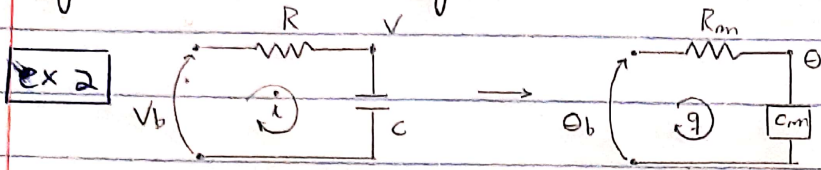


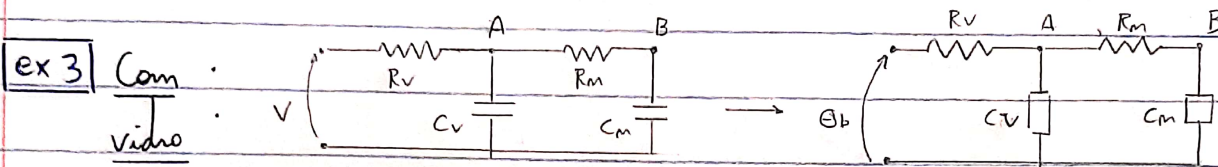
Gabriel Barbosa Pagamini - 10722539 - Modelagem aula 29/09



Analogia elétrica: $\Theta \rightarrow V$
 $C_m \rightarrow C$; $R_m \rightarrow R$; $q \rightarrow i$

Método prático: $(C D + \frac{1}{R}) V - (\frac{1}{R}) V_b = 0$

$\rightarrow (C_m D + \frac{1}{R_m}) \Theta - (\frac{1}{R_m}) \Theta_b = 0 \rightarrow R_m C_m \dot{\Theta} + \Theta = \Theta_b$



Nó A: $(C_v D) V_A + \frac{1}{R_m} (V_A - V_B) + \frac{1}{R_v} (V_A - V) = 0$

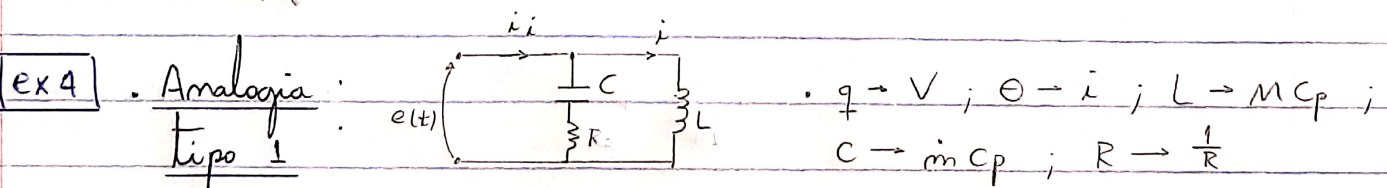
Nó B: $(C_m D) V_B + \frac{1}{R_m} (V_B - V_A) = 0$

Analogia elétrica

$$\left(C_v D + \frac{1}{R_m} + \frac{1}{R_v} \right) \Theta_v = \frac{1}{R_m} \Theta + \frac{1}{R_v} \Theta_b$$

$$\left(C_m D + \frac{1}{R_m} \right) \Theta = \frac{1}{R_m} \Theta_v$$

$\therefore C_v \dot{\Theta}_v + \left(\frac{1}{R_m} + \frac{1}{R_v} \right) \Theta_v = \frac{\Theta}{R_m} + \frac{\Theta_b}{R_v}$	$C_m \dot{\Theta} + \frac{\Theta}{R_m} = \frac{\Theta_v}{R_m}$
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$q \rightarrow V$; $\Theta \rightarrow i$; $L \rightarrow M C_p$;
 $C \rightarrow m c_p$; $R \rightarrow \frac{1}{R}$

$\rightarrow (L D) i + (R + C) \cdot (i - i_i) = e(t) \rightarrow L D \Theta + \left(\frac{1}{R} + C \right) \Theta = q(t) + \left(\frac{1}{R} + C \right) \Theta_i$

$\therefore M C_p \dot{\Theta} + \left(m c_p + \frac{1}{R} \right) \Theta = q(t) + \left(m c_p + \frac{1}{R} \right) \Theta_i$