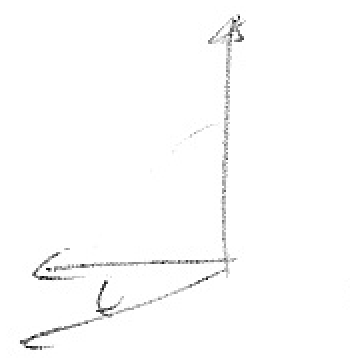
Chariot élévateur

$$E_c(2/1) = \frac{1}{2} J_{S2} . \dot{\alpha}^2 + \frac{1}{2} m_{S2} . \left(\vec{V}(G_{S2} \in 2/0)\right)^2$$



$$\overrightarrow{OG_{S2}} = x_{G2} \, \vec{x}_{T3} + z_{G2} . \vec{z}_{T3}$$

$$\vec{V}(G_{S2} \in 2/0) = \dot{\alpha} \left(-x_{G2} . \vec{z}_{T3} + z_{G2} . \vec{x}_{T3} \right)$$

$$\left(\vec{V}(G_2 \in 2/0)\right)^2 = \dot{\alpha}^2 \sqrt{x_{G2}^2 + z_{G2}^2}^{\,2} .$$

$$E_c(2/1) = \frac{1}{2} . \dot{\alpha}^2 . \left(J_{S2} + \sqrt{x_{G2}^2 + z_{G2}^2} \right) .$$

$$P(\bar{2} \rightarrow 2/1) = \vec{F}_v . \vec{V}(B_1 \in 2/1) \;\Big|\; + \vec{P} . \vec{V}(G \in 2/0) \quad + \vec{C}_\mu . \vec{\Omega}_{2/1}$$

$$= p(t) . S \, \vec{z}_{T2} . \left(\dot{\lambda} \, \vec{z}_{T2} + \ldots \vec{x}_{T2} \right) - \mu \dot{\alpha}^2$$

~~$+ -\mu \dot{\alpha}^2$~~

$$+ \left(- m_2 \, g \, \vec{z}_1 \right) . \dot{\alpha} \left(- x_{G2} \vec{z}_{T3} + z_{G2} . \vec{x}_{T3} \right)$$

$$= p(t) . S . \underbrace{\dot{\lambda}}_{\dot{\alpha}/k} + m_2 \, g \, \dot{\alpha} \left(x_{G2} \cos\alpha + z_{G2} \sin\alpha \right) . - \mu \dot{\alpha}^2$$

$$\left(\frac{d \, E_c(2/1)}{dt} \right)_1 = P(\bar{2} \rightarrow 2/1)$$

$$\dot{\alpha} \ddot{\alpha} \left(J_{eq} \right) = \dot{\alpha} \left[\frac{p(t) . S}{k} + m_{S2} \, g . x_{G2} \right] - \mu \dot{\alpha}^2$$

$$J_{eq} . \ddot{\alpha} + \mu \dot{\alpha} = \frac{S . p(t)}{k} + m_{S2} \, g . x_{G2}$$