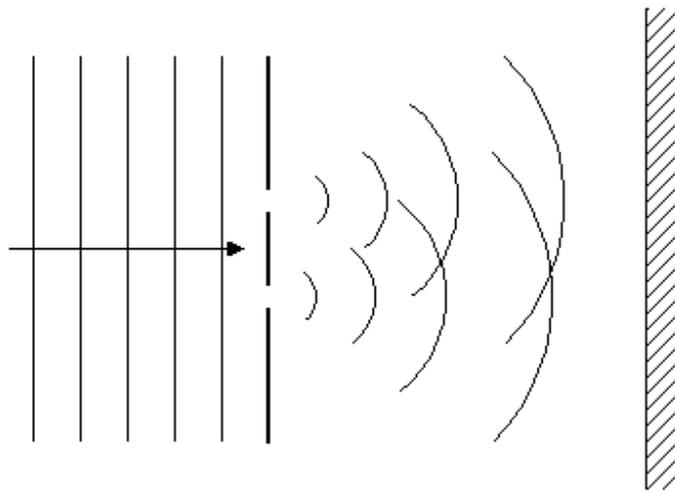


INTERFERENCE

Interference from two holes, Young's experiment.

When a plane wave falls on a screen with two small holes in it, the interference pattern caused by two waves can be observed on a screen. Young's experiment.



Suppose we place the two holes $d \equiv 1\text{-mm}$ from each other. The diameter of the holes is $D \equiv 0.2\text{-mm}$ and we place the screen at a distance $z \equiv 100\text{-cm}$ from the holes.

$N \equiv 200$ $\lambda \equiv 500\text{-nm}$ size $\equiv 10\text{-mm}$

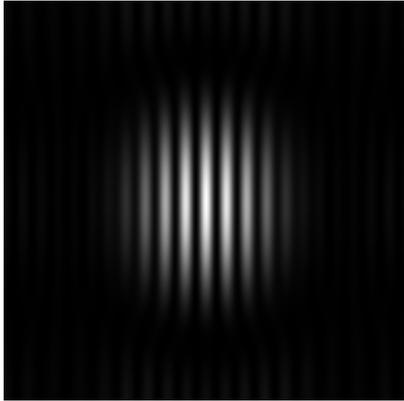
$$F := \text{LPBegin}\left(\frac{\text{size}}{m}, \frac{\lambda}{m}, N\right)$$

$$F_1 := \text{LPCircAperture}\left(\frac{D}{2m}, \frac{-d}{2m}, 0, F\right)$$

$$F_2 := \text{LPCircAperture}\left(\frac{D}{2m}, \frac{d}{2m}, 0, F\right)$$

$$F := \text{LPBeamMix}(F_1, F_2) \quad F := \text{LPForward}\left(\frac{z}{m}, F\right)$$

$$I := \text{LPIntensity}(2, F)$$



Interference pattern on the screen.

I
