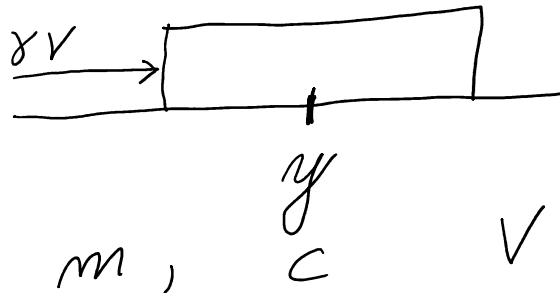


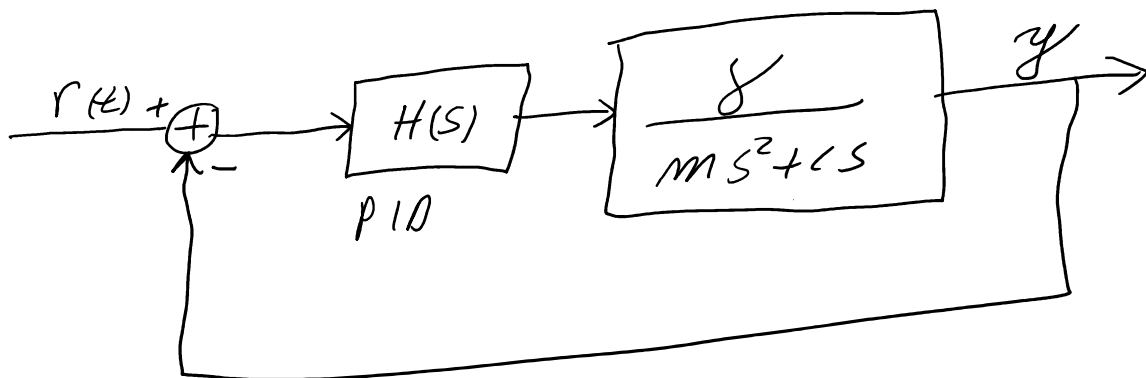
AAE 364 LAB FRAZHO



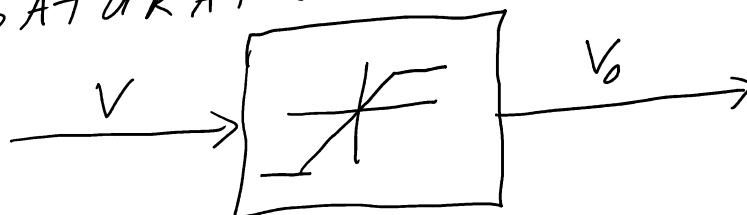
$$m\ddot{y} + c\dot{y} = \delta V$$

$$\frac{Y}{V} = \frac{\delta}{ms^2 + cs}$$

$$H(s) = K_p + K_d s + \left(\frac{K_i}{s} \right)$$



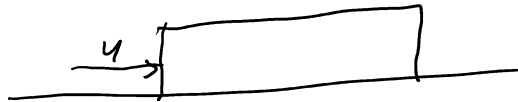
SATURATION



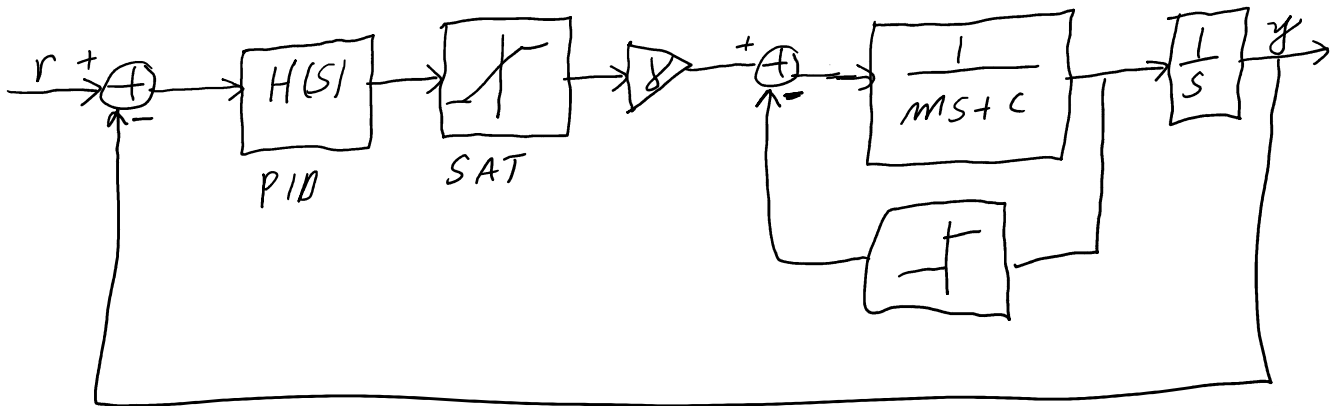
$$\begin{aligned}
 V_0 &= V && \text{if } |V| \leq 6 \\
 &= 6 && \text{if } V \geq 6 \\
 &= -6 && \text{if } V \leq -6
 \end{aligned}$$

Integral windup $K_c \neq 0$
 cs possible

coulomb friction



$$\begin{aligned}
 F(\dot{y}) &= f_c && \text{if } \dot{y} > 0 \\
 &= -f_c && \text{if } \dot{y} < 0
 \end{aligned}$$



$$\begin{aligned} \rightarrow m &= 1.07 & C &= 13.12 \\ \gamma &= 1.72 & \nearrow f_c &= 0.23 \\ & & SAT &= 6 \end{aligned}$$

K_c, K_d, K_p

↑

$K_c \neq 0$
 Integral windup $K_i \neq 0$
 Is possible with SATURATION

Saturday, August 22, 2020

4:32 PM