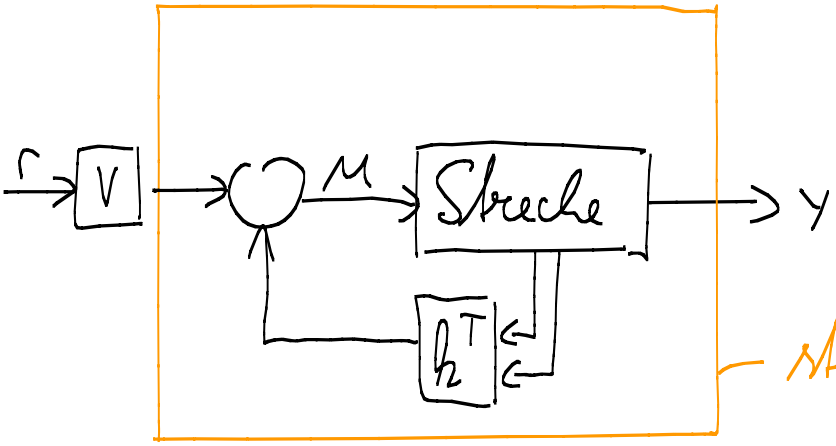
CS01 Matlab 2

Note Title 18.06.2008



Stabil $\Rightarrow$ $Re\{eig(A)\} < 0$

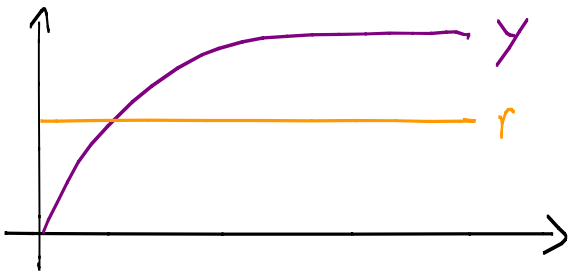
$$\dot{x} = Ax + bu \quad / u = -k^T x + Vr$$

$$\dot{x} = \tilde{A}x + bVr$$

$$\dot{x} = Ax - bk^T x + Vr$$

$$\dot{x} = \underbrace{(A - bk^T)}_{\tilde{A}} x + Vr$$

b.) $V = 1$, $k = \begin{pmatrix} 2 \\ 3 \end{pmatrix}$



es soll gelten: $r(t) = \sigma(t)$

$$\tilde{A} = A - bk^T = \begin{matrix} 0 & 1 \\ 1 & 1 \end{matrix} - \begin{matrix} 2 & 3 \\ 0 & 0 \\ 1 & 2 \end{matrix} \quad \begin{matrix} 3 \\ 0 \\ 3 \end{matrix}$$

$$= \begin{matrix} 0 & 1 \\ -1 & -2 \end{matrix}$$

$$x_1 = \int x_2 + 0u$$
$$x_2 = f(+x_1 + x_2) + u$$

$$x_2$$
$$x_1 + x_2$$