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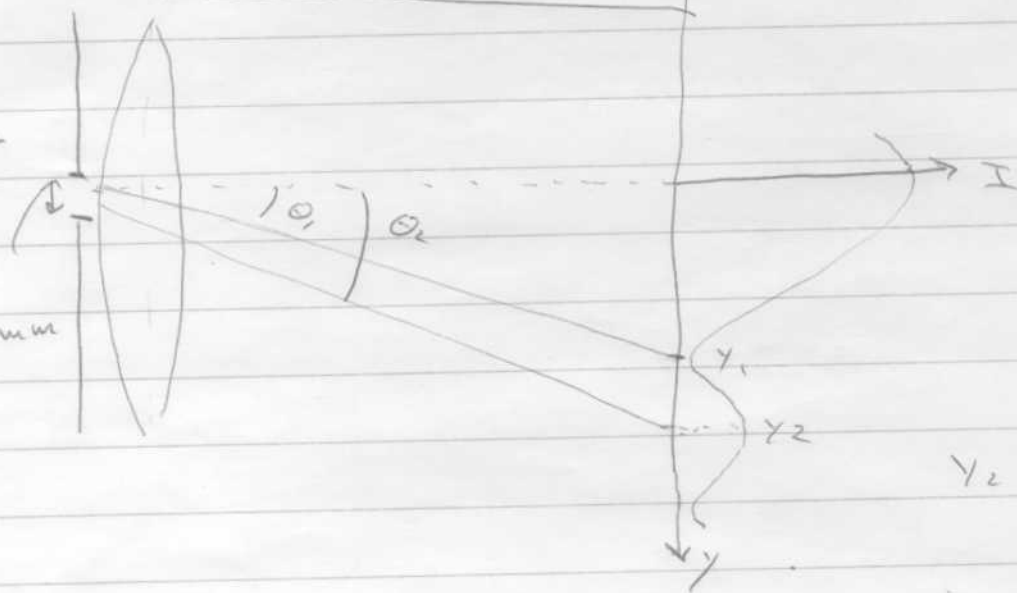
 $f = 50 \text{ cm}$

Skizze

$$\lambda = 633 \text{ nm}$$

 $\Rightarrow$

$$b = 0,5 \text{ mm}$$



$$y_2 - y_1 = ?$$

Första diff. min.: $b \sin \theta_1 = 1 \cdot \lambda$

$$\sin \theta_1 \approx \theta_1 \approx \tan \theta_1 = \frac{y_1}{f}$$

$$\Rightarrow b \frac{y_1}{f} = \lambda \quad \Rightarrow y_1 = \frac{f \lambda}{b} = 0,633 \text{ mm}$$

Intensitetsförd. : $I = I_0 \cdot \left(\frac{\sin \beta}{\beta} \right)^2$, $\beta = \frac{\pi b}{\lambda} \sin \theta$

Endast en vändsiffra i $b \Rightarrow$ approx: alla
förluster ~~de~~ sidonax där $\beta = \frac{3\pi}{2}$ borde vara OK.

$$\beta_2 = \frac{3\pi}{2} \Rightarrow \frac{3\pi}{2} = \frac{2\pi}{\lambda} \cdot \frac{b}{2} \cdot \frac{y_2}{f}$$

$$\Rightarrow y_2 = \frac{3}{2} \frac{f \lambda}{b} = 0,95 \text{ mm}$$

$$\Rightarrow y_2 - y_1 = \frac{1}{2} \frac{f \lambda}{b} = 0,3 \text{ mm}$$