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النقطة الجزئية

Alors $\ddot{x} = -\left(\frac{2\pi}{T_0}\right)^2 \times x(t)$

d'où $\ddot{x} = -\left(\frac{2\pi}{0,4}\right)^2 \times 2\times10^{-2} \cos\left(5\pi t - \frac{\pi}{6}\right)$

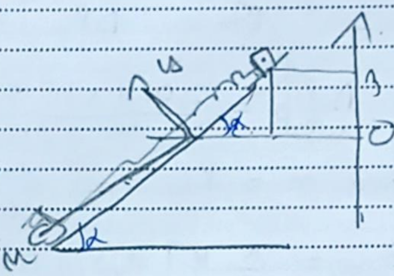
donc $\ddot{x} = -5\cos\left(5\pi t - \frac{\pi}{6}\right)$ 0,25

alors $\boxed{m\ddot{x} = -0,5\cos\left(5\pi t - \frac{\pi}{6}\right)}$ la résultante

2-4-1.

On a

$E_{pp} = m g z + cte$



$z = -x\sin(\alpha)$

donc $E_{pp} = -m g x \sin(\alpha) + cte$

On a $E_{pp} = 0 \Rightarrow x = 0$
donc $cte = 0$

Alors $E_{pp} = -m g x \sin(\alpha)$

$E_{pe} = \frac{1}{2} K \Delta l^2 + cte$ $\quad E_{pe} = 0 \Rightarrow \Delta l = 0 \Rightarrow cte = 0$

$E_{pe} = \frac{1}{2} K (\Delta l_0 - x)^2$.

$E_c = \frac{1}{2} m \dot{x}^2$.

0,25

Alors
$E_m = E_c + E_{pp} + E_{pe}$

$= \frac{1}{2} m\dot{x}^2 + \frac{1}{2} K(\Delta l_0 - x)^2 - m g x \sin(\alpha)$

$E_m = \frac{1}{2} m \left(\frac{dx}{dt}\right)^2 + \frac{1}{2} K(\Delta l_0^2 + x^2) - x\underbrace{(K\Delta l_0 + m g \sin(\alpha))}_{0}$

donc $\boxed{E_m = \frac{1}{2} m \left(\frac{dx}{dt}\right)^2 + \frac{1}{2} K(\Delta l_0^2 + x^2)}$

مجموع نقط الصفحة

تنبيه :يمنع على المترشح (ة) الإمضاء أو وضع أي علامة يمكنها كشف هويته(ا)