An important wavelength of radiation used in radio astronomy is 21.1 cm. (This wavelength of radiation is emitted by excited neutral hydrogen atoms.) This radiation travels at the speed of light, 3.00×108 m/s. Compute the frequency of this radio wave.

By definition:

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

$$f = \frac{3 * 10^8 m/s}{21.1 * 10^{-2} m} = 1.42\ GHz$$

Answer: $f = 1.42\ GHz$