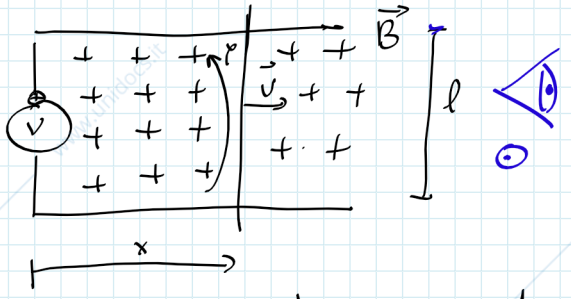
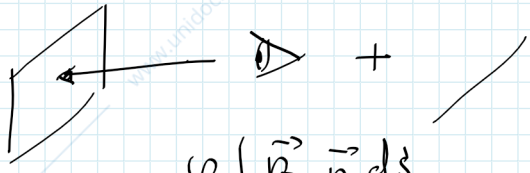
CONVERSIONE ELETTROMECCANICA ENERGIA

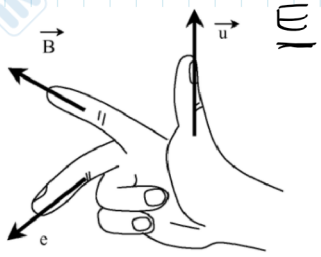




$\vec{B} \parallel \vec{n}$

$\varphi = \int_S \vec{B} \cdot \vec{n}\, dS$ costante

REGOLA 3 DITA MANO DESTRA ≡ DINAMO GENER.



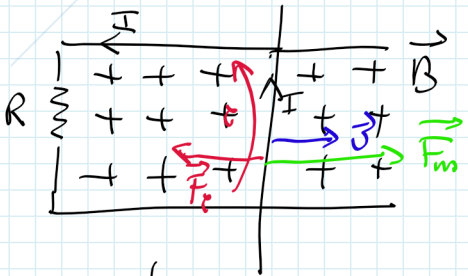
Legge di Faraday $\quad e = \frac{d\varphi}{dt} = \frac{d\varphi}{dt} = \frac{d}{dt}(BA) =$

$= \frac{d}{dt}(B \times l) = \frac{d}{dt}(B v t l) = Blv$

$x = v \cdot t$ (v costante)

$\boxed{e = Blv}$ $\Leftarrow$ $\vec{B}$ e $\vec{v}$ sono ortogonali

MECC. → MAGNETICO → ELETTRICO



$e = Blv$

$\frac{e}{R} = i$

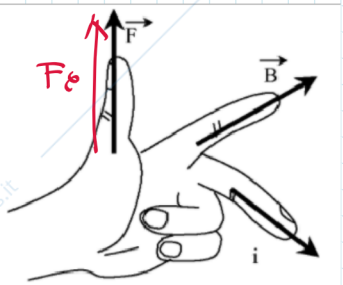
$\boxed{ei = Blvi} \Rightarrow$ è dissipata in calore

$\rightarrow v = cost \Rightarrow \boxed{\Sigma F = 0}$ $\quad F_e = F_m = F$

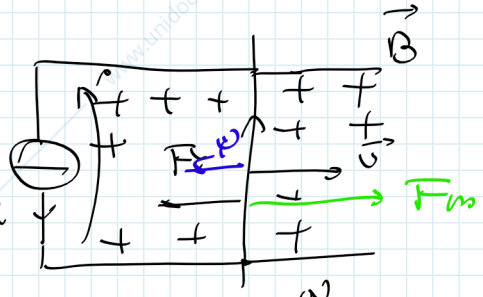
$ei = \left| Blvi = Fv \right| \Rightarrow \boxed{F = Bli}$

F B I

z · –



MECC. → MAGN. → ELETTRICO



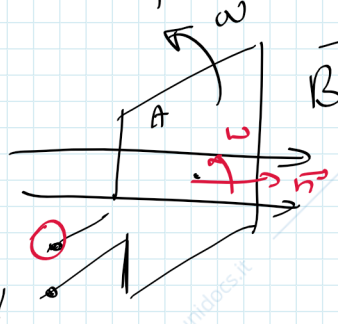
$\Leftarrow$ motore

impongo la F_e

3 DITA MANO SX

(MOTORI) → F

MANCINO → SX

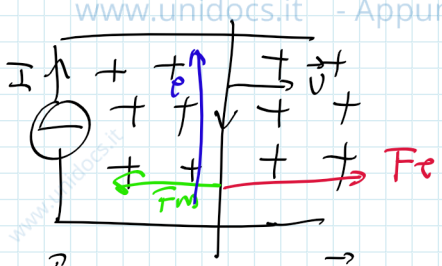


$e = \frac{d\varphi}{dt} = \frac{d\varphi}{dt} = \frac{d}{dt}(\vec{B} \cdot \vec{A})$

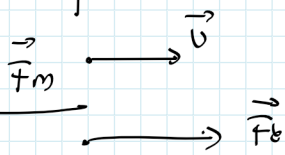
$\varphi = \int_S \vec{B} \cdot \vec{n}\, dS = BA \cdot \cos(\theta)$

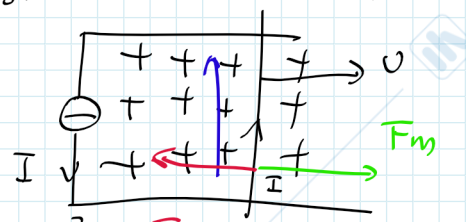
$\varphi = BA\cos(\omega t)$ $\quad$ angolo tra $\vec{B}$ e $\vec{n}$

$\boxed{e = \frac{d}{dt}\left(BA\cos(\omega t)\right) = -\omega BA \sin \omega t}$

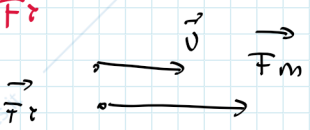


motore





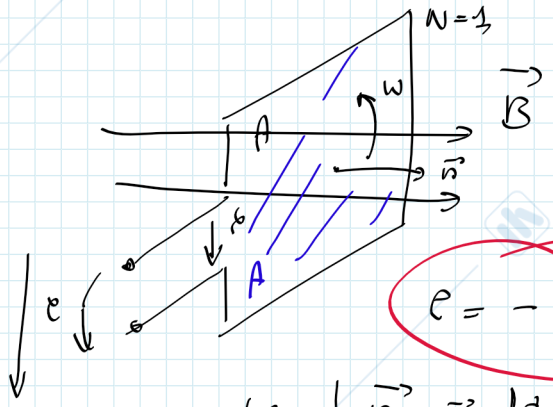
Freno



$F_m = F_e \qquad \Sigma F = 0$

direzione fem → fissata da v

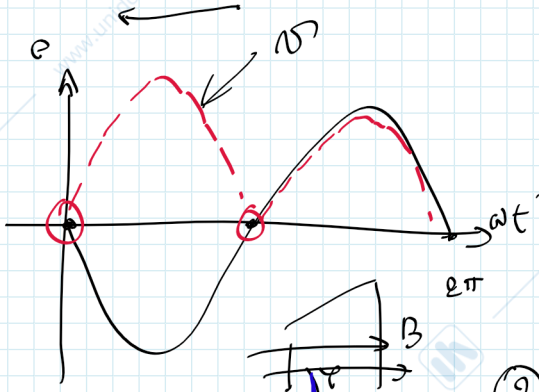
direzione di F_e → // da I



$$e = -\omega B A \sin \omega t$$

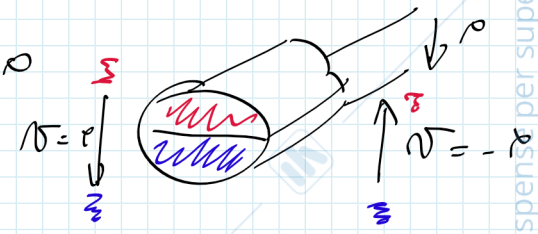
$$\varphi = \int_S \vec{B} \cdot \vec{n}\, dS \Rightarrow$$

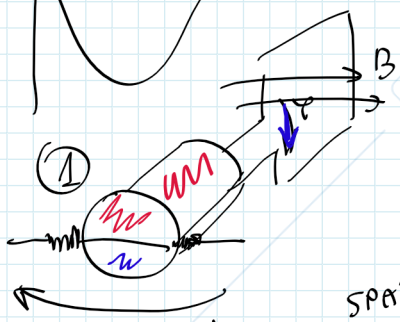
$$= BA\cos(\omega t)$$



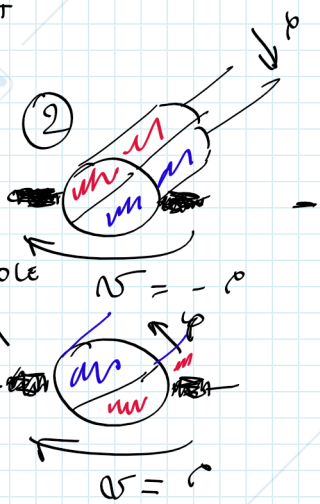
$\varphi_{max} \Leftarrow \omega t = 0$

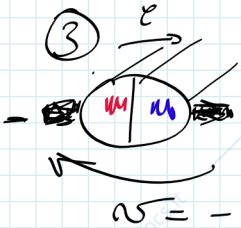
$e = 0$

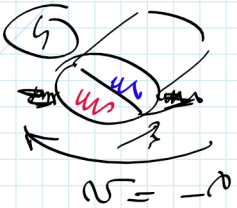


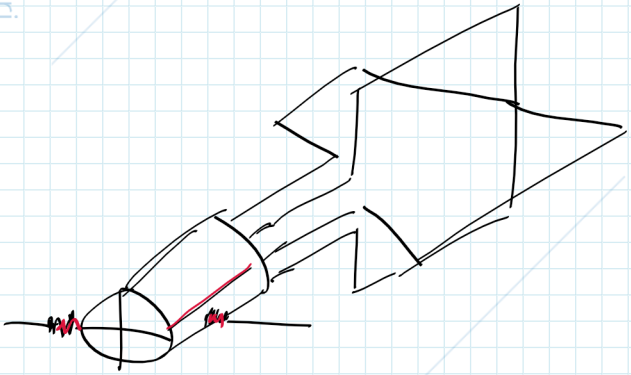


COLLETTORE

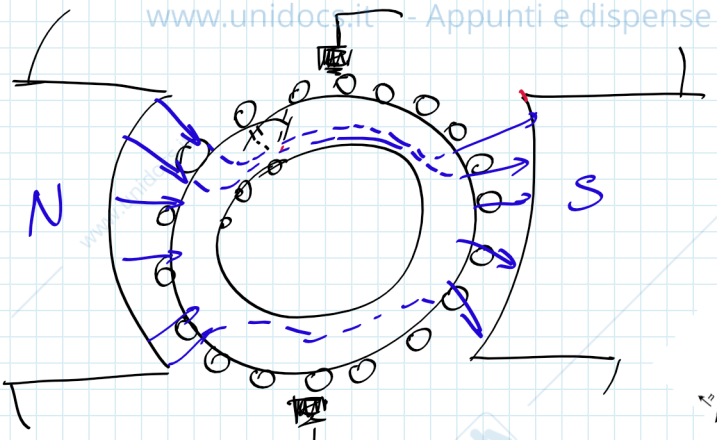


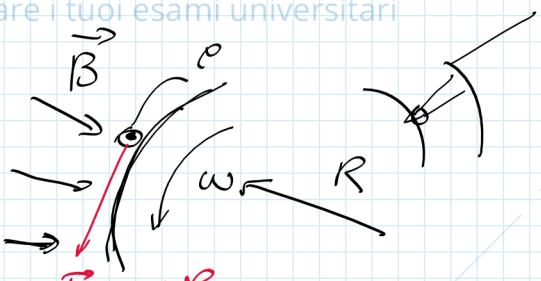




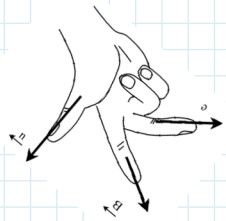


COLLETTORE + SPAZZOLE

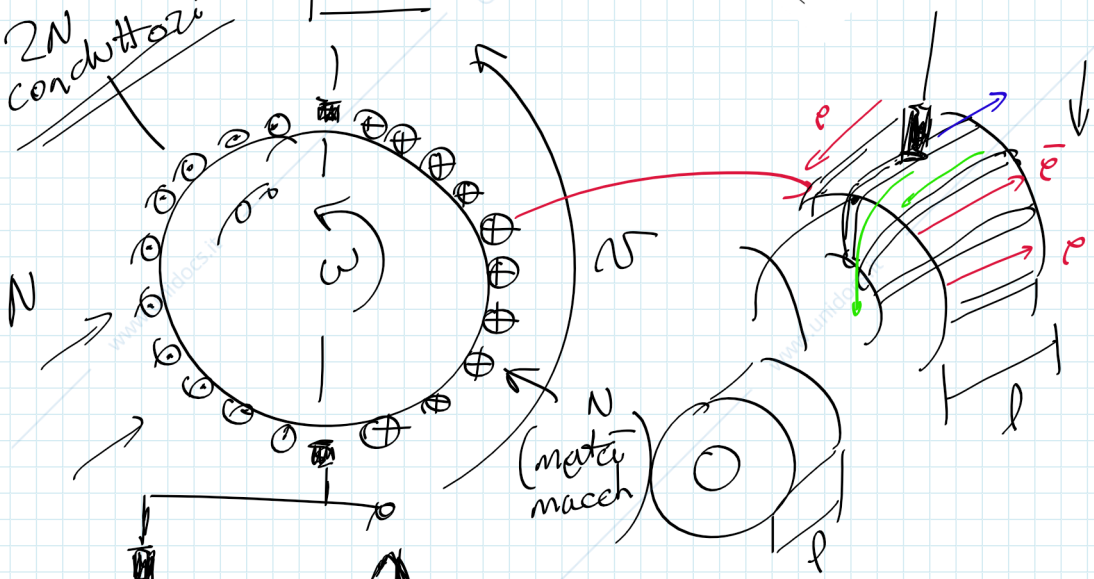


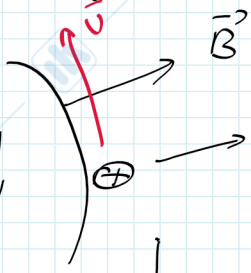


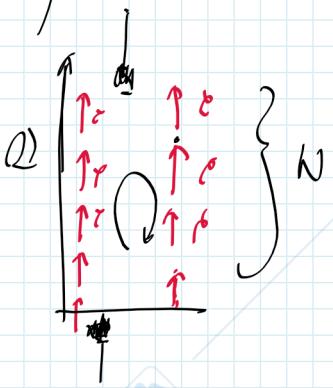
$\vec{v} = \omega \cdot R$

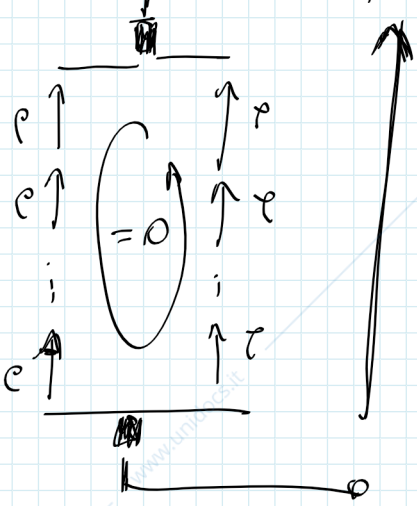


$\vec{B} \perp \vec{v} \Rightarrow$ regola 3 dita dx



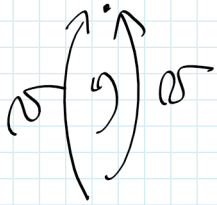




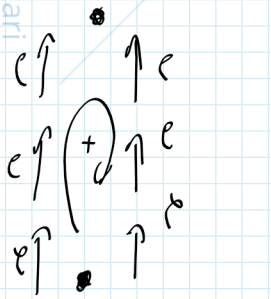


$K(B)\,\omega$

$V = Ne = N \cdot \underline{B}\,\underline{l} \cdot v = NBl\omega R = K\omega$

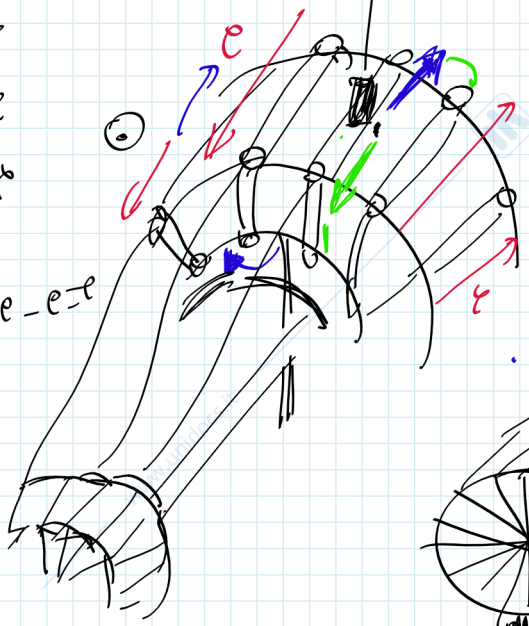


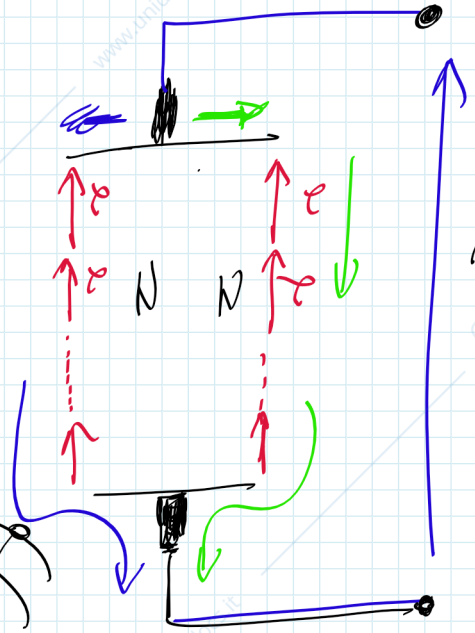
$V - V = 0$



$e + e + e - e - e - e$

N N





$V = N\rho$