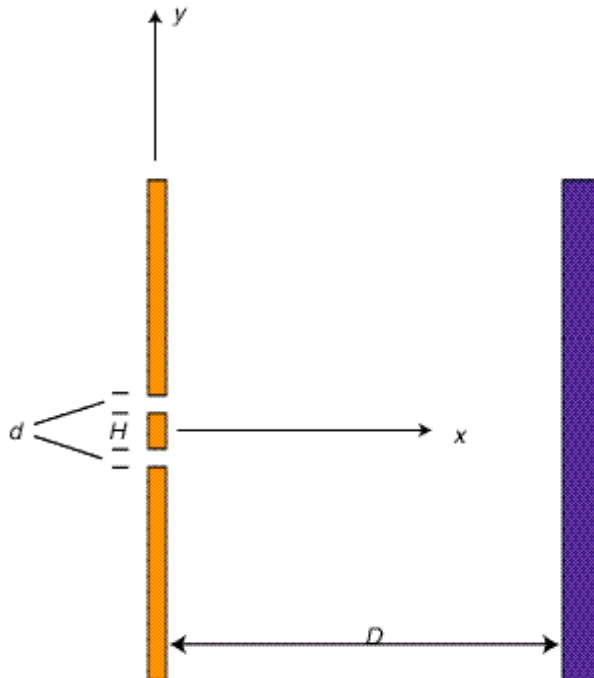


One problem:

Light is normally incident on the two-slit system shown. The slits have width d and separation H as shown. The slits extend from $z = -\infty$ to $z = +\infty$. Assume $kH \gg kd \gg 1$ and $kd^2 \ll D$.

- Using scalar diffraction theory and the Kirchhoff approximation, calculate $|\psi|^2$ at the screen. Consider only small diffraction angles. You may use results from Lecture 26.
- Sketch the result ($|\psi|^2$ vs. y). (Or plot it for a specific choice of $H/d \gg 1$.)
- What happens if you cover one slit?