

~~Nombre Apellido~~ ~~Cédula~~
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HOJA N°

FECHA ~~09/09/19~~

Final de Medios de Enlaces

$$1) E_i = 15 \cos(2\pi f t - \beta z + \phi_1)$$

$$\lambda = 0$$

$$V_p = 92\% C = 2,76 \times 10^8 \frac{m}{seg}$$

$$F = 1,38 \times 10^7 \text{ Hz}$$

$$\phi = 45^\circ$$

$$t_1 = 1,81 \times 10^{-8} \text{ seg}$$

$$t_2 = 3,02 \times 10^{-8} \text{ seg}$$

$$\beta = \frac{2\pi}{\lambda} ; \quad \lambda = \frac{V_p}{F} \left[\frac{m/s}{1/s} \right] = \frac{2,76 \times 10^8}{1,38 \times 10^7} = 20 \text{ m}$$

$$\beta = \frac{2\pi}{20} = \frac{\pi}{10} \left[\frac{\text{rad}}{m} \right]$$

entonces:

$$E_i = 15 \cdot \cos \left(2\pi \cdot 1,38 \times 10^7 \cdot t - \frac{\pi}{10} \cdot z + 45^\circ \right)$$

	0	2	4	6	8	10	12	14	16	18	20	22	24
t_1	-10,59	-2,33	6,82	13,37	14,81	10,59	2,32	-6,82	-13,37	-14,81	-10,59	-2,33	6,82
t_2	-1,48	-14	-8,17	0,77	9,43	14,48	14	8,77	-0,77	-9,43	-14,48	-14	-8,77

$$2) a) \lambda_{cc} + 0,30\lambda = 0,25\lambda + 0,30\lambda = 0,55\lambda$$

$$Y_{SCA} = +j0,32 \quad \begin{array}{c} \overbrace{+j0,32} \\ \overbrace{0,25} \end{array} \quad \overbrace{0,25}$$

$$b) \lambda_{SCA} = 0,30\lambda$$

$$Y_{SCA} = -j3,12$$

NOTA

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