

langsvar: 1

Brug 3 gældende cifre!

$$R_c = 10 \text{ cm}$$

$$\lambda_R = 700 \text{ nm}$$

$$n_r = 1.51$$

$$n_{\text{luft}} = 1.00$$

$$\lambda_B = 450 \text{ nm}$$

$$n_b = 1.53$$

Del A:

A1 \* Vi har monokromatisk lys

\* Linsen tilnærmes som flad.

$$r = \frac{E_r}{E_i} = \frac{n_1 - n_2}{n_2 + n_1} = \frac{1 - 1.51}{1 + 1.51} = -\frac{0.51}{2.51} = -0.203 \quad (1)$$

Vi antager at  $n_1$  er luft, mens  $n_2$  er glass henholdsvis for rødt lys.  
 $\downarrow$   
1.51

$$A3) \quad I \propto E_0^2 \Rightarrow R = \frac{I_r}{I_i} = \left( \frac{E_r}{E_i} \right)^2 = r^2 = (-0.203)^2 = 0.0412$$

$$T = \frac{I_t}{I_i} = \frac{n_2}{n_1} \left( \frac{E_t}{E_i} \right)^2 = \frac{n_2}{n_1} t^2 = \frac{n_2}{n_1} \cdot \left( \frac{2n_1}{n_1 + n_2} \right)^2 = 0.959$$

A5)

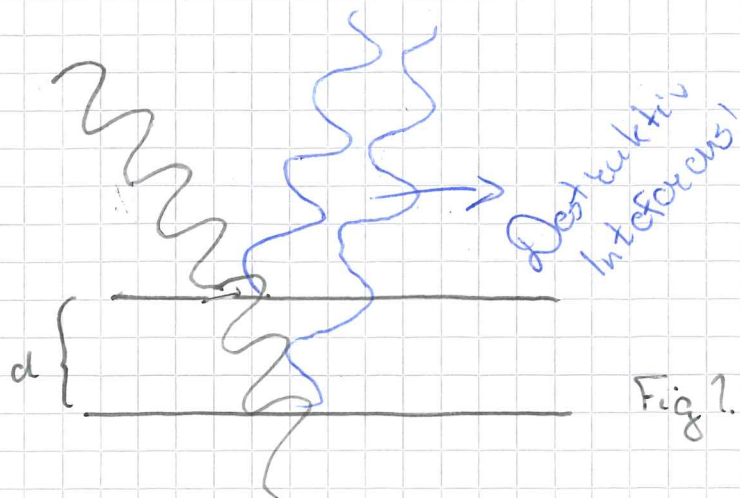


Fig 1.