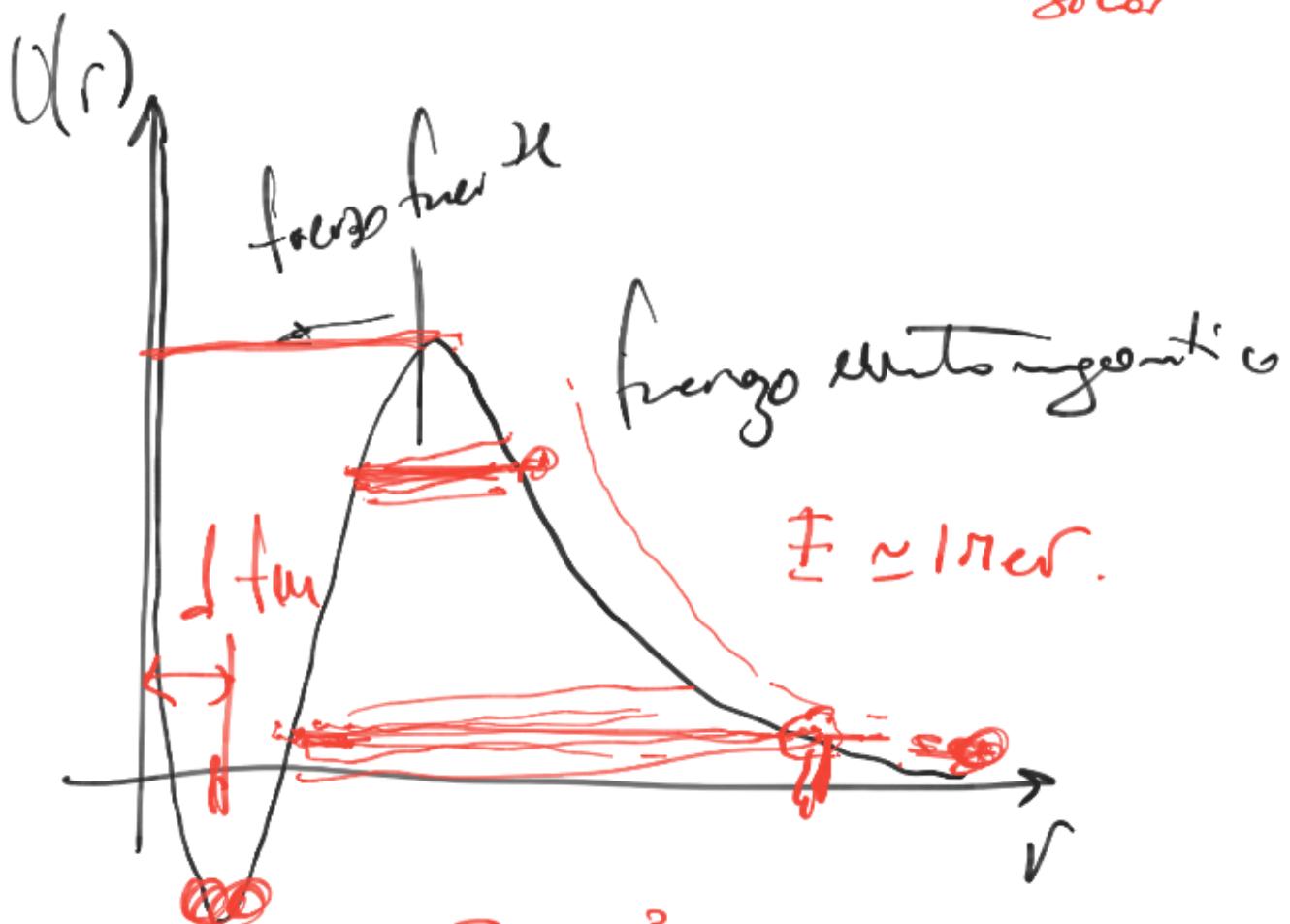
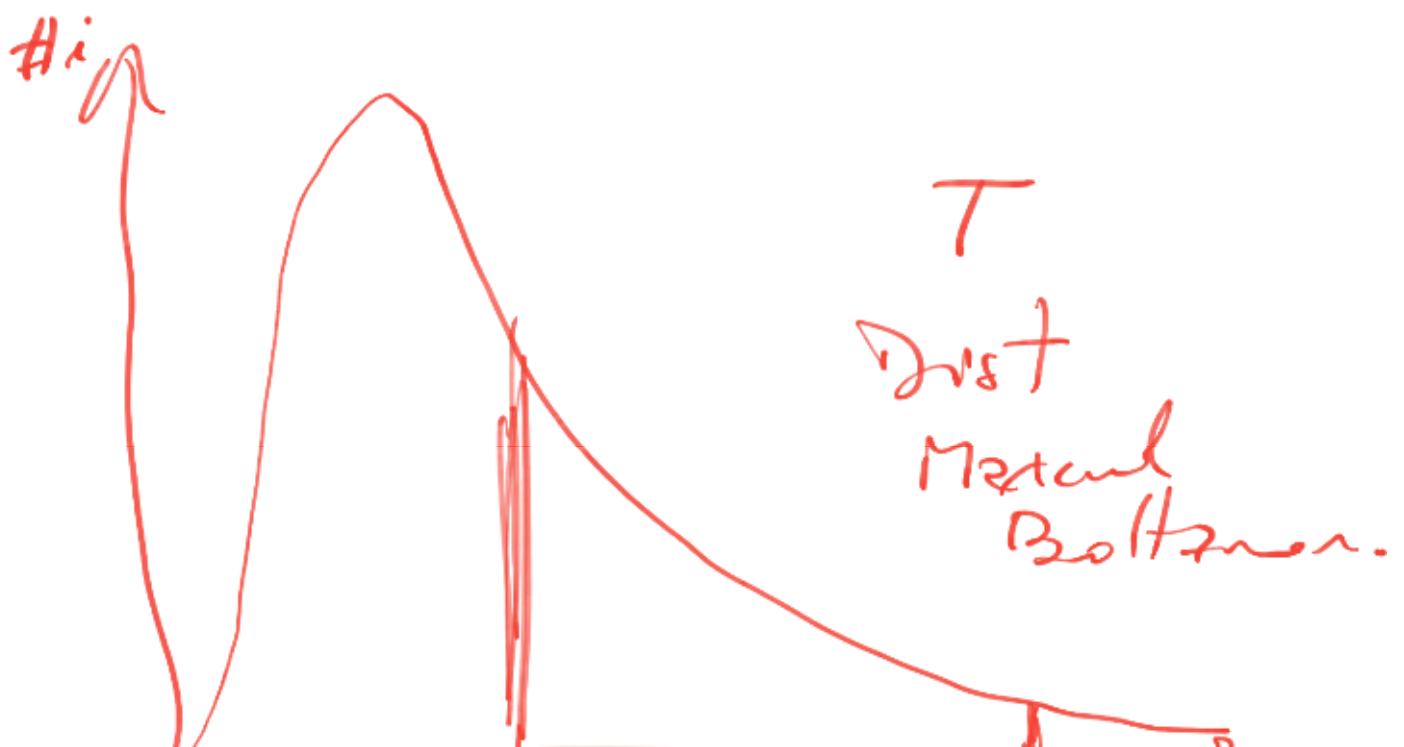


17 de Junho - "Conceito  
Solar"



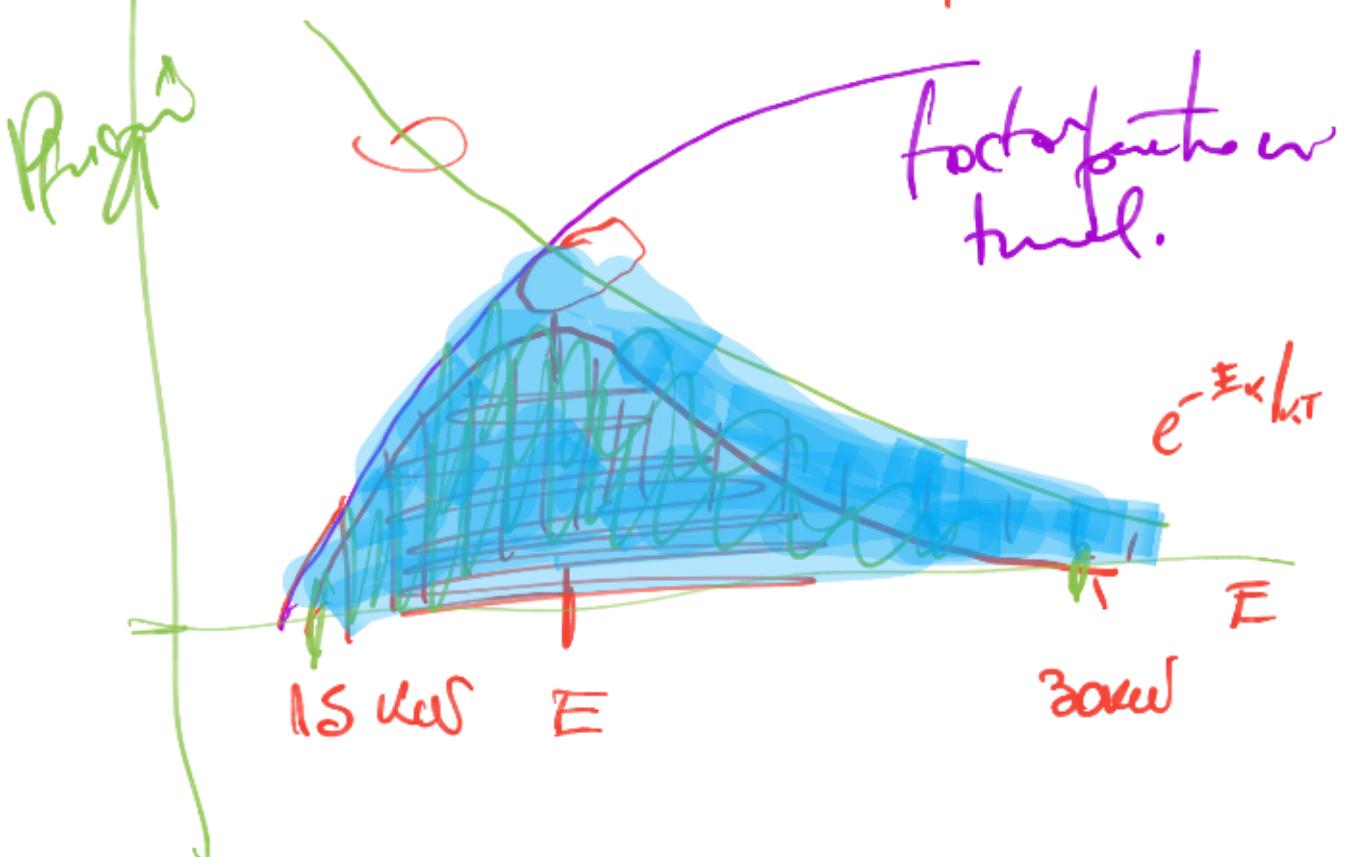
$$E \sim \frac{3}{2} kT$$

$$T \sim 20.000 \text{ eV} \quad X$$



$$F(E) = \frac{4\pi}{3} \left( \frac{m}{2\pi kT} \right)^{3/2} n^2 e^{-E/kT}$$

$$p(\bar{E}) = 10^{-2} \quad (= 1\%)$$

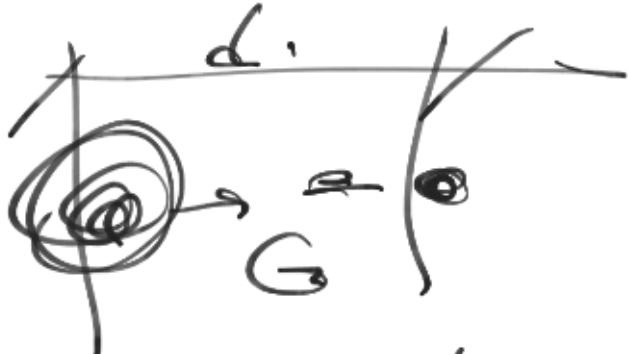


~~1000 Kef.~~ → ~~20 Kef.~~

100 MK.



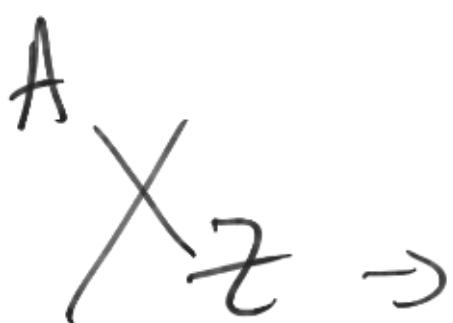
Energia ligadura



$$\underline{B(A, z)} > 0.$$

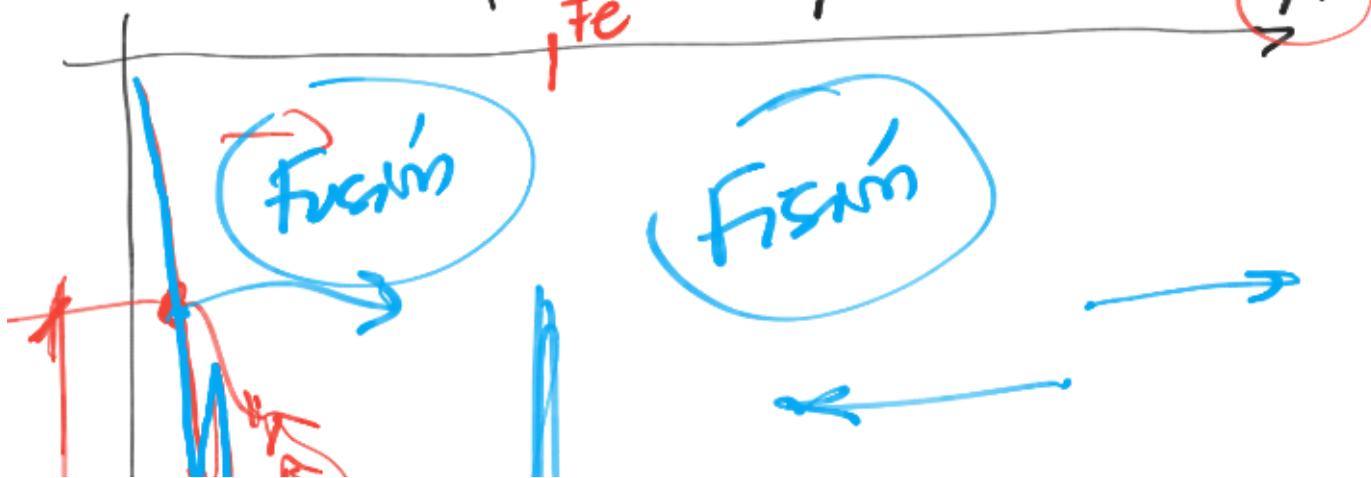
Energia

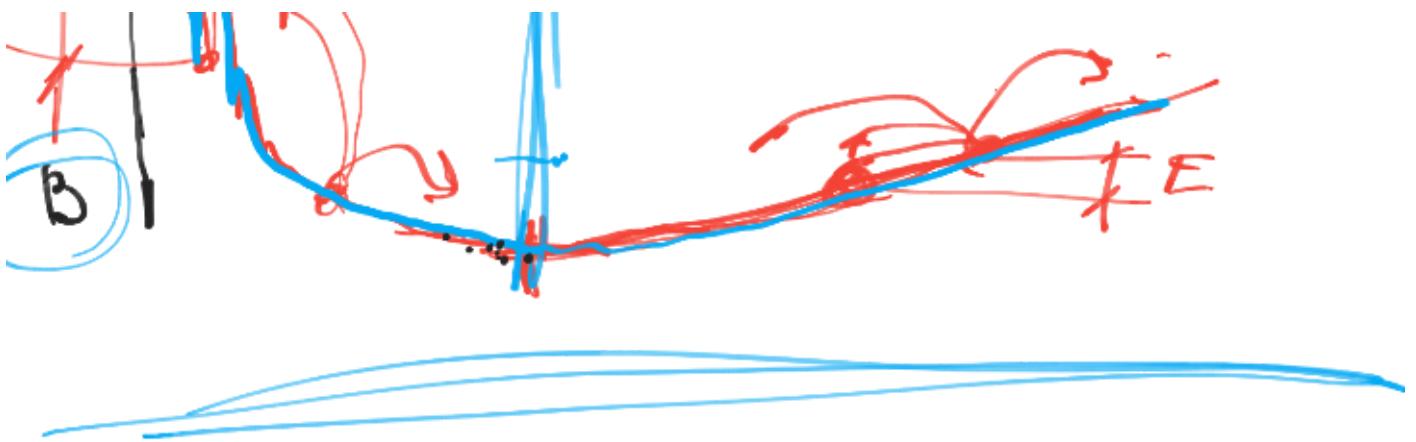
Ligadura  
 $\delta < 0$ .



$$A = z + N$$

$$m_x = z \cdot m_p + (A - z) m_n - \\ - |B(A, z)| / c^2$$





$$\underline{Q = (\text{m reactivos} - \text{m productos})c^2}$$



$$m_{{}^3\text{He}} = 2m_p + 1 m_n - B(3,2)$$

$$m_{{}^4\text{He}} = 2m_p + 2 m_n - B(4,2)$$

$$m_{{}^7\text{Be}} = 4m_p + 3 m_n - B(7,4)$$

$$Q = m_{{}^3\text{He}} + m_{{}^4\text{He}} - m_{{}^7\text{Be}}$$

$$Q = 2m_p + 1 m_n - B(3,2) + \\ \dots + 2 m_n - B(4,2)$$

$$+ 2 \mu_p + \sigma$$

$$- [4 \mu_p + 3 \mu_n - B(7,4)]$$

$$Q = \cancel{2 \mu_p} + \cancel{1 \mu_n} - B(3,2) +$$

$$\cancel{+ 2 \mu_p} + \cancel{2 \mu_n} - B(4,2)$$

$$- \cancel{4 \mu_p} - \cancel{3 \mu_n} + B(7,4)$$

$$Q = -B(3,2) - B(4,2) + B(7,4)$$

$$Q = B_{\text{products}} - \sum B_{\text{reactions}}$$

$$\frac{B(7,4)}{A} = 5,37 \text{ MeV}$$

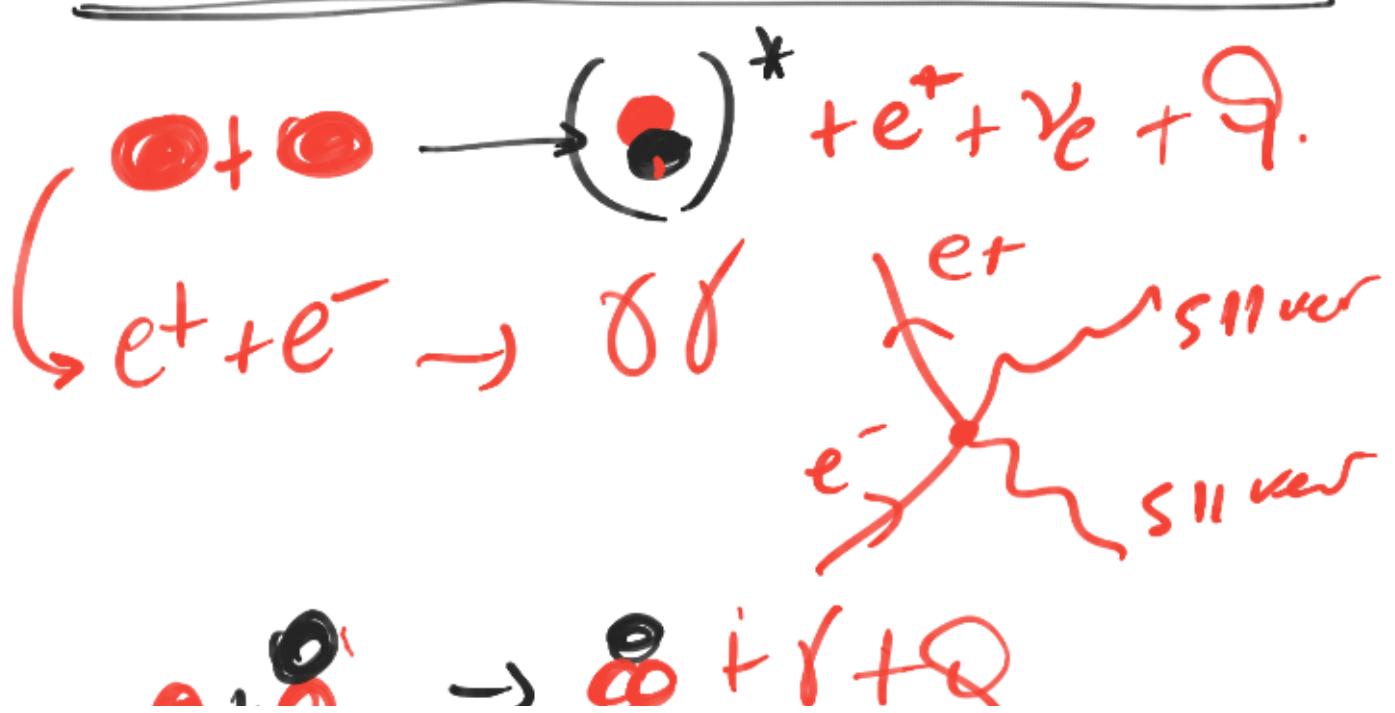
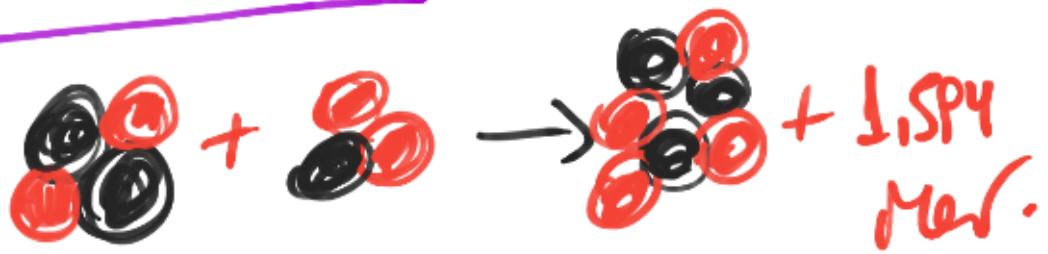
$$B(7,4) = 5,37 \text{ MeV} \cdot 7$$

$$B(4,2) = 7,07 \text{ MeV. 4}$$

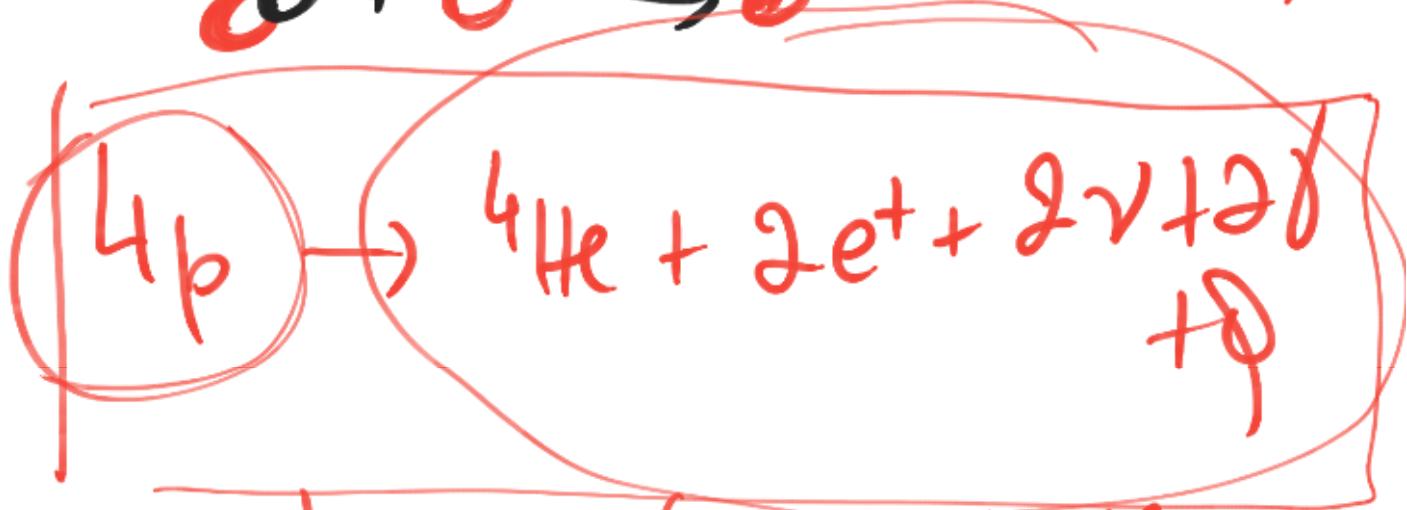
$$B(3,2) = 2,572 \text{ MeV. 3}$$

$$Q = 5,32 \text{ MeV. 7} - 2,572 \text{ MeV. 3} - \\ 7,07 \text{ MeV. 4}$$

$Q = 1,594 \text{ MeV}$

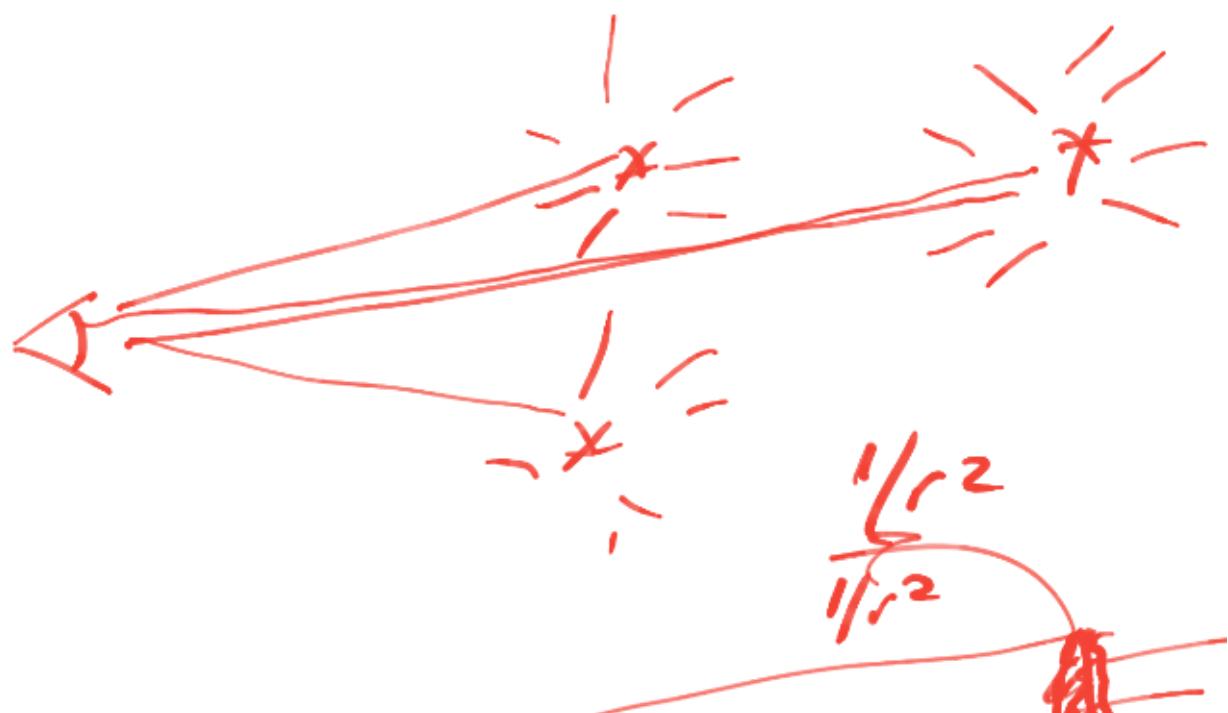


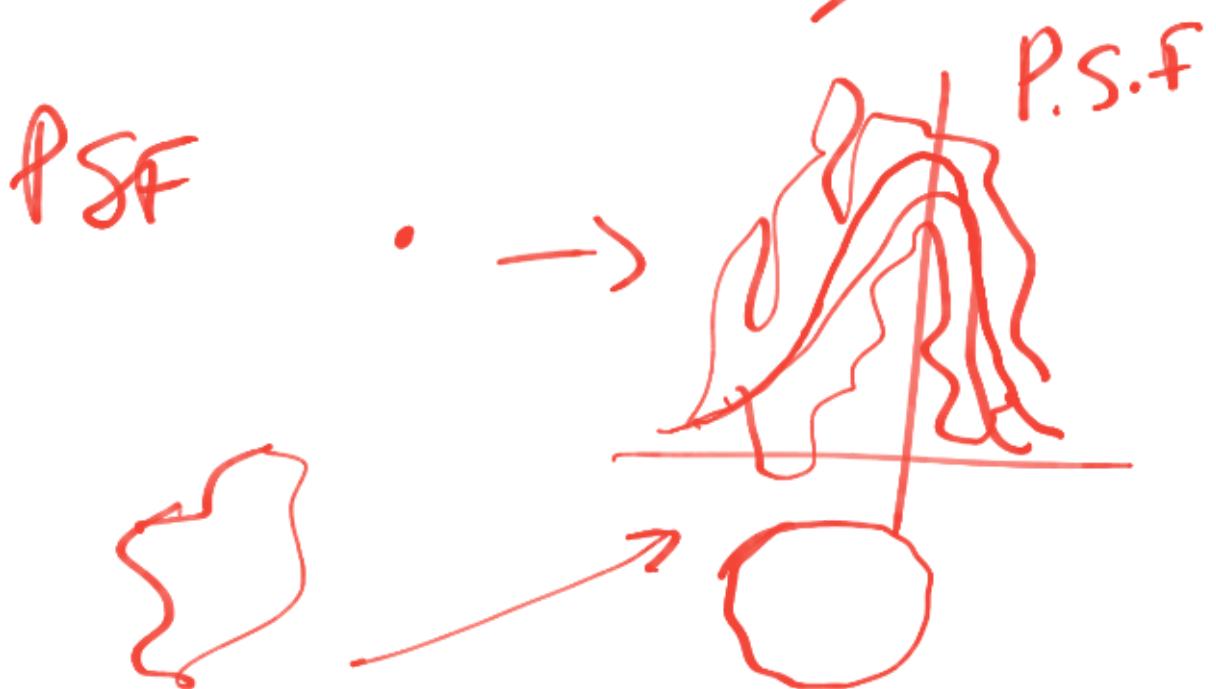
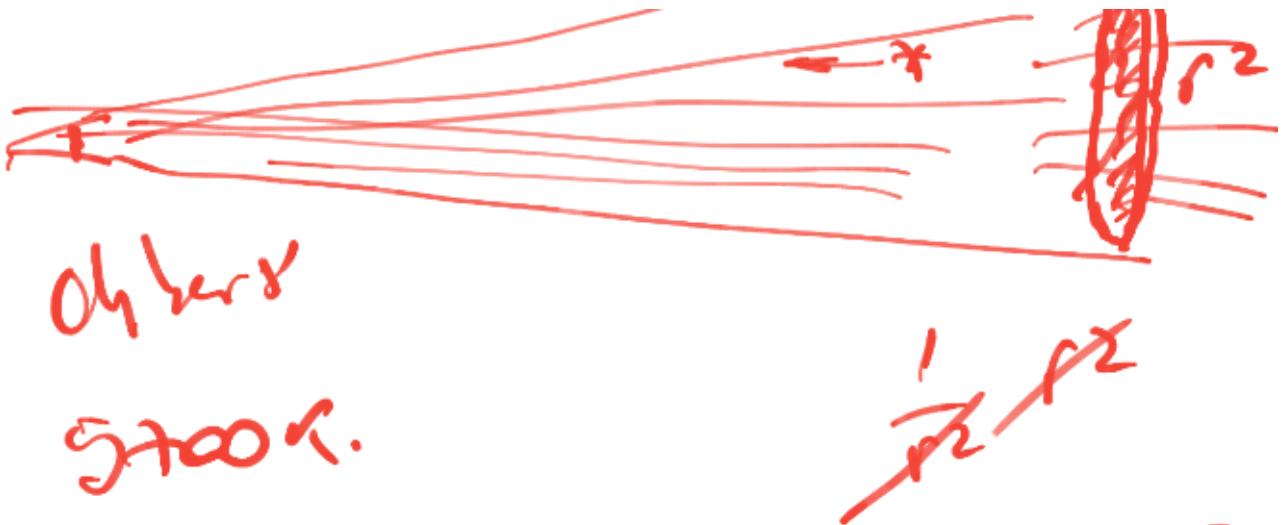
$\text{He} + \text{He} \rightarrow$



pp I (Cobalt problem)

$^4\text{He} + \text{He}$  recocción





$$L \rightarrow 4\pi \sigma R^2 T^4$$

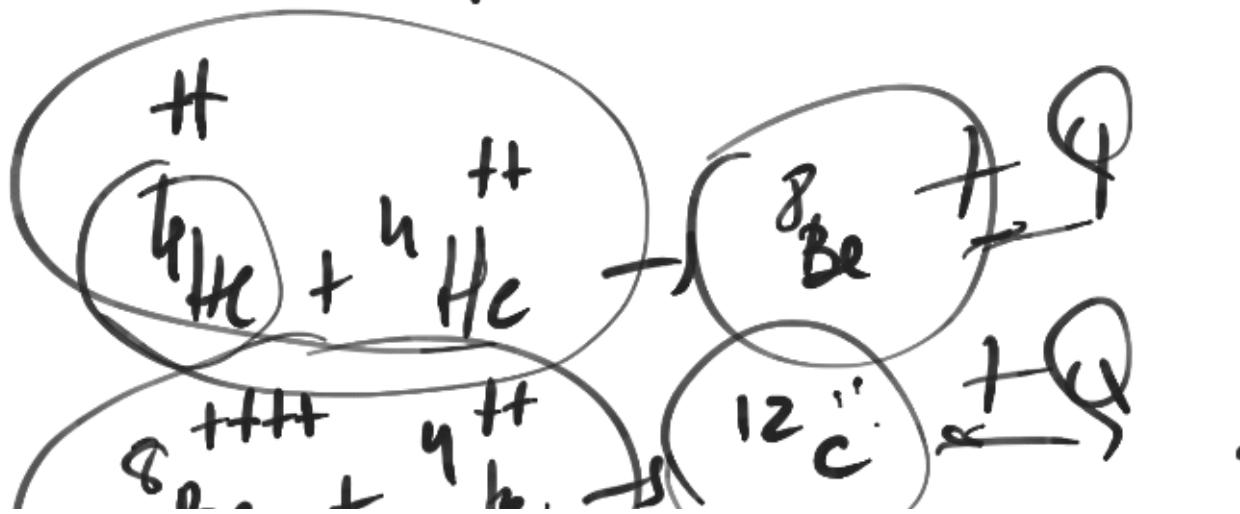
Supergigant

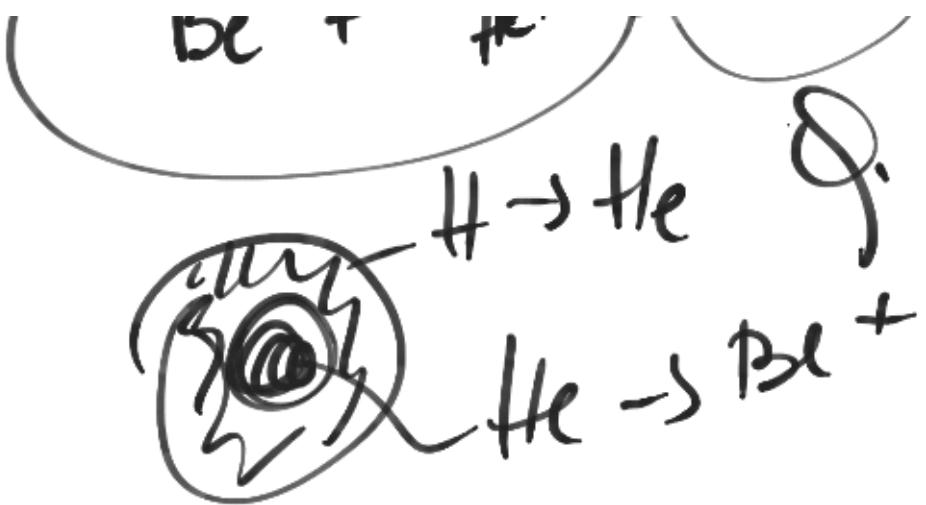




$$P \cdot V = nRT \quad V = \frac{4}{3}\pi r^3$$

$$r^3 = \frac{3}{4} \frac{nRT}{P\pi} \quad m = \text{mass}$$

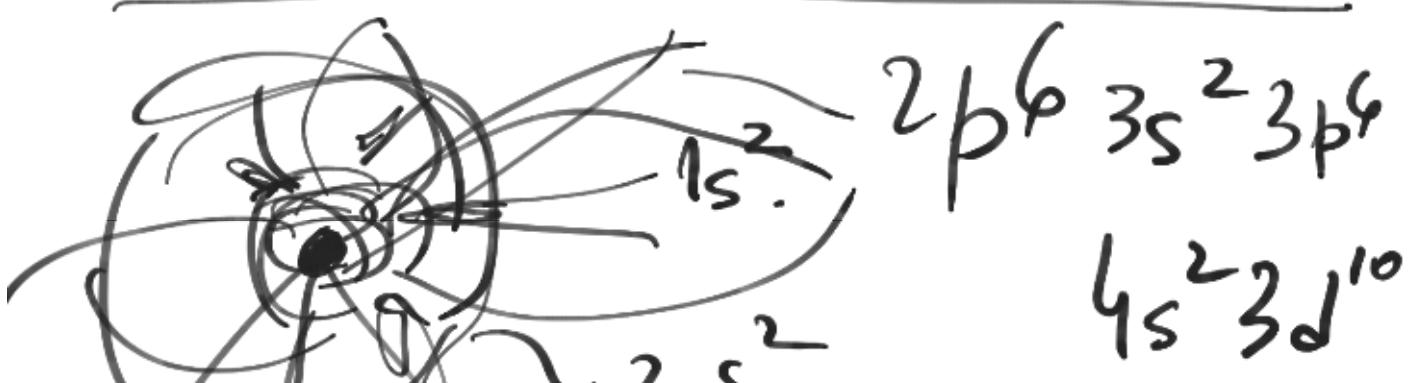
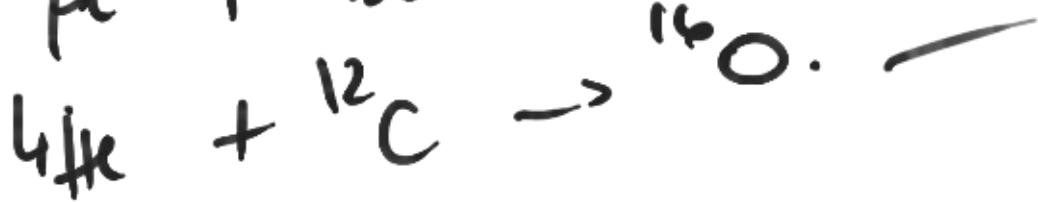
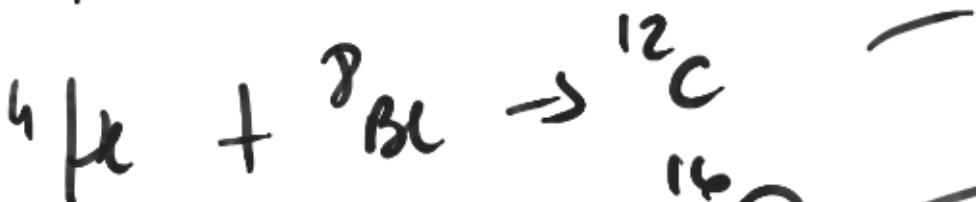
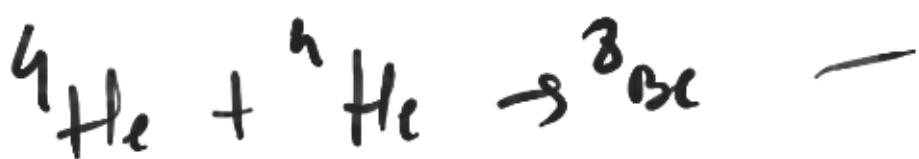


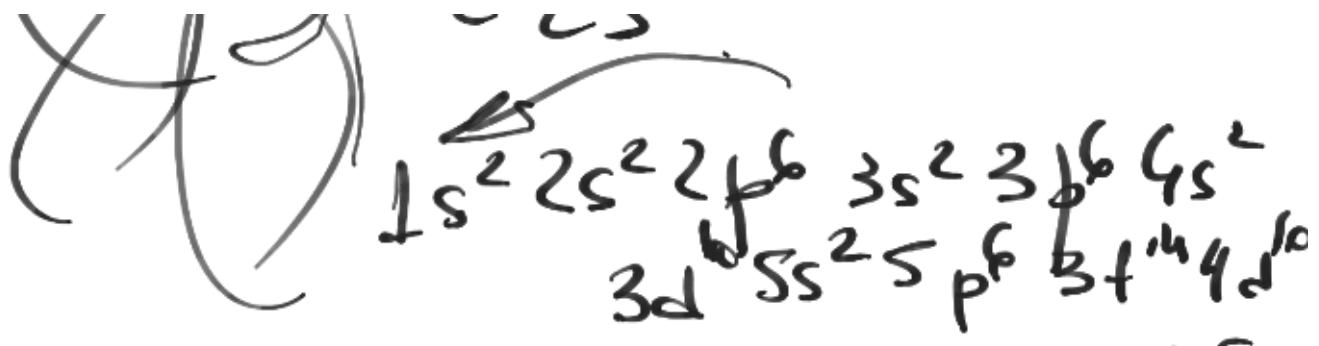


$\rightarrow 220 \text{ Ro} \rightarrow$

$1000 \text{ Ro}$

$\hookrightarrow \text{Gigantic (or Super) Giga-} \text{Ro}$





princps Pauling

$1s^2$  / /  
 $2s^2$   $2p^6$  / /  
 $3s^2$   $3p^6$   $3d^6$   
 $4s^2$

Clustar

Motris  
Degeneroda.

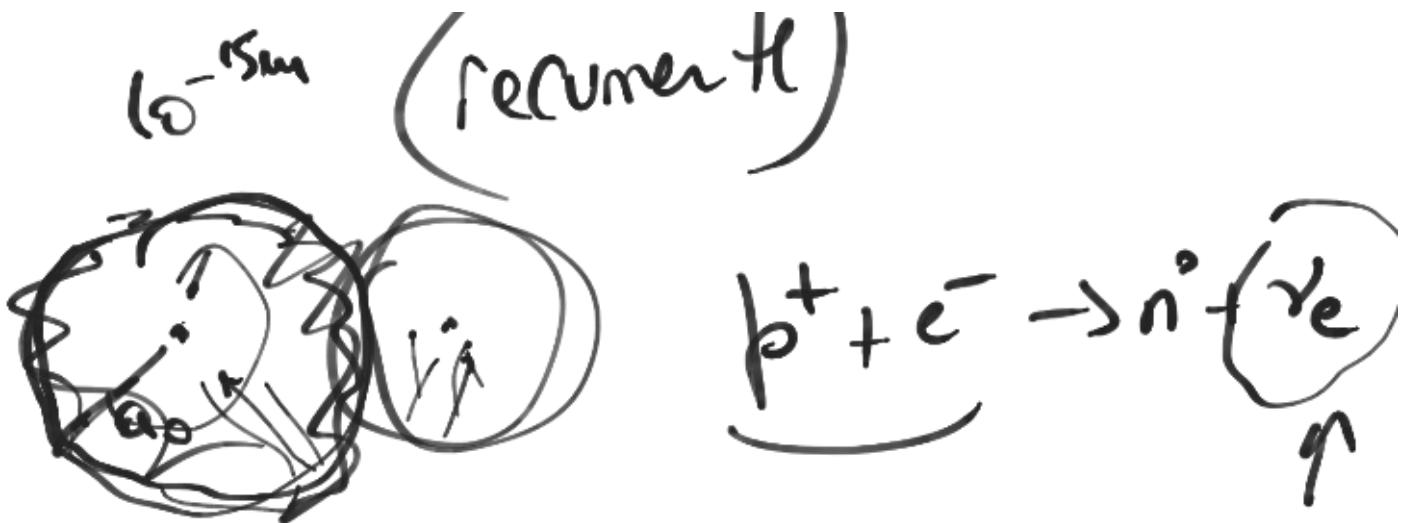
Chandrasekar

$\mu < 1.4 \pi \eta_0$



Nora

Nora Bollen



$10^{-10} \text{ m}$   $v^+$  estrella de neutrones.

$r = 10 \text{ mm}$   $1.44 < \frac{M}{M_\odot} < 10$

Supernova tipo II



$M > 10 M_\odot$

Agujero negro.

