NCERT-12.8.7

EE23BTECH11005 - Ambati Krishna Kaustubh

QUESTION

The amplitude of the magnetic part of a harmonic elctromagnetic wave is $B_0 = 510$nT.What is the amplitude of the electric part of the electromagnetic wave.

Solution:

$$\frac{E_0}{B_0} = c \tag{1}$$

$$E_0 = c * B_0 \tag{2}$$

$$E_0 = 153V - m \tag{3}$$

Parameter	Description	Value
B_0	Amplitude of the Electric Field	510nT
c	Speed of Electro Magnetic Wave	$3 \times 10^8 ms^{-1}$
E_0	amplitude of the Electric Field	153V-m

TABLE 1
PARAMETER TABLE