

Answer on Question 72089, Physics, Other

Question:

Certain X-rays have a frequency of $1.0 \cdot 10^{19} \text{ Hz}$. Calculate their wavelength in air.

Solution:

We can find the wavelength of X-rays from the formula:

$$\lambda = \frac{c}{f} = \frac{3 \cdot 10^8 \frac{m}{s}}{1.0 \cdot 10^{19} \text{ Hz}} = 3 \cdot 10^{-11} \text{ m}.$$

Answer:

$$\lambda = 3 \cdot 10^{-11} \text{ m}.$$

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