



$$v_s(t) = R_2(i_1(t) + i_2(t)) + v_2(t)$$

MAGLIA DI SINISTRA

$$v_s(t) = R_2 \dot{i}_1(t) + R_2 C_2 \dot{v}_2(t) + v_2(t)$$

$$v_2(t) = R_1 \dot{i}_1(t) + v_L(t) + v_1(t)$$

MAGLIA DI DESTRA

$$v_2(t) = R_1 \dot{i}_1(t) + L \dot{i}_1(t) + v_1(t)$$

$$\dot{i}_1(t) = C_1 \dot{v}_1(t)$$

EQUAZIONI COSTITUTIVE

$$\begin{bmatrix} \dot{v}_1(t) \\ \dot{v}_2(t) \\ \dot{i}_1(t) \end{bmatrix} = \begin{bmatrix} 0 & 0 & 1/C_1 \\ 0 & -1/R_2 C_2 & -1/C_2 \\ -1/L & 1/L & -R_1/L \end{bmatrix} \begin{bmatrix} v_1(t) \\ v_2(t) \\ i_1(t) \end{bmatrix} + \begin{bmatrix} 0 \\ 1/R_2 C_2 \\ 0 \end{bmatrix} v_s(t)$$

$$\begin{cases} \dot{\underline{x}}(t) = A \underline{x}(t) + B u(t) \\ \underline{x}(0) = \underline{x}_0 \end{cases}$$