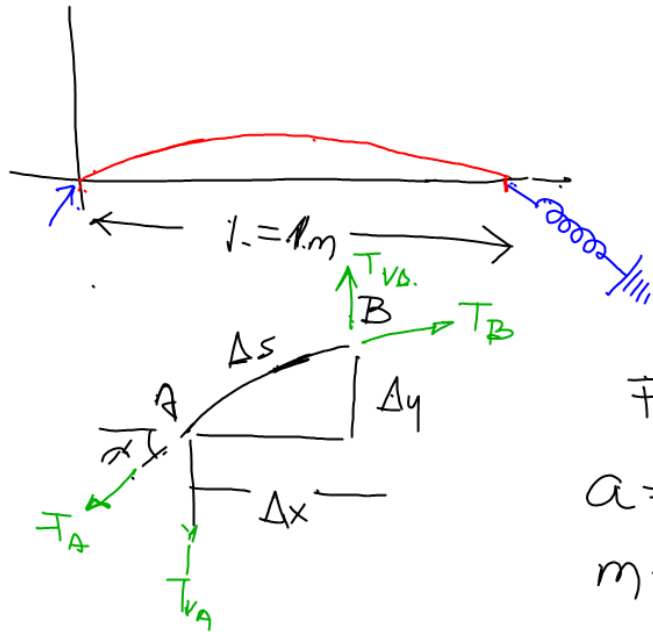


CUERDA DE GUITARRA.



$$\vec{F} = m\vec{a}$$

$$a = \frac{d^2 u(x,t)}{dt^2}$$

$$m = \rho \Delta s$$

$$\vec{F} = \rho \Delta s \frac{d^2 u}{dt^2}$$

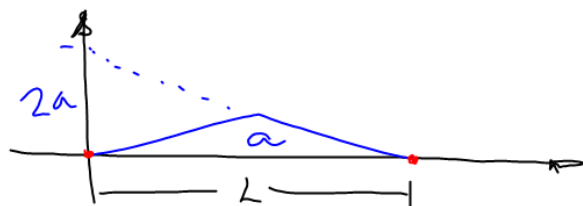
$$T_r = T_{VB} - T_{VA}$$

$$T_{VA} = T \sin(\alpha) = T \frac{\Delta u}{\Delta x}$$

$$T_{VB} = T \frac{\Delta u}{\Delta x} + \frac{\partial}{\partial x} \left(T \frac{\partial u}{\partial x} \right) \Delta x$$

$$T_r = T \frac{\partial^2 u}{\partial x^2} \Delta x$$

$$T \frac{\partial^2 u}{\partial x^2} \Delta x = \rho \Delta s \frac{\partial^2 u}{\partial t^2}$$



$$u(0,t)=0 \quad u(L,t)=0$$

condiciones frontera

condiciones
iniciales

$$u(x,0) = \begin{cases} \frac{2a}{L}x & ; 0 \leq x \leq \frac{L}{2} \\ 2a - \frac{2a}{L}x & ; \frac{L}{2} \leq x \leq L \end{cases}$$

$$\frac{\partial u}{\partial t} = 0 \quad t=0$$