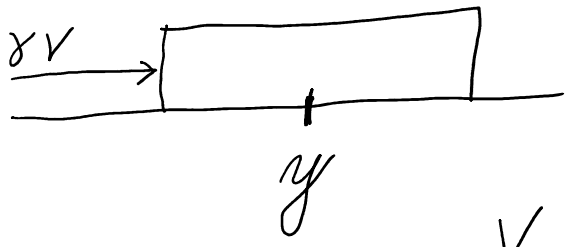
AAE 364 LAB
FRAZHO

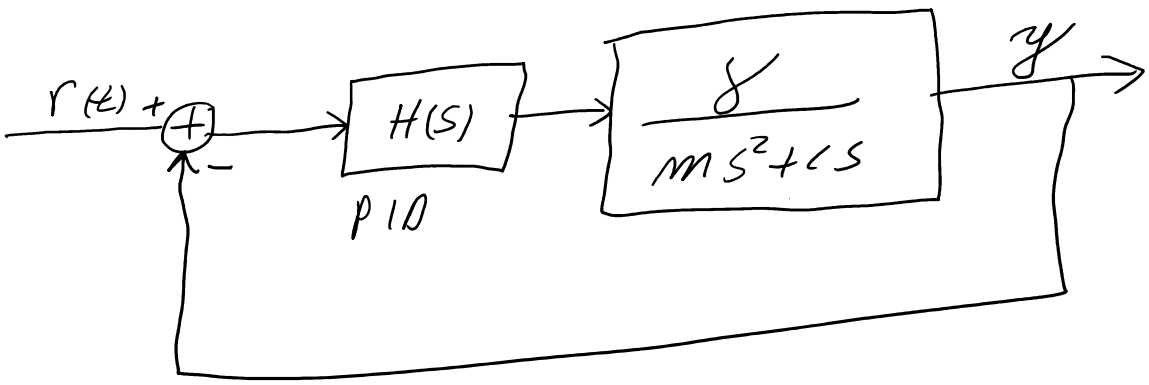


m, c V

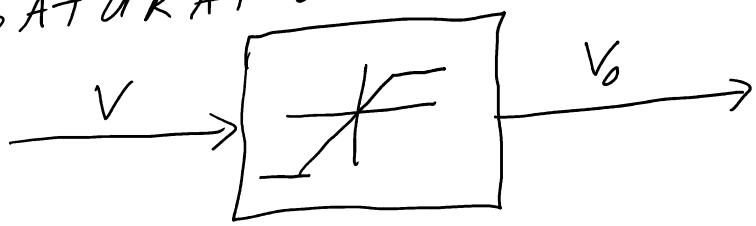
$$m\ddot{y} + c\dot{y} = \gamma V$$

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

$$H(s) = k_p + k_d s + \frac{k_i}{s}$$



SATURATION

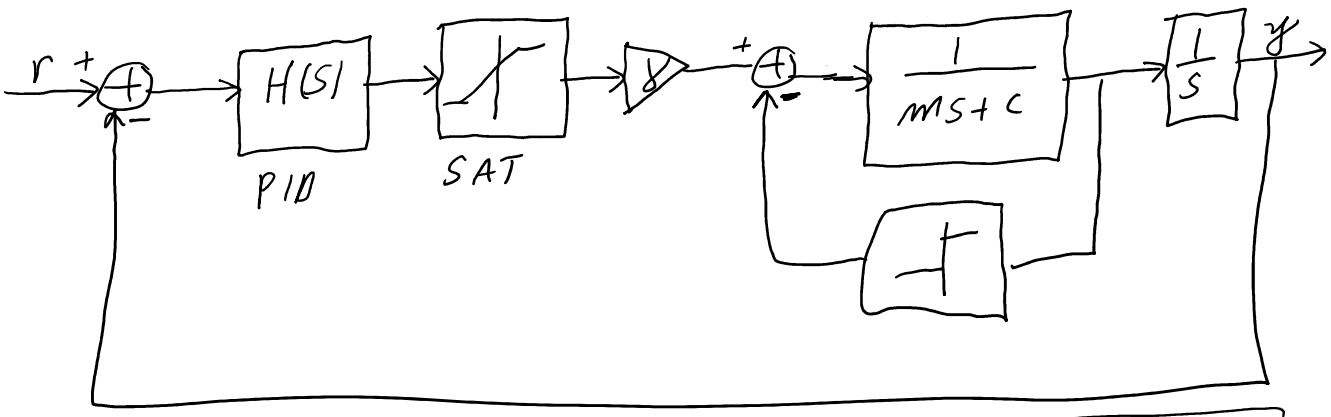


$$V_0 = V \quad \text{if } |V| \le 6$$
$$= 6 \quad \text{if } V \ge 6$$
$$= -6 \quad \text{if } V \le -6$$

Integral windup $K_i \neq 0$ is possible

coulomb friction

$$F(\dot{y}) = f_c \quad \text{if } \dot{y} > 0$$
$$= -f_c \quad \text{if } \dot{y} < 0$$



$\Rightarrow m = 1.07 \quad C = 13.12$

$\gamma = 1.72 \quad f_c = 0.23$

$SAT = 6$

$K_c, K_d \; K_p$

$K_c \neq 0$

Integral windup $K_i \neq 0$

Is possible with saturation

Saturday, August 22, 2020 4:32 PM