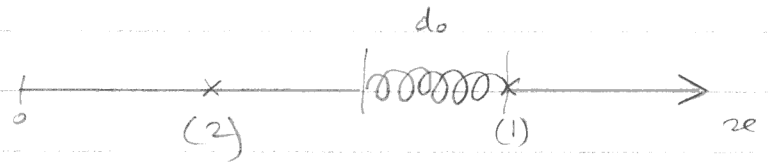


Choc de deux véhicules

d_0 longueur à vide du ressort



$$m_1 \frac{dv_1}{dt} = - \frac{v_1}{|v_1|} f_1 - k(x_1 - x_2 - d_0) \quad \text{si } x_1 - x_2 - d_0 < 0$$

+ 0 si non

$$m_2 \frac{dv_2}{dt} = - \frac{v_2}{|v_2|} f_2 + k(x_1 - x_2 - d_0)$$

- $q_0 = x_1$
- $q_1 = x_2$
- $q_2 = v_1 = \dot{q}_0$
- $q_3 = v_2 = \dot{q}_1$

- $\dot{q}_0 = q_2$
- $\dot{q}_1 = q_3$
- $\dot{q}_2 = \frac{1}{m_1} \left[-\Delta(v_1) f_1 - k(q_0 - q_1 - d_0) \right]$ $\Delta(v_1)$ signifie signe de v_1
- $\dot{q}_3 = \frac{1}{m_2} \left[-\Delta(v_2) f_2 + k(q_0 - q_1 - d_0) \right]$

Écrivez résolution par RK4