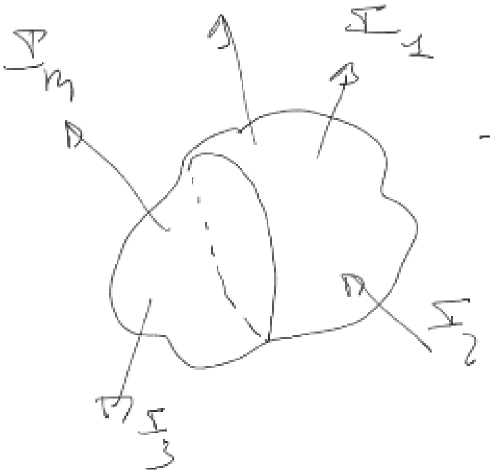
Lezione 3

Condizione di stazionarietà

$$\nabla \times \vec{H} = \vec{J}$$
$$\nabla \times \vec{E} = 0$$

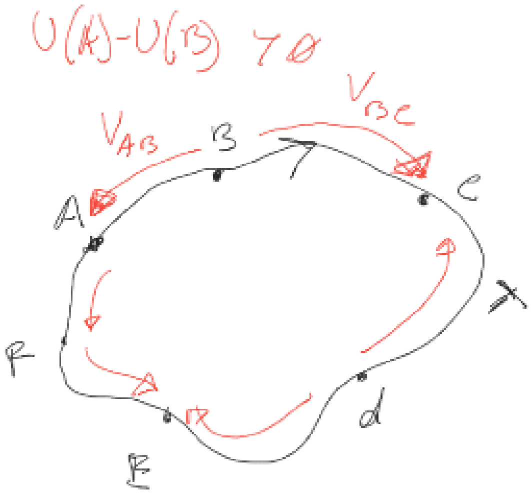
$\boxed{1^\circ \text{ P.d.K}}$

$$\sum_{i=1}^{m} I_i = 0$$



$\boxed{2^\circ \text{ P.d.K}}$

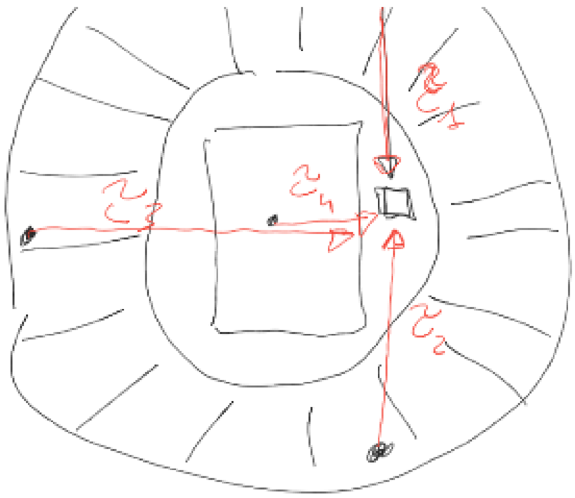
$$\sum_{i=1}^{m} V_i = 0$$

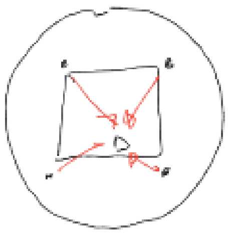


$$\left.\begin{aligned} -V_{AB}+V_{BC}-V_{CD}+V_{DE}-V_{EF}-V_{FA}&=0 \\ +V_{AB}-V_{BC}+V_{CD}-V_{DE}+V_{EF}+V_{FA}&=0 \end{aligned}\right\} \text{equivalenti}$$

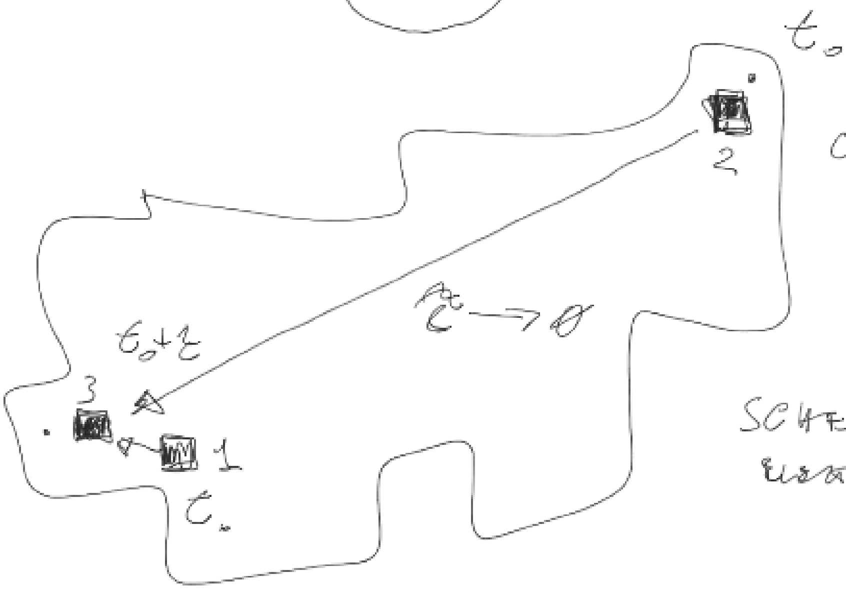
Ipotesi di quasi-stazionarietà

Stato



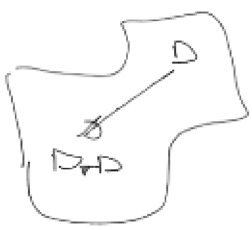


STADIO PICCOLO



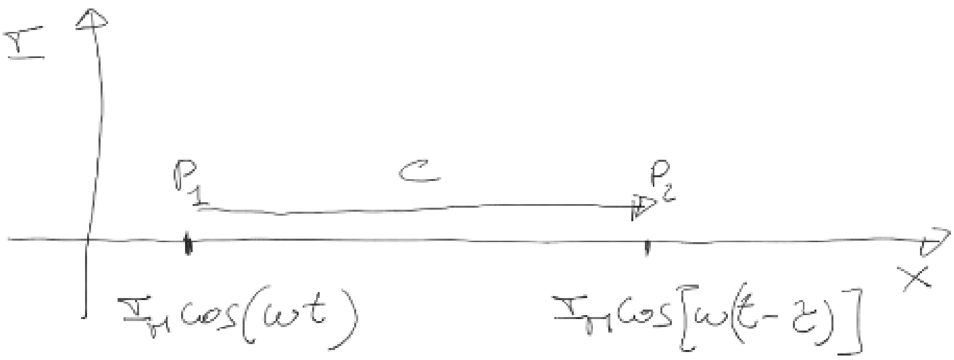
CIRCUITO

SCHEDA ELETTRONICA



MINIATURIZZO

$\omega = 2\pi f$

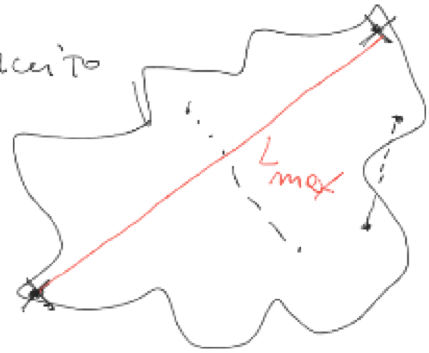


$$I_M \cos[\omega t - \cancel{\omega \tau}]$$

Voglio che $\omega \tau \to 0 \implies \omega_{max} \cdot \tau_{max} \to 0$

$P_1 \xrightarrow{c} P_2$

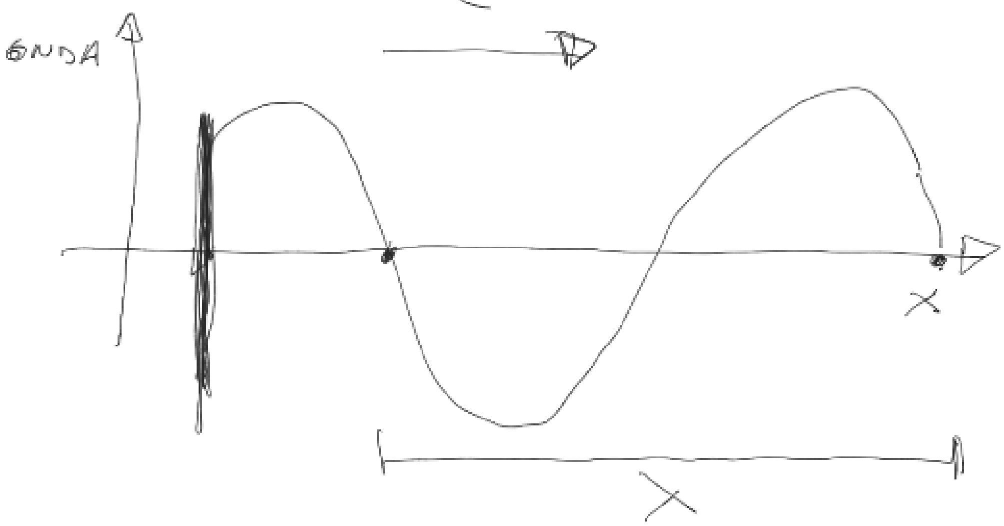
circuito



$$L = c \cdot \tau \implies \tau = \frac{L}{c}$$

$$\tau_{max} = \frac{L_{max}}{c}$$

$$\omega = 2\pi f \implies \omega_{max} = 2\pi f_{max} = 2\pi \frac{1}{T_{min}}$$



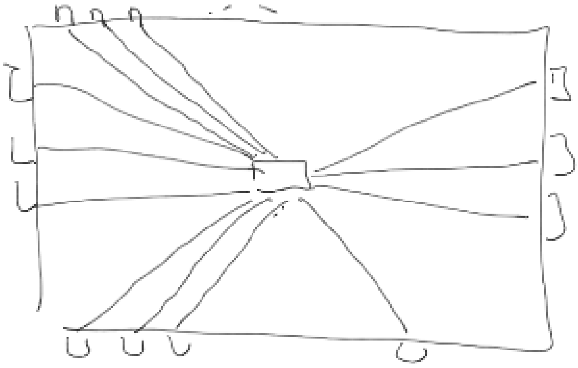
$$\lambda = cT \implies T = \frac{\lambda}{c} \implies T_{min} = \frac{\lambda_{min}}{c}$$

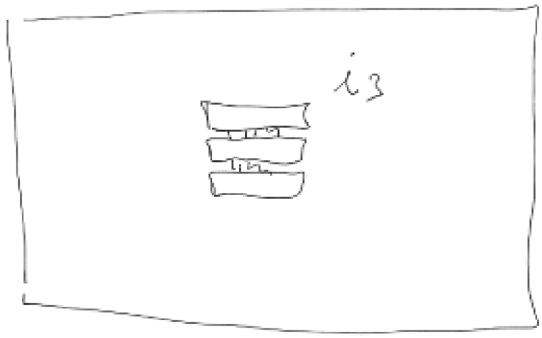
QUINDI:

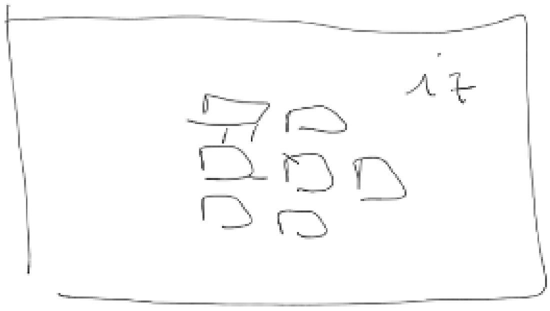
$$\omega_{max} \cdot \tau_{max} = 2\pi \frac{\cancel{c}}{\lambda_{min}} \cdot \frac{L_{max}}{\cancel{c}} \to 0$$

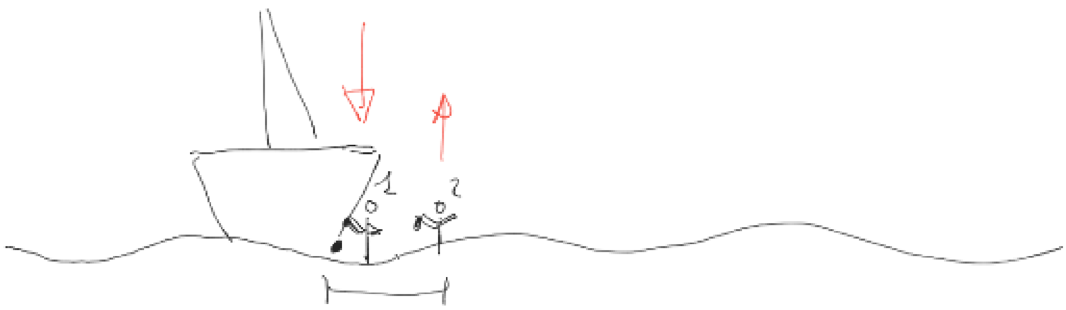
$$\frac{L_{max}}{\lambda_{min}} \to 0 \implies \boxed{L_{max} \ll \lambda_{min}}$$

Cond. di QUASI-STAZION.

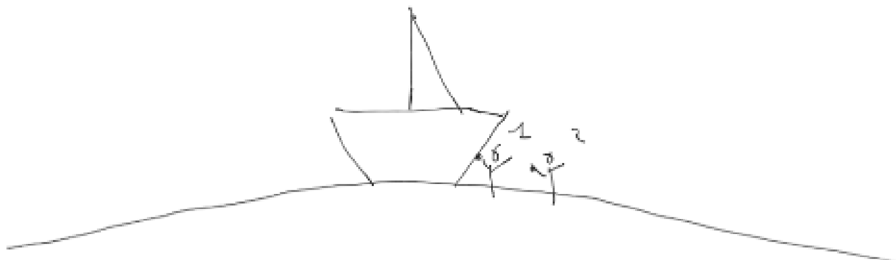








λ piccola



λ grande