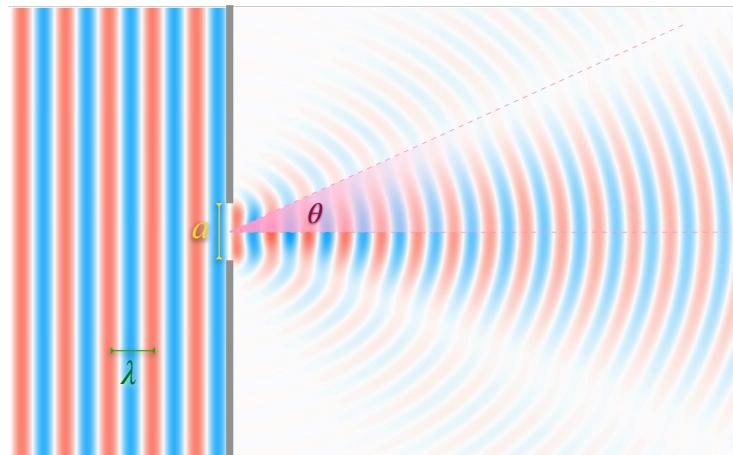


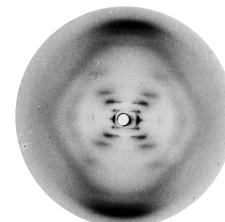
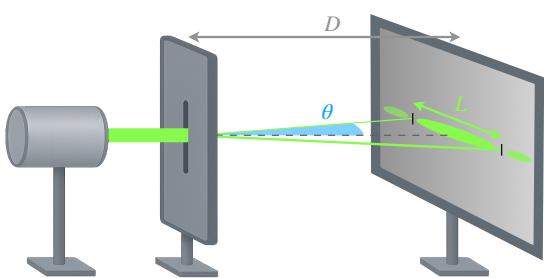
Diffraction



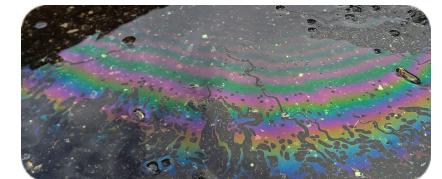
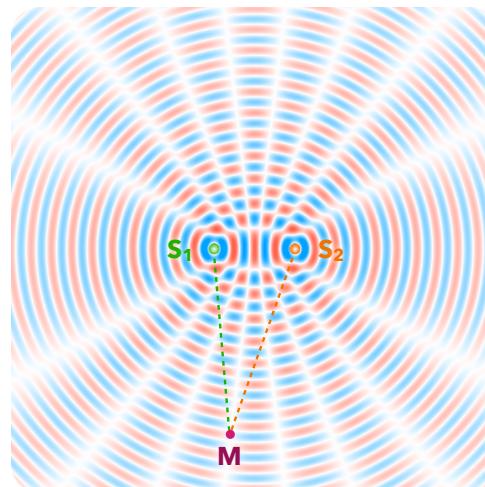
conditions d'observations :

- a et λ du même ordre de grandeur
- pour la lumière $a \lesssim 100\lambda$

$$\theta = \frac{\lambda}{a}$$



Interférences



conditions d'observations :

- ondes de **même nature**
- sources **synchrones**
= mêmes fréquences
- sources **cohérentes**
= déphasage constant

$$\delta = [S_2M] - [S_1M] \quad \text{différence de marche ou de chemin optique}$$

Interférences constructives

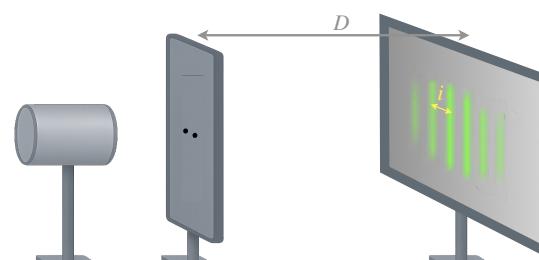
$$\frac{\delta}{\lambda} = k \quad k \in \mathbb{Z}$$

Interférences destructives

$$\frac{\delta}{\lambda} = \left(k + \frac{1}{2} \right)$$

les ondes sont **en phase**
($\Delta\phi = 0 + k \times 2\pi$)

les ondes sont **en opposition de phase** ($\Delta\phi = \pi + k \times 2\pi$)



expérience des trous d'Young

