$$\begin{array}{c|c} u(t) & & \\ \hline u(k) & & \\ \hline \end{array} \begin{array}{c} \dot{x}(t) = f(x(t), u(t)) \\ x(k+1) = f(x(k), u(k)) & & \\ \hline \end{array} \begin{array}{c} x(t) \\ x(k) \end{array}$$