

Question #53280, Physics / Other |

A radio station is broadcasting programs at 100 MHz frequency. If the distance between the radio stations is 300 km, how long would the signal take to reach the receiver?

Answer:

The speed of electromagnetic wave is 300 000 km/s. Thus, the time for the signal to get to the receiver is defined as follows:

$$t = \text{distance/speed} = 300 \text{ km}/300\,000 \text{ km/s} = 10^{-3} \text{ s}$$

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