

KAPITEL 12

12.1

Luft absorberer ^{all} stråling under 2000 Å.

12.2

$$b = 2,00 \mu\text{m}$$

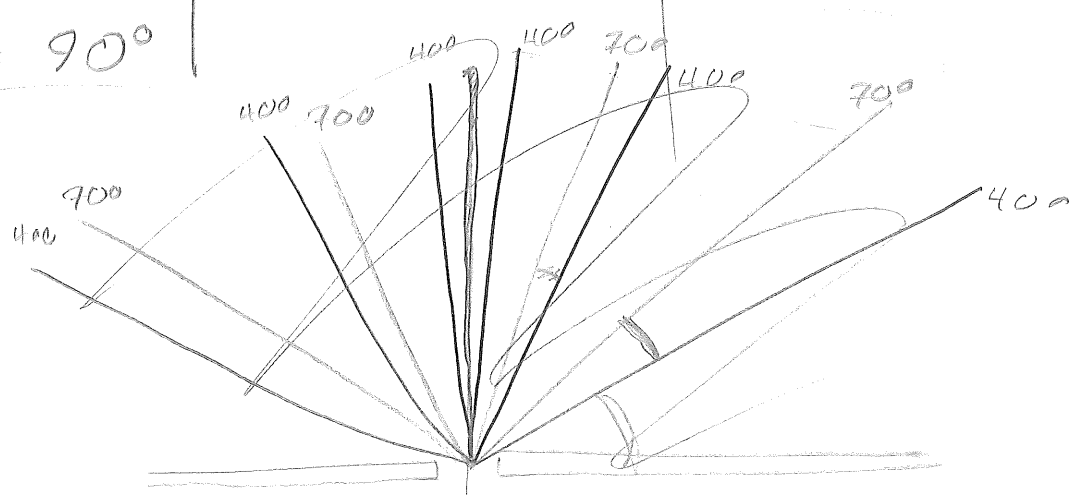
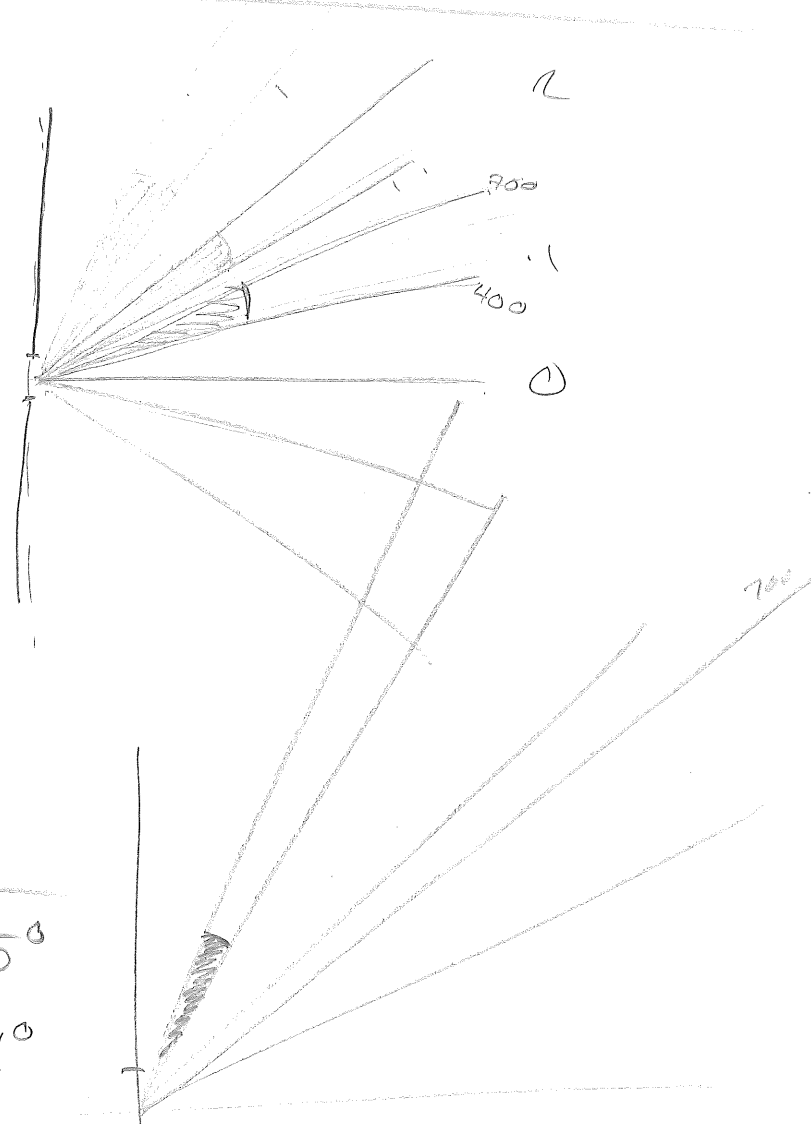
$$\lambda_1 = 400 \text{ nm}$$

$$\lambda_2 = 700 \text{ nm}$$

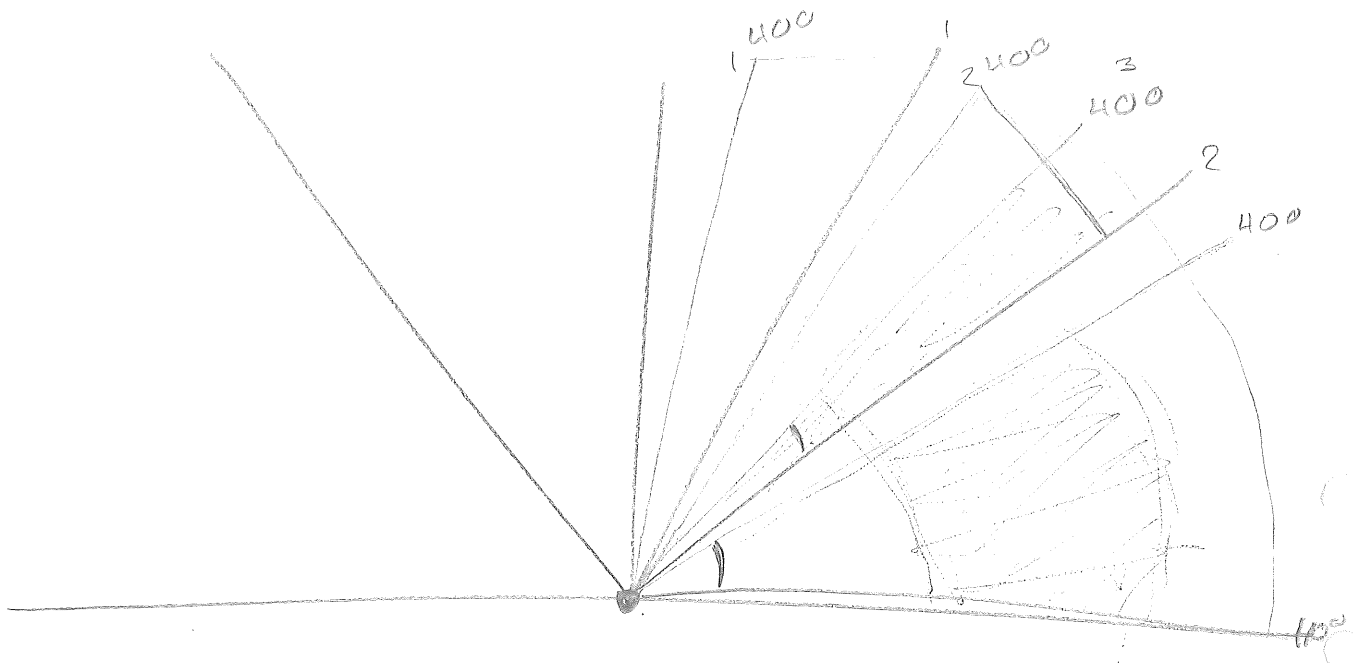
$$b(\sin \theta_1 + \sin \theta_m) = m\lambda$$

$$b \sin \theta_m = m\lambda$$

400 nm	700 nm
$\theta_1 = 11^\circ$	$\theta_1 = 20,5^\circ$
$\theta_2 = 23,6^\circ$	$\theta_2 = 44,4^\circ$
$\theta_3 = 36,9^\circ$	$\theta_3 = \text{---}$
$\theta_4 = 53,1^\circ$	
$\theta_5 = 90^\circ$	



Over lappade omraden.



~~12.3~~

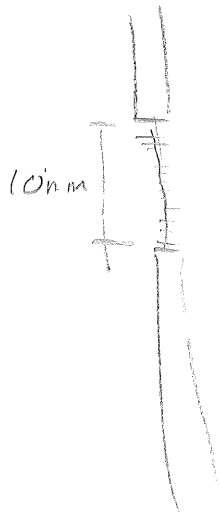
12.3

1200 ritsar/mm

$$b = \frac{1}{1200} \text{ mm} = \frac{1}{1.2 \cdot 10^6} \text{ m}$$

$$\lambda = 514 \cdot 10^9 \text{ m}$$

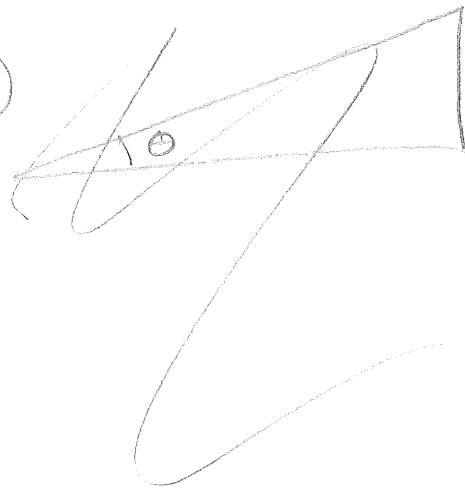
$$\theta_i = 0^\circ$$



a) $b \sin \theta_m = m \lambda$

$$\theta_1 = 38^\circ$$

b)



12.3

b) Vi vill ha svståndet mellan två minima/2 $\frac{1}{2}$

$$I = I_0 \left(\frac{\sin N\alpha}{\sin \alpha} \right)^2$$

Vi vill att $\sin N\alpha = 0$

$$\Rightarrow N\alpha = \pi$$

$$\alpha = \frac{\pi \cdot n}{N}$$

$\sin \alpha \neq 0 \Rightarrow \alpha \neq \pi \cdot n$

$\alpha \neq 0, \pi, 2\pi, 3\pi, \dots$

$$\boxed{\alpha = \frac{\pi}{2} \quad N = 2k}$$