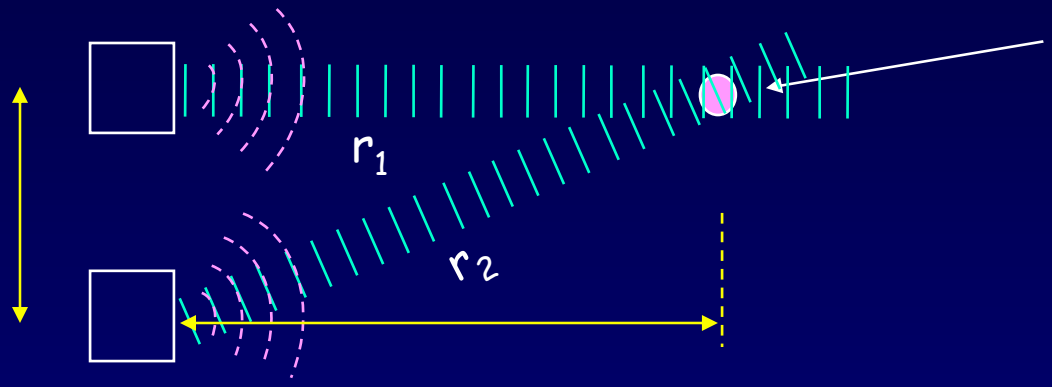
Solution

The relative phase of two waves also depends on the relative distances to the sources:



The two waves at this point are "out of phase". Their phase difference ϕ depends on the path difference $\delta \equiv r_2 - r_1$.

Reminder: A can be negative. "Amplitude" is the absolute value.

Path difference δ	Phase difference ϕ	$A = 2A_1\cos(\phi/2)$	I
0	0	$2A_1$	$4I_1$
$\lambda/4$	$\pi/2$	$\sqrt{2}A_1$	$2I_1$
$\lambda/2$	π	0	0
λ	2π	$2A_1$	$4I_1$

Each fraction of a wavelength of path difference gives that fraction of 360° (or 2π) of phase difference:

$$\frac{\phi}{2\pi} = \frac{\delta}{\lambda}$$