What would the frequency be of a violet light wave with wavelength of $\lambda = 410.17$ nm?

Solution:

The relationship between the frequency and wavelength is

$$\lambda = \frac{c}{f}.$$

So

$$f = \frac{c}{\lambda} = \frac{3 \times 10^8}{410.17 \times 10^{-9}} = 731.4 \times 10^{12} \text{ Hz.}$$

Answer: 731.4×10^{12} Hz.