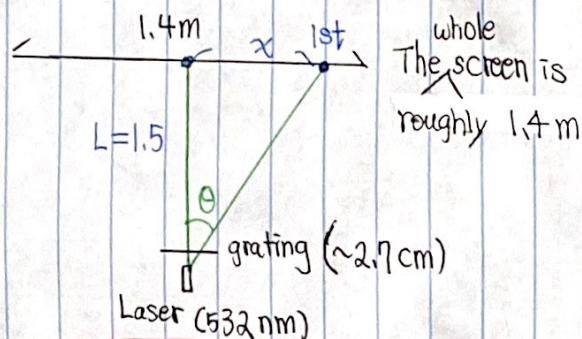


# Lab 8 Interference

Meng-Ju Tsai

metsai@umich.edu

## Diffraction grating (Exp 1)



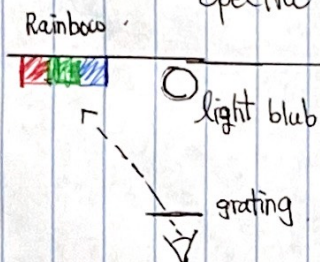
$$d = \frac{L\lambda}{x}$$

$$\tan\theta = \frac{x}{L}$$

$$\frac{x_m}{L} = \frac{m\lambda}{d}$$

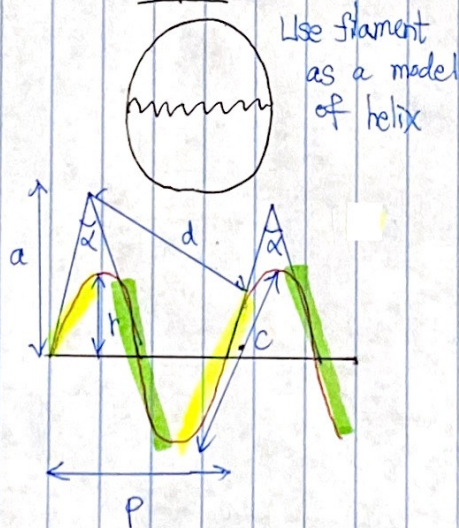
TIPS ① You should find "d" first

## Exp 2 Continuous Spectra



In principle, it share same eqn as Exp 1

## Exp 3

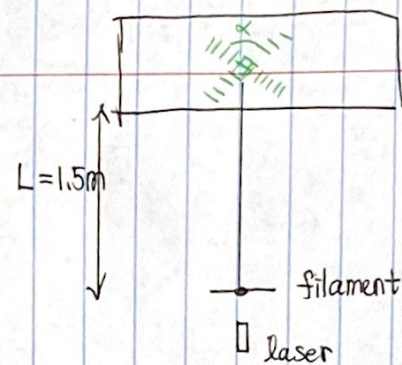


$$d = \frac{L\lambda}{x}$$

$$P = d \sec \frac{\alpha}{2}$$

$$r = \frac{d}{2N} \csc \frac{\alpha}{2} = \frac{P}{2N} \cot \left( \frac{\alpha}{2} \right)$$

grating  
green pattern



$$d = \frac{L\lambda}{x}$$