

* Persamaan Keadaan

State Equation

$$\dot{x} = \frac{dx(t)}{dt}$$

"DINAMIKA"

$$x(t) = x = \text{vektor } [n \times 1]$$
$$= \begin{bmatrix} x_1(t) \\ x_2(t) \\ \vdots \\ x_n(t) \end{bmatrix} = \begin{bmatrix} x_1 \\ x_2 \\ \vdots \\ x_n \end{bmatrix}$$

Peubah Keadaan (State Variable)

$$\begin{bmatrix} dx_1/dt \\ dx_2/dt \\ \vdots \\ dx_n/dt \end{bmatrix} = \begin{bmatrix} \dot{x}_1 \\ \dot{x}_2 \\ \vdots \\ \dot{x}_n \end{bmatrix} = \overbrace{A x(t)}^{[n \times 1]} + \overbrace{B u(t)}^{[m \times 1]}$$

$[n \times 1] \quad [n \times 1] \quad [m \times 1]$

$$= Ax + Bu$$

Dimensi Matrix A dan B

$$\dot{x} : [n \times 1] \quad x(t) : [n \times 1]$$

maaka: $u(t) : [m \times 1]$

$$A [n \times n], B [n \times m]$$