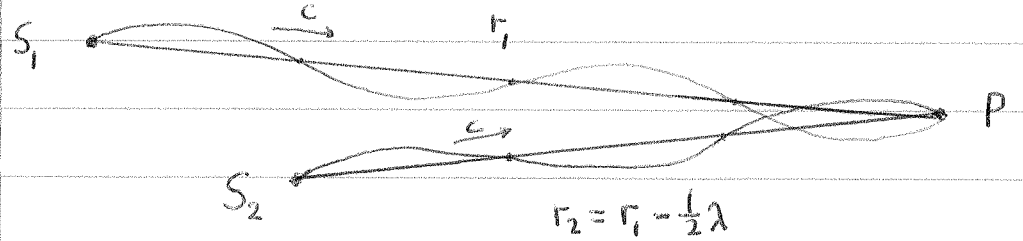
Destruktiv interferens :



$$\vec{E}_P = \vec{E}_0 \cos(kr_1 - \omega t) + \vec{E}_0 \cos(kr_2 - \omega t)$$

$$= \vec{E}_0 \cos(kr_1 - \omega t) + \vec{E}_0 \cos(kr_1 - \omega t - \underbrace{\tfrac{1}{2}k\lambda}_{\pi})$$

$\cos(\alpha - \pi) = -\cos\alpha$

$$= (\vec{E}_0 - \vec{E}_0)\cos(kr_1 - \omega t) = 0$$

$$I_P = 0$$

Samme resultat med $\boxed{r_2 = r_1 - (n+1/2)\lambda}$ $(n = 0, \pm 1, \pm 2, \ldots)$

Youngs tospalteeksperiment (ca 1800) (LHL 30,2