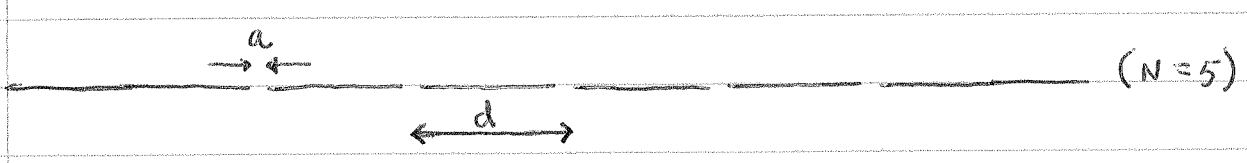
Korrigerte intensitetsfordelinger for N spalter med bredde a, gitterkonstant d:



Må la $I_0 \to \hat{I}\left(\frac{\sin\beta}{\beta}\right)^2$ i utledede formler

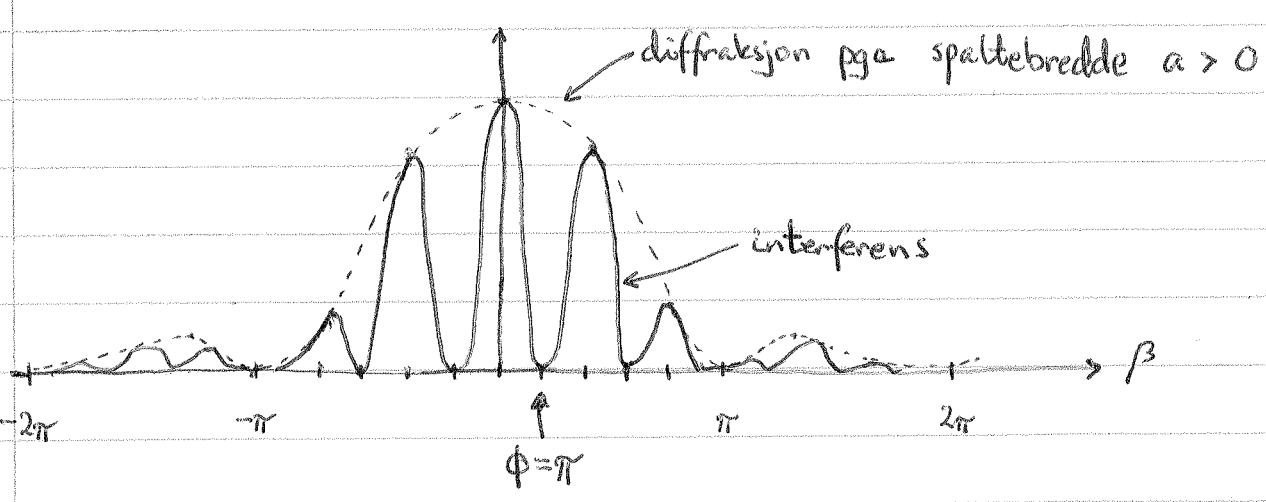
$$\Rightarrow \boxed{I = \hat{I}\left(\frac{\sin\beta}{\beta}\right)^2 \left\{\frac{\sin(N\phi/2)}{\sin(\phi/2)}\right\}^2}$$

$\beta = \pi a \sin\theta/\lambda$

$\phi = 2\pi d \sin\theta/\lambda$

For N = 2:

$$I = 4\hat{I}\left(\frac{\sin\beta}{\beta}\right)^2 \cos^2\frac{\phi}{2}$$



- $\beta = \pi \Rightarrow \sin\theta = \frac{\lambda}{a} \Rightarrow$ sentral diffraksjonstopp $(-\pi < \beta < \pi)$
  dekker alle retninger $\left(-\frac{\pi}{2} < \theta < \frac{\pi}{2}\right)$
  når $a \approx \lambda$
- $a \gg \lambda \Rightarrow$ sentral diffr. topp smal (rundt $\theta = 0$)
- $a \ll \lambda \Rightarrow$ ——— " ——— bred, men like lys slipper gjennom...