

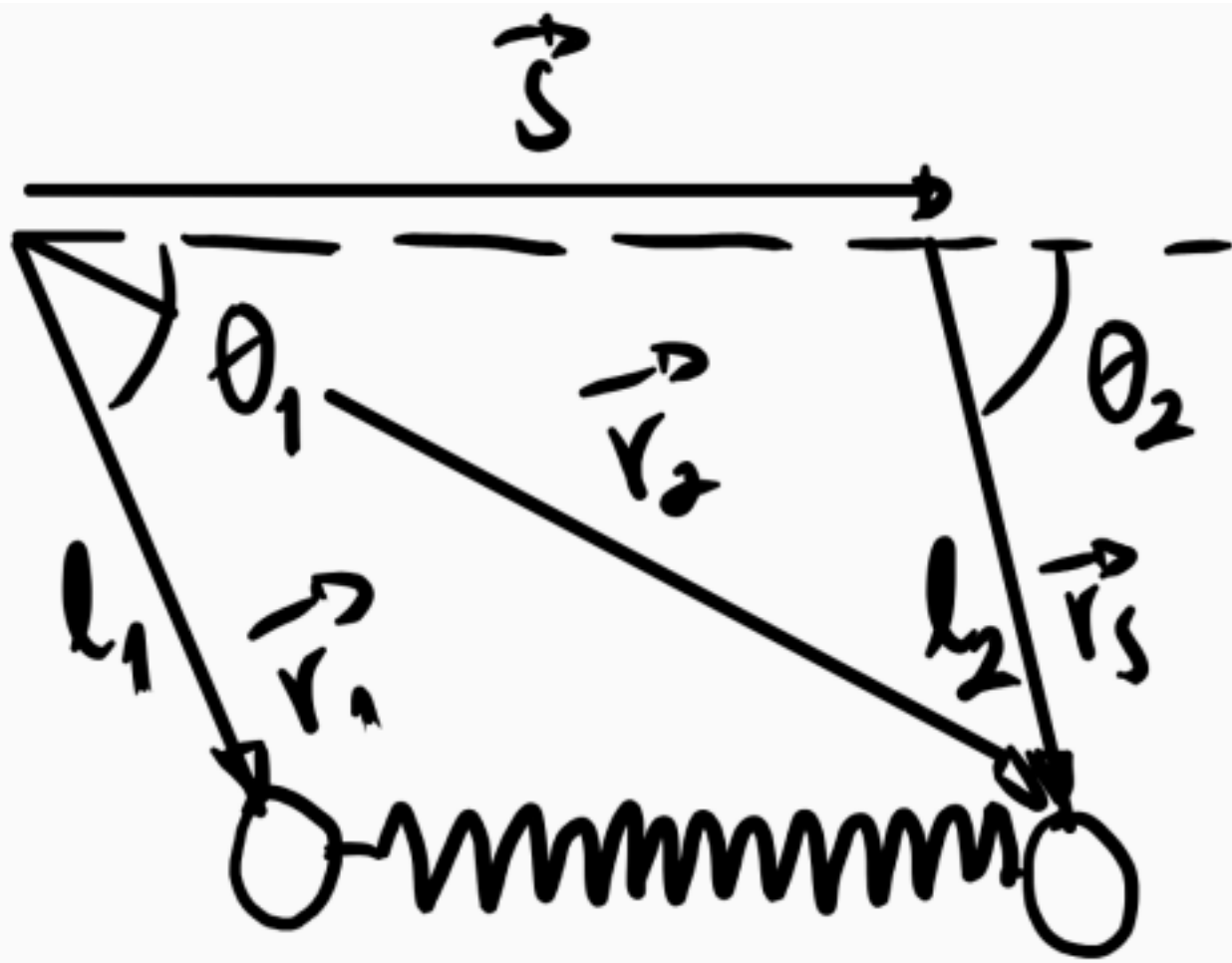
Péndulos Acoplados por resorte

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Mecánica clásica

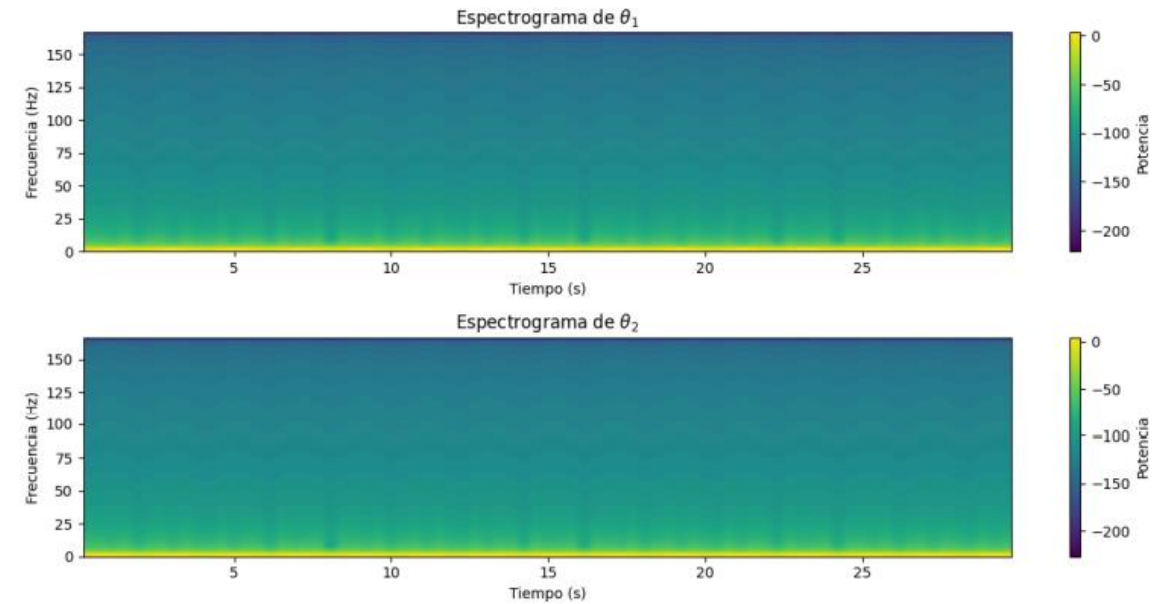
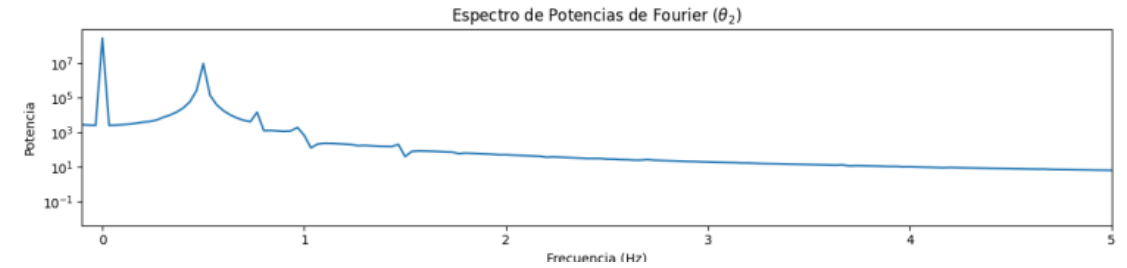
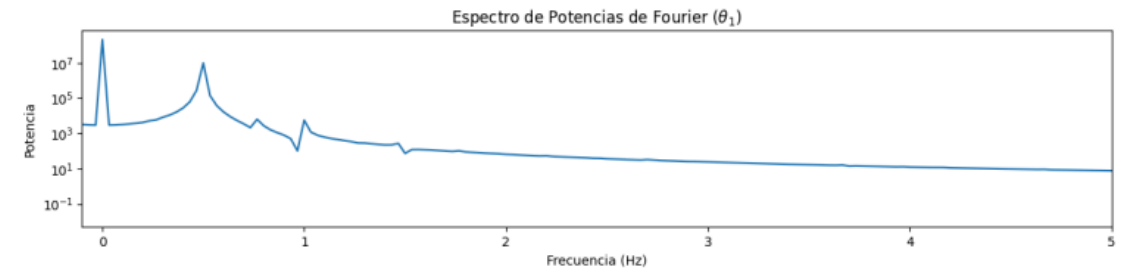
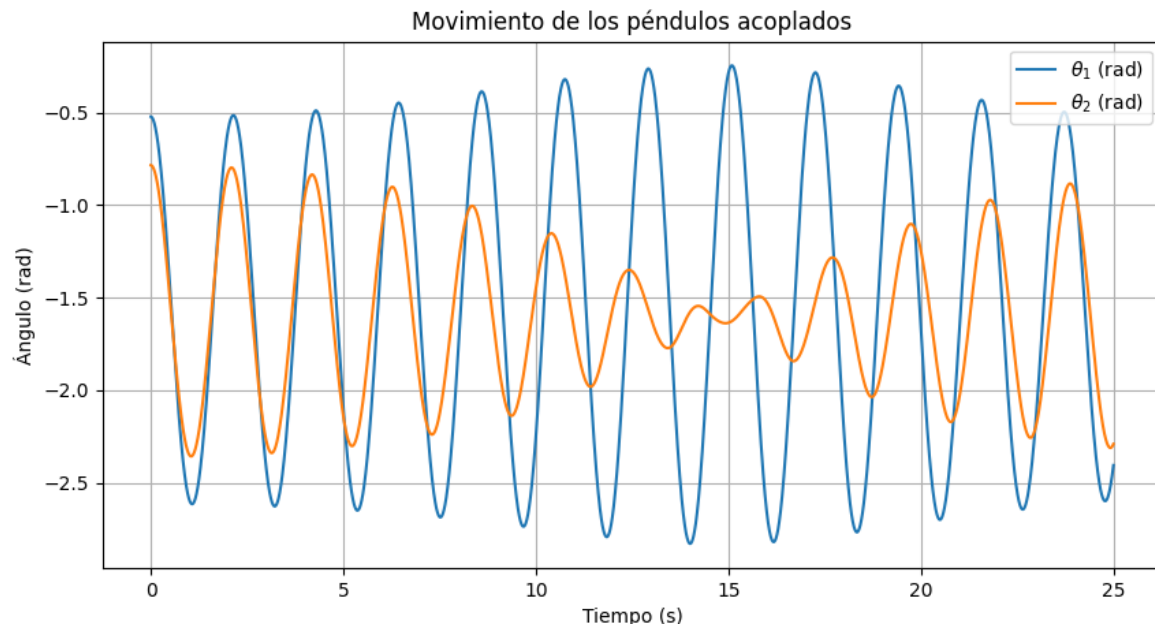
El problema

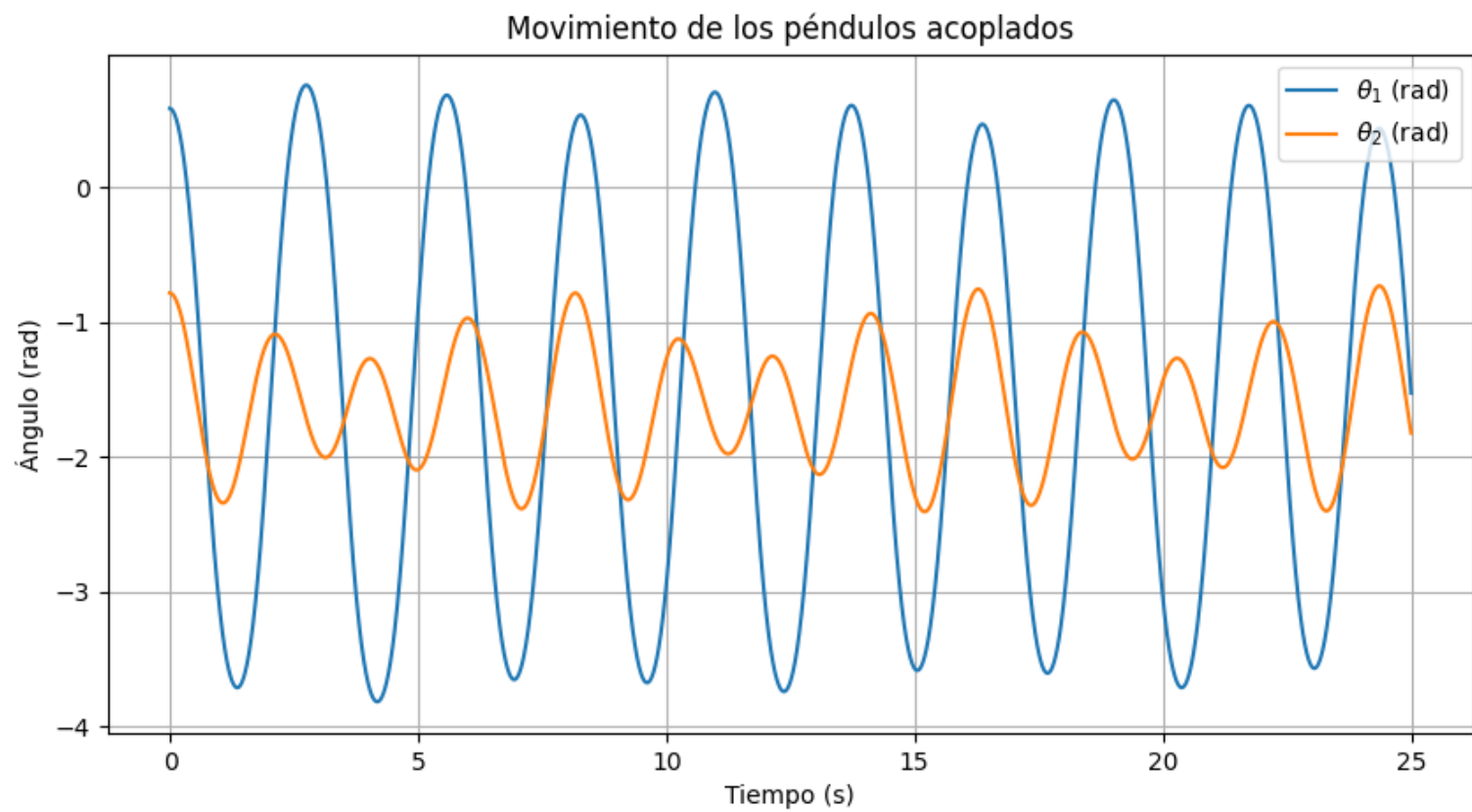


$$L = \frac{1}{2}m_1 l_1^2 \dot{\theta}_1^2 + \frac{1}{2}m_2 l_2^2 \dot{\theta}_2^2 + m_1 g l_1 \sin \theta_1 + m_2 g l_2 \sin \theta_2 \dots$$

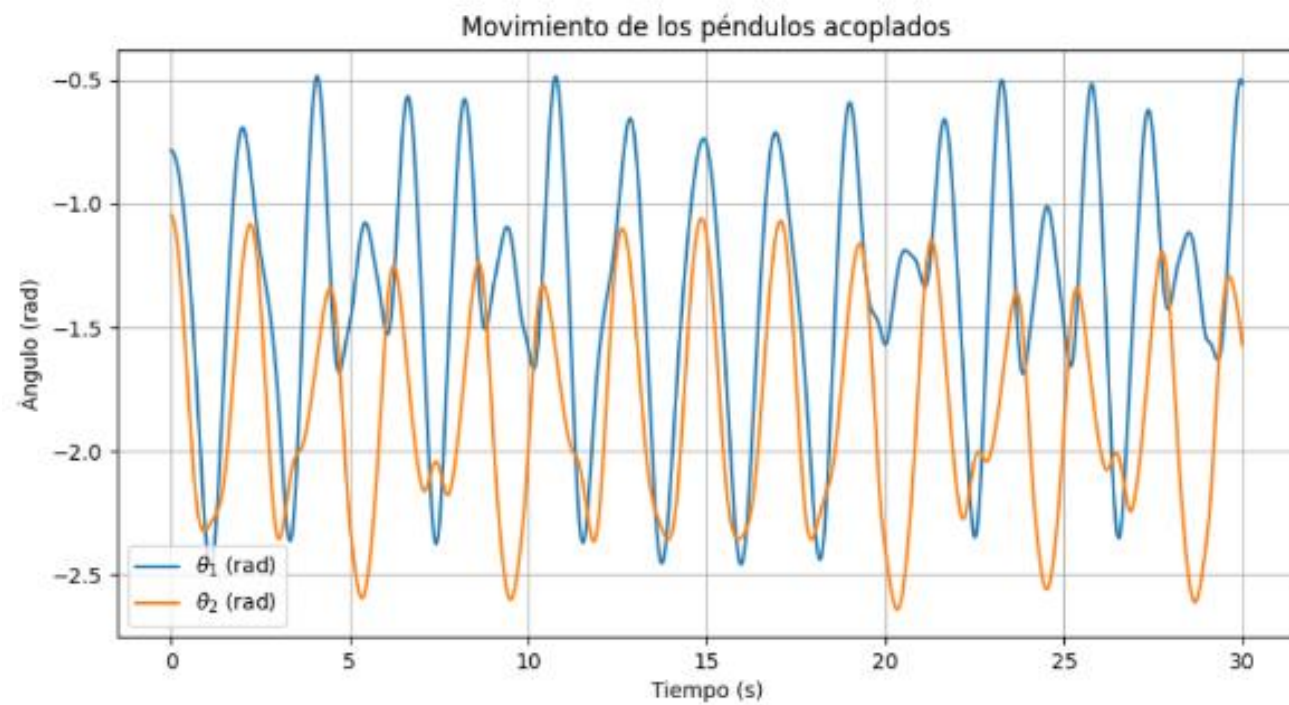
$$\dots - \frac{1}{2}k \left[\sqrt{l_1^2 + l_2^2 - 2l_1 l_2 \cos(\theta_2 - \theta_1)} + 2s(l_2 \cos \theta_2 - l_1 \cos \theta_1) + s^2 - d_0 \right]^2$$

$m=10\text{ kg}$ Para ambas masas
 $L=1\text{ m}$ Para ambos resortes
 $k=20.0$ Constante elástica
 $s=1.0\text{ m}$ Distancia entre pivotes
 $d_0=1.0\text{ m}$ Longitud natural del resorte

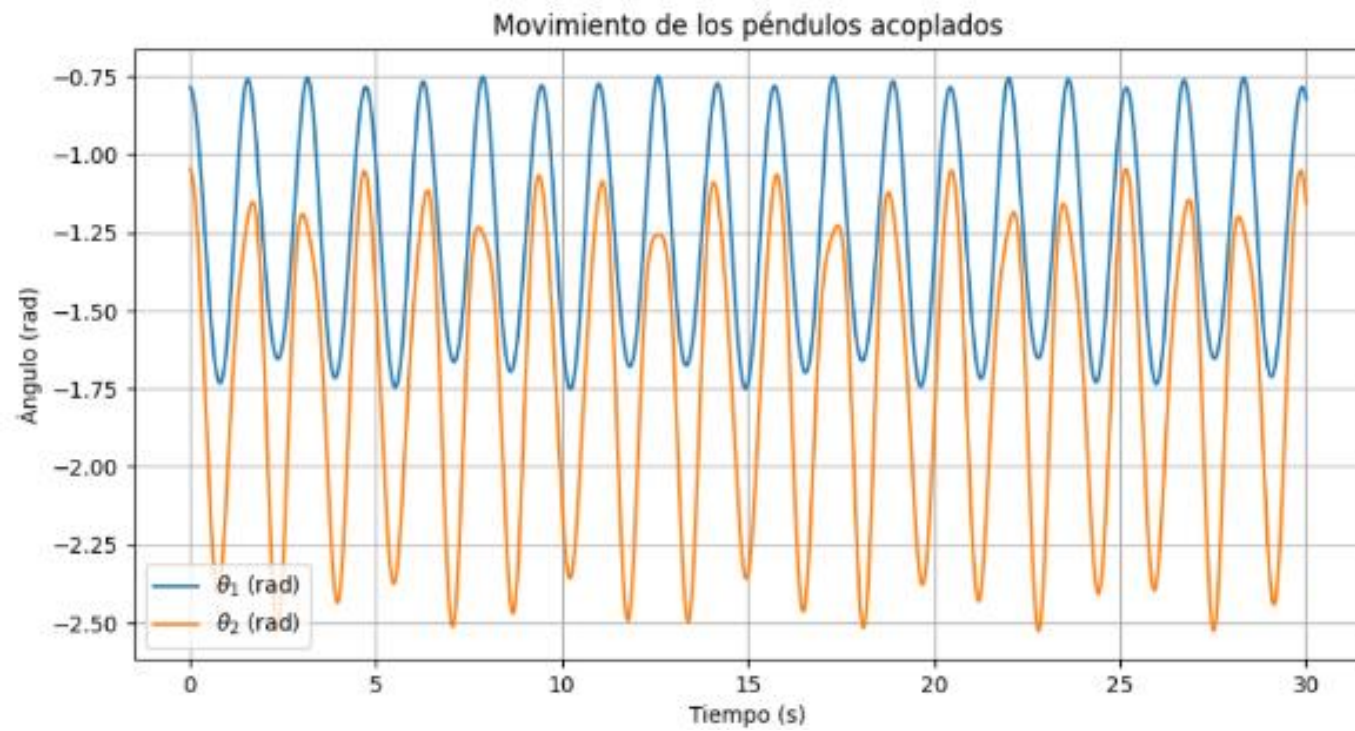




Cambio de 0.01 Rad al
valor inicial

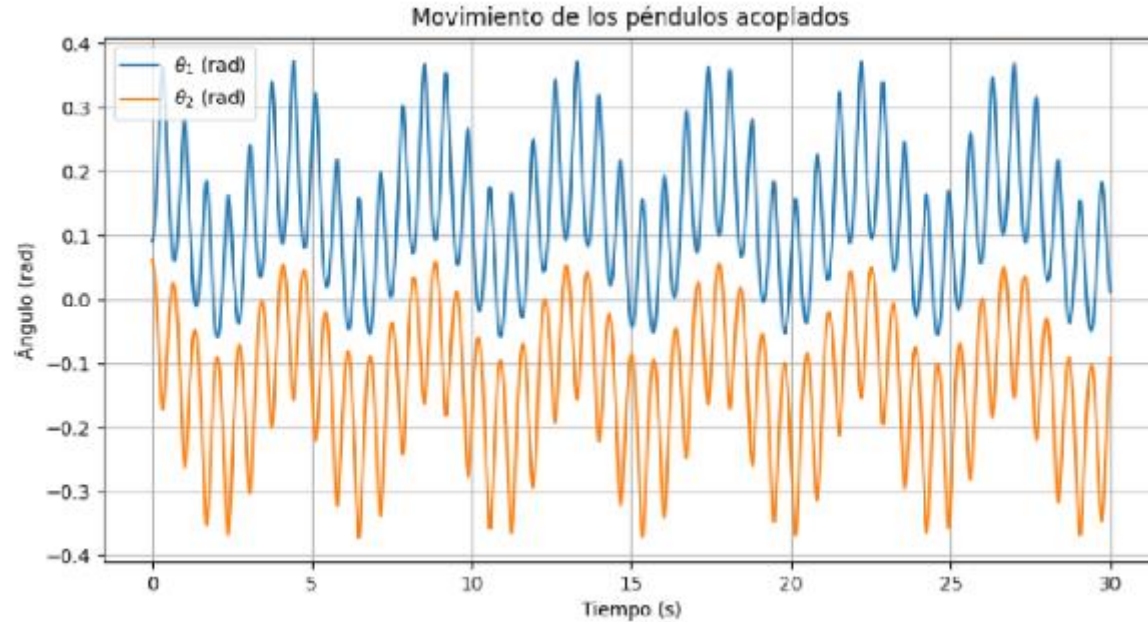


Cuando L2 es 1.5 veces L1

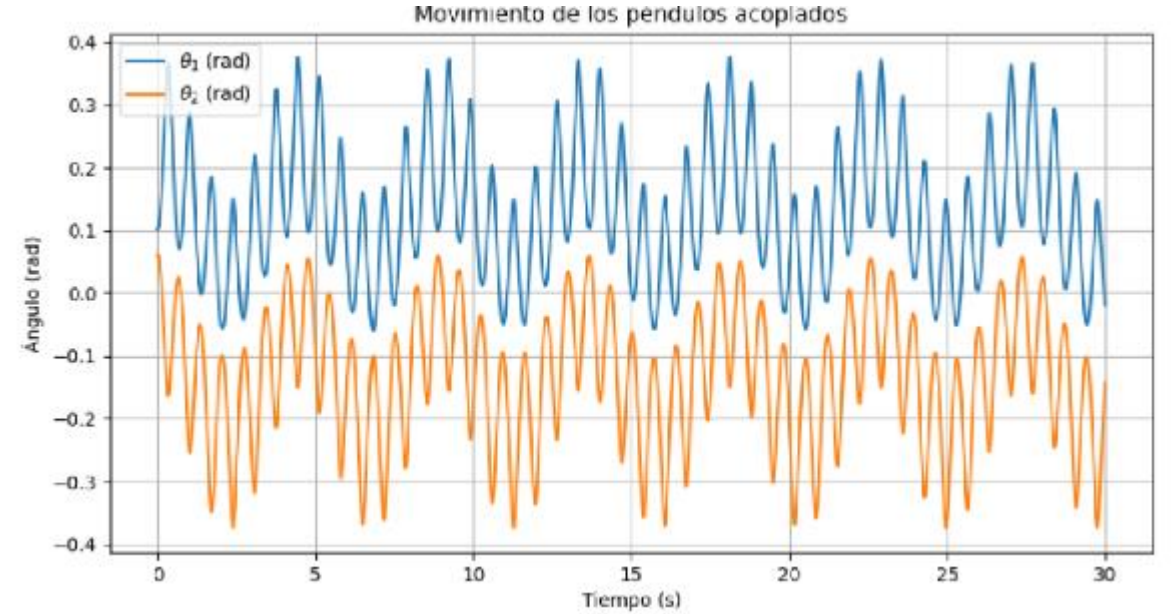


Cuando L_1 es 2 veces L_2

Ángulos Pequeños



Original



Modificación de 0.01 Rad