



$$m_1 \frac{\partial^2 y_1}{\partial t^2} = -k_1(y_1 - y_2) - b(y_1' - y_2')$$

$$m_2 \frac{\partial^2 y_2}{\partial t^2} = k_1(y_1 - y_2) + b(y_1' - y_2')$$

$$y_1 = \frac{1}{m_1} \left[\iint -k_1(y_1 - y_2) - b(y_1' - y_2') dt dt \right]$$

$$y_2 = \frac{1}{m_2} \left[\iint k_1(y_1 - y_2) + b(y_1' - y_2') dt dt \right]$$