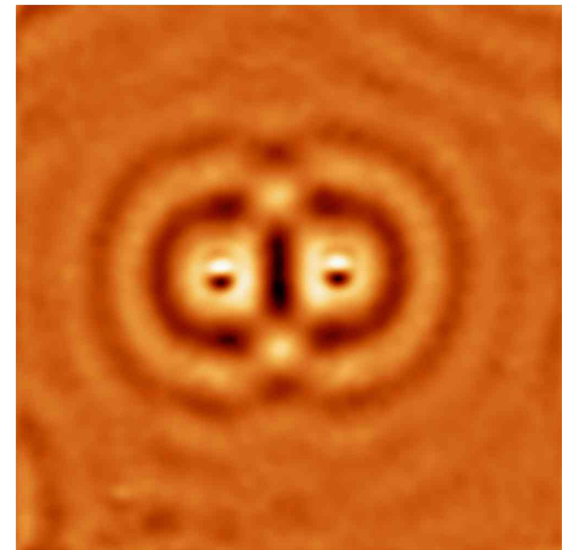
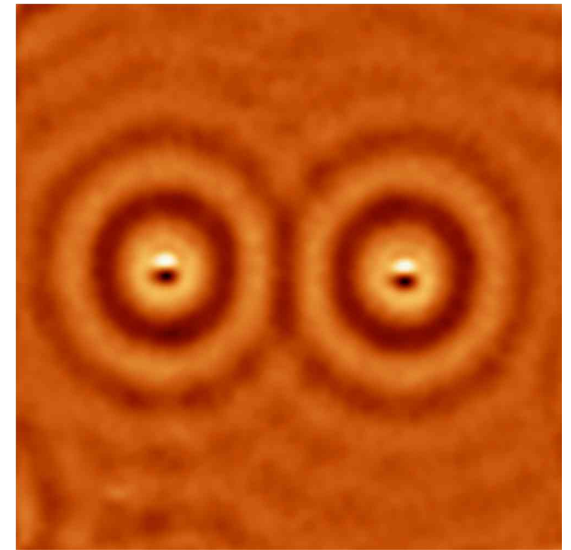


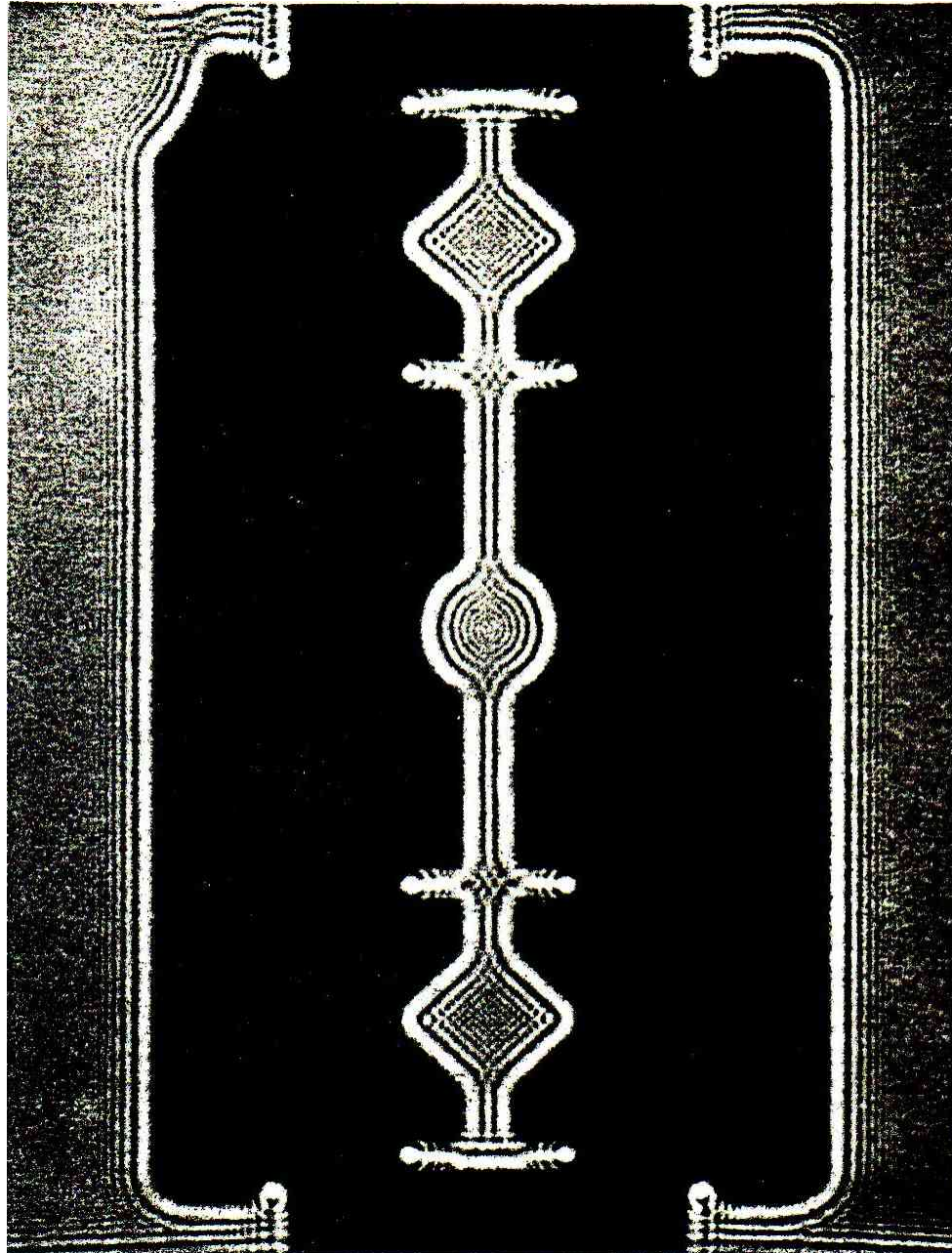
Wellen - Interferenz und Beugung



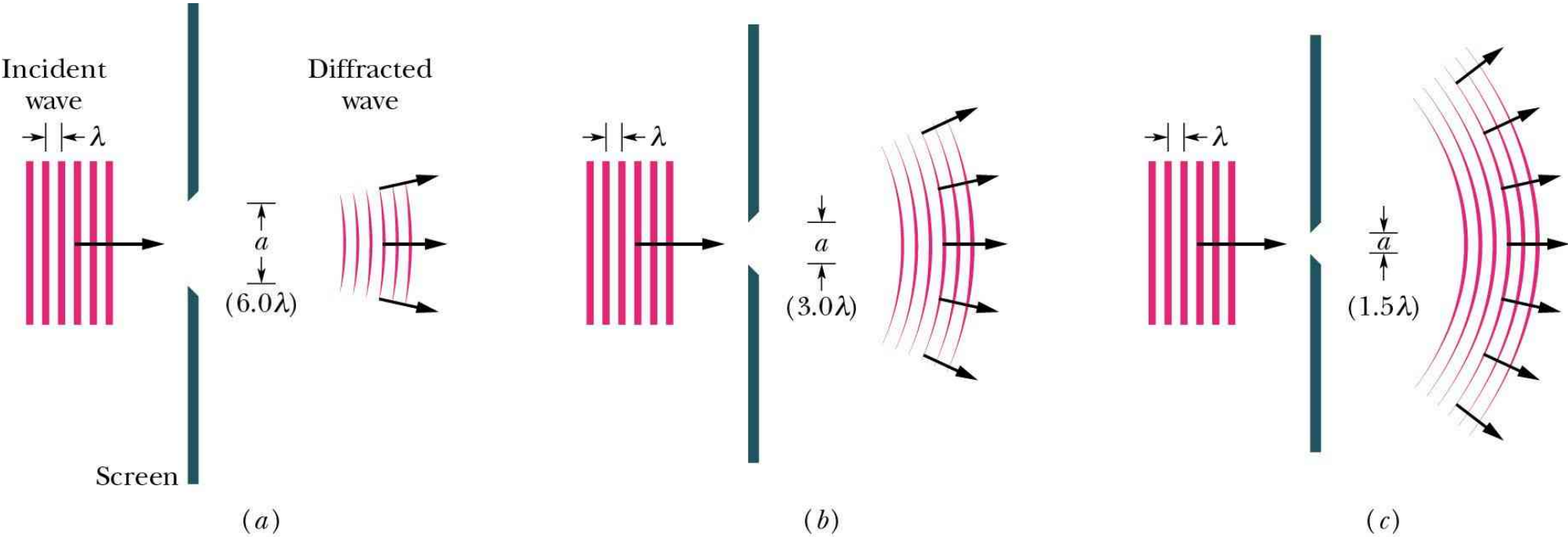
Beugung von Wasserwellen



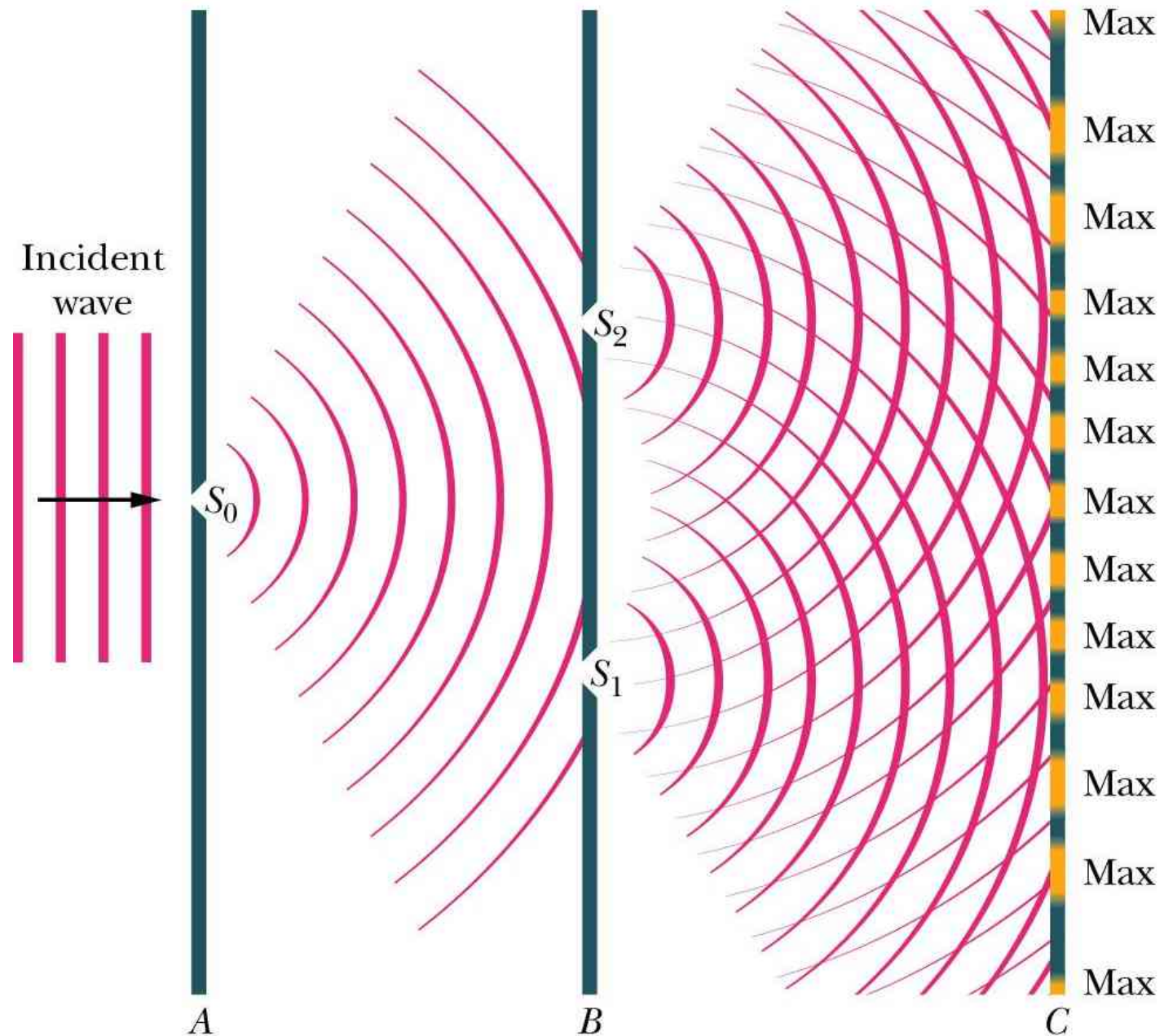
Interferenz von
Elektronenwellen



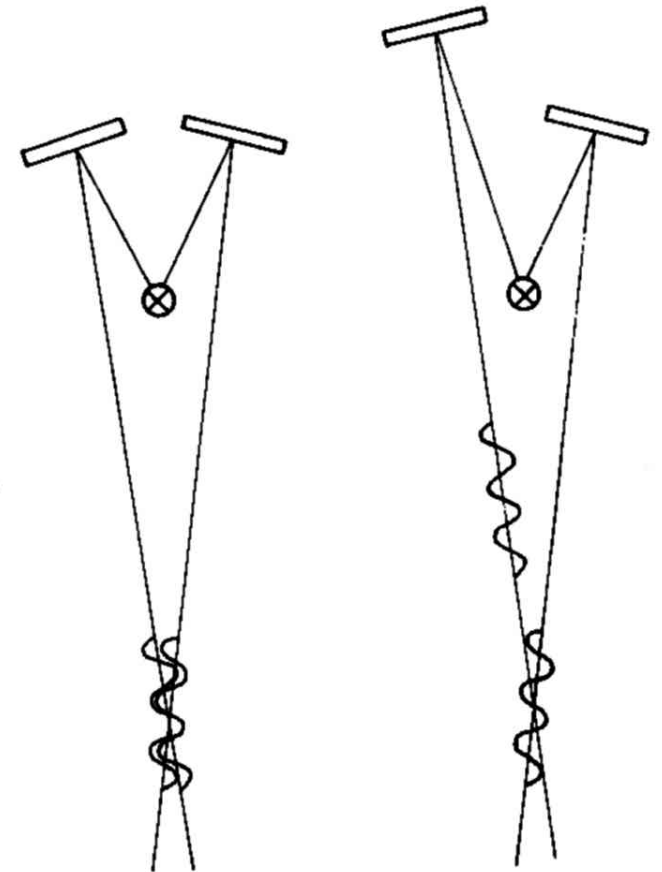
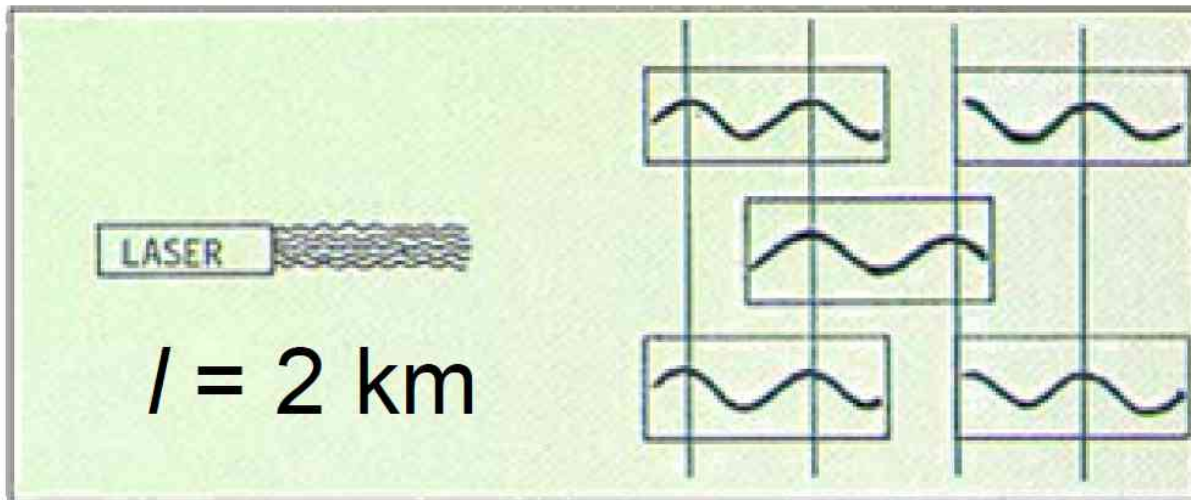
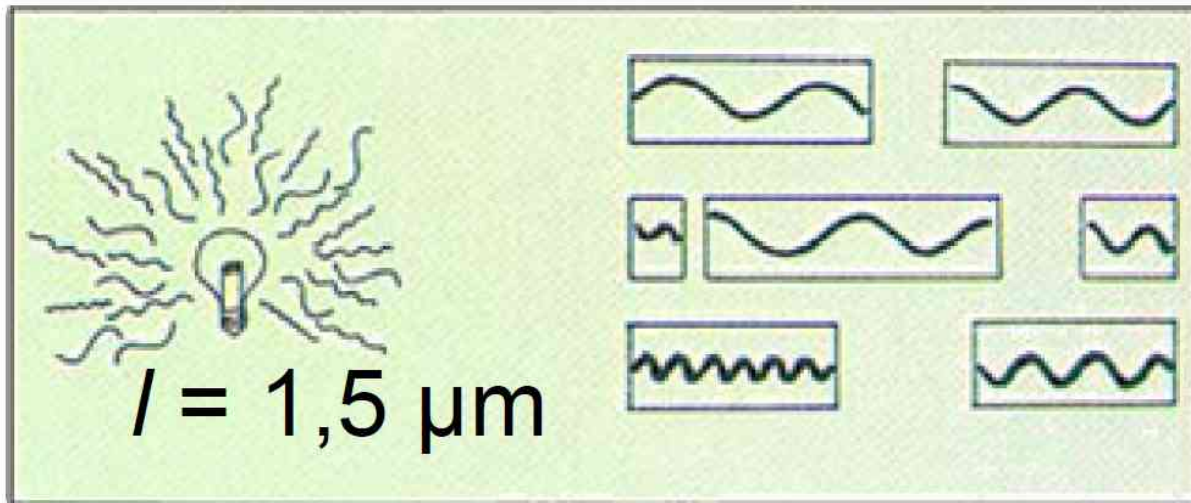
Beugung: Deutlich für $\lambda \approx a$



Interferenz erfordert Kohärenz

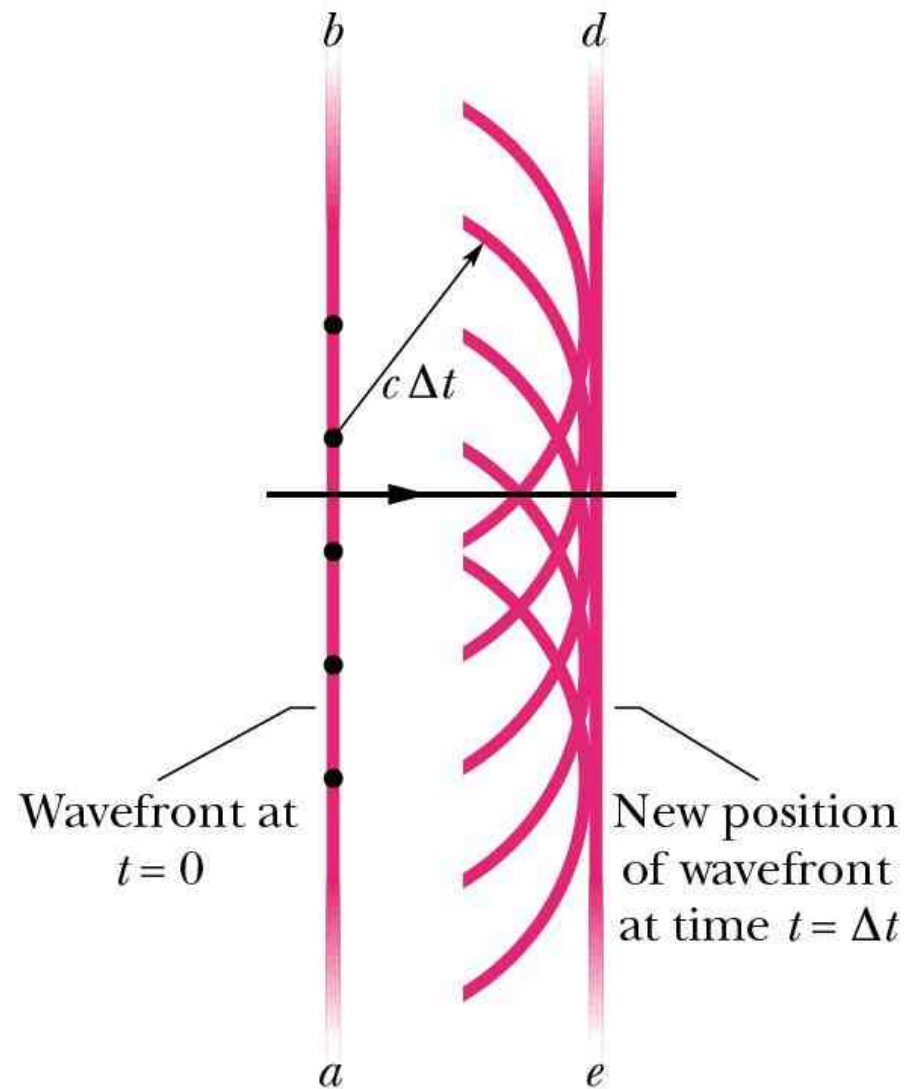


(In-) Kohärenz von Lichtquellen

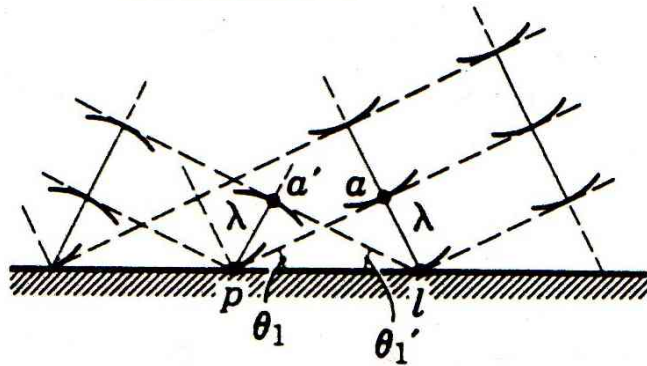
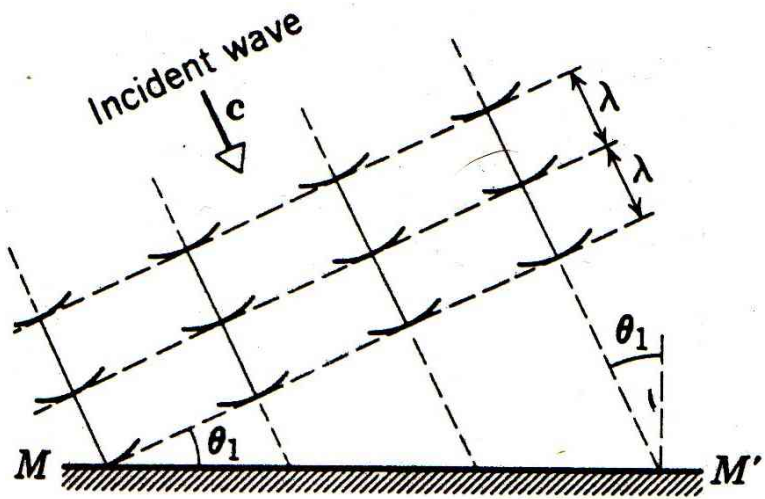


Kohärentes Licht von einer gewöhnlichen Glühlampe

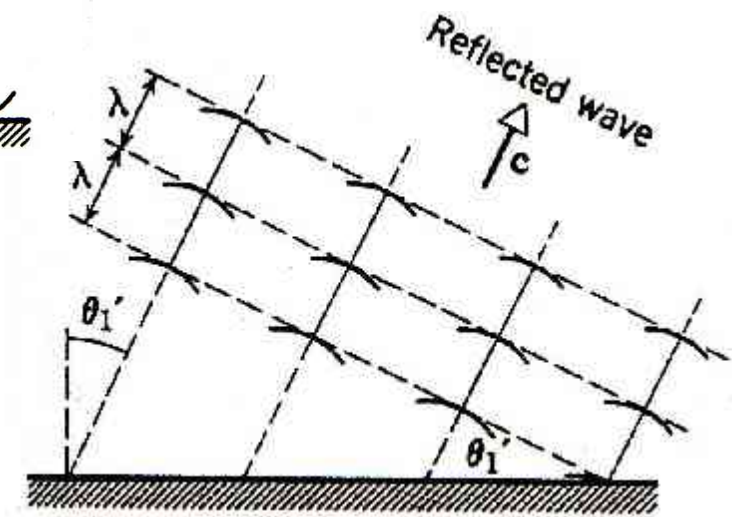
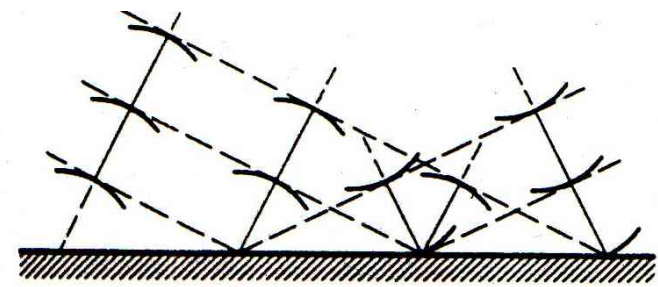
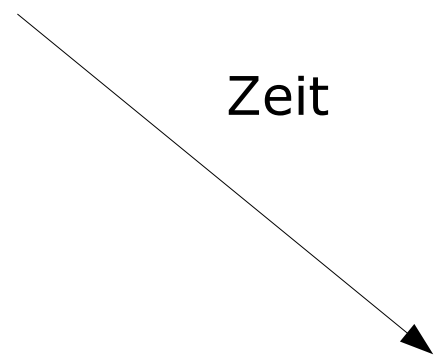
Huygens Prinzip



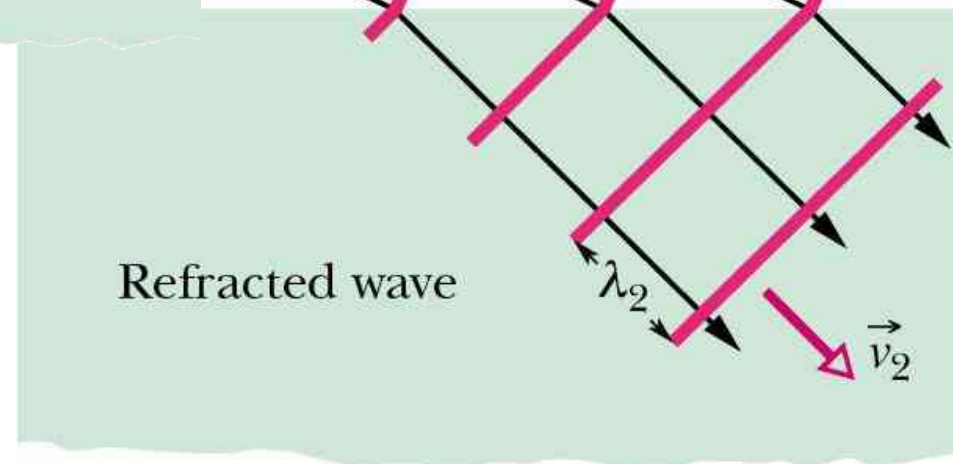
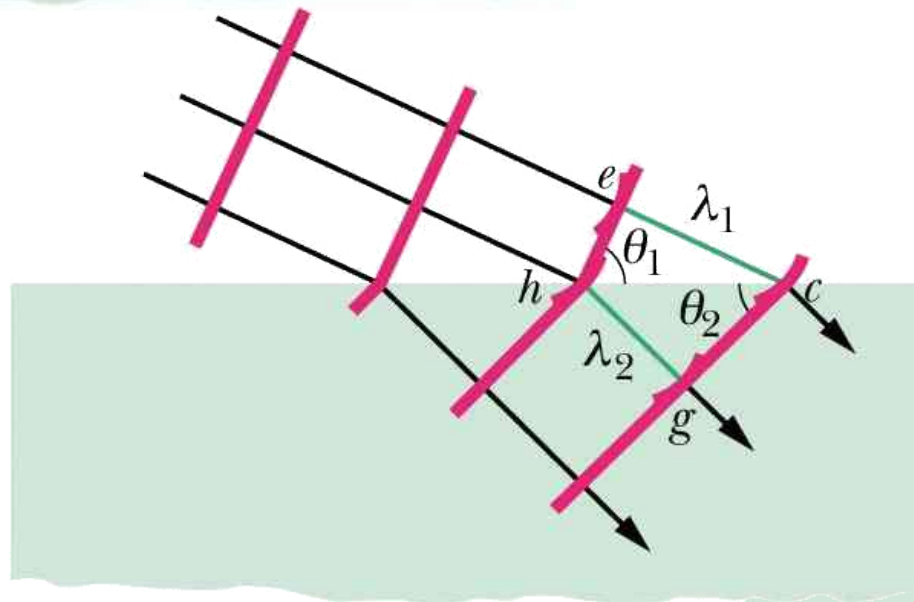
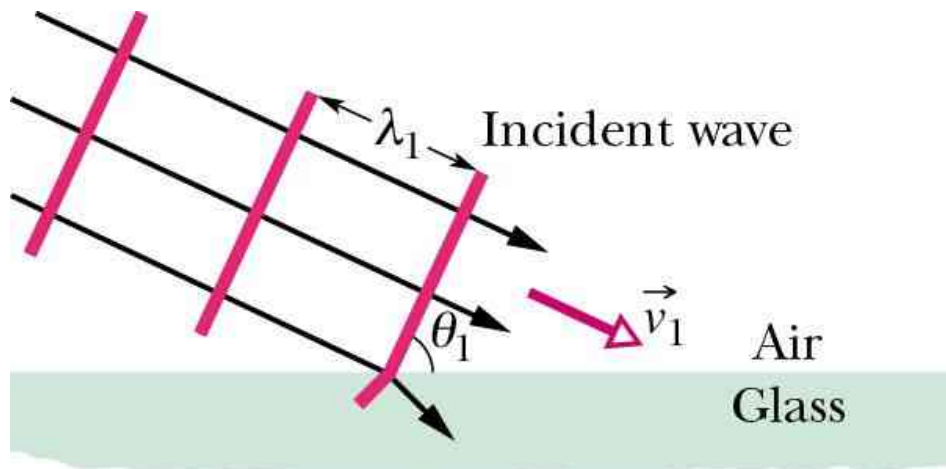
Huygens: Reflexion



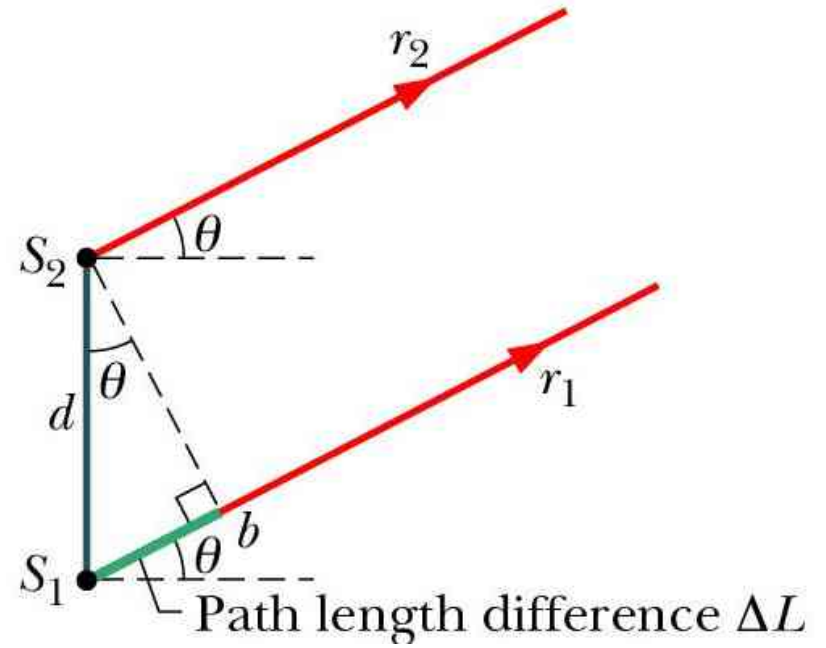
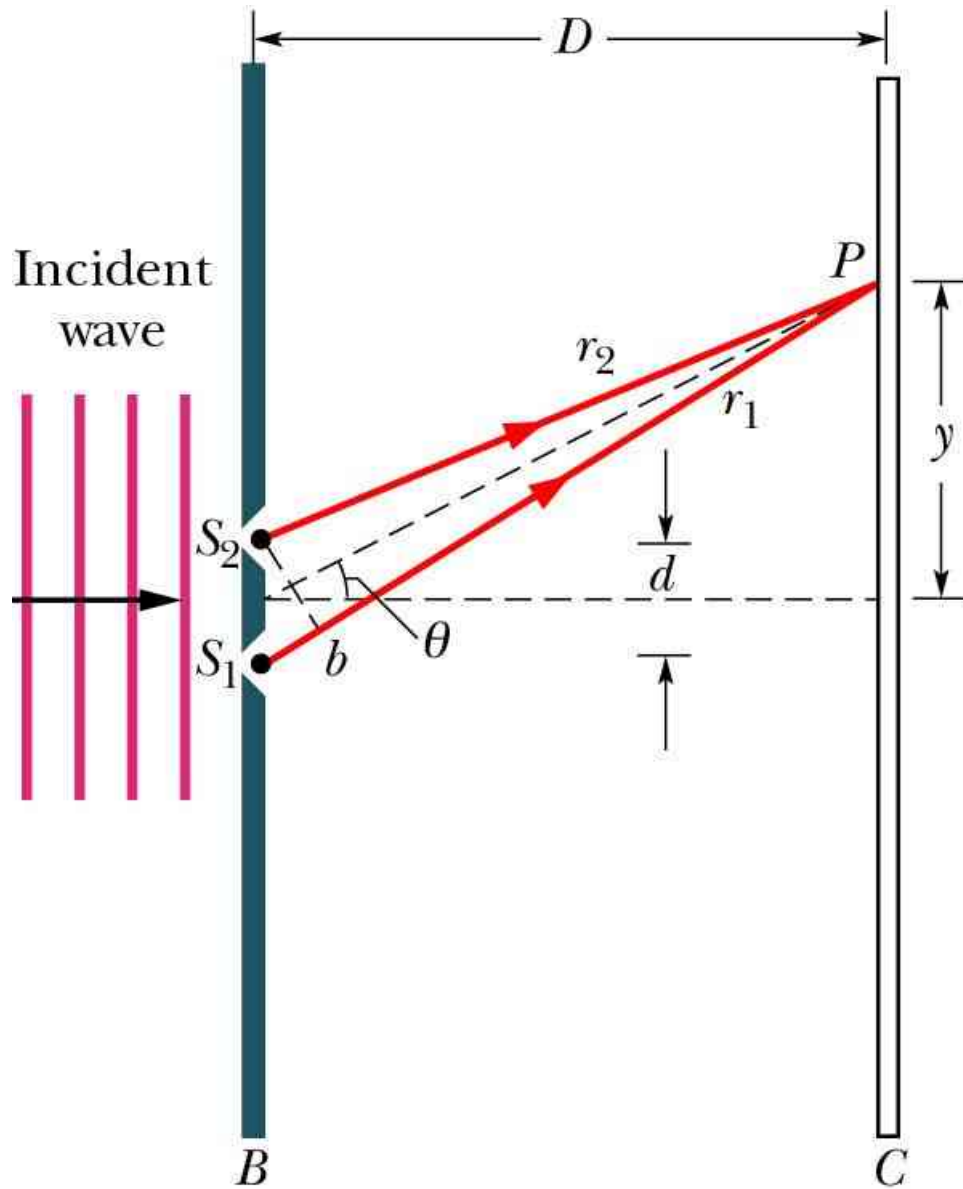
Zeit



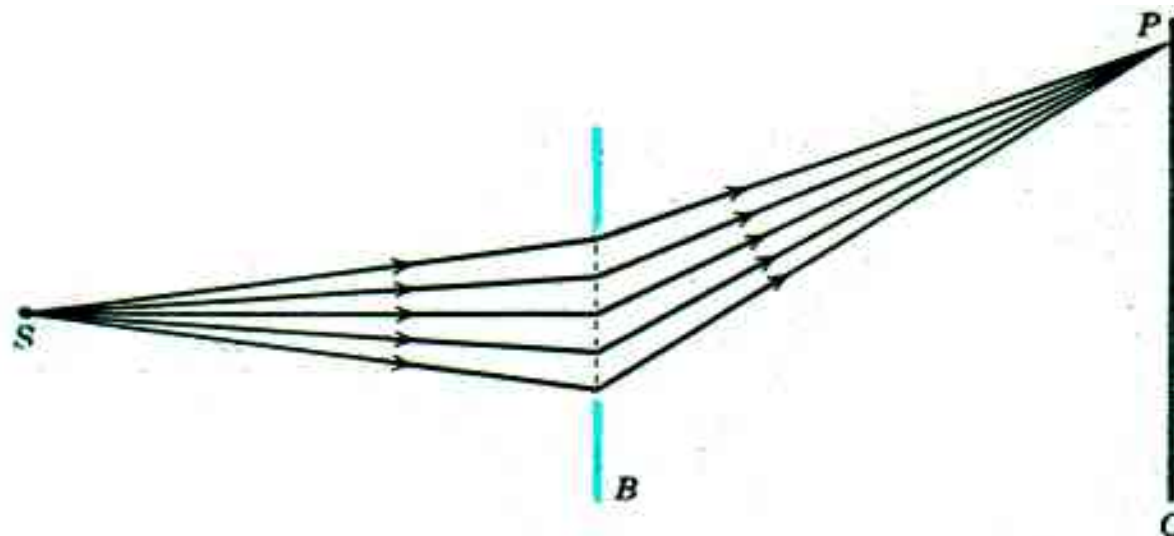
Huygens: Brechung



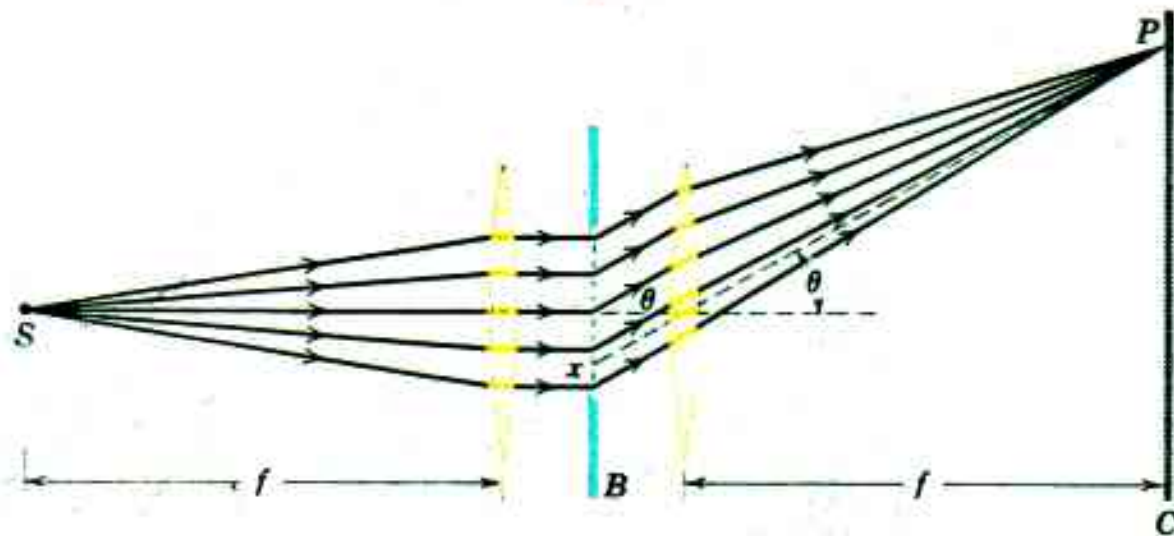
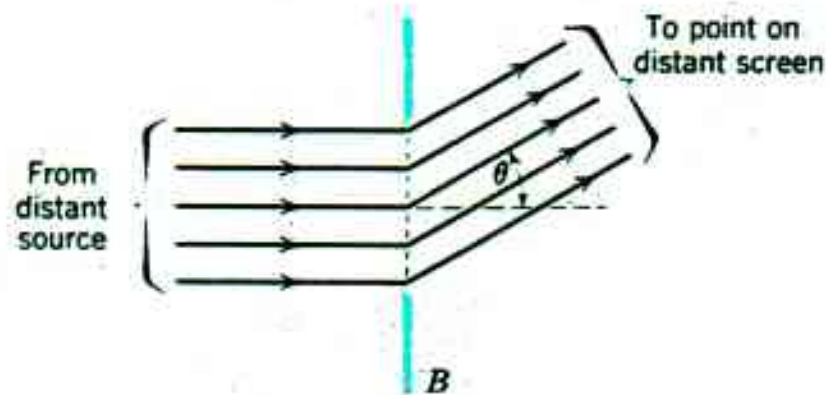
Doppelspalt: Wo liegen die Maxima?



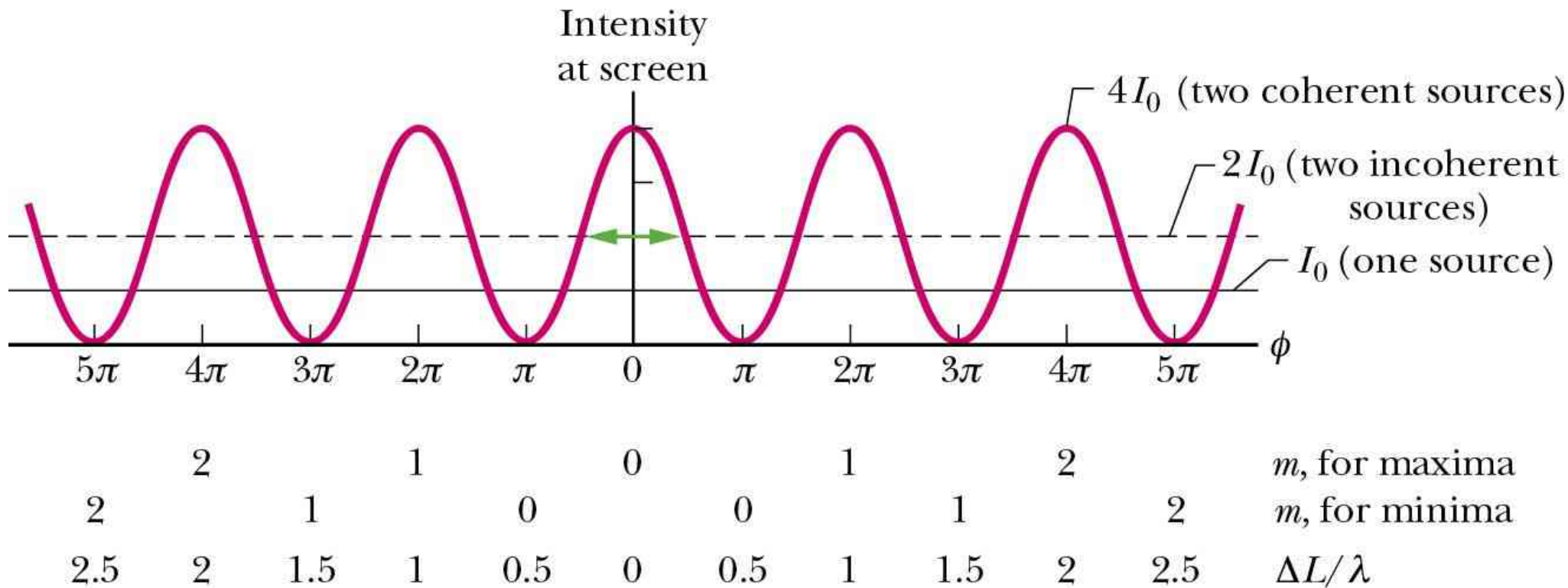
Fresnel



Fraunhofer

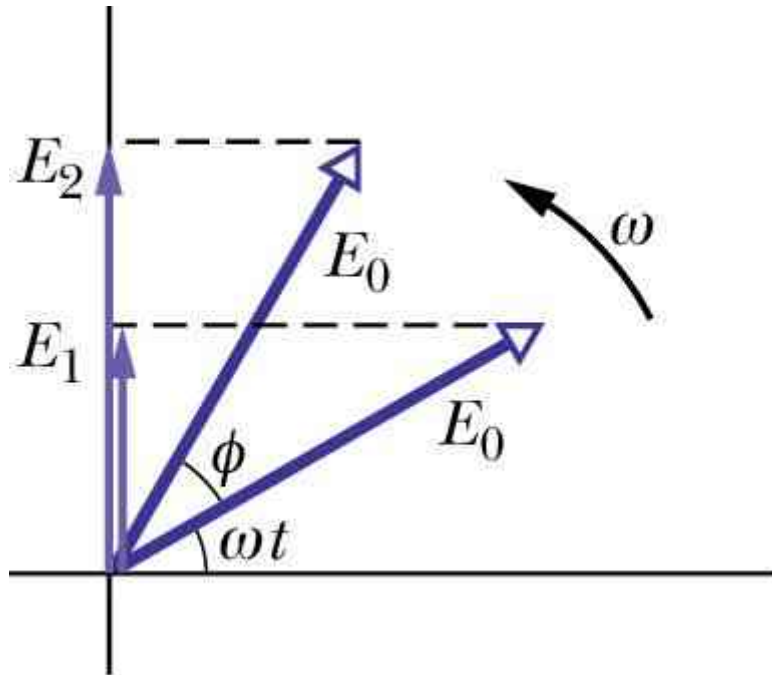


Doppelspalt: Verlauf der Intensität

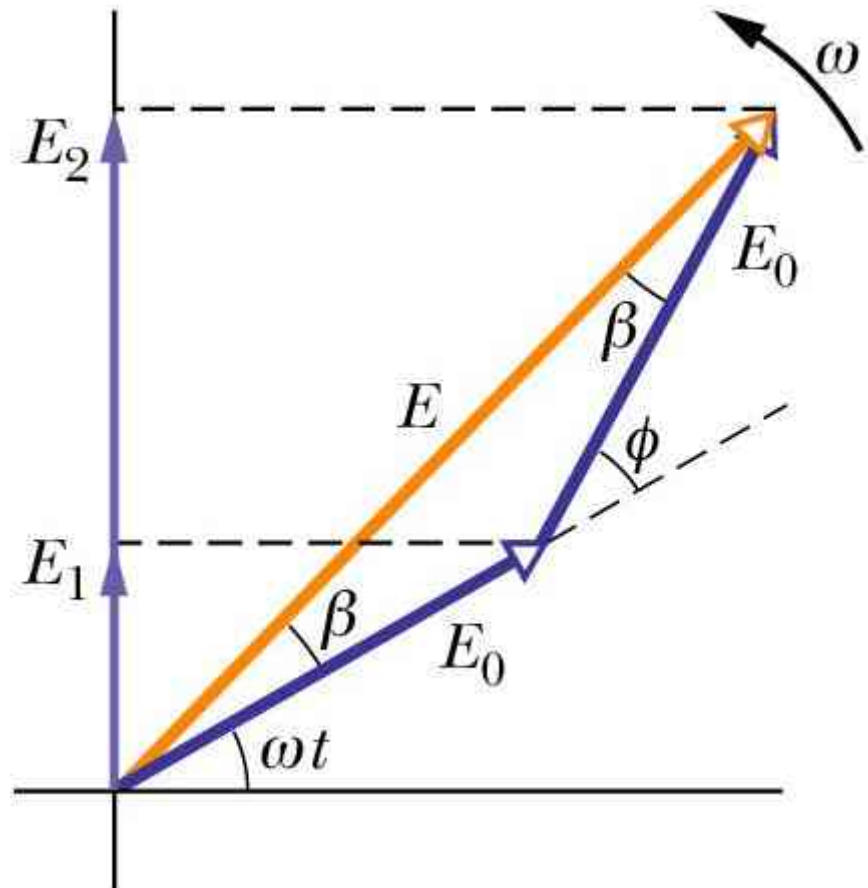


Zeigerdiagramme

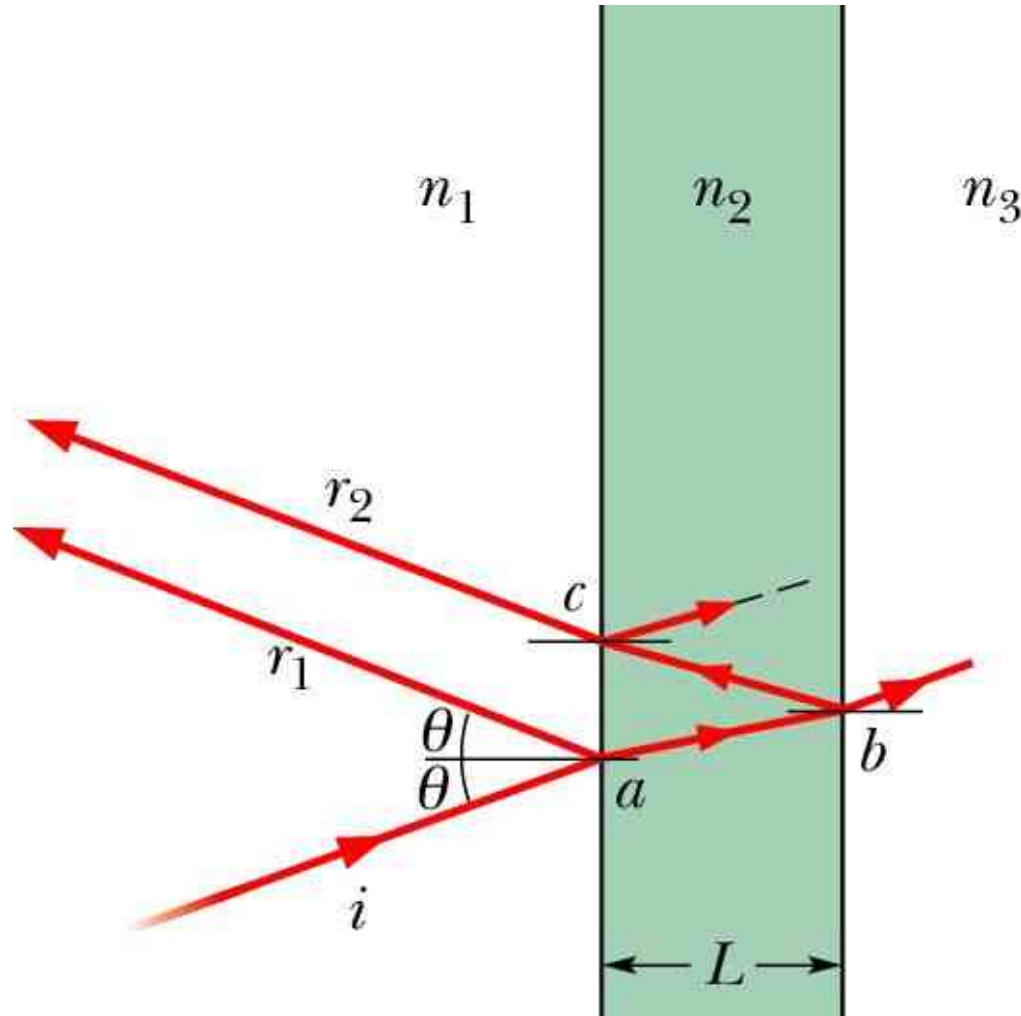
Feldstärken von Spalten



Vektorsumme der Feldstärken

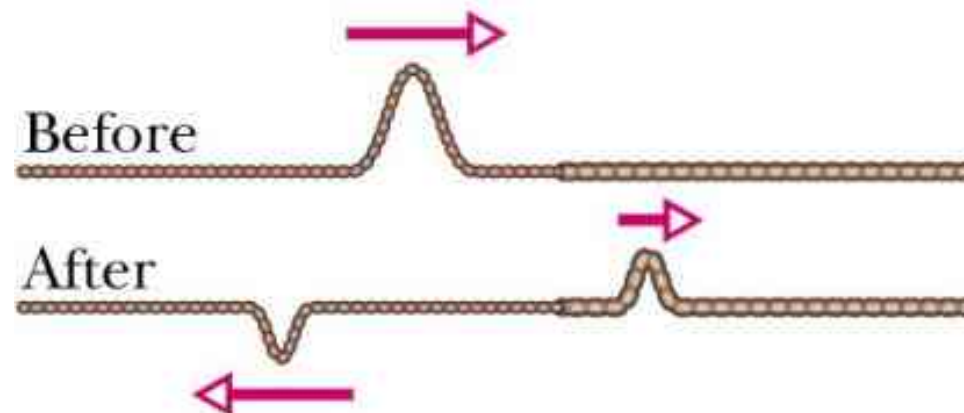
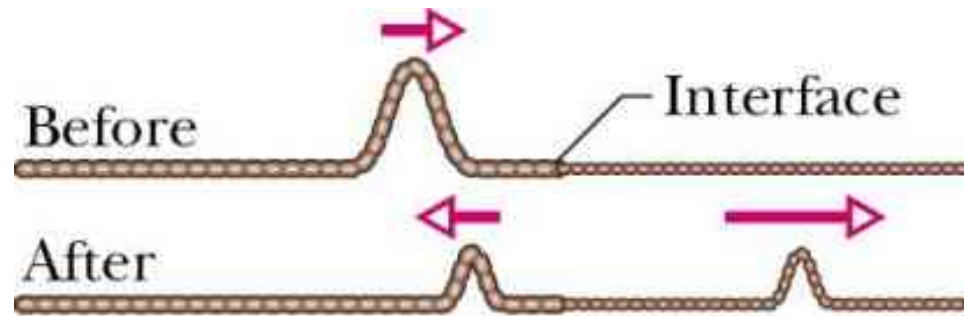


Interferenz an dünnen Schichten

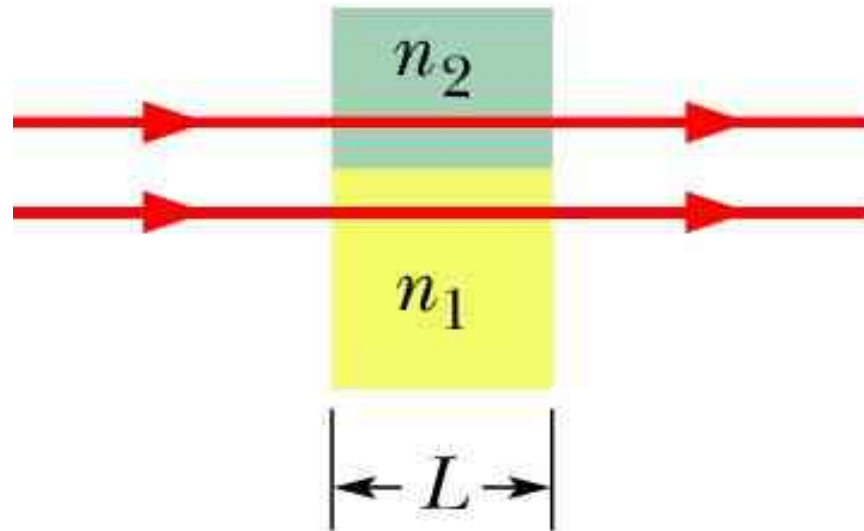


(Mehrstrahlinterferenz ignoriert)

Komplikation I: Phasensprünge an Grenzflächen



Komplikation II: $c = c(n)$



$$f = \frac{c}{\lambda} \rightarrow \lambda = \lambda(n) \rightarrow \Delta\phi = \Delta\phi(n, L)$$

optische Weglänge