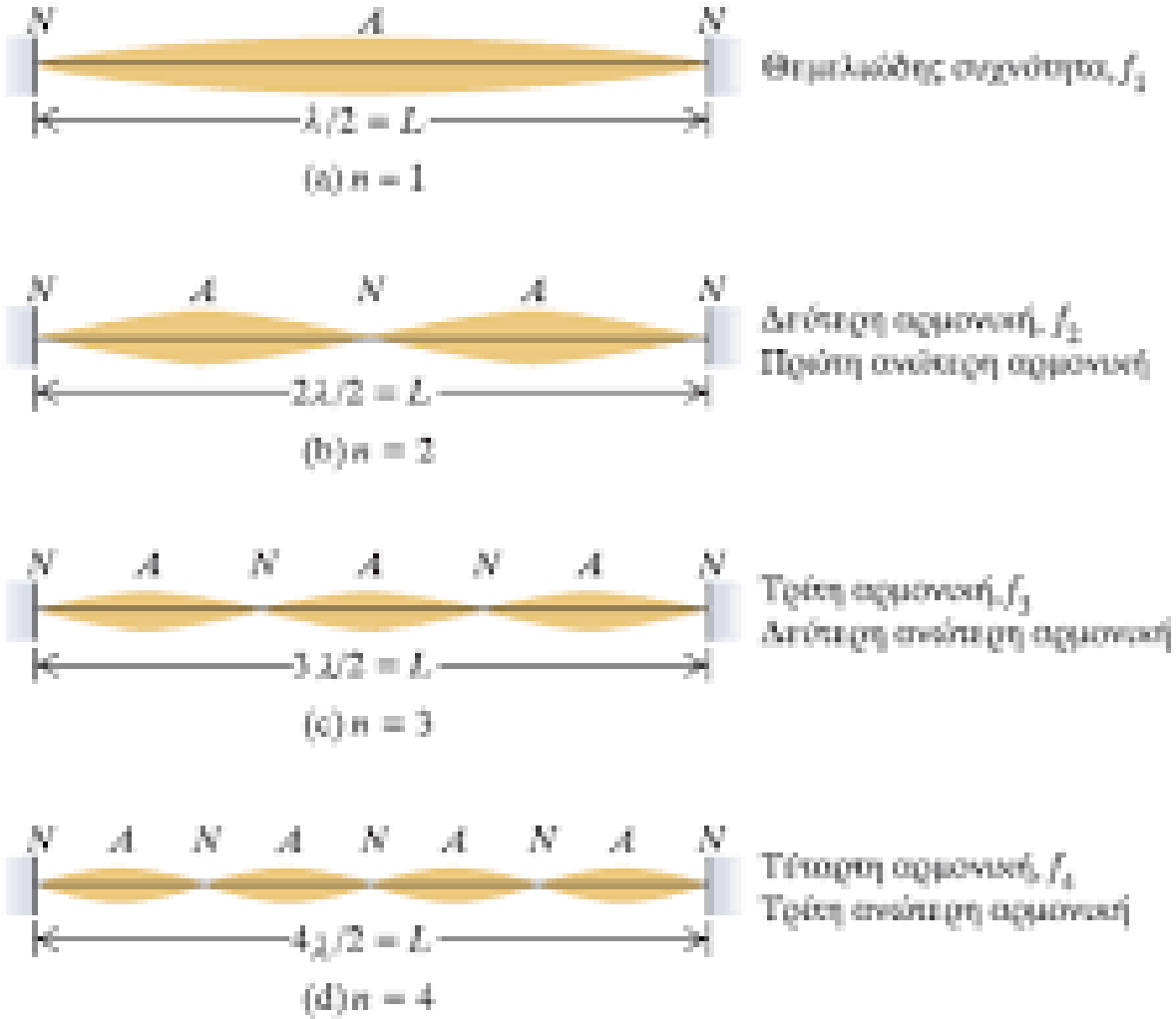
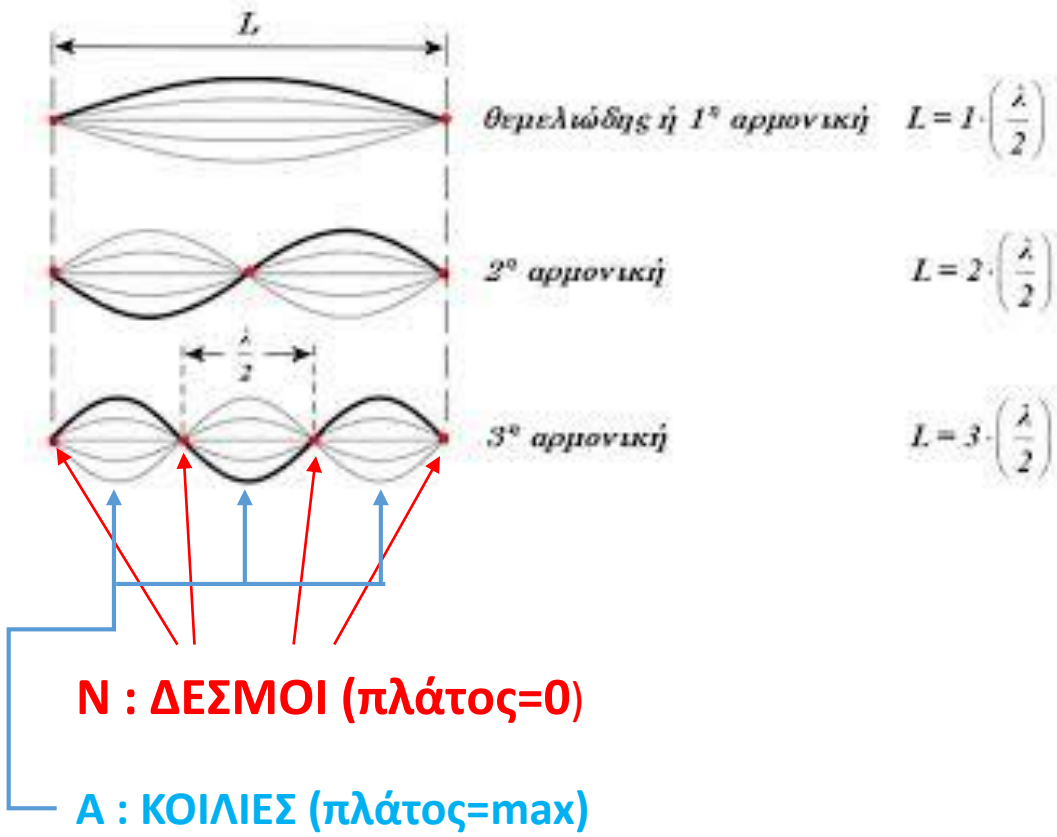
ΑΣΚΗΣΗ Α2

ΜΕΤΡΗΣΗ ΤΗΣ ΤΑΧΥΤΗΤΑΣ ΤΟΥ ΗΧΟΥ ΣΤΟΝ ΑΕΡΑ

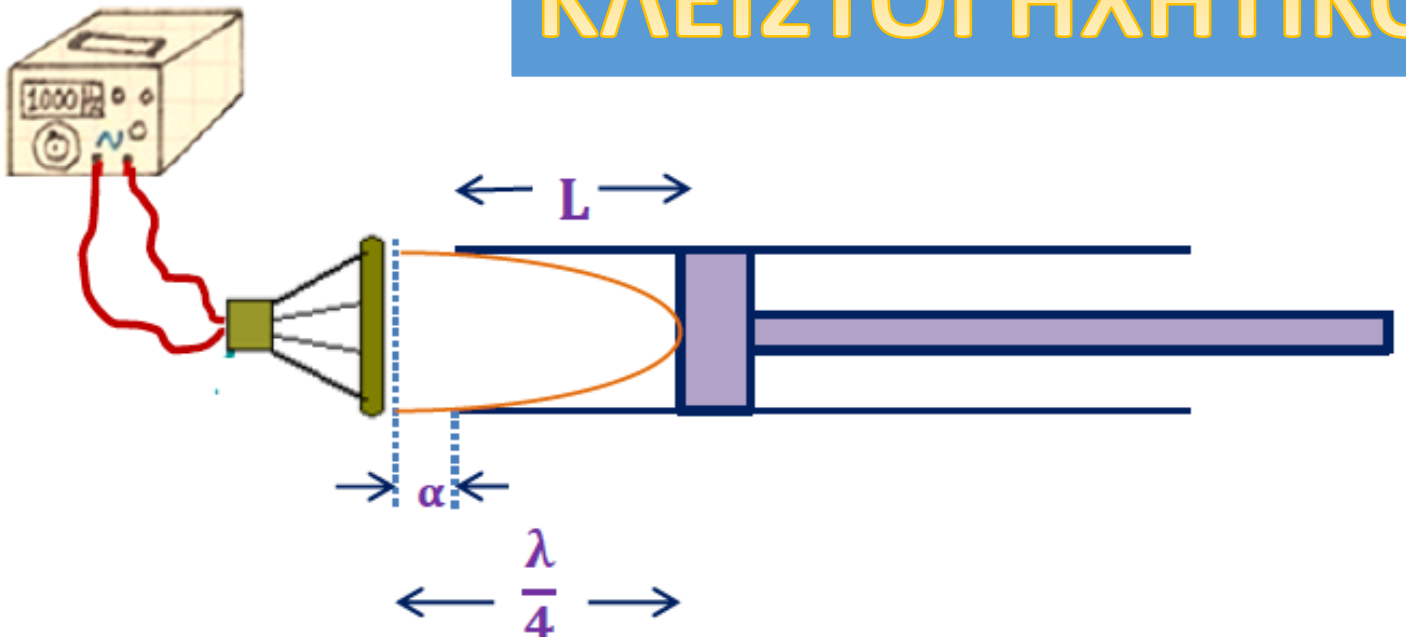
ΣΤΑΣΙΜΑ ΚΥΜΑΤΑ

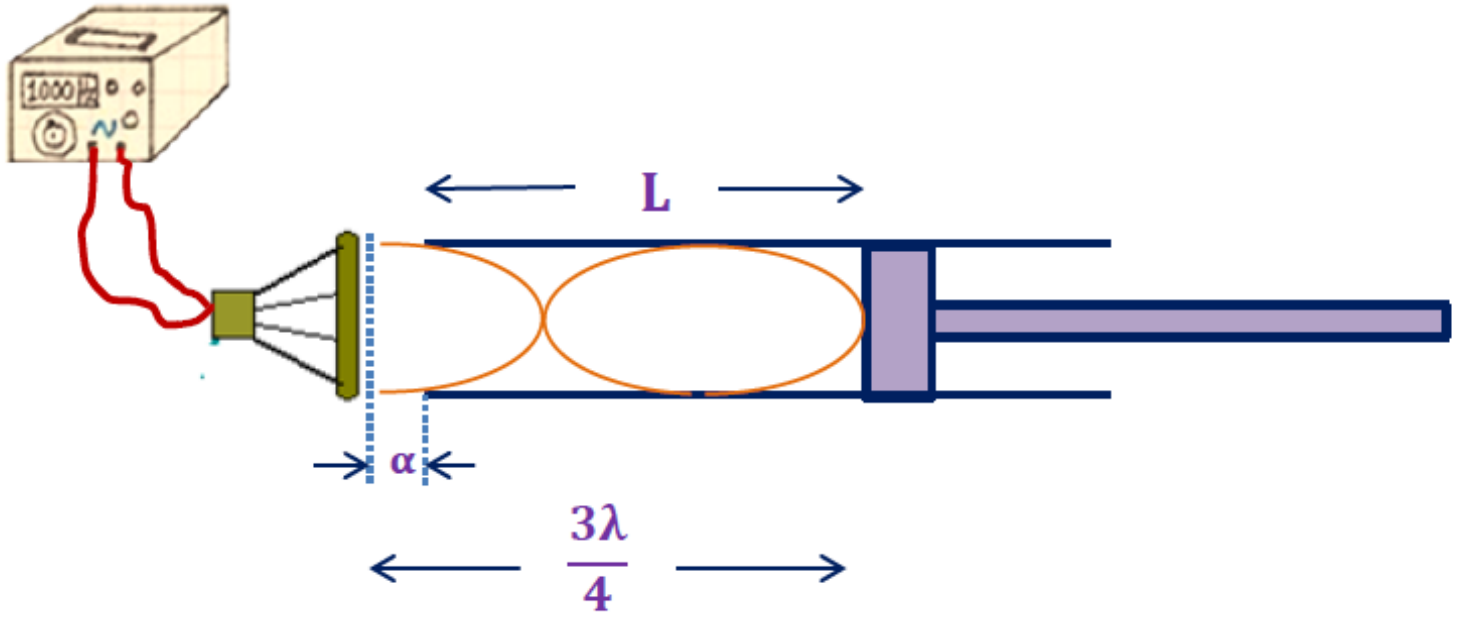
- ΧΟΡΔΗ - ΝΗΜΑ

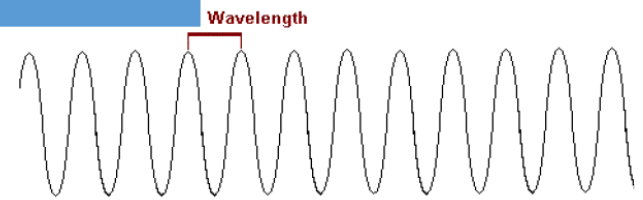




ΚΛΕΙΣΤΟΙ ΗΧΗΤΙΚΟΙ ΣΩΛΗΝΕΣ







$$L = \frac{\lambda}{4} - \alpha$$

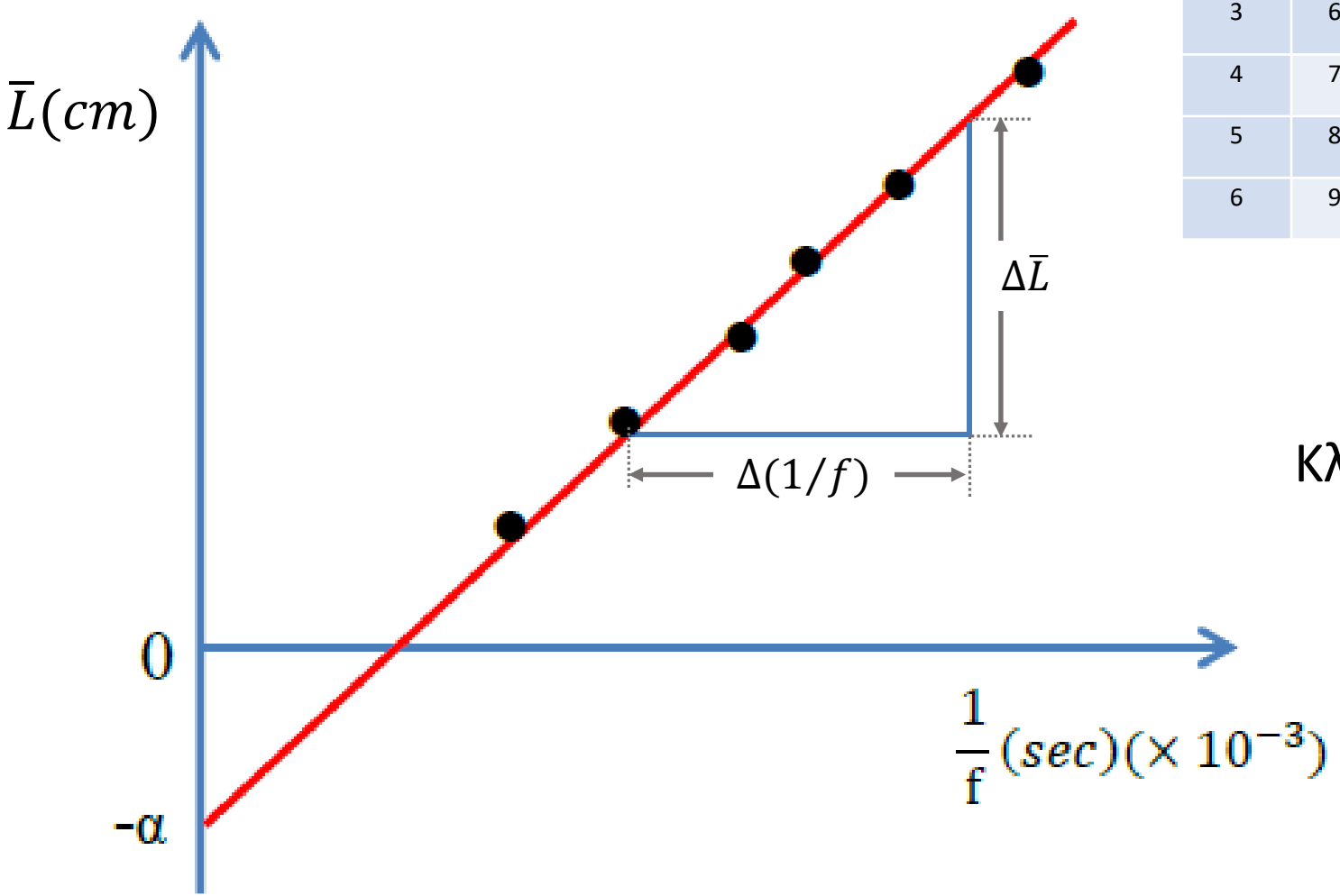
$$\lambda = v \cdot T = v \cdot \frac{1}{f}$$

$$L = \frac{v \cdot \left(\frac{1}{f}\right)}{4} - \alpha$$

$$L = \frac{v}{4} \cdot T - \alpha$$

$$\bar{L} = \frac{v}{4} \cdot \left(\frac{1}{f}\right) - \alpha$$

α/α	f (Hz)	1/f (10^{-3}s)	L_1 (10^{-2}m)	L_1 (10^{-2}m)	L_1 (10^{-2}m)	$\bar{L}$ (10^{-2}m)
1	400					
2	500					
3	600					
4	700					
5	800					
6	900					



$$\text{Κλίση} = \frac{\Delta\bar{L}}{\Delta(\frac{1}{f})} = \frac{cm}{\times 10^{-3} sec} = \frac{\times 10^{-2} m}{\times 10^{-3} sec}$$

$$\times 10 \frac{m}{sec}$$

$$\frac{v}{4} \Rightarrow v = \cdots.$$

ΑΣΚΗΣΗ Ο11

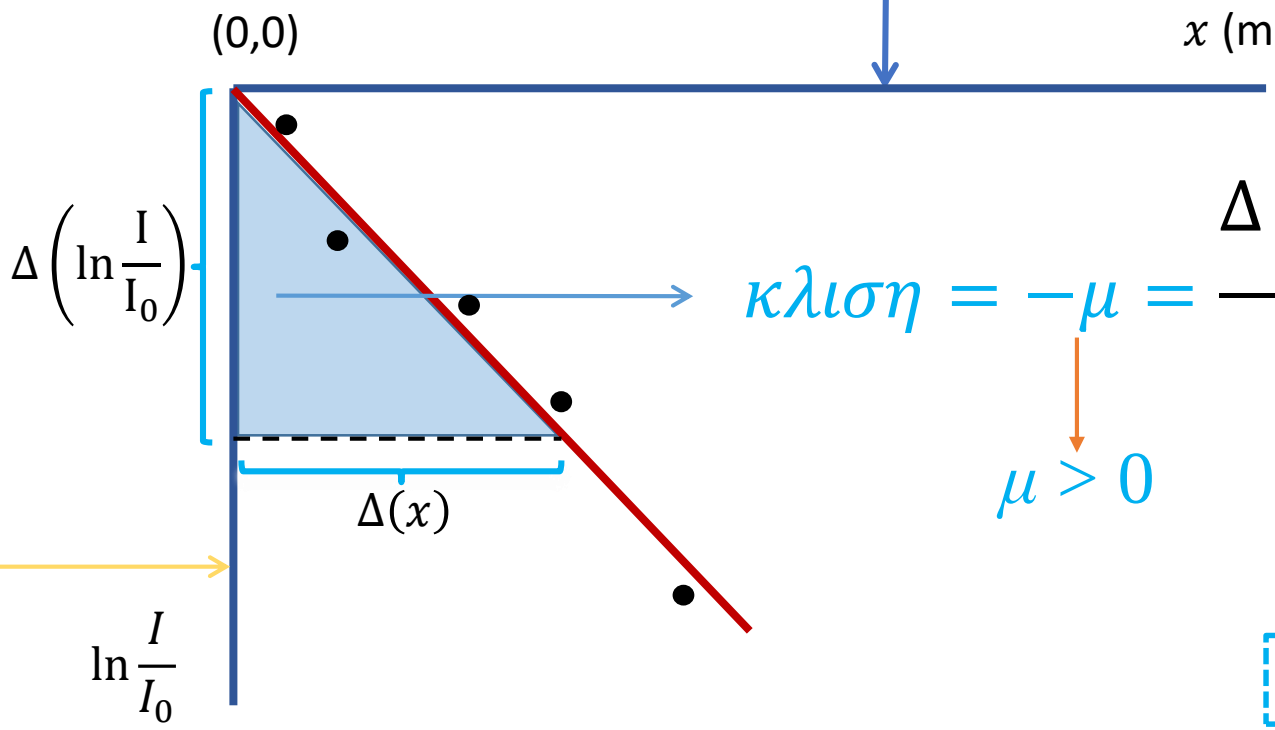
ΑΠΟΡΡΟΦΗΣΗ ΦΩΤΟΣ – ΠΡΟΣΔΙΟΡΙΣΜΟΣ ΤΟΥ ΣΥΝΤΕΛΕΣΤΗ ΑΠΟΡΡΟΦΗΣΗΣ μ

$$\ln\frac{I}{I_0} = -\mu \cdot x$$

→ κλίση = -μ

Κατακόρυφος άξονας (y)

οριζόντιος άξονας (x)



$$\kappa\lambda\iota\sigma\eta = -\mu = \frac{\Delta\left(\ln\frac{I}{I_0}\right)}{\Delta(x)} = \frac{-\ldots\ldots}{\ldots.mm} = -\ldots mm^{-1}$$

$\mu > 0$

1(mm)$^{-1}$ =(10^{-3}m)$^{-1}$ = 10^3 m^{-1} = 1000 m^{-1}

ΑΣΚΗΣΗ Ο13

ΜΕΓΕΘΥΝΤΙΚΟΣ ΦΑΚΟΣ

$$\frac{1}{x}+\frac{1}{x'}=\frac{1}{f}\Rightarrow\frac{1}{x}+\frac{1}{-25}=\frac{1}{15}\Rightarrow\frac{1}{x}=\cdots\Rightarrow x=\cdots$$

$$M=\frac{25}{f(cm)}$$