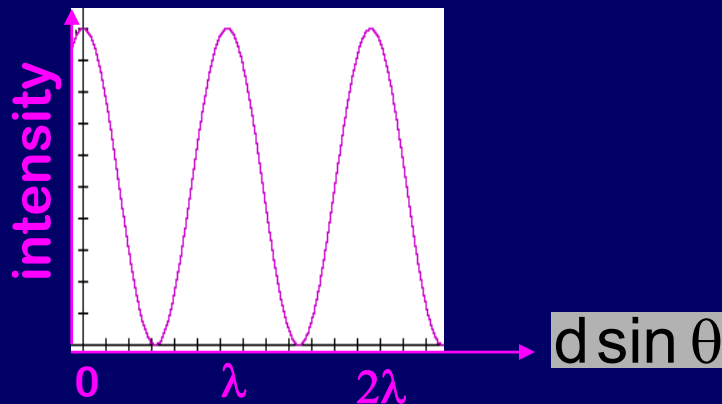# Multiple Slit Interference
(Diffraction Grating)

For many slits, maxima are still at

$$\sin \theta = m\frac{\lambda}{d}$$

Peak location depends on wavelength!

Region between maxima gets suppressed more and more as no. of slits increases – bright fringes become narrower and brighter.

2 slits (N=2)

intensity

0   λ   2λ

d sin θ

10 slits (N=10)

intensity

0   λ   2λ

d sin θ