

Laboratorio 1 - 2024

Oscilador armónico simple y amortiguado

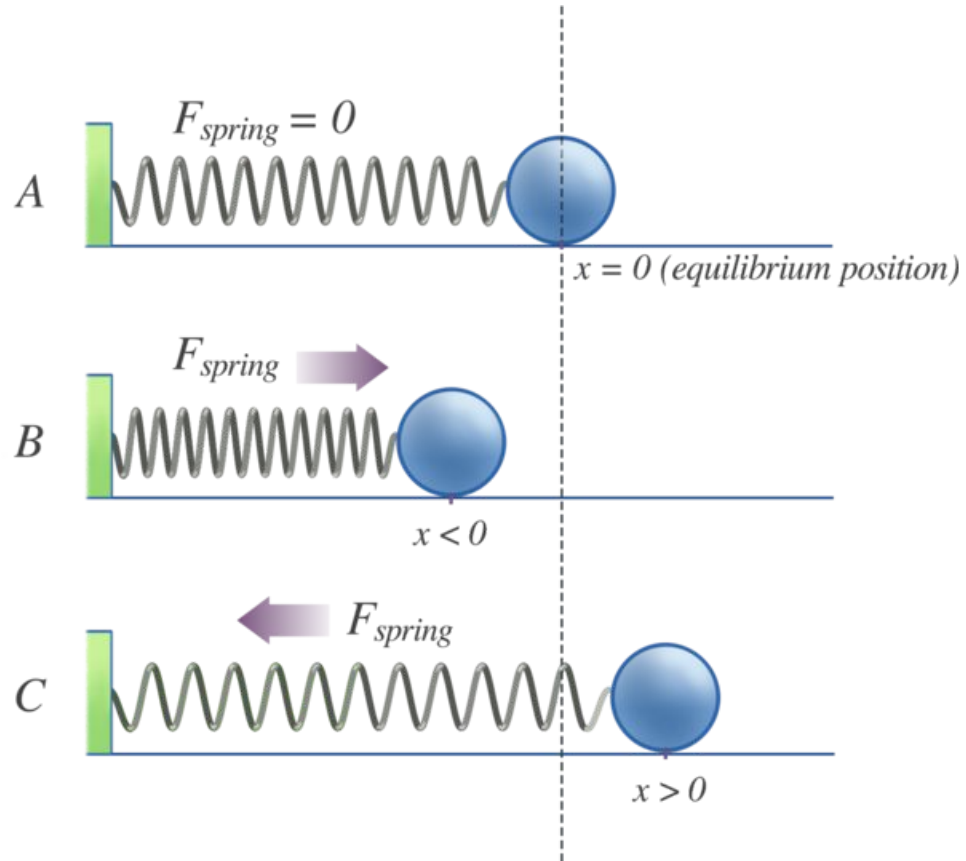
Oscilador Armónico simple

$$F = -kx$$

$$m\ddot{x} = -kx$$

$$x(t) = A \cos(\omega_0 t + \phi)$$

$$\omega_0^2 = k/m$$



Oscilador Armónico simple

+ amortiguamiento

$$F = -kx$$

$$F_v = -b\dot{x}$$

$$m\ddot{x} = -kx$$

$$m\ddot{x} = -kx - b\dot{x}$$

$$x(t) = A \cos(\omega_0 t + \phi)$$

$$x(t) = A e^{-\lambda t} \cos(\omega t + \phi)$$

$$\omega_0^2 = k/m$$

$$\omega^2 = k/m - \lambda^2$$

$$\lambda = b/2m$$

Simulador de masas y resortes

https://phet.colorado.edu/sims/html/masses-and-springs/latest/masses-and-springs_es.html