

LW #15

Energy transformation for a pendulum

You are going to study two video recordings of a pendulum (with friction and without friction)

Mark the points (bottom of the mass) and plot, in both cases, the graph showing the evolution in time of:

- The potential energy,
- The kinetic energy,
- The mechanical energy.

Show a period of the pendulum on these graphs.

What is the energy transformation?

Which system is conservative ?

Which system is dissipative?

Rappel des formules, si l'origine de l'axe vertical (Oy) est pris au point le plus bas de la trajectoire.

Energie potentielle de pesanteur : $E_{p, pes} = m \cdot g \cdot y$

Energie cinétique : $E_c = \frac{1}{2} \cdot m \cdot v^2$

Valeur de la vitesse : $v = \sqrt{v_x^2 + v_y^2}$