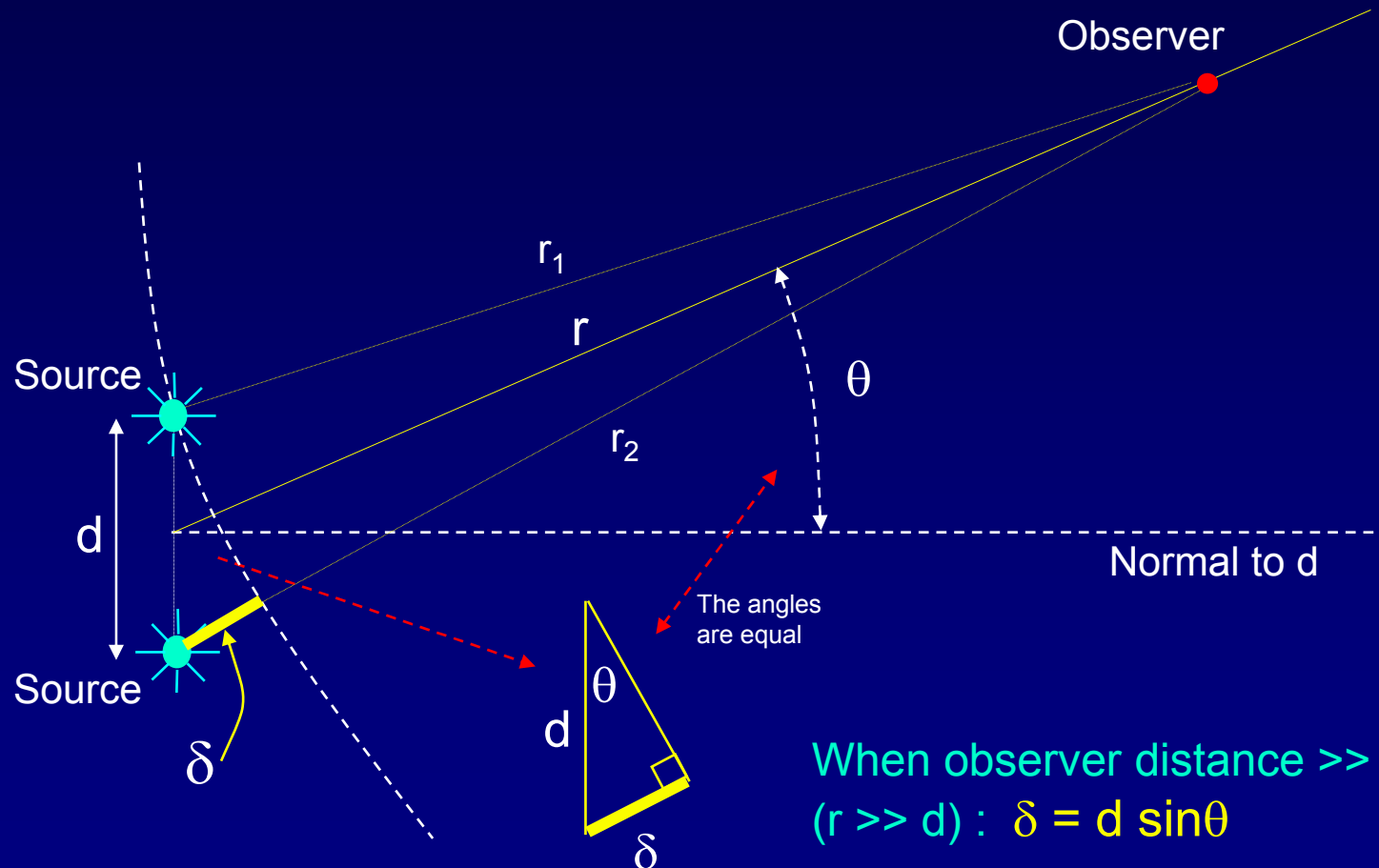


# Simple formula for the path difference, $\delta$ , when the observer is far from sources.

Assume 2 sources radiating in phase:



When observer distance  $\gg$  slit spacing ( $r \gg d$ ):  $\delta = d \sin\theta$

Therefore:  $\phi = 2\pi(\delta/\lambda) = 2\pi(d \sin\theta / \lambda)$