$$\begin{pmatrix} J & 0 & 0 \\ -K & I_n & 0 \\ -L & 0 & I_p \end{pmatrix} \begin{pmatrix} T(k+1) \\ X(k+1) \\ Y(k) \end{pmatrix} = \begin{pmatrix} 0 & M & N \\ 0 & P & Q \\ 0 & R & S \end{pmatrix} \begin{pmatrix} T(k) \\ X(k) \\ U(k) \end{pmatrix}$$

$$\begin{cases} \boldsymbol{J}\boldsymbol{t}(k+1) = & & \boldsymbol{M}\boldsymbol{x}(k) + \boldsymbol{N}\boldsymbol{u}(k) \\ \boldsymbol{x}(k+1) = \boldsymbol{K}\boldsymbol{t}(k+1) + & \boldsymbol{P}\boldsymbol{x}(k) + & \boldsymbol{Q}\boldsymbol{u}(k) \\ \boldsymbol{y}(k) = \boldsymbol{L}\boldsymbol{t}(k+1) + & \boldsymbol{R}\boldsymbol{x}(k) + & \boldsymbol{S}\boldsymbol{u}(k) \end{cases}$$

t(k+1) : résultat intermédiaire
y(k) : sortie
x(k+1) : état suivant
u(k) : entrée

$$\boldsymbol{Z} \triangleq \begin{pmatrix} -\boldsymbol{J} & \boldsymbol{M} & \boldsymbol{N} \\ \boldsymbol{K} & \boldsymbol{P} & \boldsymbol{Q} \\ \boldsymbol{L} & \boldsymbol{R} & \boldsymbol{S} \end{pmatrix}$$