

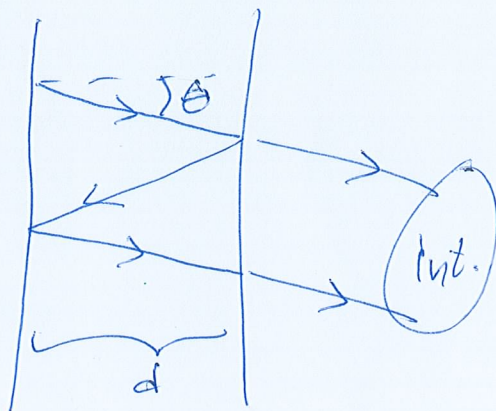
Pbs.
5-136

$$\lambda_1 = 306,65 \text{ nm}$$

$$n_1 = 1,00028$$

$$\lambda_2 = 230,0 \text{ nm}$$

$$n_2 = 1,00032$$



Geometri: $2d \cos \theta = m \cdot \lambda$

$$\theta = 0: 2n_1 d = m_1 \lambda_1 \quad 2n_2 d = m_2 \lambda_2$$

$$\theta = 2,8282: \frac{2n_1 d}{\cos \theta} = m_1' \lambda_1 \quad \frac{2n_2 d}{\cos \theta} = m_2' \lambda_2$$

5 obestämda! $m_1, m_2, m_1', m_2' - d$

$$d = \frac{m_1 \lambda_1}{2n_1} = \frac{m_2 \lambda_2}{2n_2} \Rightarrow \frac{m_1}{m_2} = \frac{n_1}{n_2} \frac{\lambda_2}{\lambda_1} = 0,7500 = \frac{3}{4}$$

m_1 och m_2 heltal: Då måste $m_1 = 3m_0$ $m_2 = 4m_0$

$$\frac{d}{\cos \theta} = \frac{m_1' \lambda_1}{2n_1} = \frac{m_2' \lambda_2}{2n_2} \Rightarrow \frac{m_1'}{m_2'} = \frac{n_1}{n_2} \frac{\lambda_2}{\lambda_1} = \frac{3}{4} \text{ igen}$$

$$\Rightarrow m_1' = 3(m_0 + 1) \quad m_2' = 4(m_0 + 1)$$

(ty θ är frsta gemensamma max för λ_1 och λ_2)