^2} s^2$$