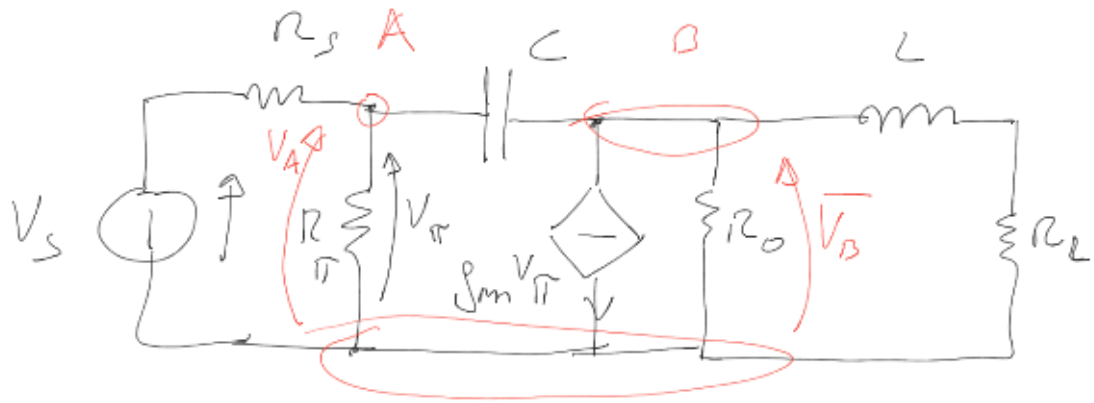
Lezione 33

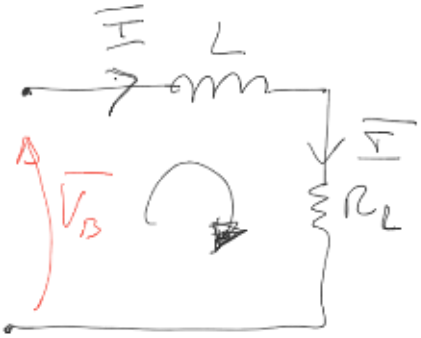


$\omega = 2\pi f$

NODI

$$\begin{matrix} & A & B \\ A & \frac{1}{R_s} + \frac{1}{R_\pi} + j\omega C & -j\omega C \\ B & -j\omega C & j\omega C + \frac{1}{R_o} + \frac{1}{j\omega L + R_L} \end{matrix} \begin{bmatrix} \bar{V}_A \\ \bar{V}_B \end{bmatrix} = \begin{bmatrix} \frac{\bar{V}_s}{R_s} \\ -g_m \bar{V}_\pi \end{bmatrix}$$

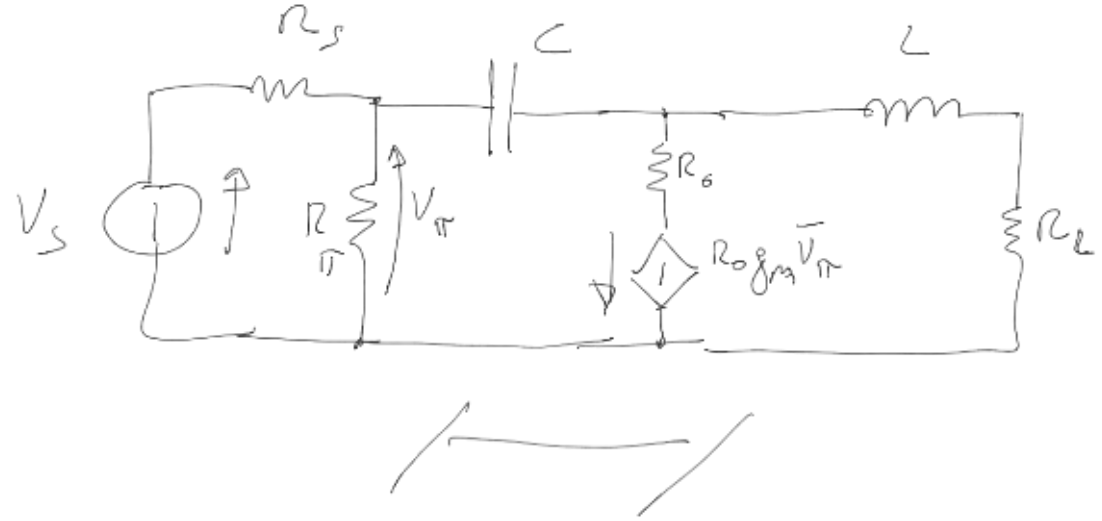
$\bar{V}_\pi = \bar{V}_A$



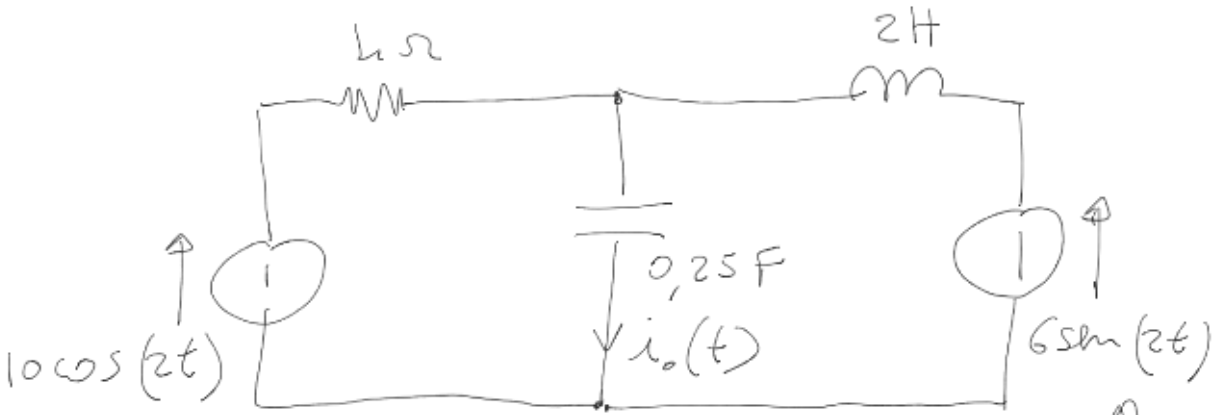
$$\bar{I} = \frac{\bar{V}_B}{j\omega L + R_L}$$

$$\bar{P}_{R_L} = \frac{1}{2} R_L |\bar{I}|^2$$

ANELLI



ESERCIZIO



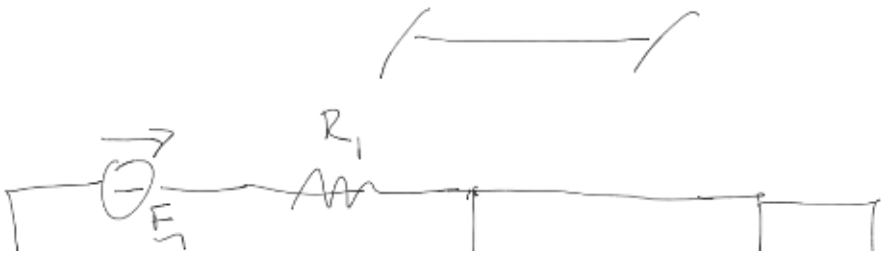
$$\sin(\alpha) = \cos\left(\alpha - \frac{\pi}{2}\right)$$

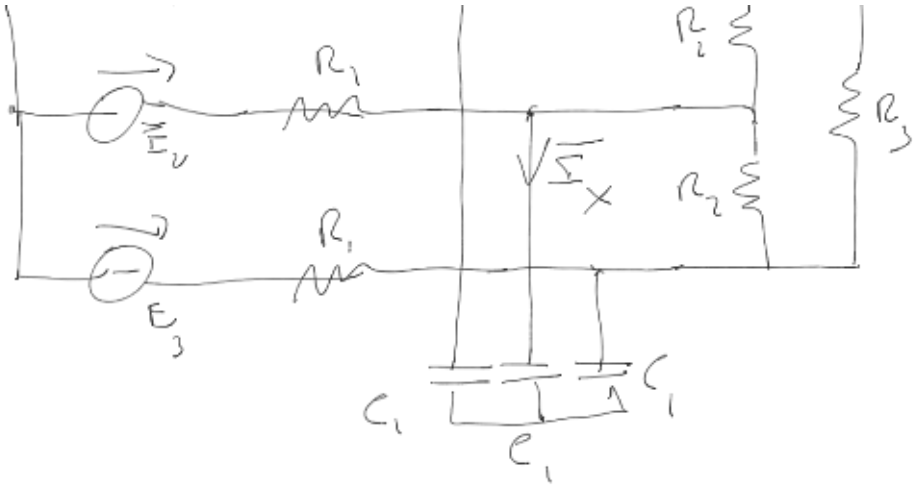
$$\sin(\omega t) = \cos\left(\omega t - \frac{\pi}{2}\right)$$

$$6\cos\left(2t - \frac{\pi}{2}\right)$$

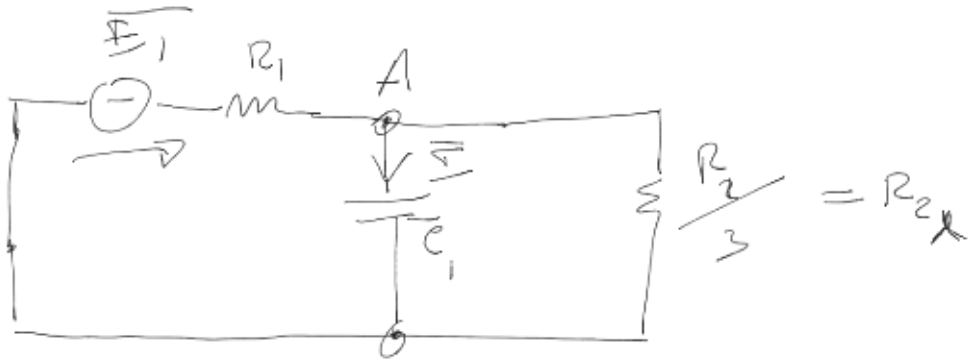
$$10\,e^{j0} = 10$$

$$6\,e^{-j\frac{\pi}{2}} = -j6$$





$|\bar{E}_1| = 220$ volt eff. $\quad |\bar{E}_x| = ?$

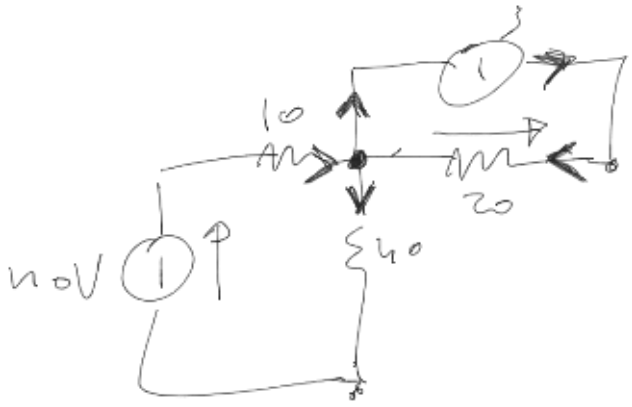


Nodi

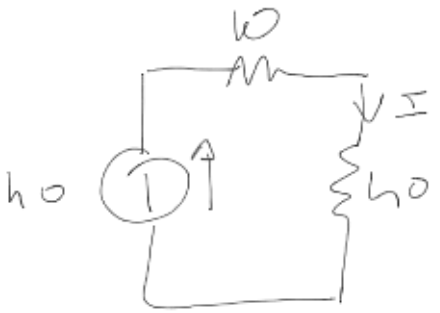
$$\left[\frac{1}{R_1} + j\omega C_1 + \frac{1}{R_2}\right]\left[\bar{V}_A\right] = \left[\frac{\bar{E}_1}{R_1}\right]$$

$$\bar{I} = \frac{\bar{V}_A}{\frac{1}{j\omega C}} = j\omega C \cdot \bar{V}_A$$

$\omega = 314$



$$E_{TH} - 20 \cdot 3 - 40 \cdot I = 0$$



$$I = \frac{40}{10+40}$$