

87. The condition for a minimum in a single-slit diffraction pattern is given by Eq. 37-3, which we solve for the wavelength:

$$\lambda = \frac{a \sin \theta}{m} = \frac{(0.022 \text{ mm}) \sin 1.8^\circ}{1} = 6.9 \times 10^{-4} \text{ mm} = 690 \text{ nm} .$$