



TRANSPARÈNCIES OSCIL·LACIONS, ONES I TERMODINÀMICA

MÒDUL 2: ONES

Figures cedides per W.H. Freeman/Worth, pertanyents al llibre "Física,
4a. Ed.", P.A. Tipler, Ed. Reverté



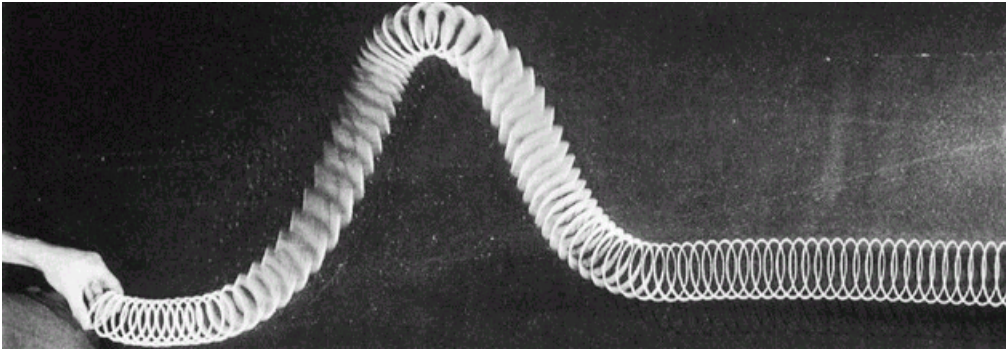
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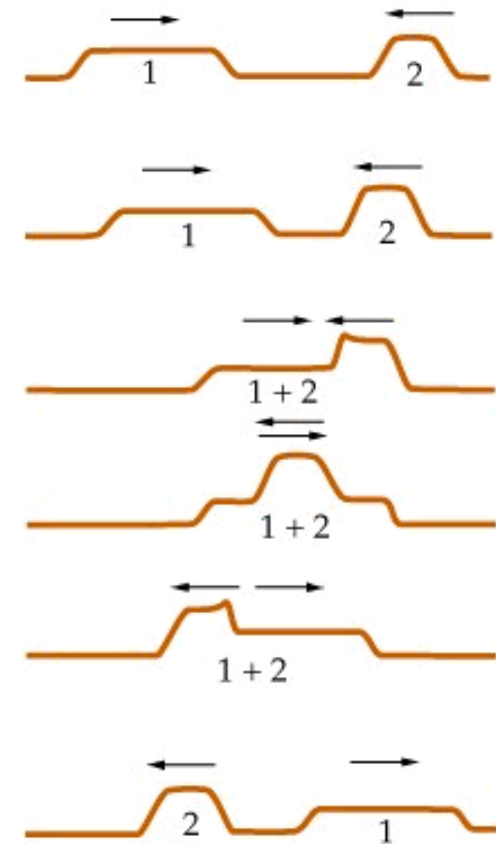
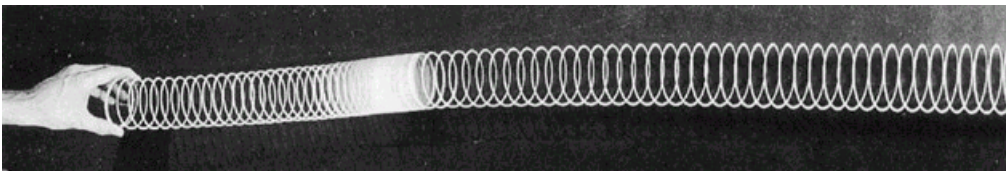
Oscil·lacions, Ones i Termodinàmica

Polsos d'ona

- Pols transversal

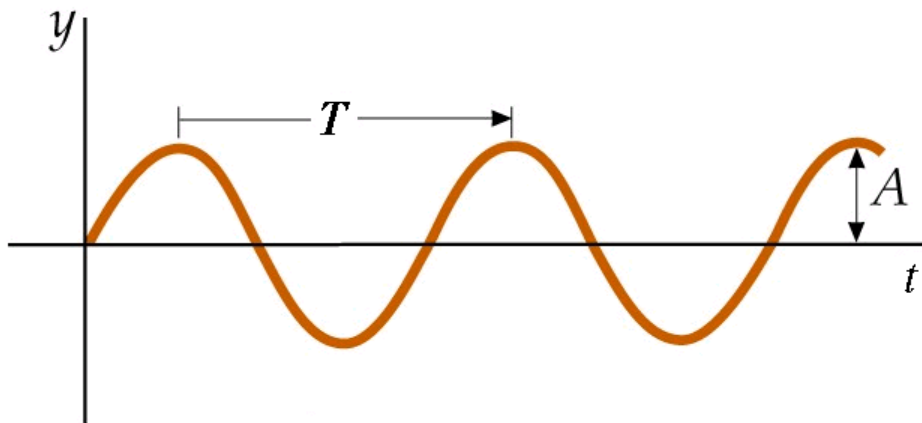


- Pols longitudinal

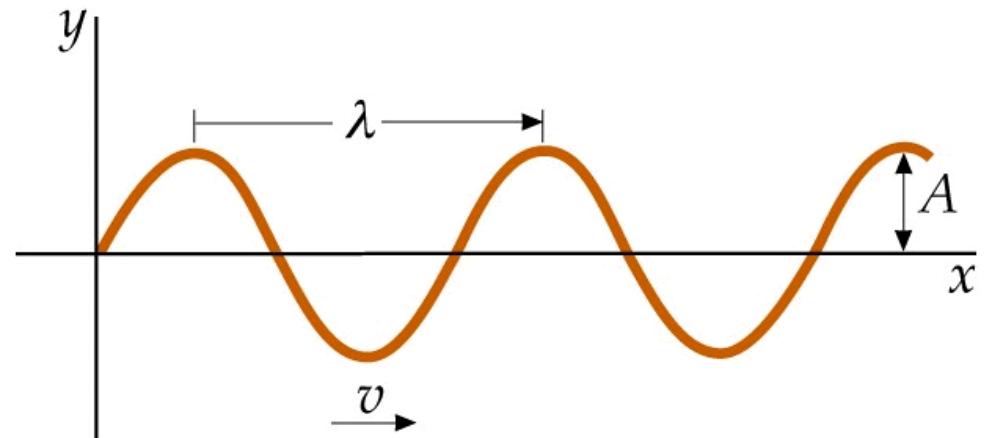


Ones harmòniques

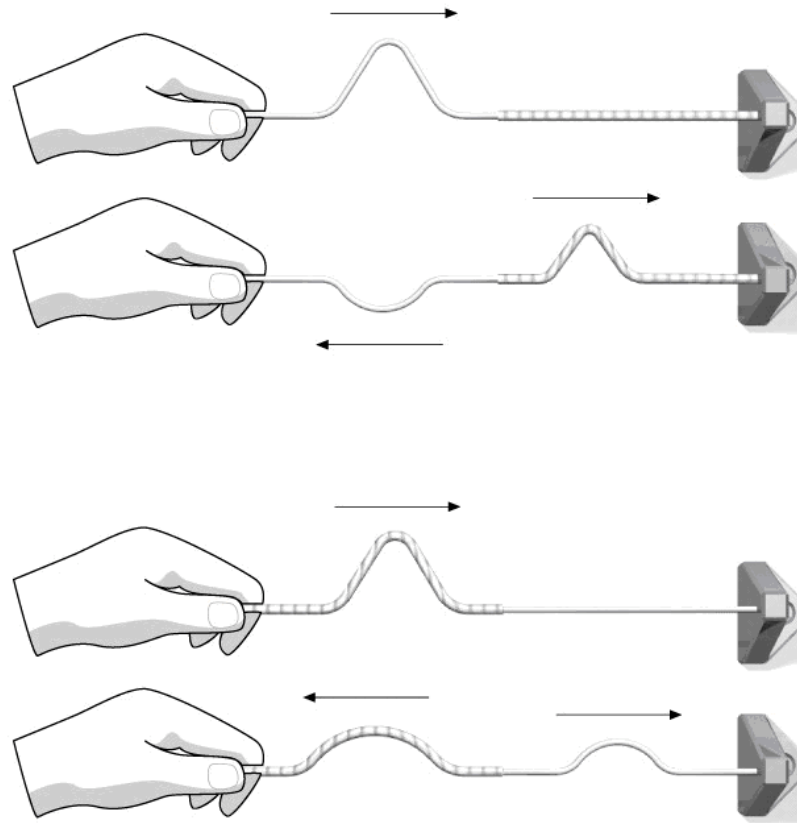
- Periodicitat temporal



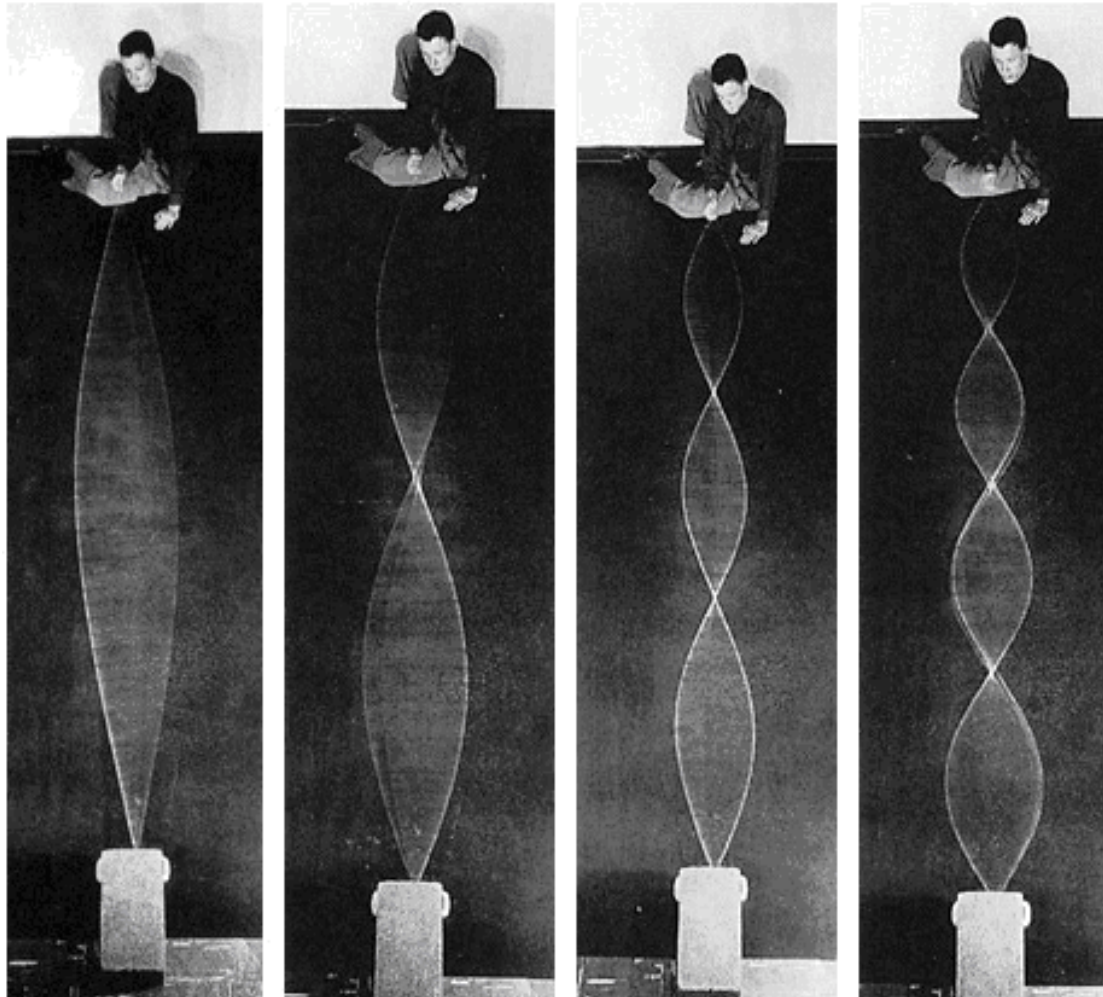
- Periodicitat espacial



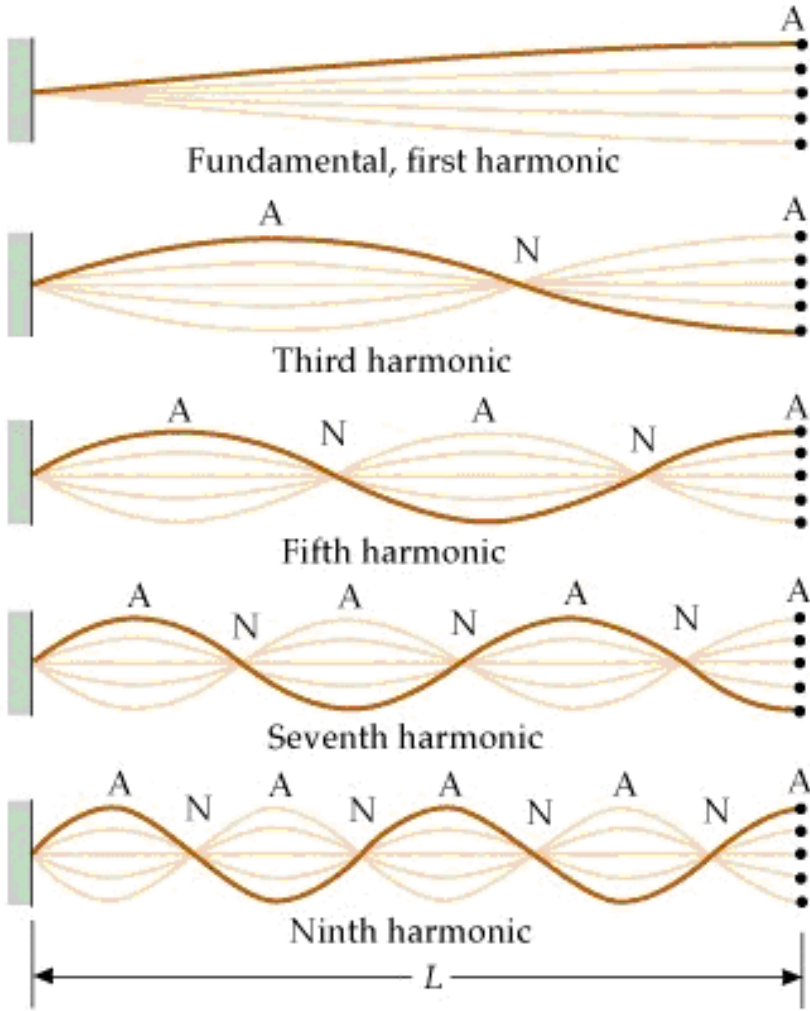
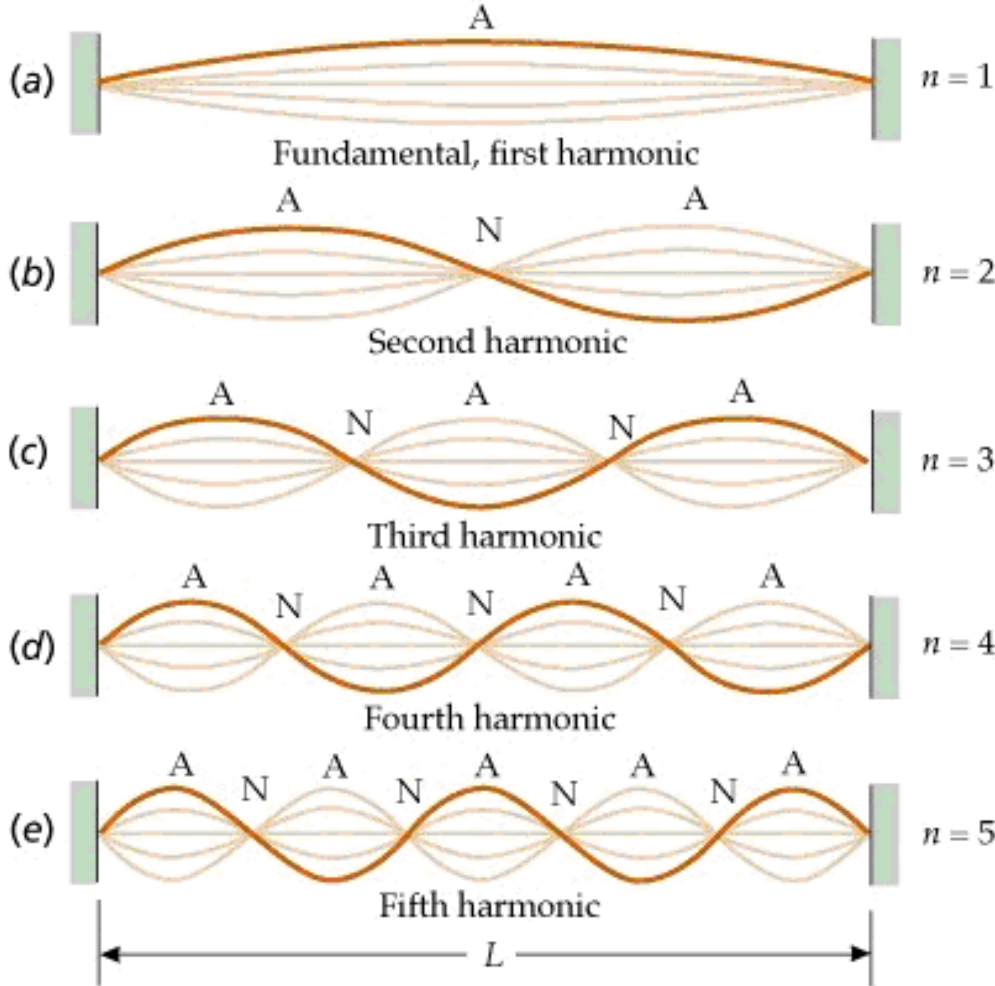
Reflexió i transmissió



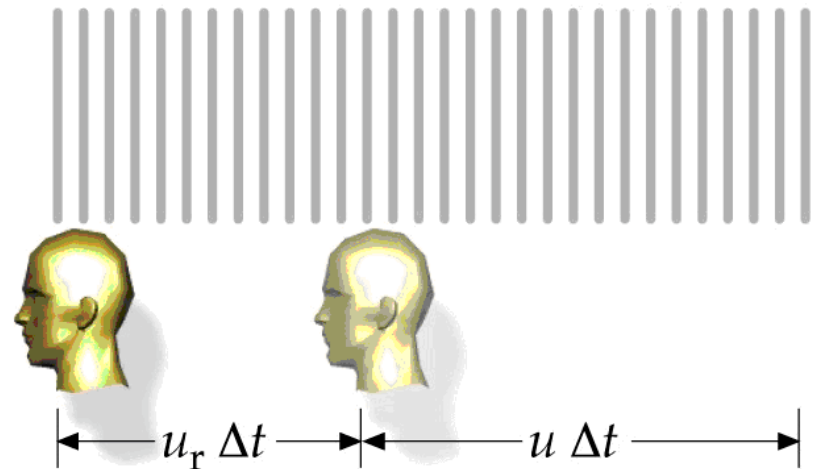
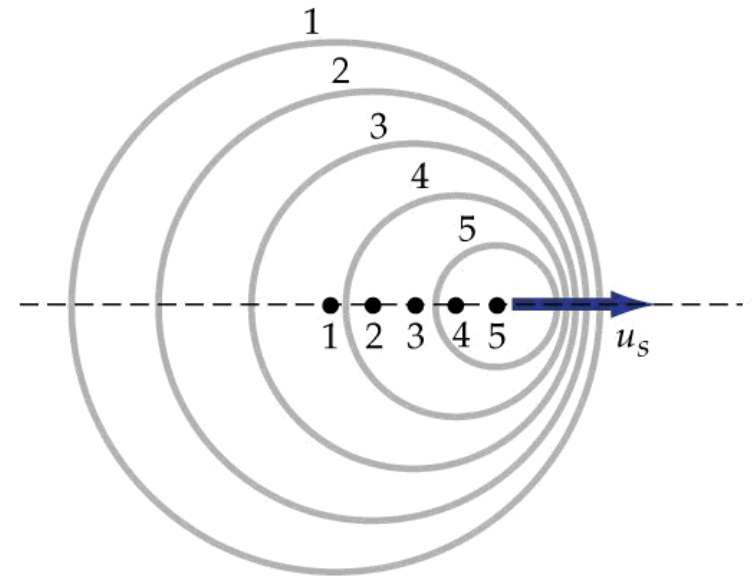
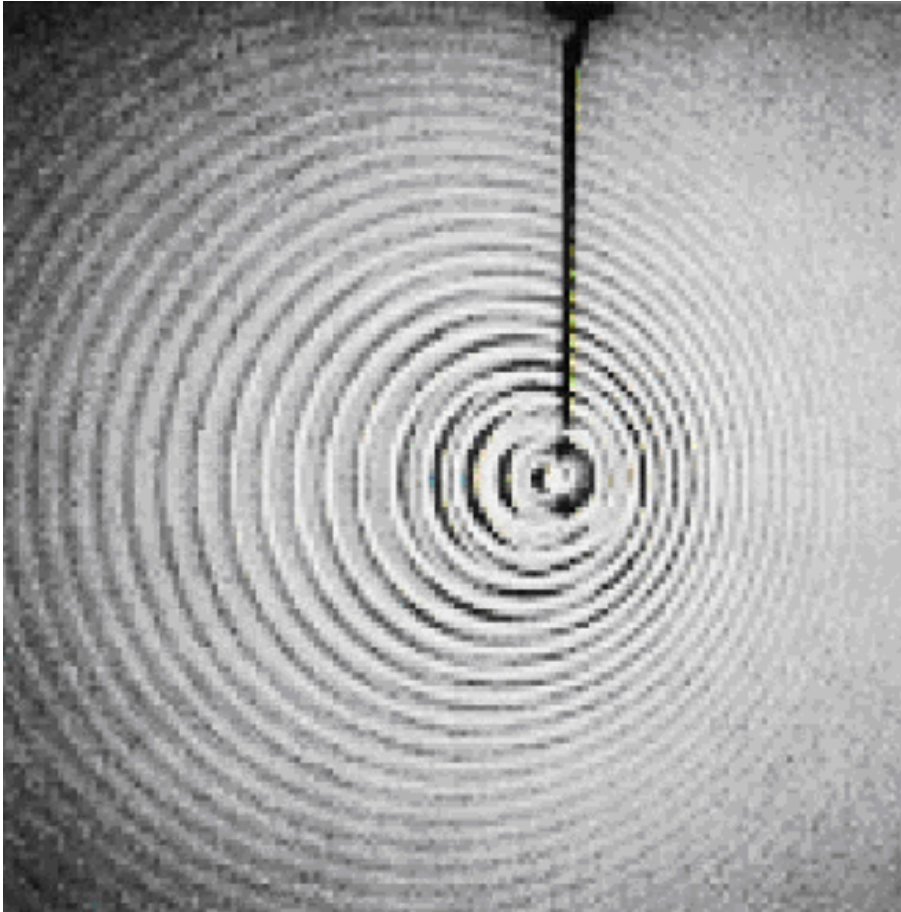
Ones estacionàries



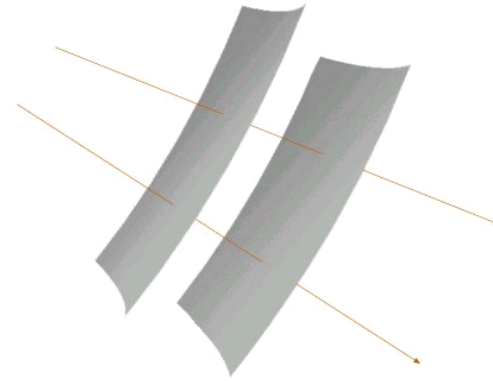
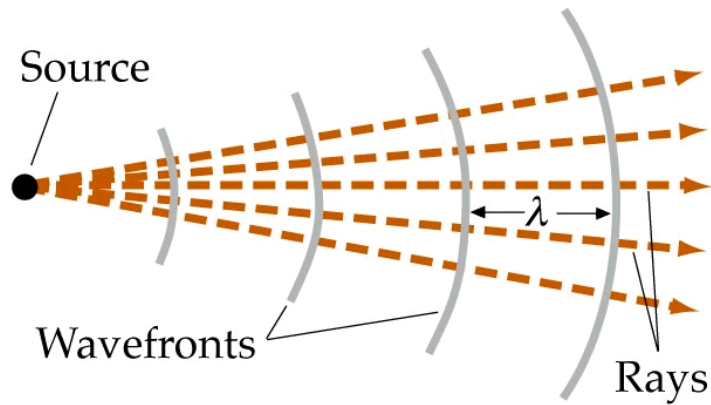
Harmònics



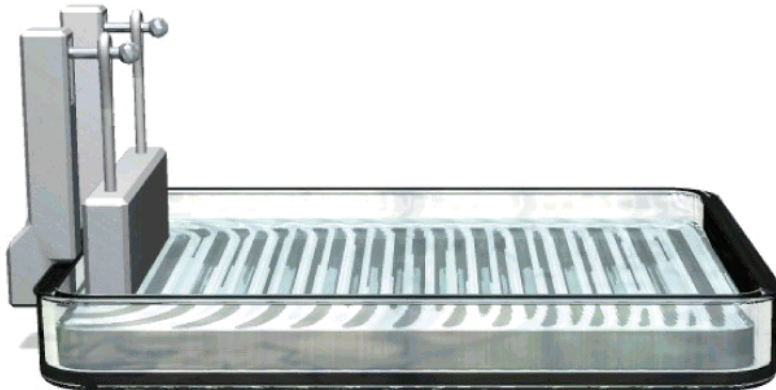
Efecte Doppler



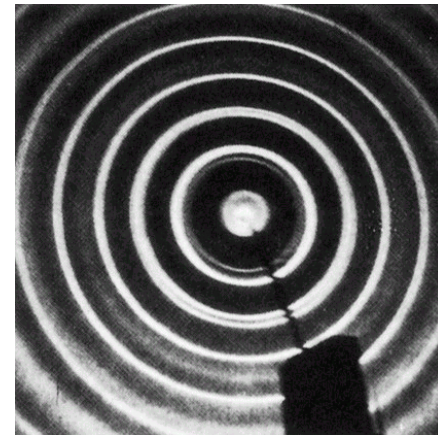
Fronts d'ona



- Ones planes



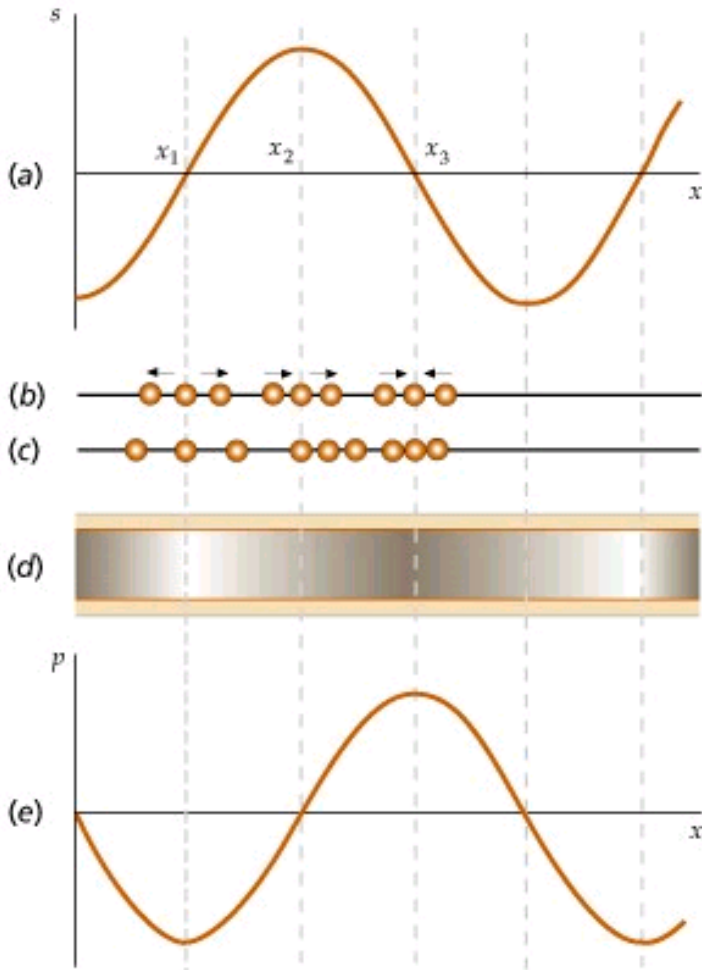
- Ones esfèriques



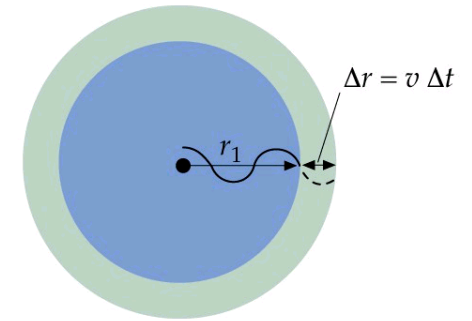
Oscil.lacions, Ones i Termodinàmica



Ones sonores

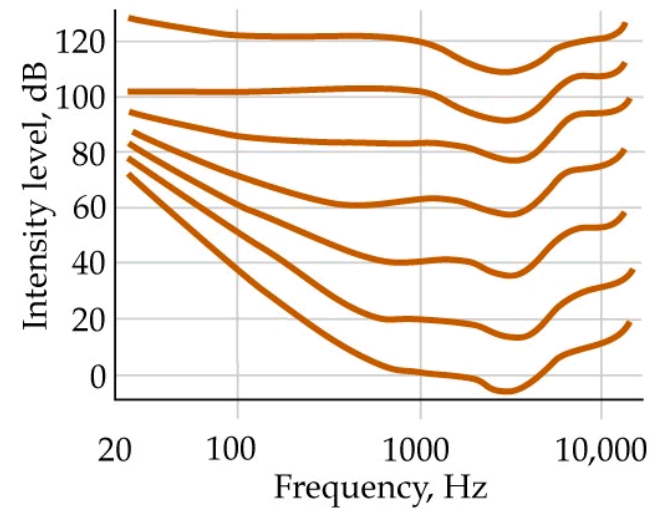


- Propagació



Volume of shell = $A v \Delta t$

- Corbes de sonoritat



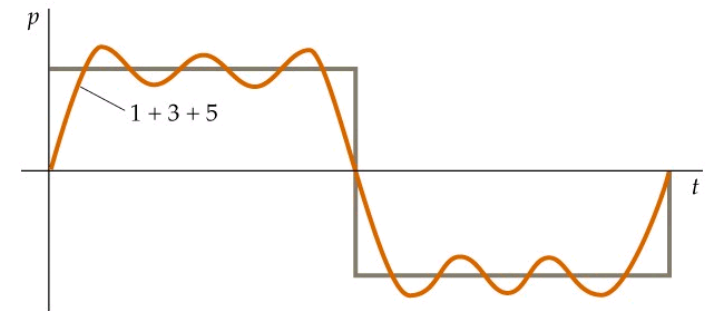
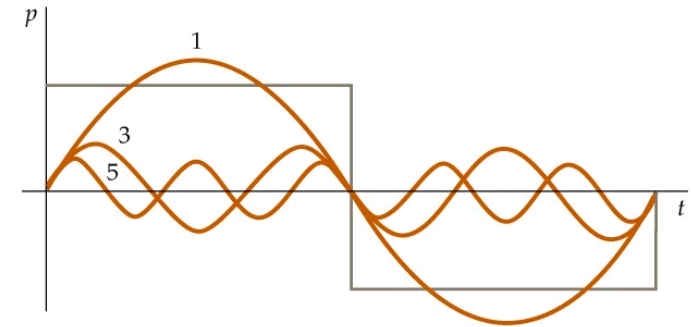
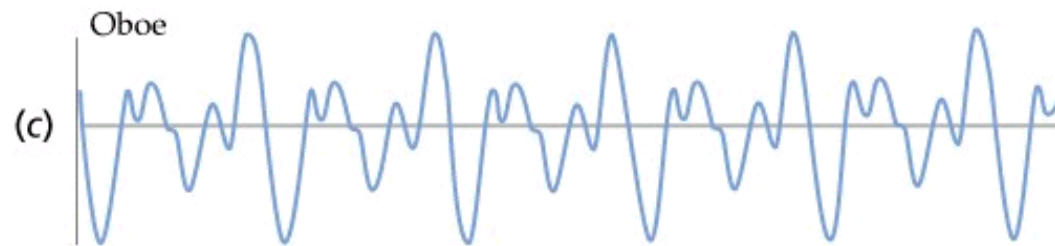
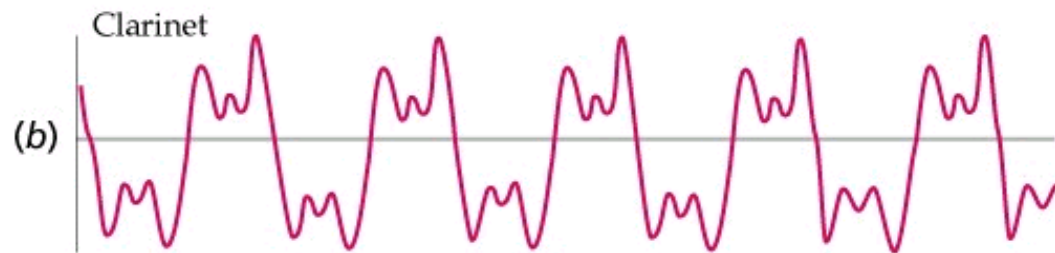
Oscil.lacions, Ones i Termodinàmica



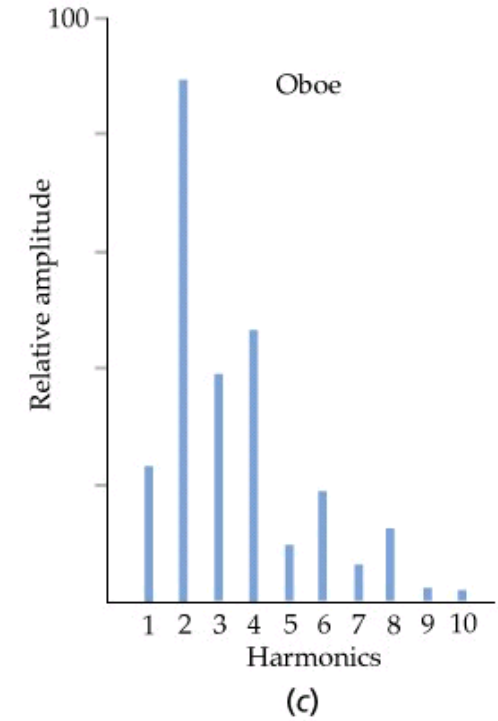
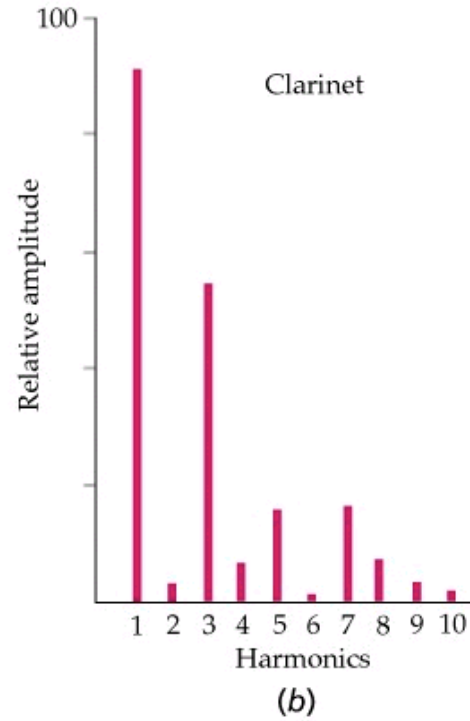
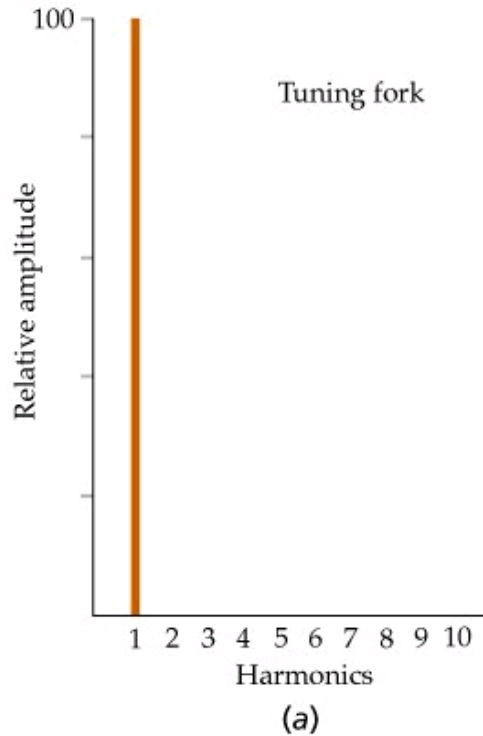
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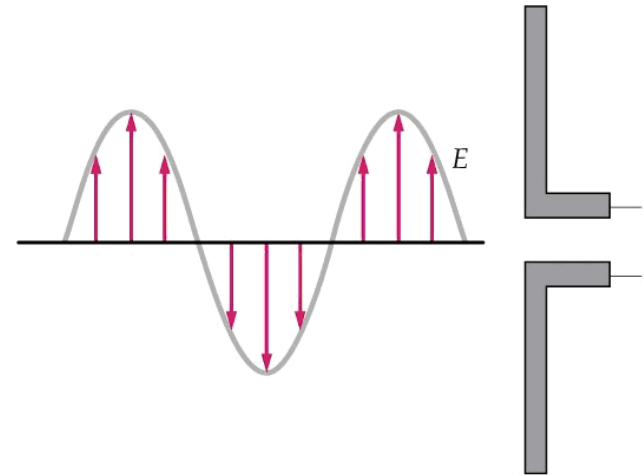
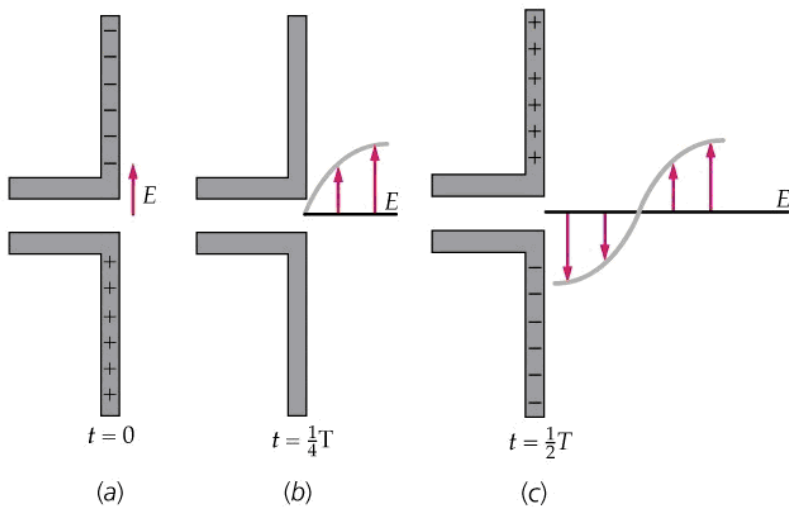
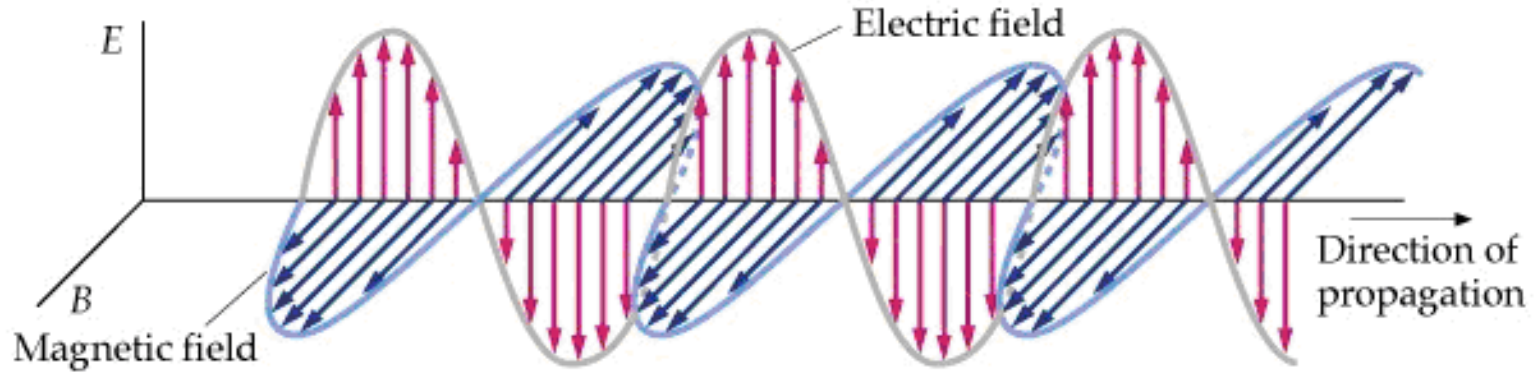
Anàlisi i síntesi harmònica (I)



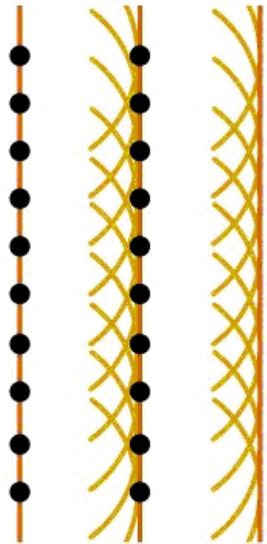
Anàlisi i síntesi harmònica (II)



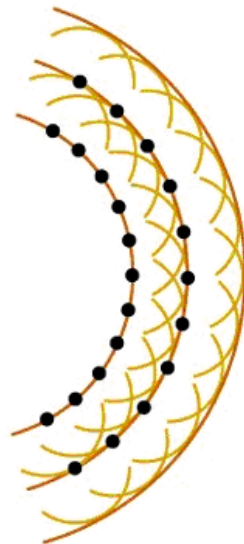
Ones electromagnètiques



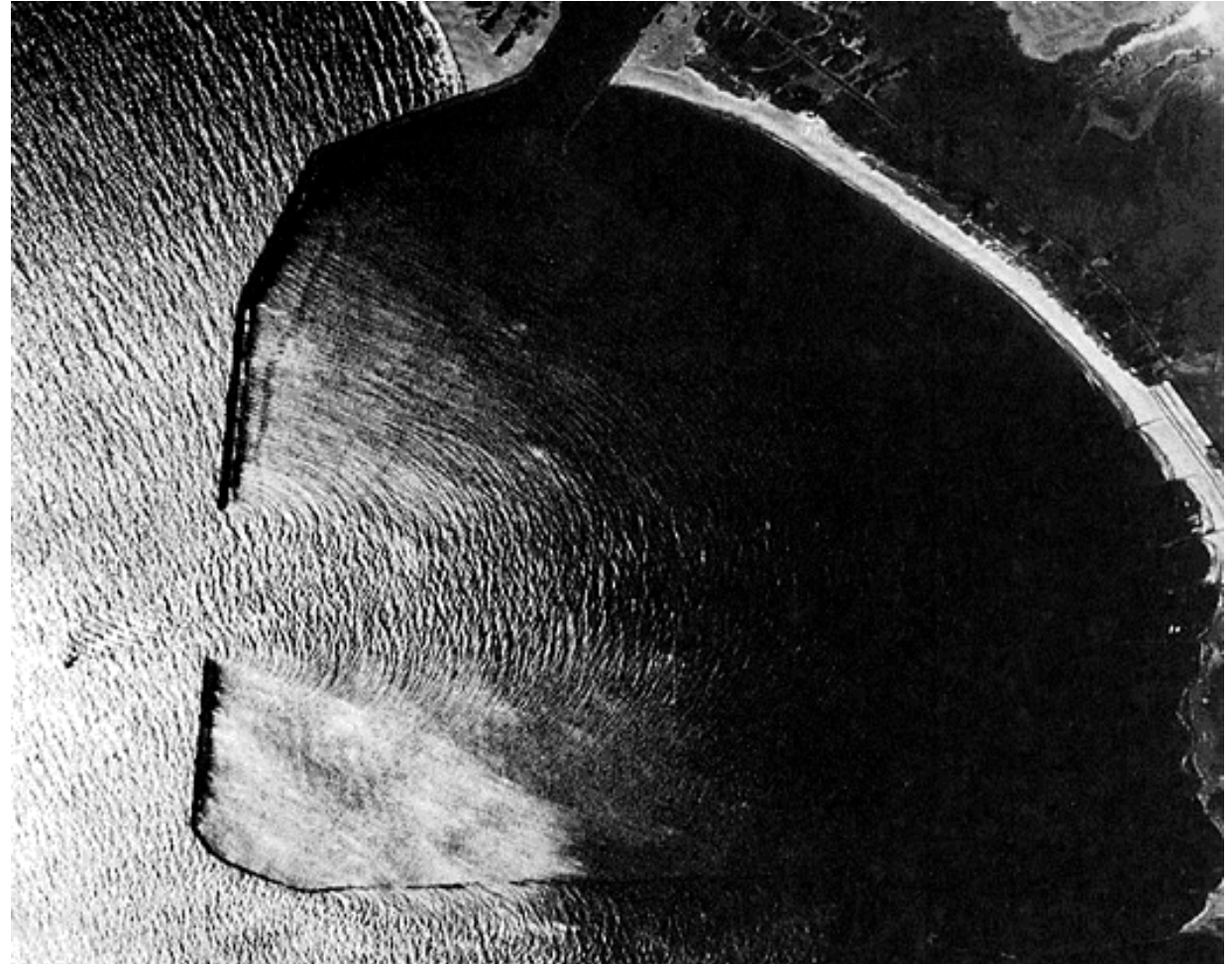
Principi de Huygens



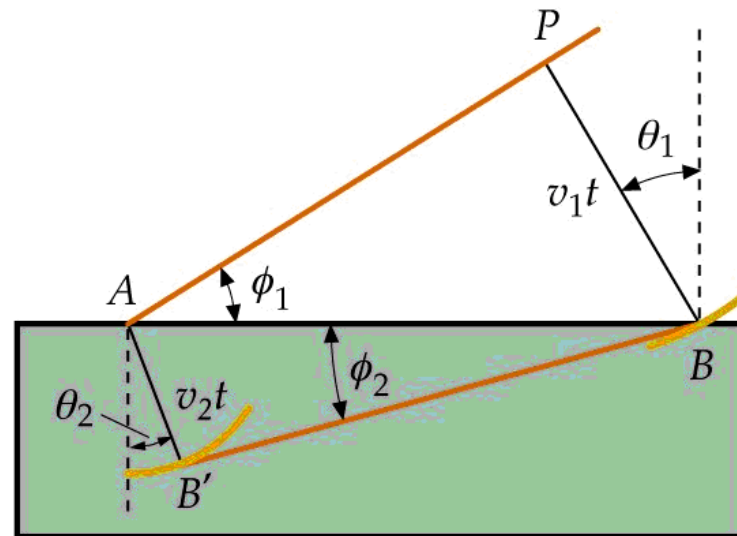
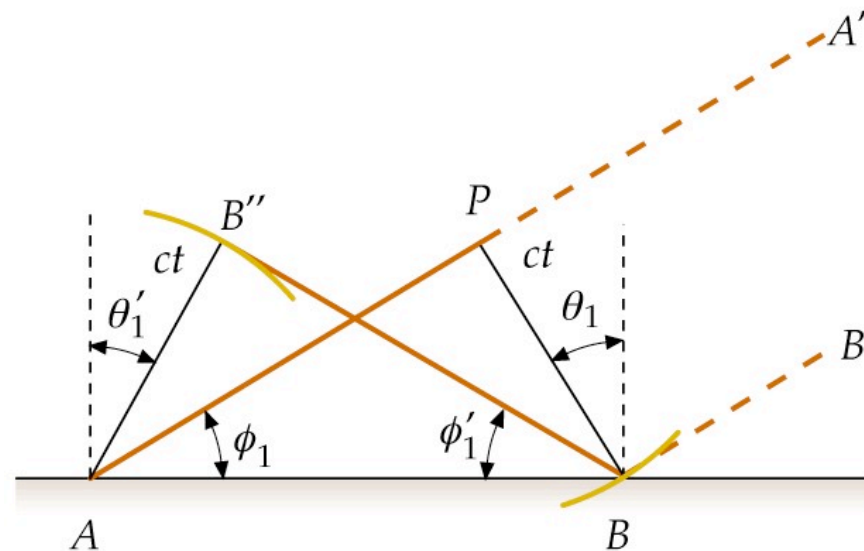
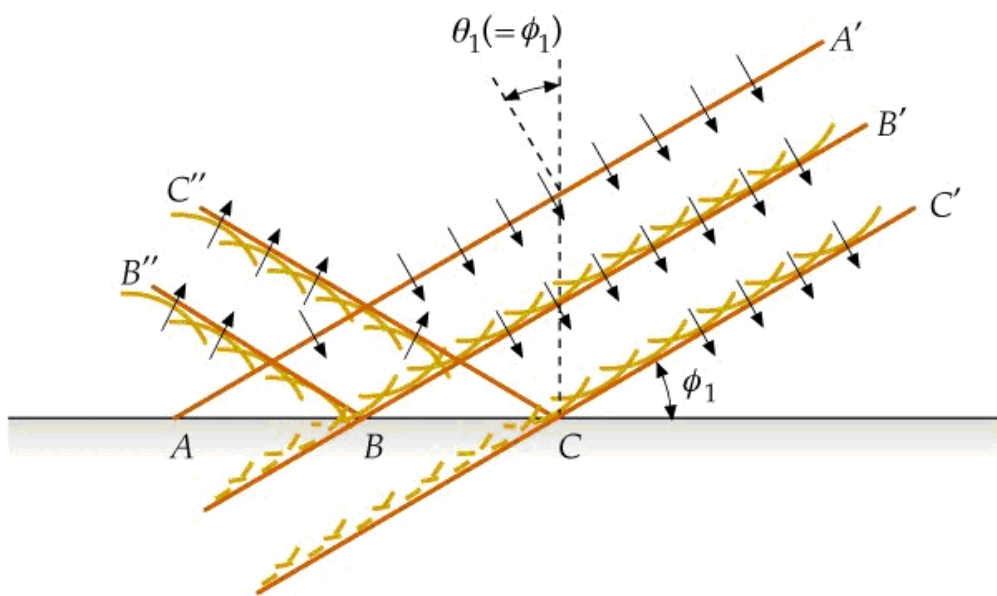
(a)



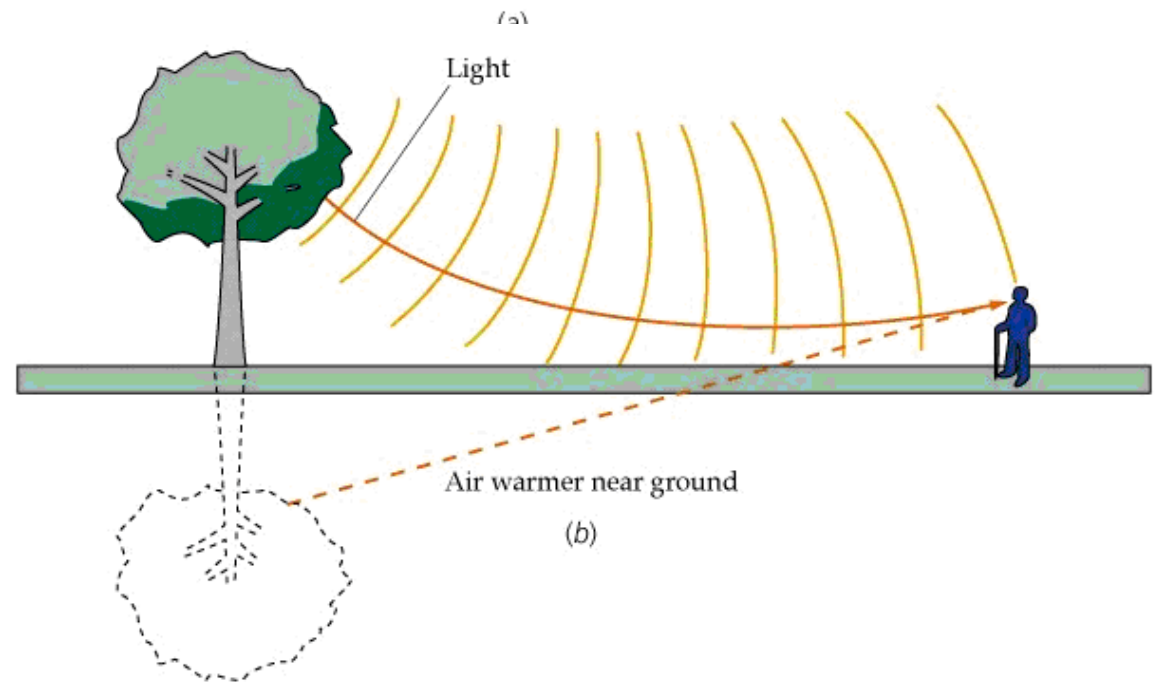
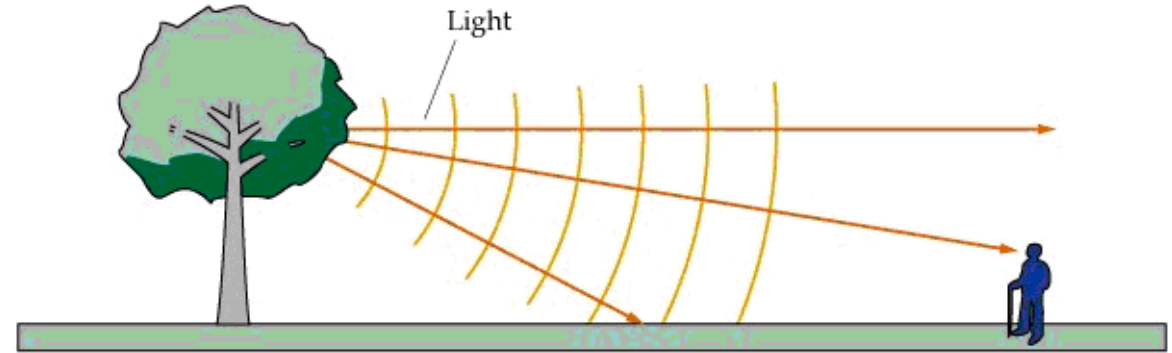
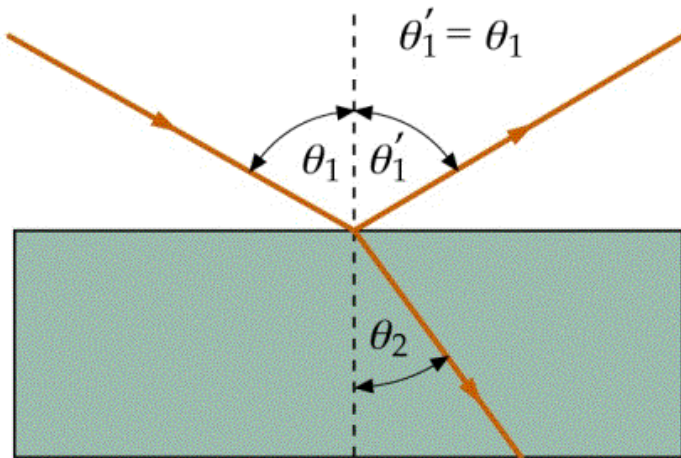
(b)



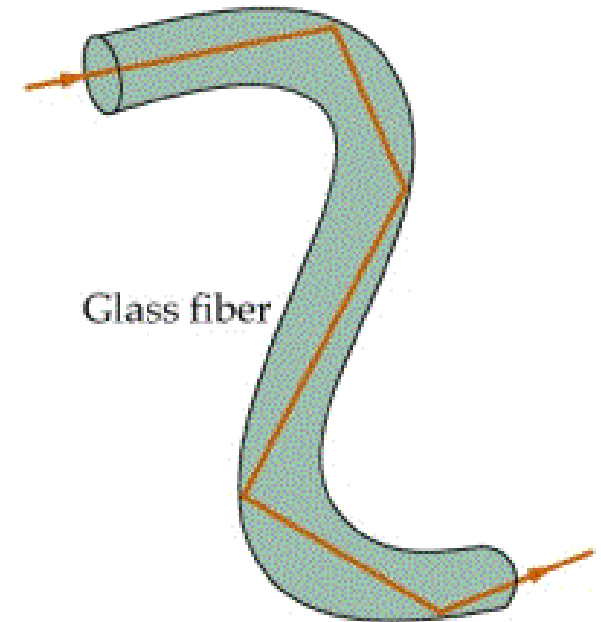
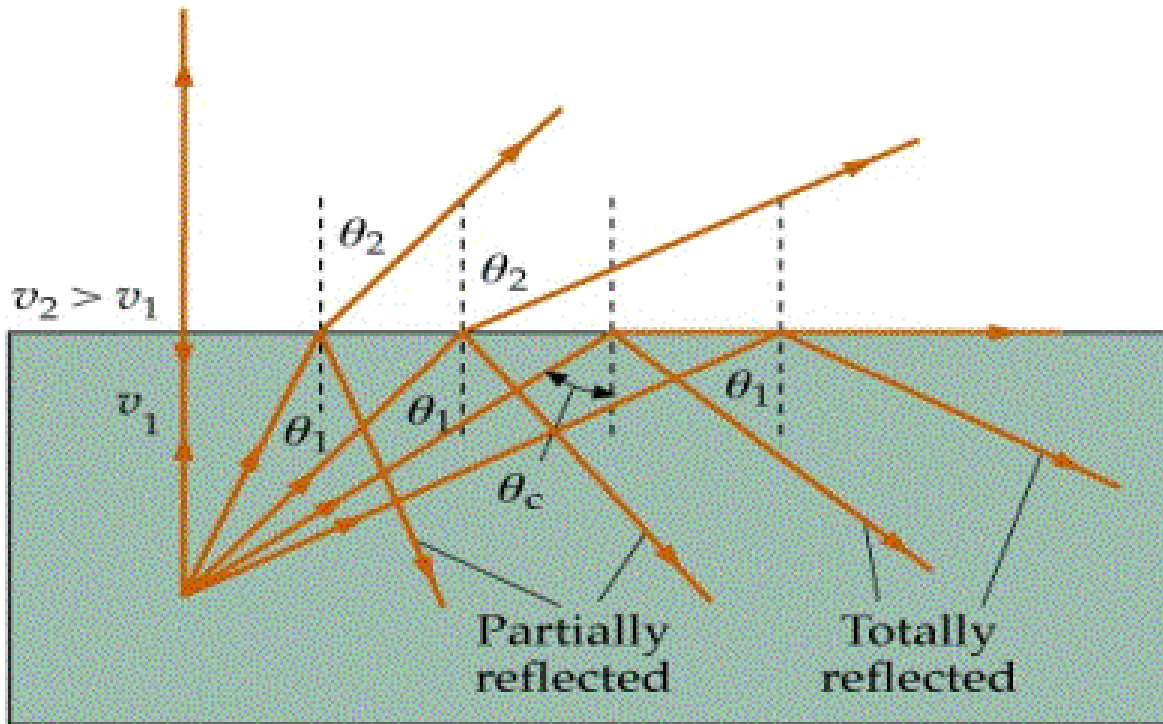
Reflexió i refracció (I)



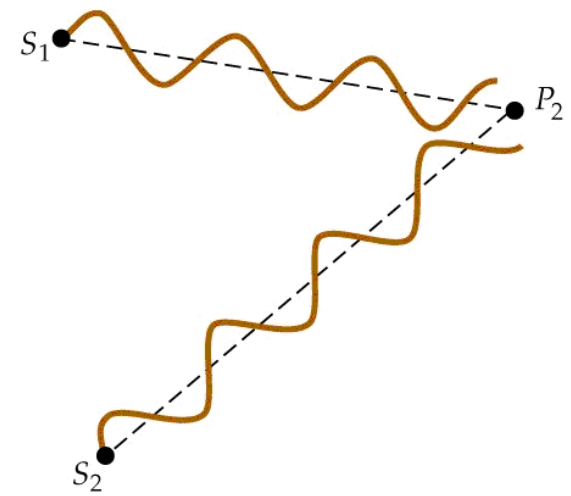
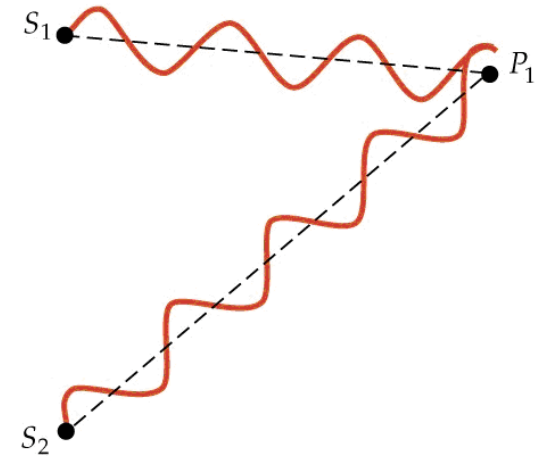
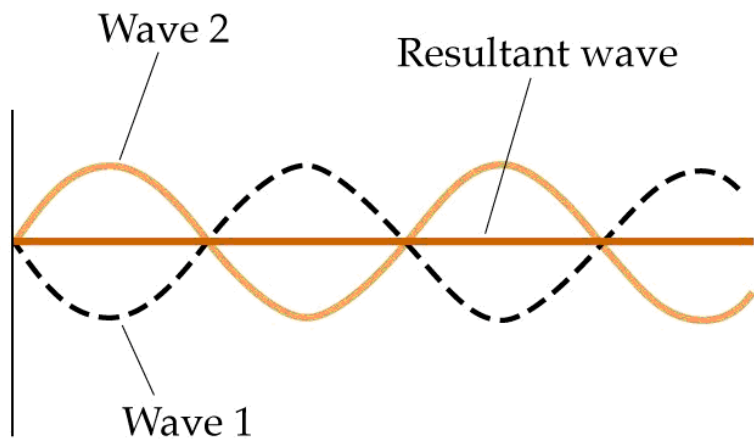
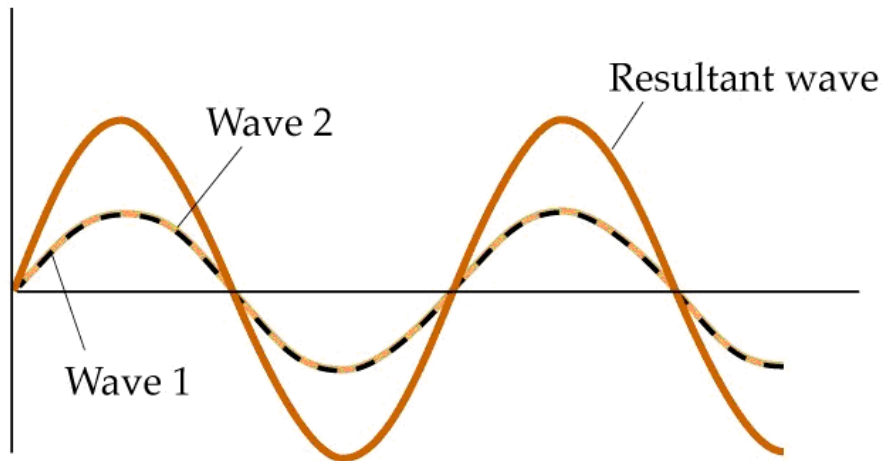
Reflexió i difracció (II)



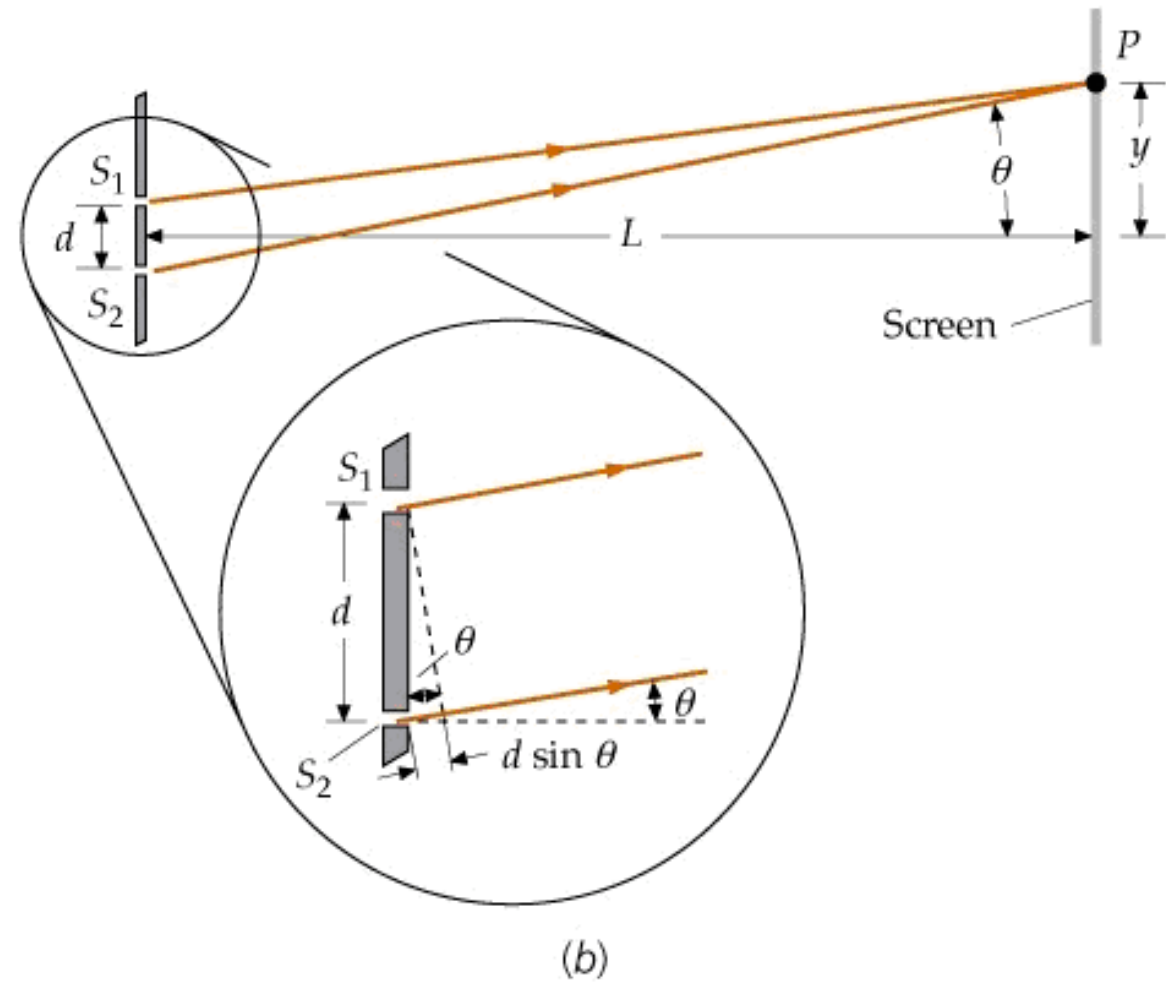
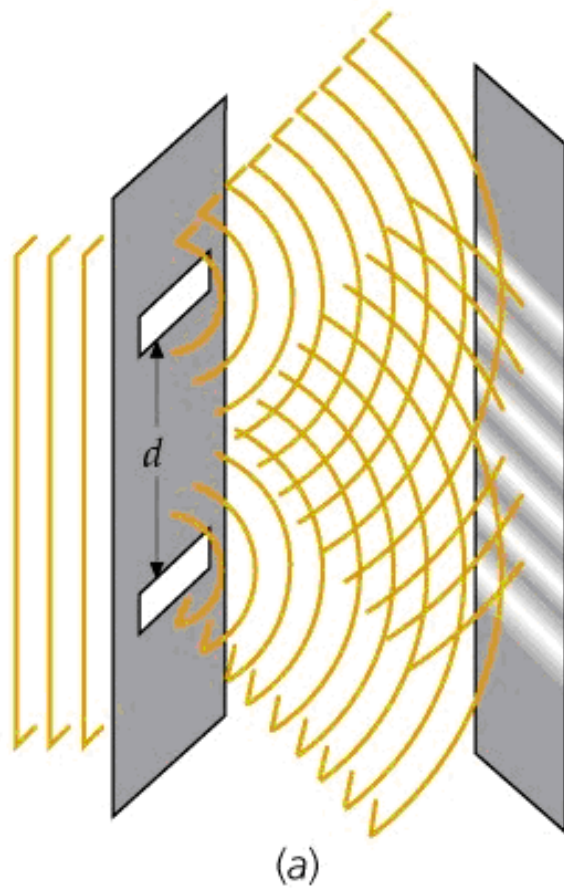
Reflexió total



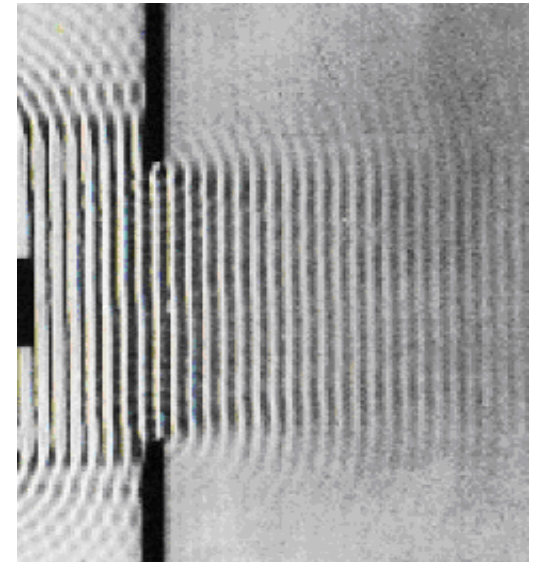
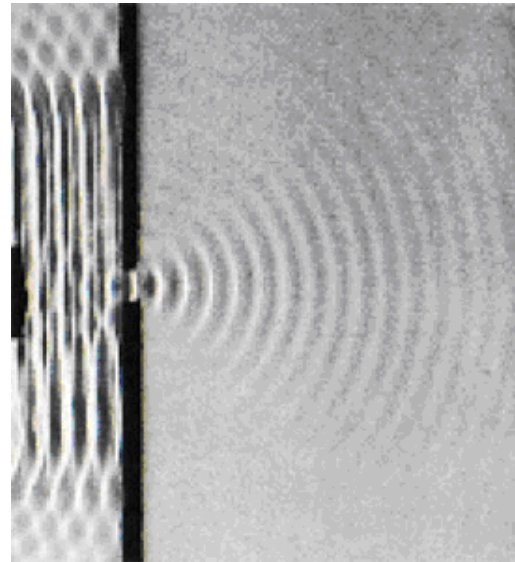
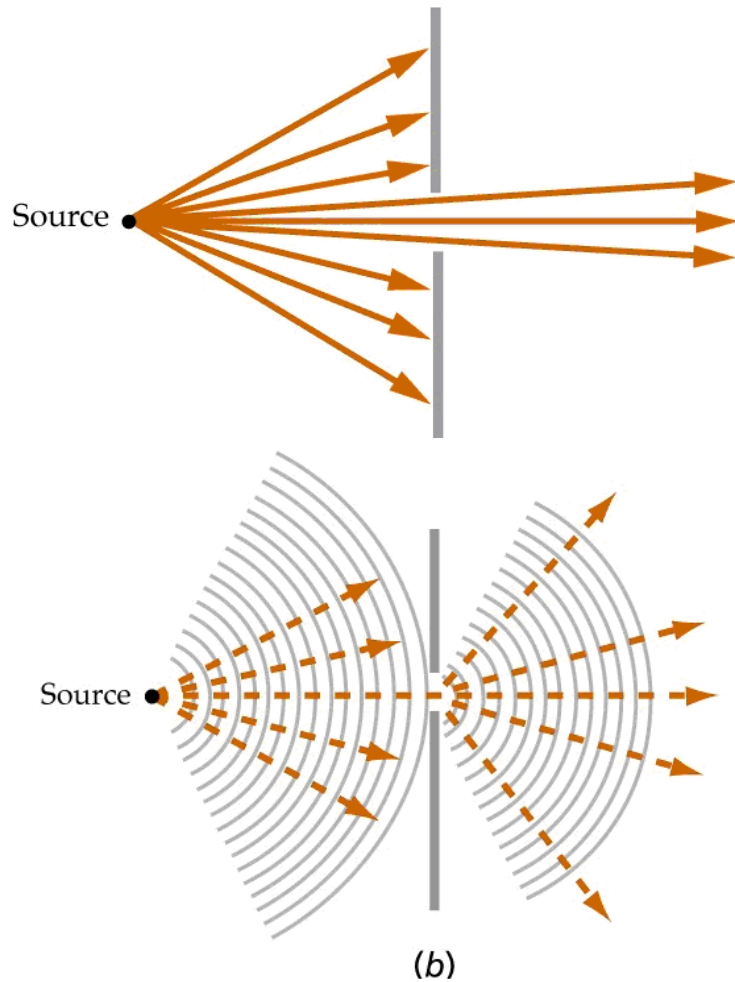
Interferència d'ones



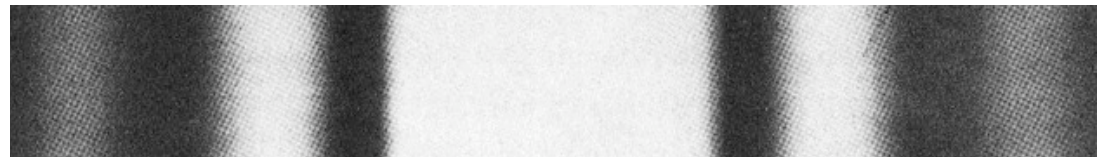
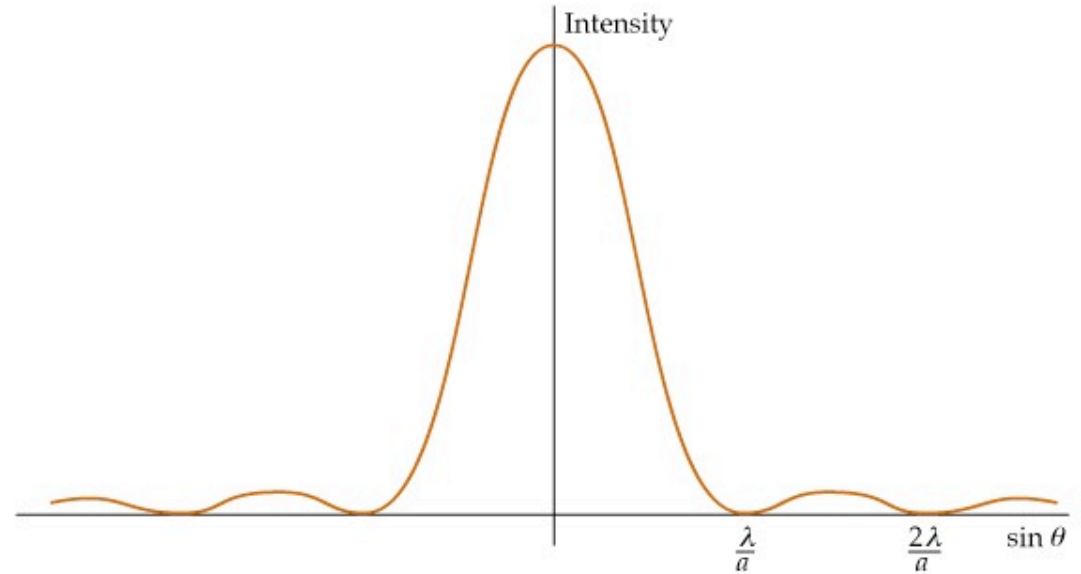
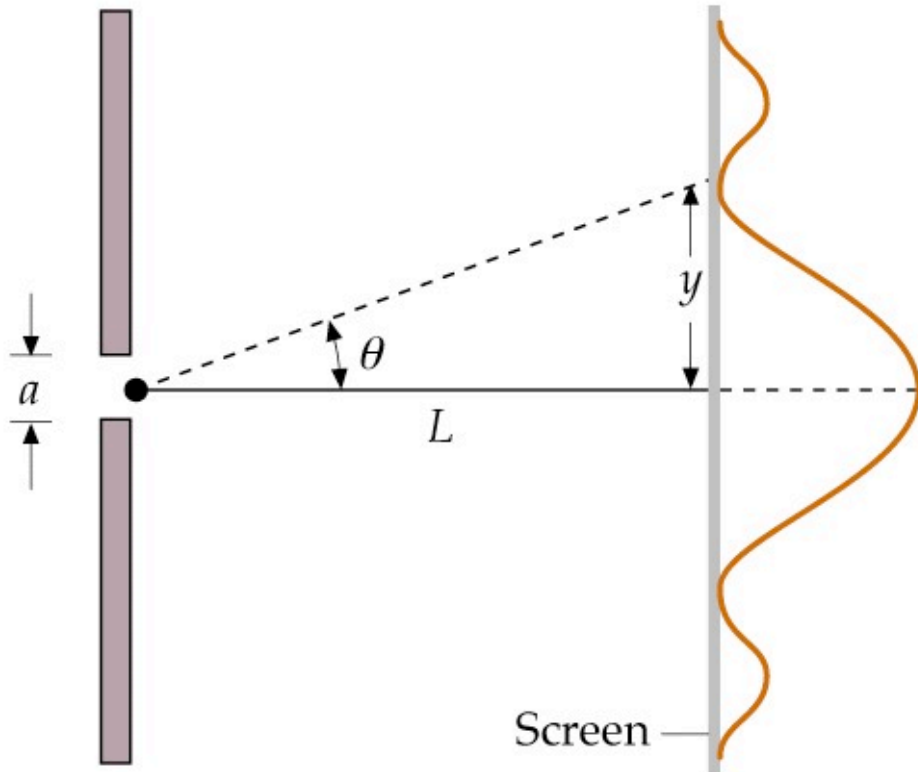
Interferència de dues esclertes



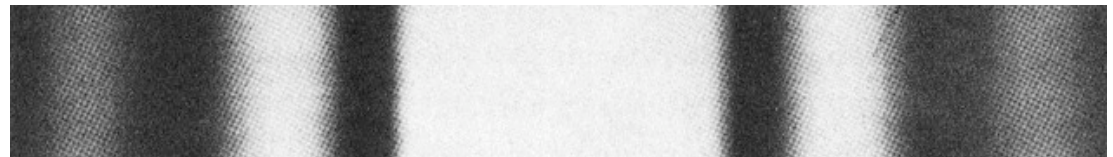
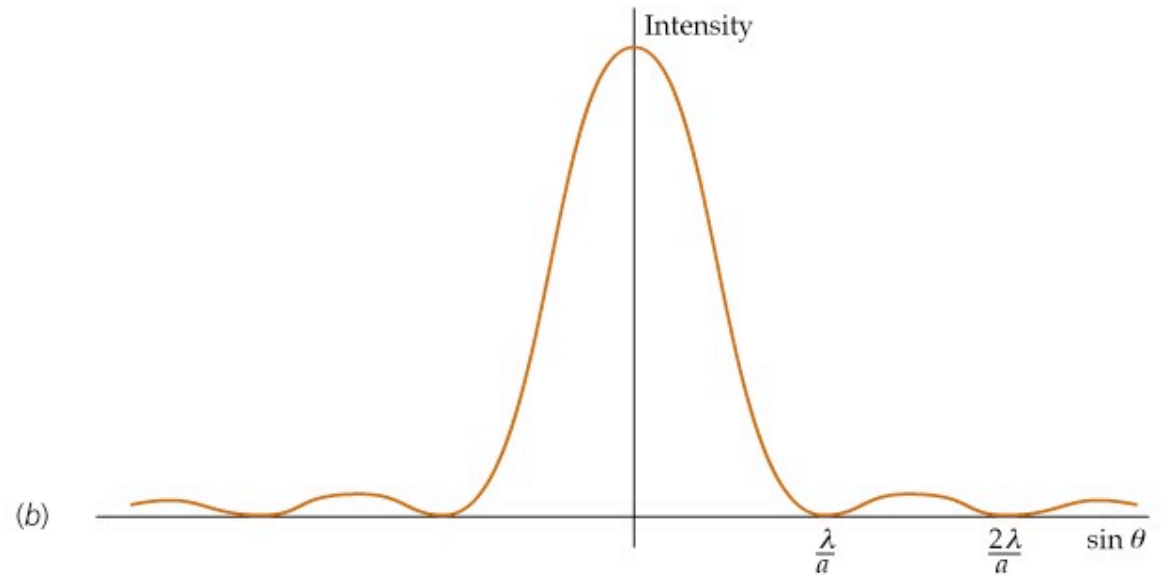
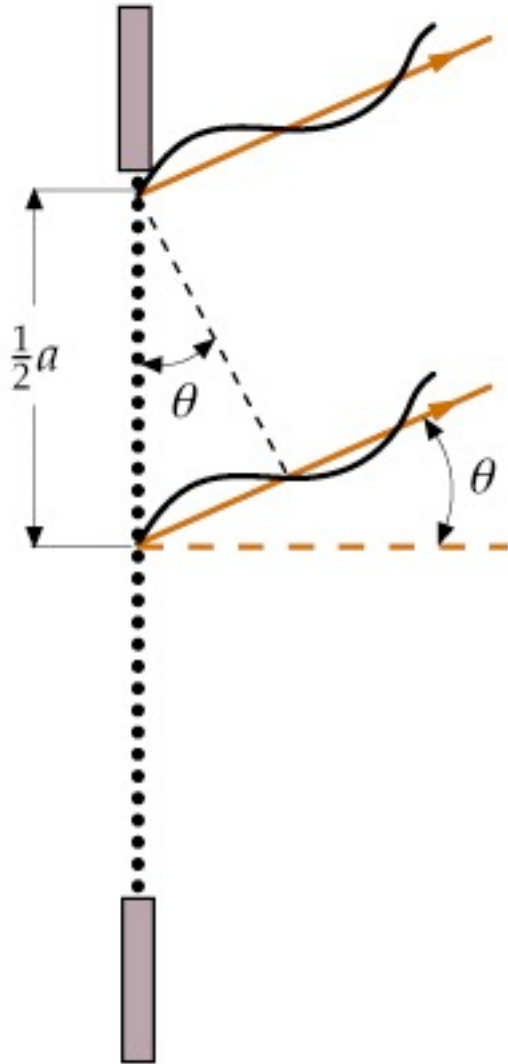
Difracció per una escletxa (I)



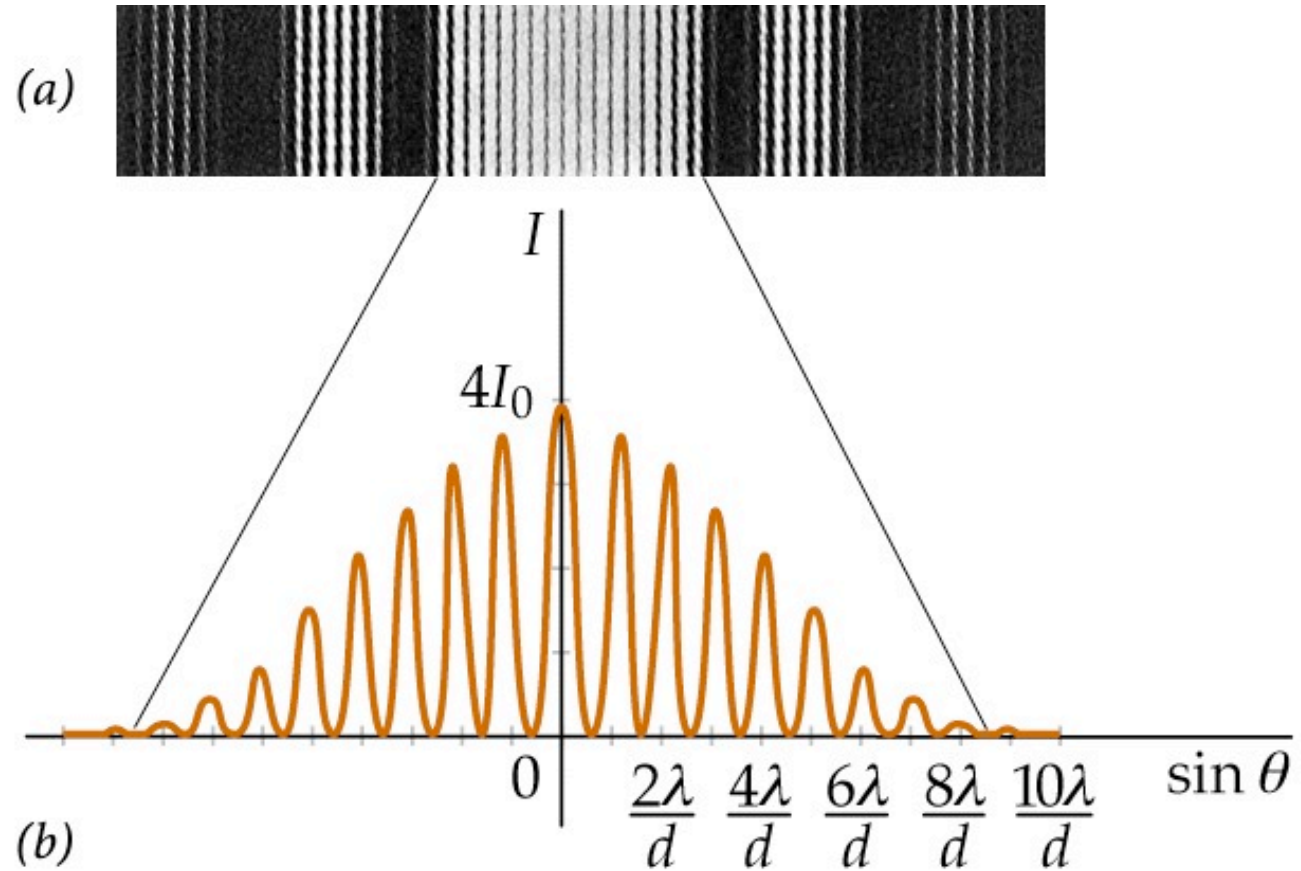
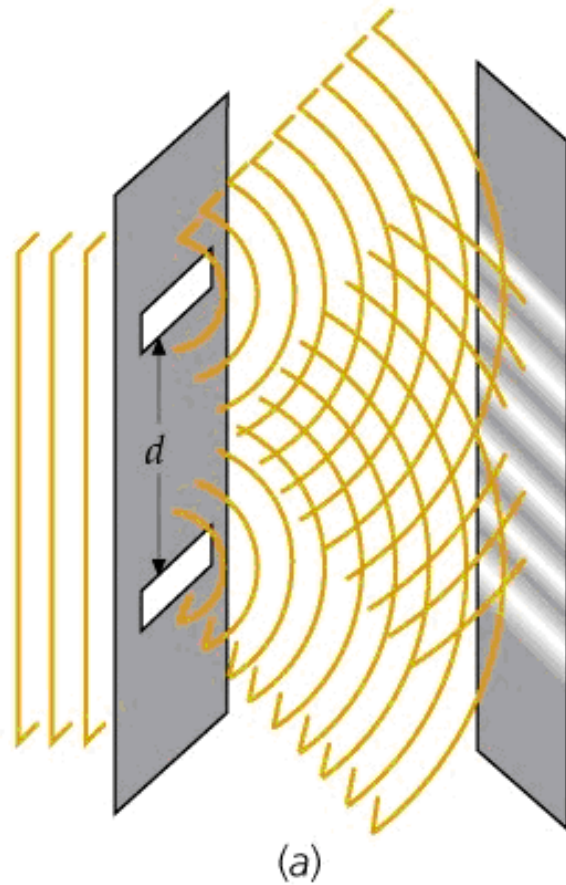
Difracció per una escletxa (II)



Difracció per una escletxa (III)



Difracció de dues esclertes



Difracció de Fraunhofer i de Fresnel



As the screen is moved closer,



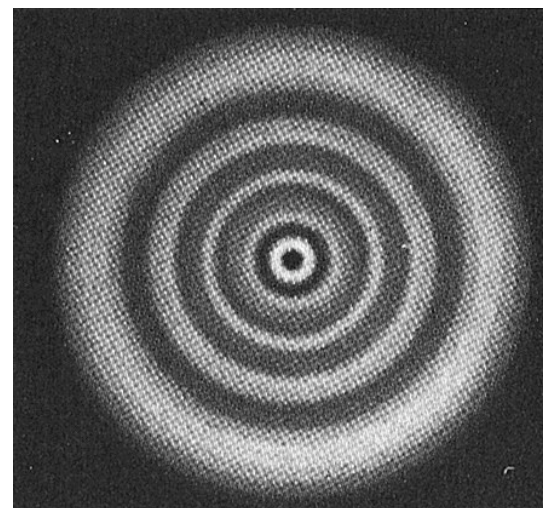
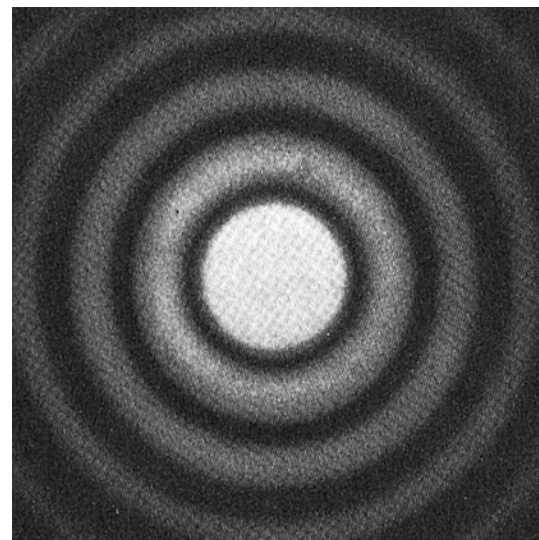
the Fraunhofer pattern observed far from the slit...



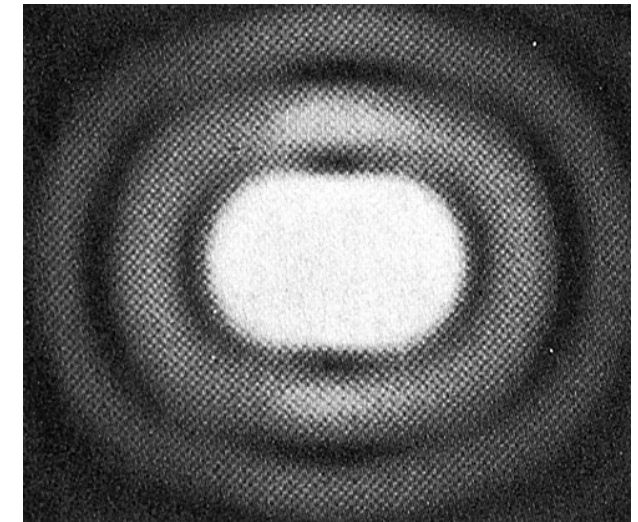
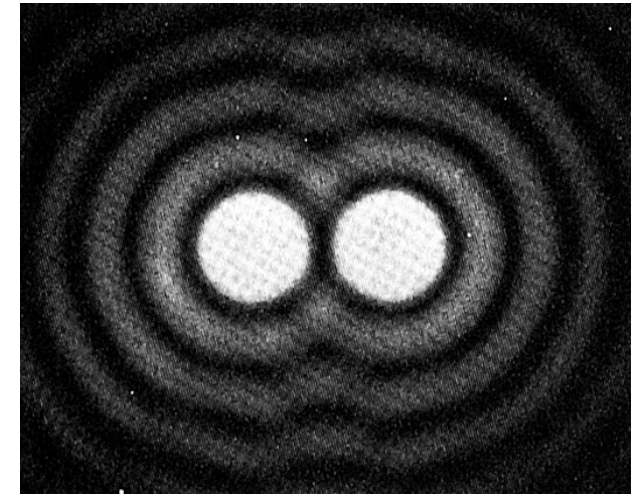
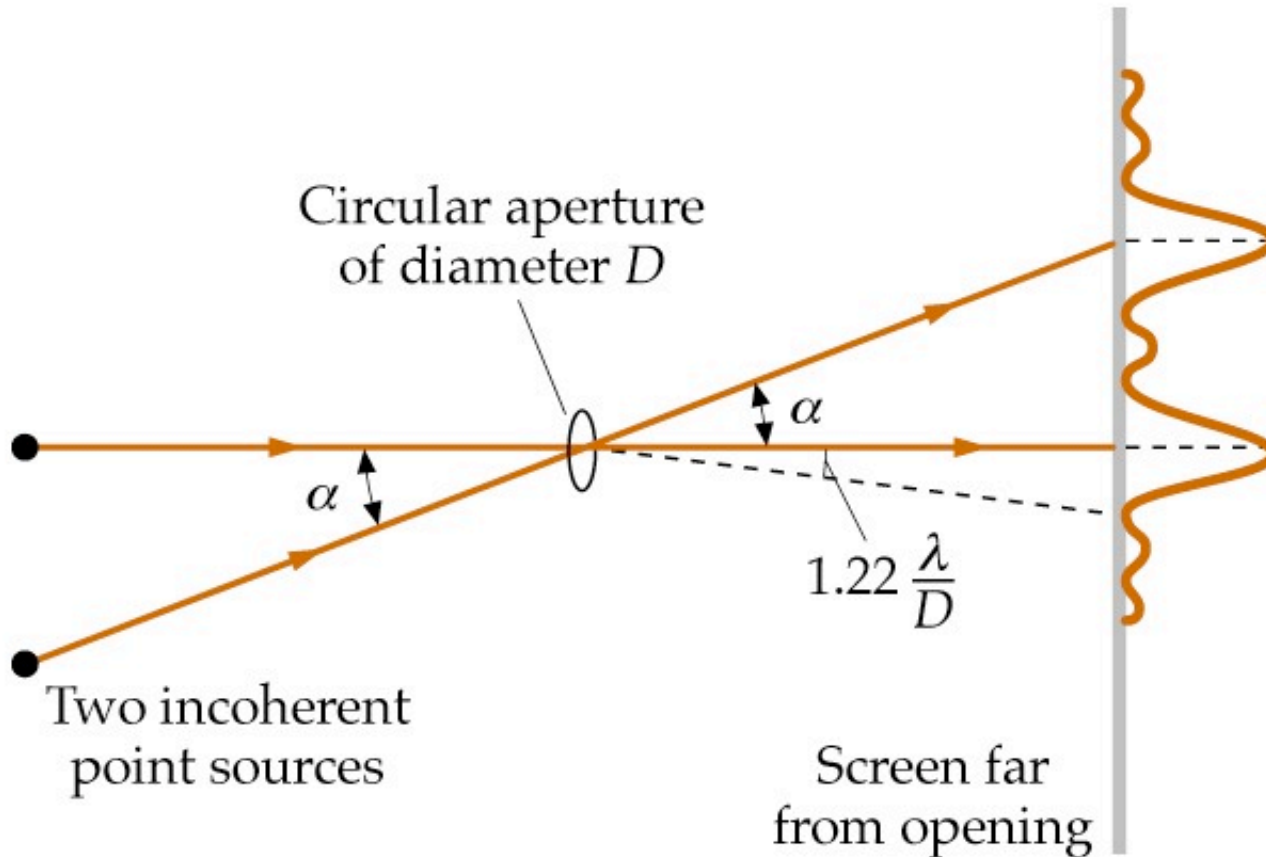
gradually changes into...



the Fresnel pattern observed near the slit.



Criteria de resolució de Rayleigh



Xarxa de difracció

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

$$m = 1, 2, \dots$$

