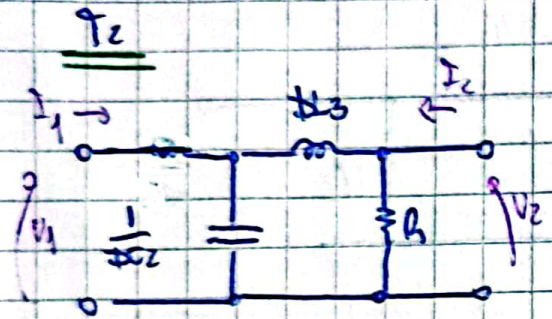


$$T_1 = \begin{pmatrix} 1 & j\omega L_1 \\ 0 & 1 \end{pmatrix}$$

$$T_{tot} = T_1 \cdot T_2$$



Me interesa ~~los~~ parámetros A_2, C_2 y que

$$T = \begin{pmatrix} A & B \\ C & D \end{pmatrix} \rightarrow A = A_1 A_2 + B_1 C_2$$

$$A_2 = \left. \frac{V_1}{V_2} \right|_{I_2=0} \rightarrow V_2 = V_1 \cdot \frac{R}{R + j\omega L_3} \rightarrow \frac{V_1}{V_2} = \frac{R + j\omega L_3}{R}$$

$$C_2 = \left. \frac{I_1}{V_2} \right|_{I_2=0} = \frac{I_1}{R \cdot I_R} = \frac{I_1}{R \cdot I_1} \cdot (1 + j\omega^2 C_2 L_3 + j\omega C_2 R)$$

$$\rightarrow I_R = I_1 \cdot \frac{1/j\omega C_2}{1/j\omega C_2 + j\omega L_3 + R} \cdot I_1 \cdot \frac{1}{1 + j\omega^2 C_2 L_3 + j\omega C_2 R}$$

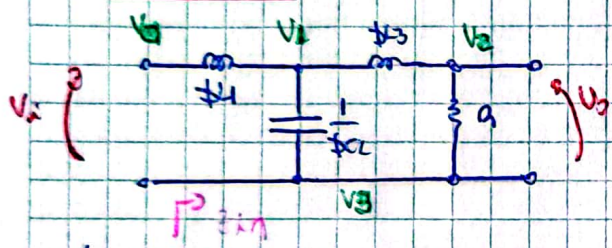
$$A = \frac{V_i}{V_o} = A_1 A_2 + B_1 C_2 = 1 \cdot \frac{R + j\omega L_3}{R} + j\omega L_1 \cdot \frac{j\omega C_2 L_3 + j\omega C_2 R + 1}{R}$$

$$\frac{V_o}{V_i} = \frac{R}{j\omega L_1 L_3 C_2 + j\omega C_2 R + j\omega(L_1 + L_3) + R}$$

$$\frac{V_o}{V_i} = \frac{\frac{R}{L_1 L_3 C_2}}{j\omega^3 + j\omega^2 \frac{R}{L_3} + j\omega \frac{L_1 + L_3}{L_1 L_3 C_2} + \frac{R}{L_1 L_3 C_2}}$$

$$\frac{1}{j^3 + j^2 \cdot 2 + j \cdot 2 + 1}$$

Calcular MAT:



$$Y_1 = \frac{1}{j\omega L_1} = \frac{2}{j} \quad Y_3 = \frac{1}{j\omega L_3} = \frac{2}{j}$$

$$Y_2 = j\omega C_2 = j \cdot 4/3 \quad G = 1/R = 1$$

$$\begin{pmatrix} \frac{1}{j\omega L_1} & -\frac{1}{j\omega L_1} & 0 & 0 \\ -\frac{1}{j\omega L_1} & \frac{1}{j\omega L_1} + j\omega C_2 + \frac{1}{j\omega L_3} & -\frac{1}{j\omega L_3} & -j\omega C_2 \\ 0 & -\frac{1}{j\omega L_3} & \frac{1}{j\omega C_2} + \frac{1}{R} & -\frac{1}{R} \\ 0 & -j\omega C_2 & -\frac{1}{R} & j\omega C_2 + \frac{1}{R} \end{pmatrix}$$

② Consenso de Tensiones

$$A_{mn}^{ij} = \frac{V_{ij}}{V_{mn}} = \text{sgn}(m-n) \text{sgn}(i-j) \frac{Y_{ij}^{mn}}{Y_{mn}^{mn}} \rightarrow \text{Por } \frac{V_o}{V_i} \rightarrow \begin{matrix} ij \rightarrow 23 \\ mn \rightarrow 03 \end{matrix}$$

③ Impedancia de Puertos

$$\bar{Z}_{mn} = \frac{V_{mn}}{I_{mn}} = \frac{Y_{mn}^{mn}}{Y_{nn}^{nn}} \rightarrow \text{Por } \bar{Z}_{in} \rightarrow mn \rightarrow 03$$

NOTA