Hoja Nº

Nombre
Curso
Materia

Asociacion en Serie de impedancia

$V_T = V_{Z1} + V_{Z2}$
$V_T = I \cdot Z_1 + I \cdot Z_2$ Se suman.
$V_T = I \cdot (Z_1 + Z_2)$

Si Z_1 y Z_2 son capacitivas Paralelo

$Z_T = Z_1 + Z_2$
$Z_T = \frac{-j}{\omega C_1} + \frac{-j}{\omega C_2}$

$Z_T = \frac{-j}{\omega C}\left(\frac{1}{C_1} + \frac{1}{C_2}\right) \Rightarrow \frac{-j}{\omega C}\left(\frac{C_2 \cdot C_1}{C_1 + C_2}\right)$

Si Z_1 y Z_2 son inductivas Suma

$Z_T = Z_1 + Z_2$
$Z_T = j\omega L_1 + j\omega L_2$
$Z_T = j\omega \cdot (L_1 + L_2)$

Asociacion en Paralelo de impedancia

Admitancia (Siemens) S

$Y = \frac{1}{Z}$ $\quad Y = \frac{1}{R + jx} \rightarrow G + jB$ (B: Susceptancia; G: conductancia)

$I_T = I_{Z1} + I_{Z2}$
$I_T = \frac{V_Z}{Z_1} + \frac{V_Z}{Z_2}$
$I_T = V_Z\left(\frac{Z_2 + Z_1}{Z_1 \cdot Z_2}\right)$

$Y_T = \frac{1}{Z_1} + \frac{1}{Z_2}$
$Y_T = Y_1 + Y_2$

$Z_C = \frac{1}{j\omega C} \rightarrow Y_C = \frac{j\omega C}{j} \cdot \frac{j}{j} = j\omega C$

$Z_L = \frac{1}{j\omega L} = \frac{-j}{\omega L}$

Si Y_1 e Y_2 son capacitivas Suma

$Y_T = j\omega L_1 + j\omega L_2$
$Y_T = j\omega (L_1 + L_2)$