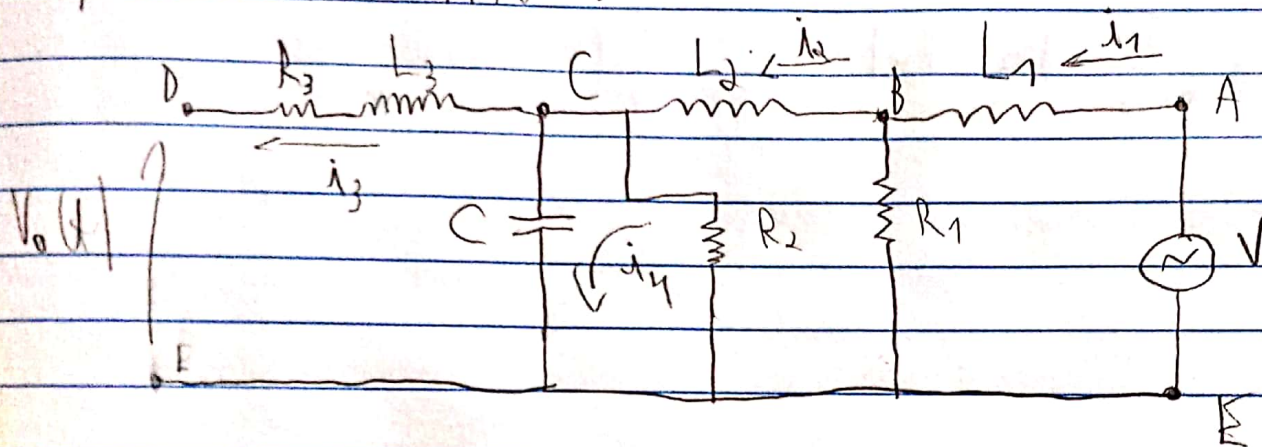


PME 3380 - Exercício 22/09/2020

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a) Analogia Tipo 1:



→ PERCURSO AB EA:  $V - L_1 \frac{di_1}{dt} - R_1(i_1 - i_2) = 0$

→ PERCURSO BC EB:  $-L_2 \frac{di_2}{dt} - R_2(i_2 - i_4) + R_1(i_1 - i_2) = 0$

→ PERCURSO CEC:  $R_2(i_2 - i_4) + \frac{1}{CD} (i_3 - i_4) = 0$

→ PERCURSO:  $L_2 \frac{di_3}{dt} + i_3 \cdot R_1 - \frac{1}{CD} (i_4 - i_3) + V_0(t) = 0$

• Como:

- $V \rightarrow Q$
- $C \rightarrow L$
- $p \rightarrow i$
- $Lp \rightarrow c$
- $R \rightarrow 1/Rp$

$$Q(t) = A_2 \dot{h}_2 + \frac{h_2}{R_{p1}} - \frac{h_2}{R_{p2}}$$

$$0 = A_2 \dot{h}_2 + \frac{h_2}{R_{p1}} - \frac{h_2}{R_{p2}} - \frac{h_2}{R_{p2}} + \frac{h_2}{R_{p1}}$$

$$Q_0(t) = A_2 \dot{h}_2 + \frac{h_2}{R_{p1}} + \int (\beta_2 - \beta_1) dt \cdot \frac{1}{L_p}$$

$$\frac{1}{R_{p2}} (\beta_2 - \beta_1) = \frac{1}{L_p} \int (\beta_2 - \beta_1) dt$$