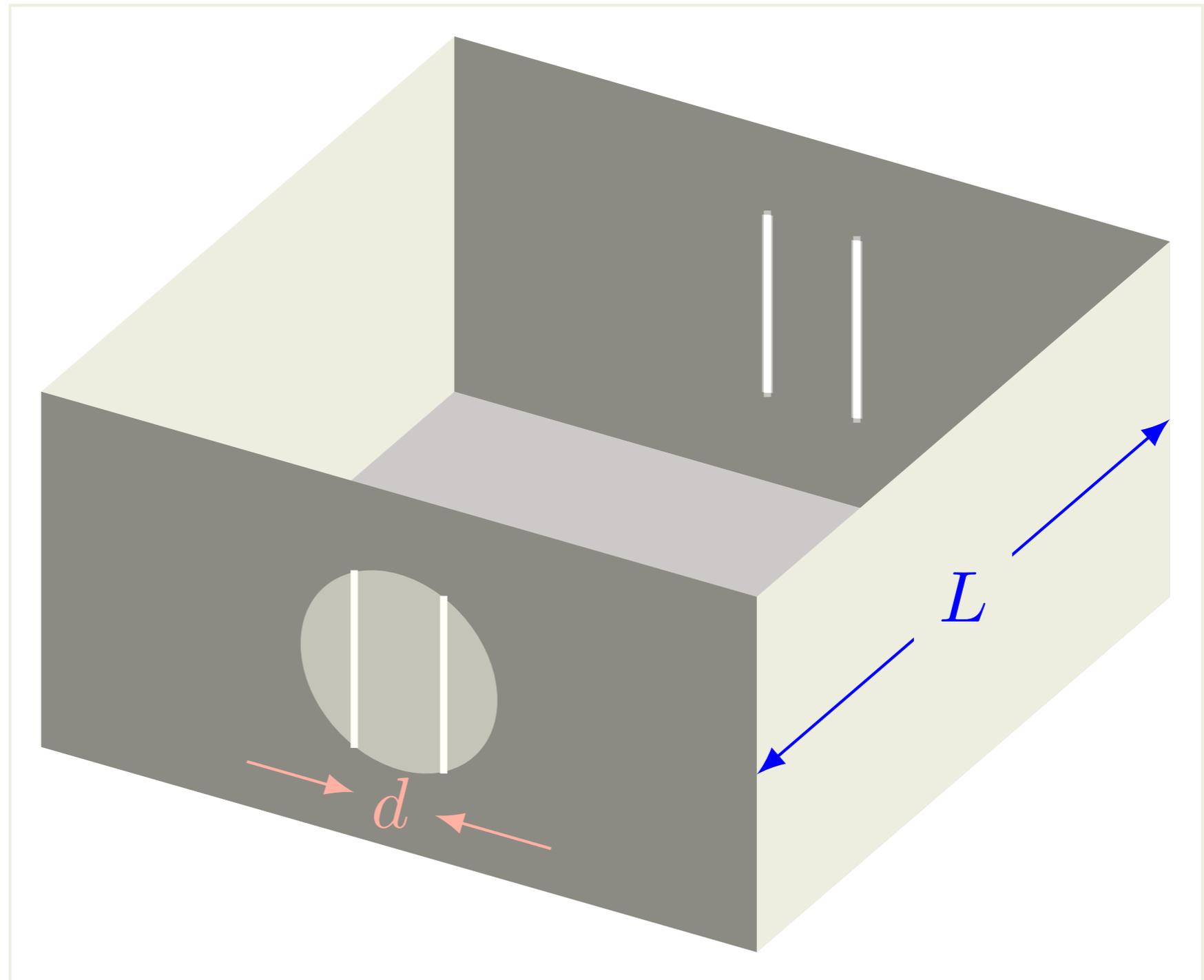


Física IV

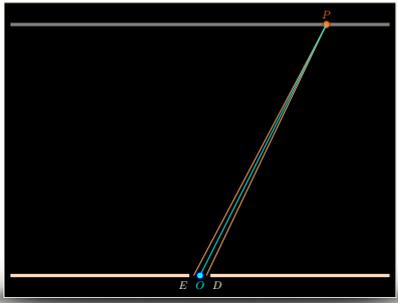
16 novembro 2020

Ótica

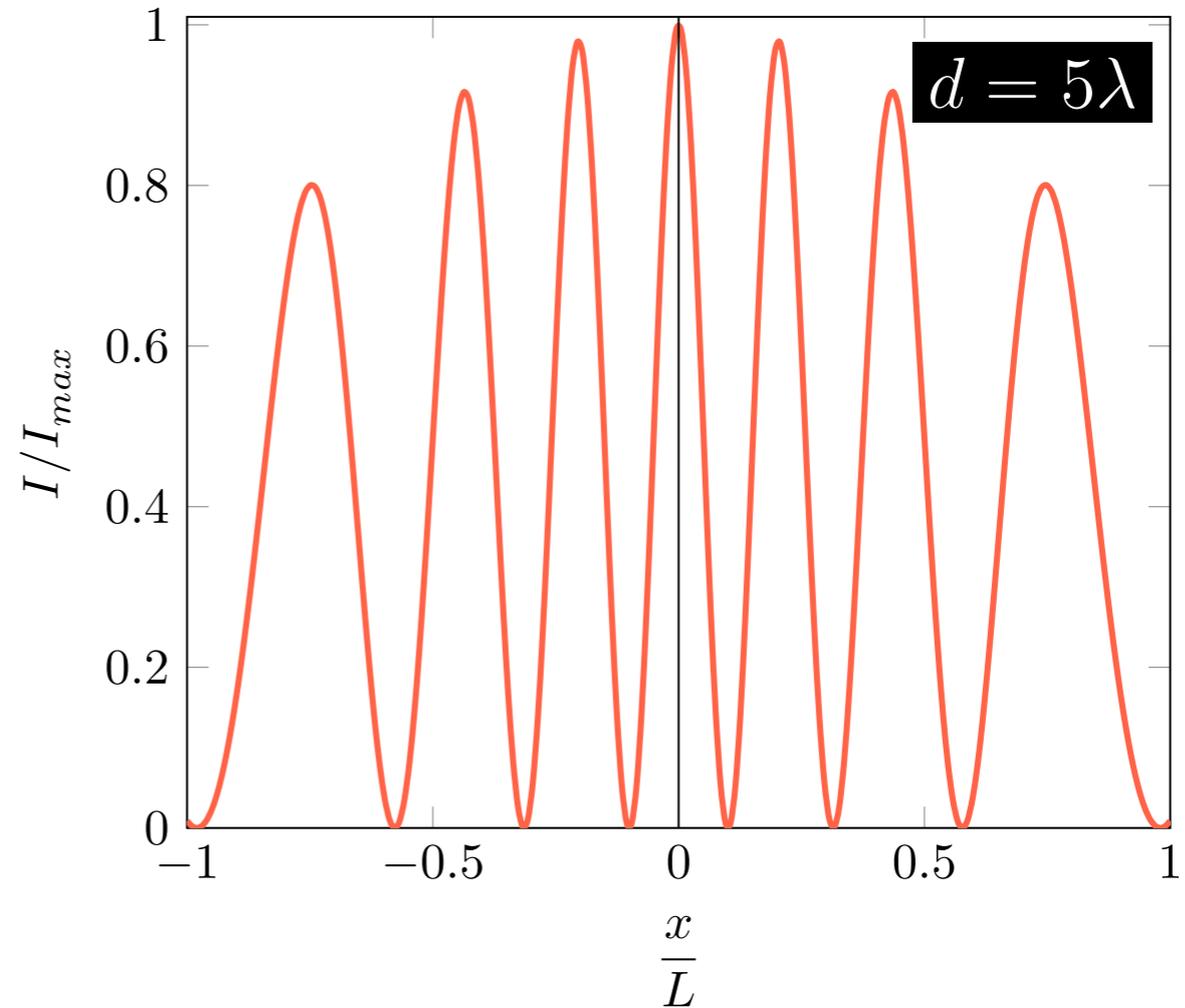
Experiência de Young



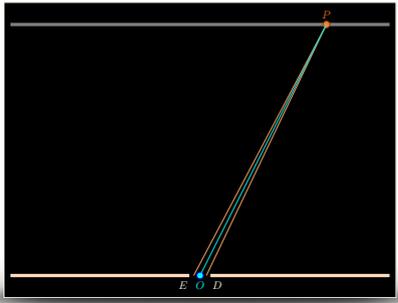
Experiência de Young



$$\langle S \rangle = \frac{2}{\mu_0 c k \rho} \cos^2 \left(\frac{\pi d \sin(\theta)}{\lambda} \right)$$



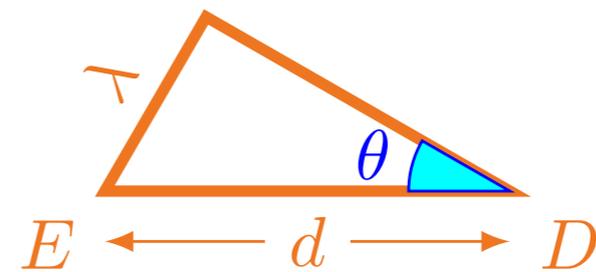
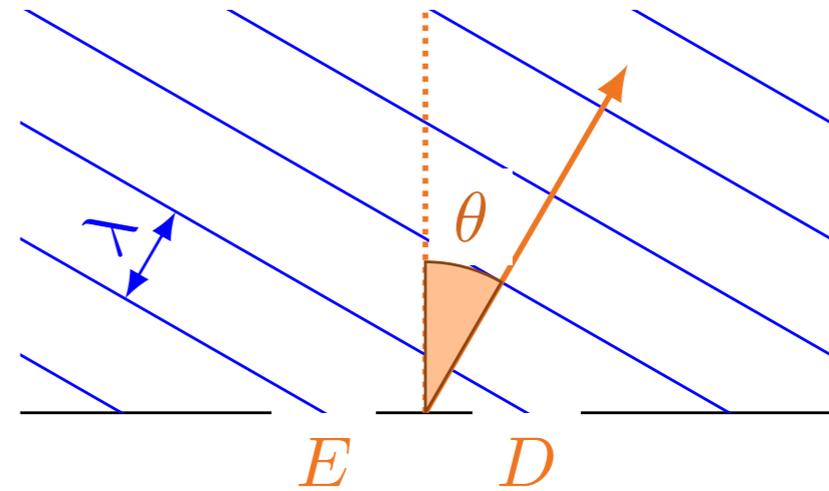
Experiência de Young Diagrama simplificado



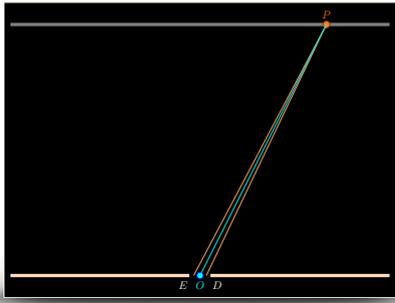
$$\langle S \rangle = \frac{2}{\mu_0 c k \rho} \cos^2 \left(\frac{\pi d \sin(\theta)}{\lambda} \right)$$

$$d \sin \theta = \lambda$$

$\langle S \rangle$ máximo



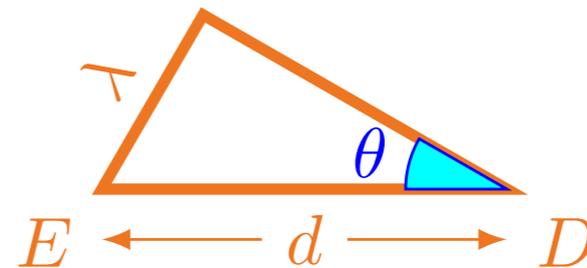
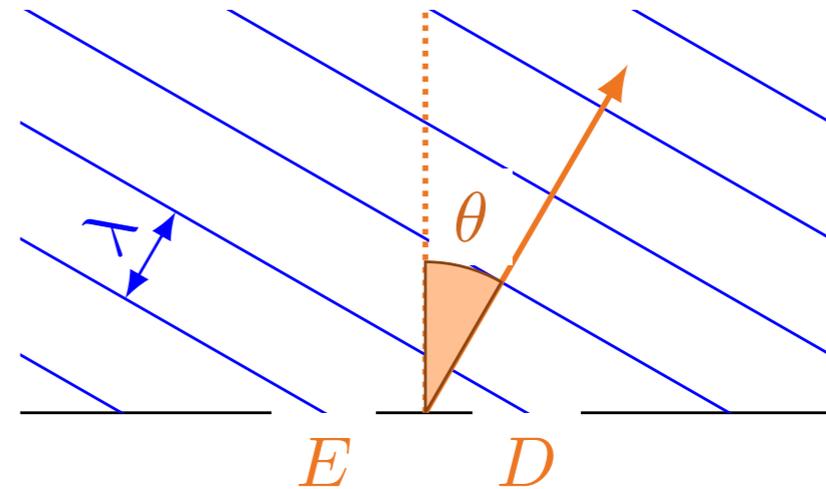
Experiência de Young Diagrama simplificado



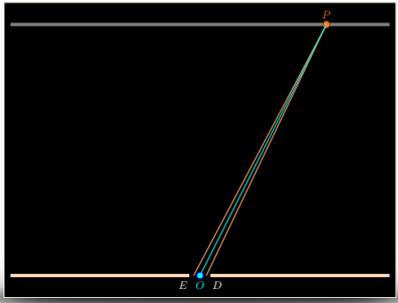
$$\langle S \rangle = \frac{2}{\mu_0 c k \rho} \cos^2 \left(\frac{\pi d \sin(\theta)}{\lambda} \right)$$

$$d \sin \theta = m \lambda$$

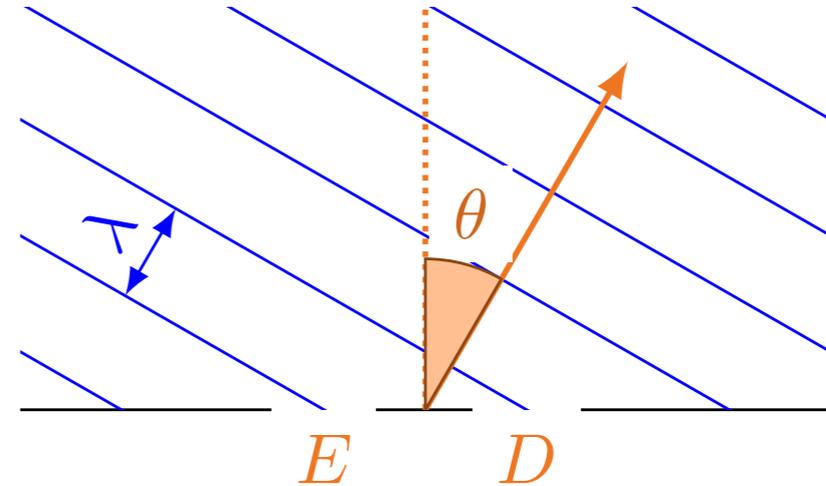
$\langle S \rangle$ máximo



Experiência de Young Diagrama simplificado

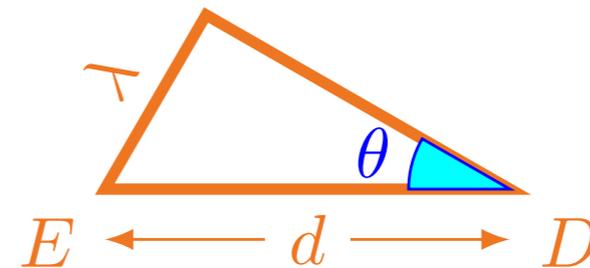


$$\langle S \rangle = \frac{2}{\mu_0 c k \rho} \cos^2 \left(\frac{\pi d \sin(\theta)}{\lambda} \right)$$



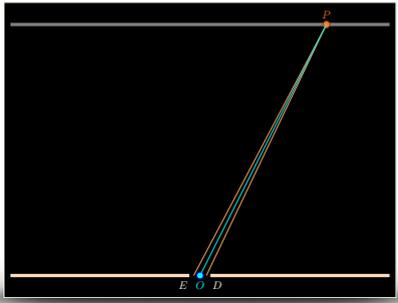
$$d \sin \theta = m \lambda$$

$\langle S \rangle$ máximo



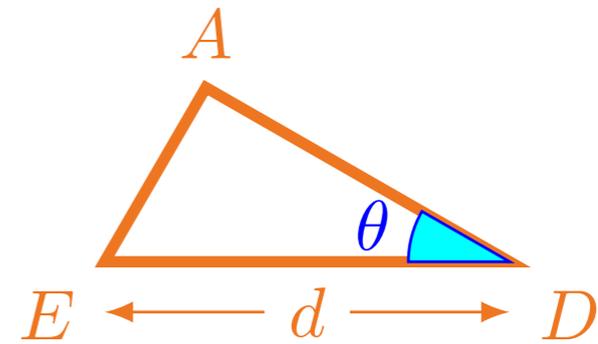
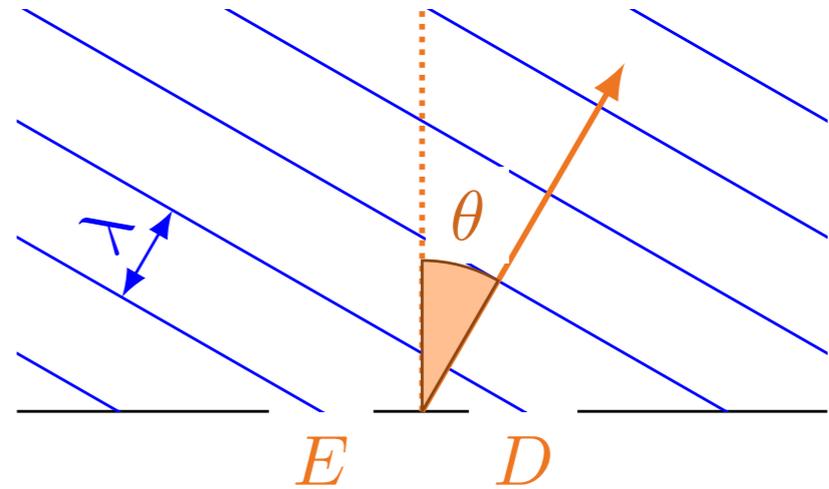
Interferência

Experiência de Young Caminho óptico

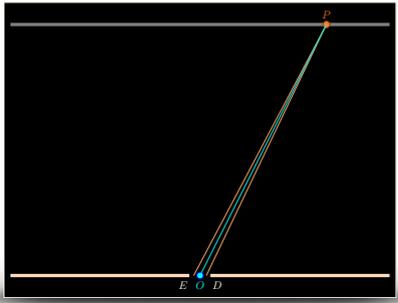


$$\langle S \rangle = \frac{2}{\mu_0 c k \rho} \cos^2 \left(\frac{\pi d \sin(\theta)}{\lambda} \right)$$

$$d_{EA} = d \sin \theta$$



Experiência de Young Diagrama simplificado

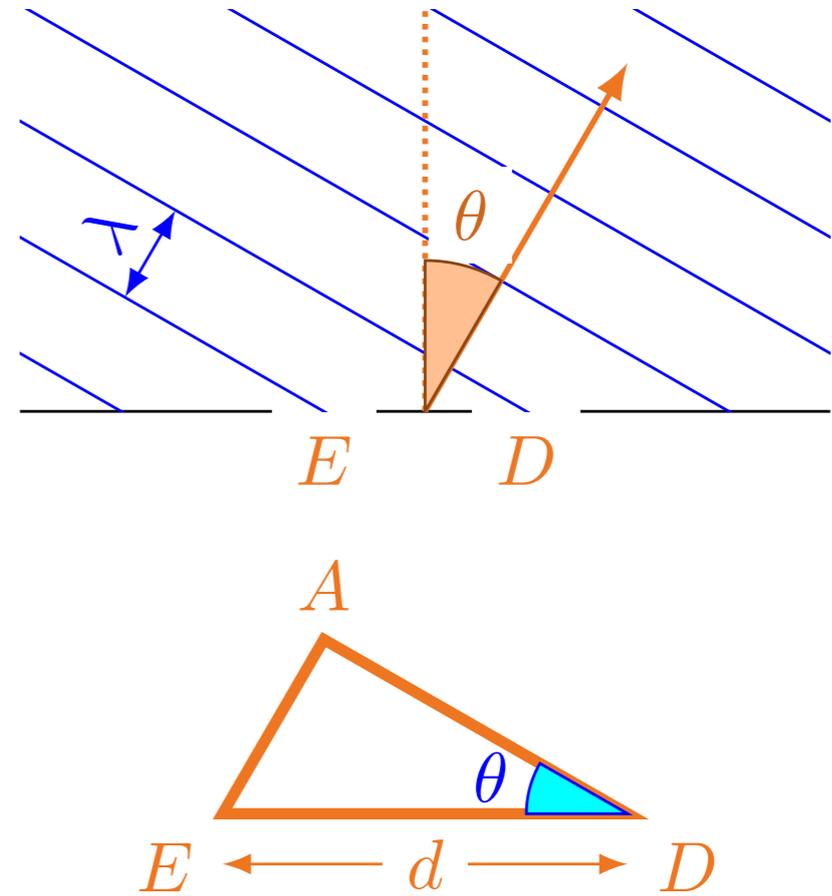


$$\langle S \rangle = \frac{2}{\mu_0 c k \rho} \cos^2 \left(\frac{\pi d \sin(\theta)}{\lambda} \right)$$

$$d_{EA} = d \sin \theta$$

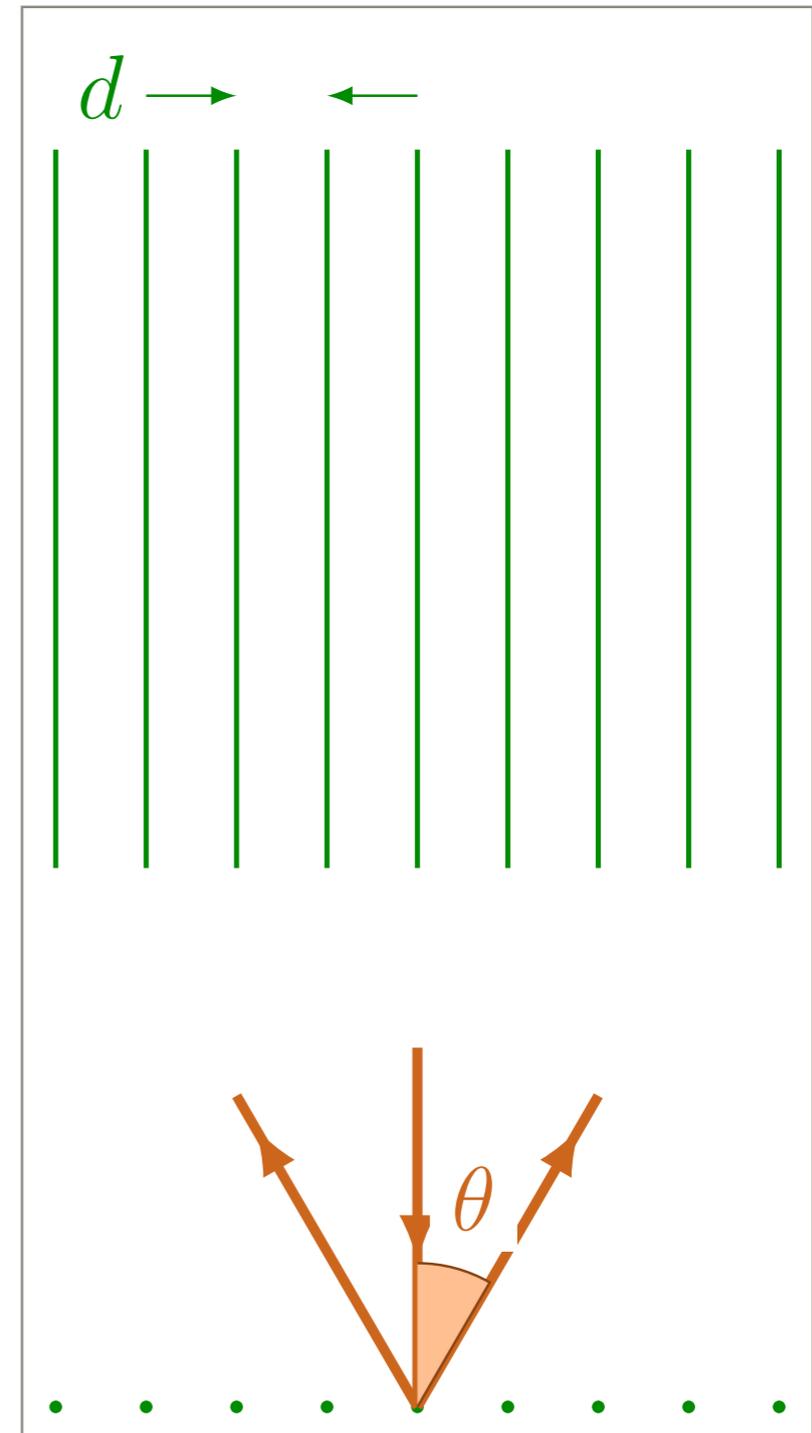
$$c \Delta t_{EA} = d \sin \theta$$

Comprimento do caminho óptico



Interferência

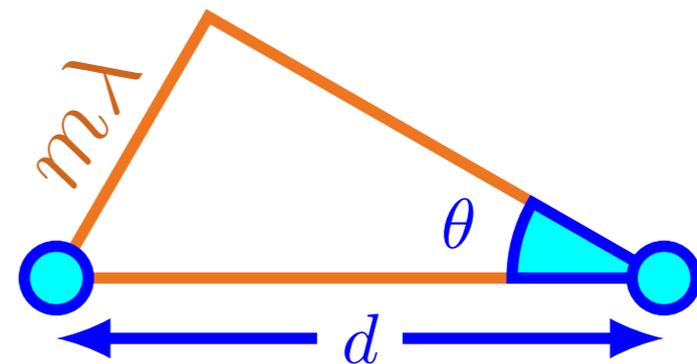
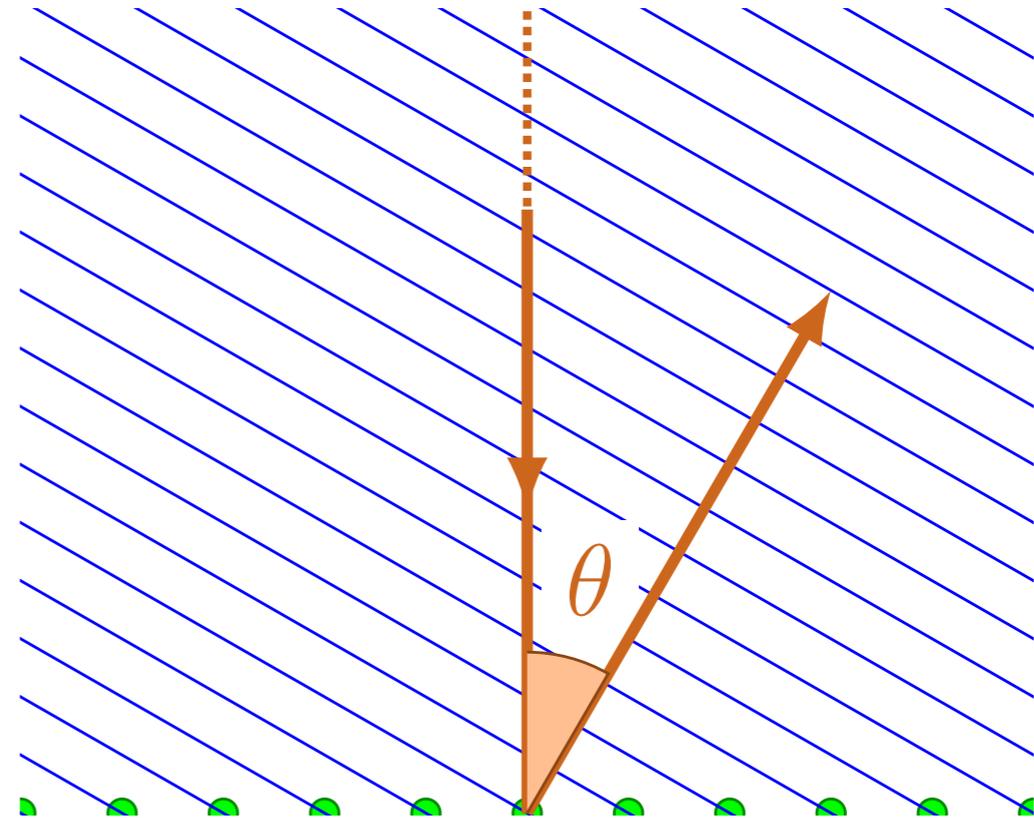
Rede de difração



Interferência

Rede de difração

$$c\Delta t = d \sin \theta$$

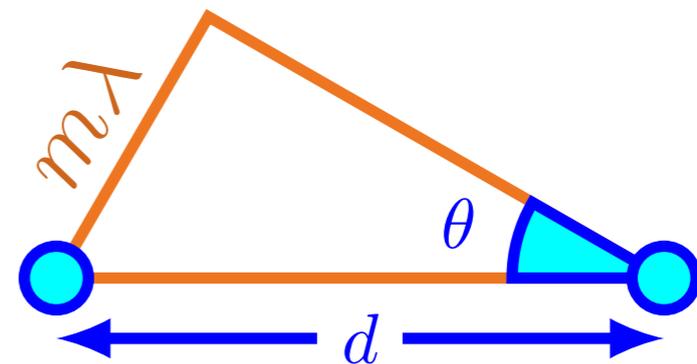
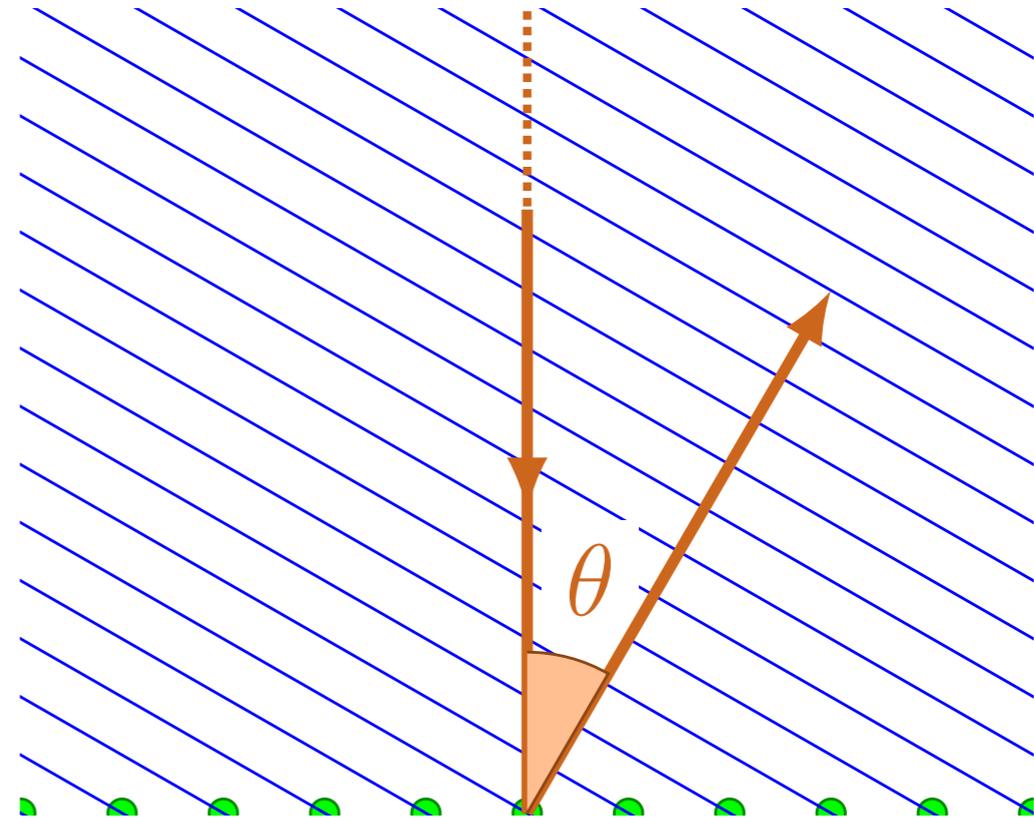


Interferência

Rede de difração

$$c\Delta t = d \sin \theta$$

$$\Rightarrow d \sin \theta = m\lambda$$

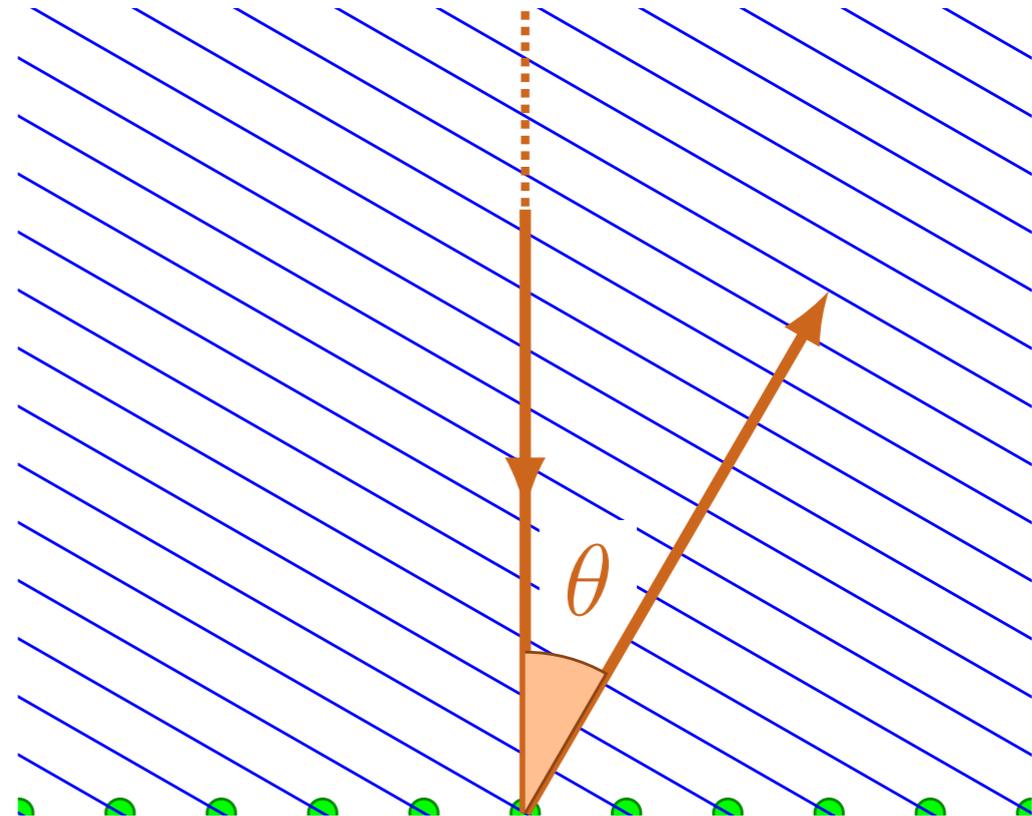


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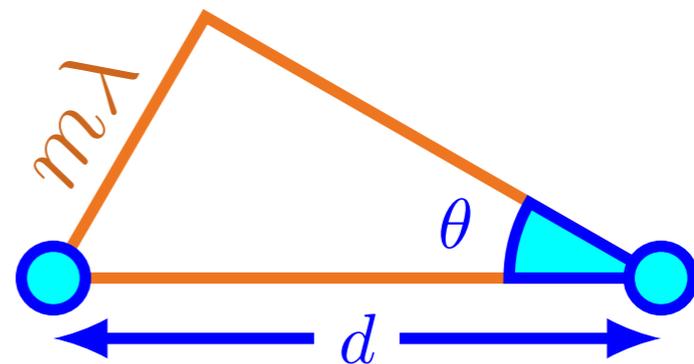
Rede de difração

$$c\Delta t = d \sin \theta$$

$$\Rightarrow \sin \theta = \frac{m\lambda}{d}$$



Interferência



Interferência

Rede de difração

