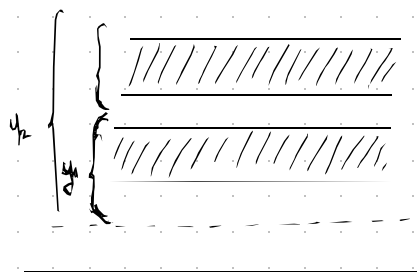


2.  $\lambda_1 = 400 \text{ nm}$   
 $l_1 = 1.8 \text{ cm} \rightarrow 10 \text{ mjestih pruga}$   
 $l_2 = 2.7 \text{ cm} \Rightarrow 10 \text{ mjestih pruga}$



$\lambda_2 = ?$

$y_{\text{MAX}} = \frac{m\lambda D}{d}$

$y_{\text{MIN}} = \frac{(2m+1)\lambda D}{2d}$

ovaj tražimo:

$y_1 = \frac{1.8}{10} = 0.18 \text{ cm}$

$m=1$

$\frac{y_1}{y_2} = \Rightarrow \frac{\lambda_1}{\lambda_2} = \frac{y_1}{y_2} \Rightarrow \lambda_2 = \lambda_1 \frac{y_2}{y_1}$

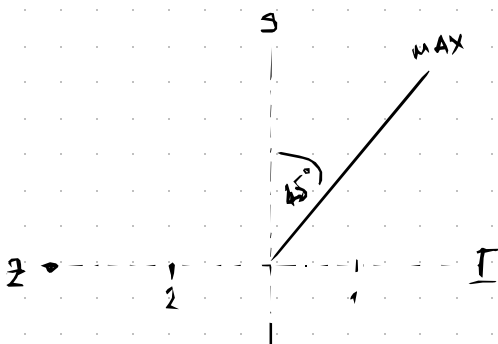
$y_2 = \frac{2.7}{10} = 0.27 \text{ cm}$

$\Rightarrow \lambda_2 = 600 \text{ nm}$

3.  $\lambda = 100 \text{ m}$

$d = 200 \text{ m}$

$\Phi = ?$



1.  $E_1(t) = E_{10} \cos(\omega t + \Phi_1 - \frac{2\pi S_1}{\lambda}) = E_{10} \cos(\omega t - \Psi_1)$

$S_1$  = optički put  $\rightarrow$  promjena - defektor

$\Psi_1 = \Phi_1 - \frac{2\pi S_1}{\lambda}$

2.  $E_2(t) = E_{20} \cos(\omega t - \Psi_2); \Psi_2 = \Phi_2 - \frac{2\pi S_2}{\lambda}$

$\Delta \Psi = \Psi_2 - \Psi_1 = \Delta \Phi - \frac{2\pi \Delta S}{\lambda}$

$\Delta \Phi = \Phi_2 - \Phi_1$

$\Delta S = S_2 - S_1$

$\Rightarrow \Delta \Psi = \Delta \Phi - \frac{d\pi\sqrt{2}}{\lambda}$

$\Delta \Psi = m2\pi; m = 0, \pm 1, \pm 2, \dots$

$\Delta \Phi - \frac{d\pi\sqrt{2}}{\lambda} = m2\pi$

$\Delta \Phi = 2\pi(m + \sqrt{2})$

$\Rightarrow \omega \in [-\pi, \pi]$

$\Rightarrow m = -1$

$\Rightarrow \Delta \Phi = 2\pi(\sqrt{2} - 1)$

$\Delta \Phi > 0, \Delta \Phi = \Phi_2 - \Phi_1$

④  $n = 1.33$

$\lambda_1 = 0.64 \mu m$

$\lambda_2 = 0.4 \mu m$

$d_{min} = ?$

$\alpha = 30^\circ$



Bum se plakala. Enig

$$m = 1.33$$

$$\lambda_1 = 0.64 \mu\text{m}$$

$$\lambda_2 = 0.4 \mu\text{m}$$

$$\sin \alpha = ?$$

$$\alpha = 30^\circ$$

za refleksiju na tamnom filmu

$$2d \sqrt{n^2 - \sin^2 \alpha} = (2m+1) \frac{\lambda}{2}$$

$\hookrightarrow$  min

$$m = 1, 2, 3$$

$\hookrightarrow$  treba mijeditati  
za istovremeno

$$2d \sqrt{n^2 - \sin^2 \alpha} = (m_2 + 1) \lambda$$

$\hookrightarrow$  min

$\hookrightarrow$  treba mijeditati  
za  $\lambda_2$

$$d = \frac{(2m+1) \lambda_1}{4 \sqrt{n^2 - \sin^2 \alpha}}$$

$$d = \frac{(m_2+1) \lambda_2}{2 \sqrt{n^2 - \sin^2 \alpha}}$$

$$0 = d$$

$$\frac{(2m+1) \lambda_1}{2} = (m_2+1) \lambda_2$$

$$m_1 + \frac{1}{2} \frac{\lambda_1}{\lambda_2} = m_2 + 1$$

uvrstimo  $m_1 = m_2 \text{ NE}$

$$m_1 = 2, m_2 = 1 \text{ NE}$$

$$m_1 = 1, m_2 = 2 \text{ NE}$$

$$m_1 = 2, m_2 = 3 \text{ DAP}$$

uvrstimo u izraz od  $d_{\min} = 0.65 \mu\text{m}$

O Sofia pa ti, jer prava princeza, mislim bar  
ili se bar tako ne vijećam ja otam i ućin  
al mištel iste stes, ućin ali dōni se da uće  
dovoljno. Eiplice, haljine, izjedam kao princeza,  
cine. Lujice al dēti je to se ućeš dovoljno  
O kako da budem brabra za ovo sve kad toleto  
puta surujam u sebe.

