

$$\xi := 1$$

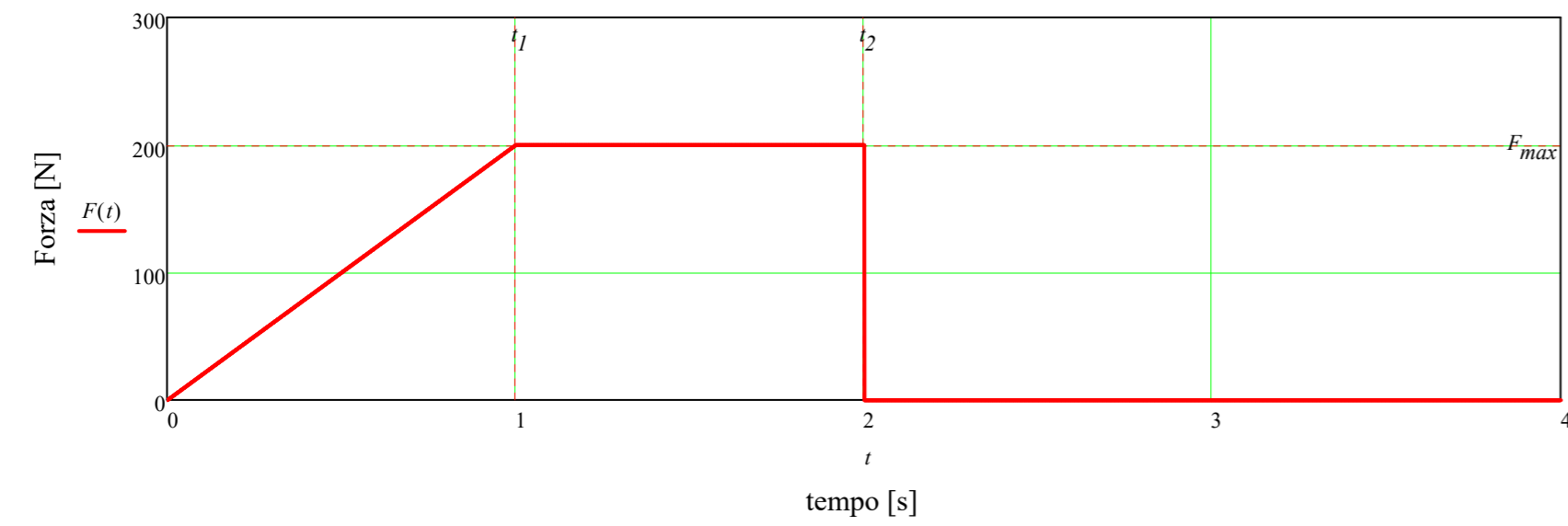
$$m := 50 \quad k := 6000 \quad c := 200$$

$$t_1 := 1 \quad t_2 := 2$$

$$a := 200 \quad F_{max} := a \cdot t_1$$

$$F(t) := \begin{cases} a \cdot t & \text{if } 0 \leq t \leq t_1 \\ F_{max} & \text{if } t_1 \leq t \leq t_2 \\ 0 & \text{otherwise} \end{cases}$$

$$t := 0, 0.001..4$$



Condizioni iniziali

$$x_0 := 0 \quad v_0 := 0$$

$$u := \begin{pmatrix} x_0 \\ v_0 \end{pmatrix} \quad u = \begin{pmatrix} 0 \\ 0 \end{pmatrix}$$

$$T_{fin} := 6$$

$$\omega := \sqrt{\frac{k}{m}} = 10.954$$

$$T := \frac{2 \cdot \pi}{\omega} = 0.574$$

$$\xi := \frac{c}{2 \cdot m \cdot \omega} = 18.257\%$$

$$\Delta t_{cons} := \frac{1}{20} \cdot T = 0.029$$

$$\Delta t := 0.001 \quad N := \frac{T_{fin}}{\Delta t} = 6 \times 10^3$$

$$\mathbf{F}(x, x', t) := \begin{pmatrix} \frac{1}{m} \cdot (F(t) - c \cdot x' - k \cdot x) \end{pmatrix}$$

Accelerazione

$$EQMOTO(t, u) := \begin{pmatrix} u_2 \\ \mathbf{F}(u_1, u_2, t) \end{pmatrix}$$

$$TAB := rkfixed(u, 0, T_{fin}, N, EQMOTO)$$

$$tempo := TAB^{(1)} \quad SPO := TAB^{(2)} \quad VEL := TAB^{(3)}$$

$$ACC := \mathbf{F}(SPO, VEL, tempo)$$

