

14. Let the separation between the point and the two sources (labeled 1 and 2) be x_1 and x_2 , respectively. Then the phase difference is

$$\begin{aligned}\Delta\phi &= \phi_1 - \phi_2 = 2\pi\left(\frac{x_1}{\lambda} + ft\right) - 2\pi\left(\frac{x_2}{\lambda} + ft\right) = \frac{2\pi(x_1 - x_2)}{\lambda} \\ &= \frac{2\pi(4.40\text{ m} - 4.00\text{ m})}{(330\text{ m/s})/540\text{ Hz}} = 4.12\text{ rad.}\end{aligned}$$