Robot de maraîchage

(Q2) | Masse : $\Pi + m_t + m$

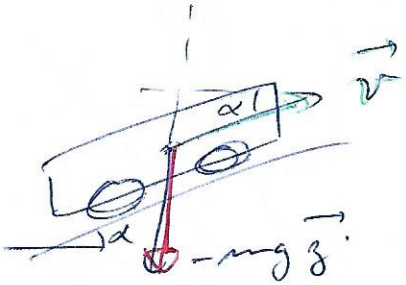
4 roues + moteurs + réducteurs.

$$E_c(\Sigma/sol) = \frac{1}{2}\left[(\Pi + m_t + m)V^2 + 4 J_m \omega_m^2 + 4 J_r \omega_{roue}^2\right]$$

(Q3) $V = r.\omega_{roue}$; $\omega_{roue} = \rho.\omega_m$

$$E_c(\Sigma/sol) = \frac{1}{2}\left[(\Pi + m_t + m)(r\rho)^2 + 4 J_m + 4 J_r \rho^2\right].\omega_m^2$$

$$= \frac{1}{2} J_{eq}.\omega_m^2$$



(Q4) $J_{eq} = \ldots$

(Q5) $P_{pes} = \vec{P}.\vec{v}(G) = -mgV_m$

$P_{pes} = -(\Pi + m_t + m)gV_m\alpha$

(Q6) Puissance effort $= 4.\eta.C_m.\omega_m$

(Q7) TEC $\Rightarrow$

$\rho\omega_m$ = $V_m\alpha$

$J_{eq}\omega_m\dot{\omega}_m = 4\eta C_m\omega_m - (\Pi + m_t + m)gV_m\alpha$

$\Rightarrow C_m =$ $= 0,42$ Nm