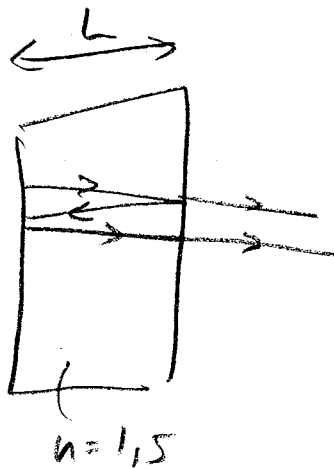


5-158

FP



$$\lambda_1 = 632 \text{ nm}$$

$$\lambda_2 = 582 \text{ nm}$$

Fore utvidgning:

$$1) \quad n \cdot 2L = m_1 \lambda_1$$

$$2) \quad n \cdot 2L = m_2 \lambda_2$$

Efter utvidgning:

$$3) \quad n \cdot 2(L + \Delta L) = (m_1 + \Delta m) \lambda_1$$

$$4) \quad n \cdot 2(L + \Delta L) = (m_2 + \Delta m + 3) \lambda_2$$

$$3) - 1): \quad n \cdot 2\Delta L = \Delta m \lambda_1 \quad (5)$$

$$4) - 2): \quad n \cdot 2\Delta L = (\Delta m + 3) \lambda_2$$

$$\Delta m \lambda_1 = (\Delta m + 3) \lambda_2 \Rightarrow \Delta m (\lambda_1 - \lambda_2) = 3 \lambda_2$$

$$\Rightarrow \Delta m = \frac{3 \lambda_2}{\lambda_1 - \lambda_2} = \frac{3 \cdot 582}{50} =$$

Satt $n = 1.5$

$$n \cdot 2\Delta L = \Delta m \lambda_1 \Rightarrow \Delta L = \frac{\Delta m \lambda_1}{2n} =$$