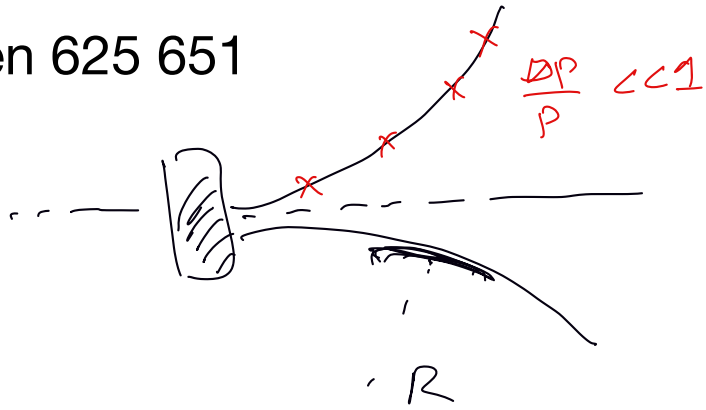
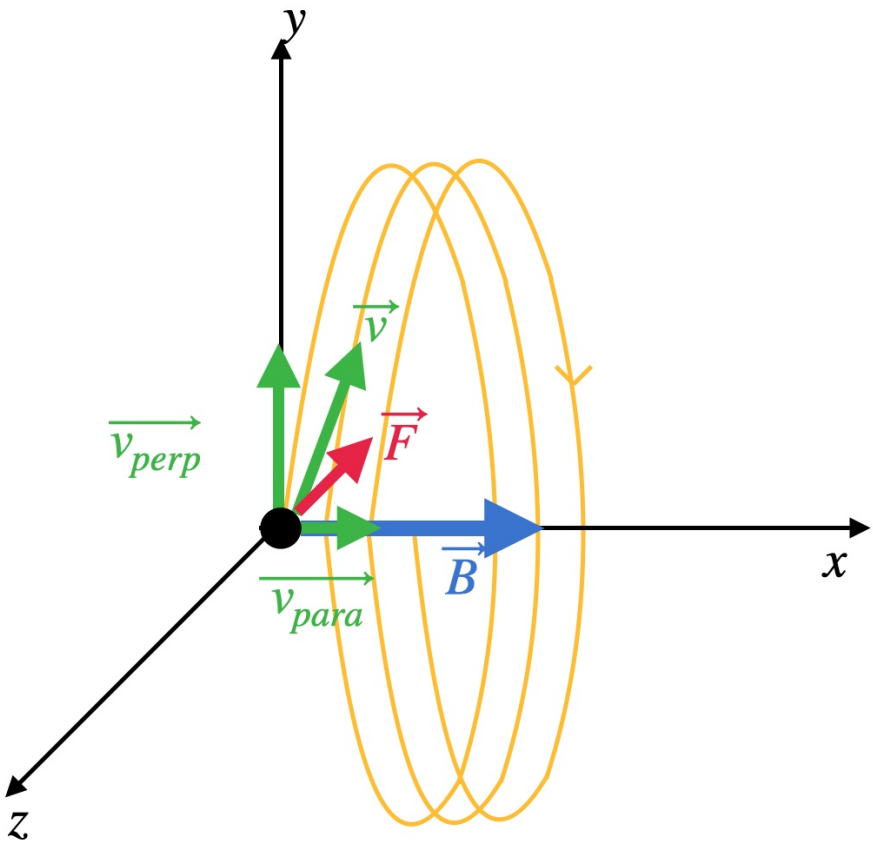
Token 625 651

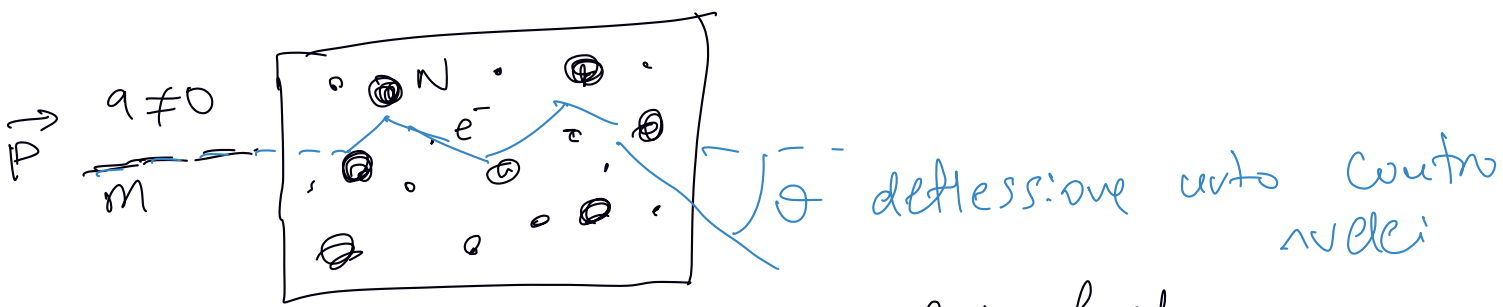


$\vec{F} = q\vec{v}\times\vec{B}$

$p = 0.3\ B \cdot R$

p → GeV, B → Tesla, R → m



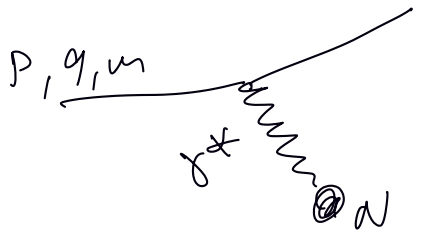


1) Nuclei: diffusione elastica Rutherford

e^-	0.5 MeV	π^-	140 MeV
p	1 GeV	μ	106 MeV
α	3.7 GeV	K	500 MeV

$m_N \propto A \simeq A \cdot \text{GeV}$

urti contro nuclei: deflessione, senza perdite di energia

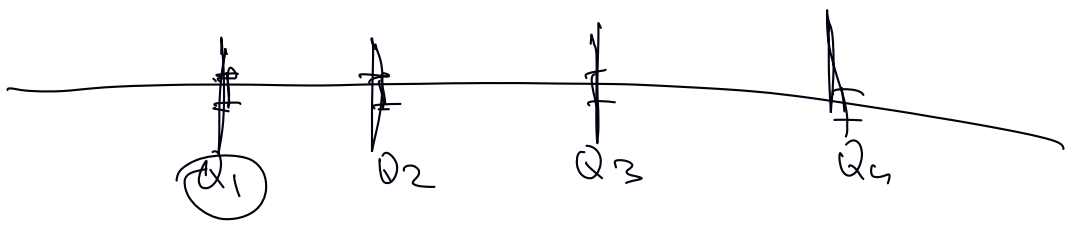


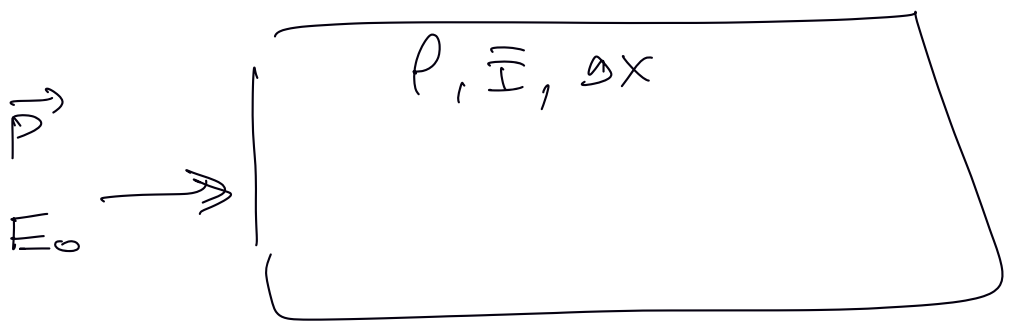
c) fenomeno più comune $\Rightarrow$ ionizzazione. $\Rightarrow$ rilascio Q.

$P_{in} \Rightarrow$ induce ionizz. $\Rightarrow$ produce Q.

proiettile

Q raccolta $\propto$ ionizzazione $\propto P_{incidente}$.





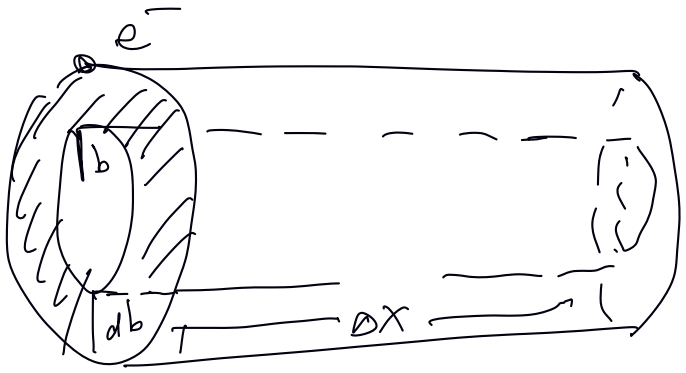
stimare $\Delta E_{proiettile} = - \overline{\Delta E} \cdot N_{urti}$

$N_{urti} = n_e \times \text{Volume}$.

$$n_e = \frac{\rho}{A} N_A Z_{Bersello}.$$

proiettile.

$ze \Rightarrow -$



$$V = \Delta x \, dS = 2\pi b \, db \, \Delta x$$

$$\Delta E = -\Delta \bar{E} \left(\frac{2\pi b \, db \, \Delta x}{V} \right) \times n_e$$

n_e: $\frac{\rho}{A} N_A \cdot Z_{Ber.}$

$\frac{\Delta E}{\Delta x}$ informazione importante

1) stimare $\overline{\Delta E}$

2) stimare $b \in (b_{min}, b_{max})$

$$\rho = \frac{m\,[g]}{V\,[cm^3]}$$

1 mole = A grammi massa molare

$$\frac{\rho}{A} = \frac{\#\text{moli}}{cm^3}$$

$$\frac{\rho}{A} \times N_A \Rightarrow \frac{\#\text{atomi}}{cm^3}$$

$$\frac{\rho}{A} \times N_A \times Z = \frac{\#e^-}{cm^3}$$