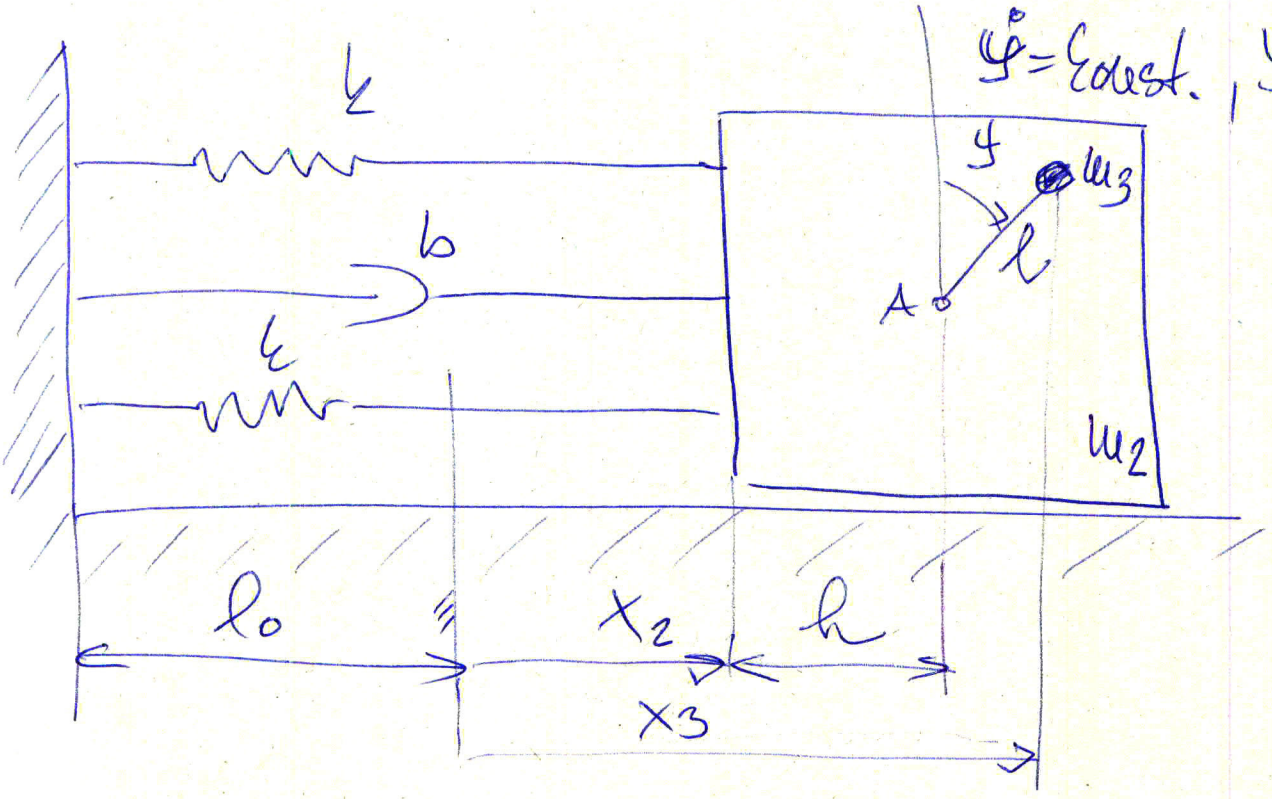
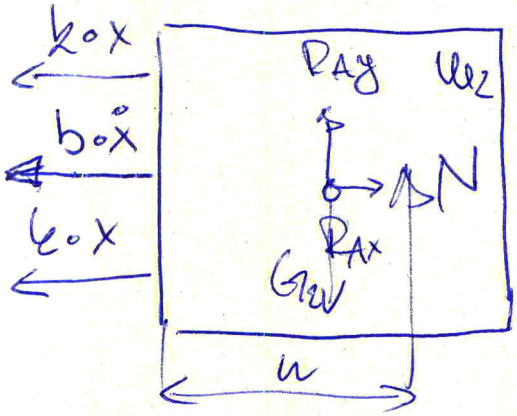
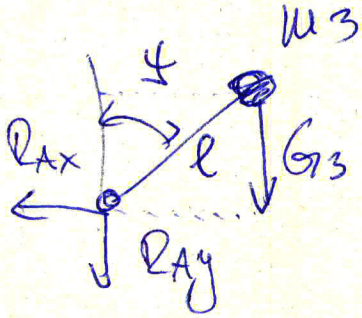
$\dot{\varphi} = \varepsilon_{dost.}$, $\ddot{\varphi} = 0$







$$m_2 \cdot \ddot{x}_2 = -2cx_2 - b\dot{x}_2 + R_{Ax} \qquad m_3 \cdot \ddot{x}_3 = -R_{Ax}$$

$$x_3 = x_2 + h + l \cdot \sin\varphi$$
$$\dot{x}_3 = \dot{x}_2 + l\cos\varphi \cdot \dot{\varphi}$$
$$\ddot{x}_3 = \ddot{x}_2 - l \cdot \sin\varphi \cdot \dot{\varphi}^2 + l \cdot \cos\varphi \cdot \ddot{\varphi}$$

$$m_2 \cdot \ddot{x}_2 = -2cx_2 - b\dot{x}_2 - m_3 \cdot \ddot{x}_3$$
$$m_2 \cdot \ddot{x}_2 + 2cx_2 + b\dot{x}_2 + m_3\left[\ddot{x}_2 - l \cdot \sin\varphi \cdot \dot{\varphi}^2 + l \cdot \cos\varphi \cdot \ddot{\varphi}\right] = 0 \quad (\ddot{\varphi} \to 0)$$

$$\boxed{[m_2 + m_3]\ddot{x}_2 + b\dot{x}_2 + 2cx_2 = m_3 \cdot l \cdot \dot{\varphi}^2 \cdot \sin\varphi}$$

$$[m_2+m_3]\ddot{x}_2 + b\dot{x}_2 + 2\xi x_2 = m_3 l \dot{\varphi}^2 \sin\varphi \quad (2)$$

$\rightarrow \varphi = \omega \cdot t$

$$= F_0 \cdot \sin(\omega t)$$

$$F_0 = m \cdot l \cdot \dot{\varphi}^2 = m l \omega^2$$

$$\ddot{x}_2 + \frac{b}{m_2+m_3}\dot{x}_2 + \frac{2\xi}{m_2+m_3}x_2 = \frac{F_0}{m_2+m_3}\sin(\omega t)$$

$\frac{b}{m_2+m_3} \rightarrow 2b_r \cdot \Omega$

$\frac{2\xi}{m_2+m_3} \rightarrow \Omega^2$

$$x_{2c} = x_{2h} + x_{2p}$$

$$x_{2h} = e^{-b_r \Omega t} \cdot (A\cos\Omega_b \cdot t + B\sin\Omega_b \cdot t)$$

$$\hookrightarrow \Omega_b = \Omega\sqrt{1-b_r^2}$$

$$x_{2p} = r \cdot \sin(\omega t - \varphi)$$