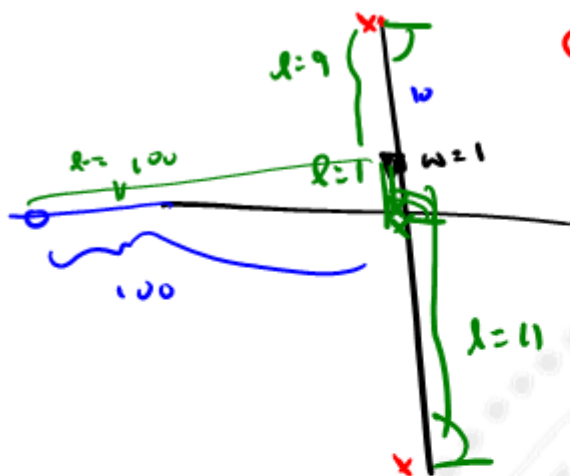


CMPE-242

Applied Feedback Control

Gabriel Hugh Elkaim
Winter 2016





$$G(s) = \frac{1}{s^2} \frac{200(\infty)}{s^2 + 0.15s + 10^2}$$

DC gain ignoring $\frac{1}{s^2}$ $\boxed{200}$



1.1 $G(1j)$

$$11 \cdot \frac{100}{11 \cdot 9 \cdot 1 \cdot 1} \cdot 200$$

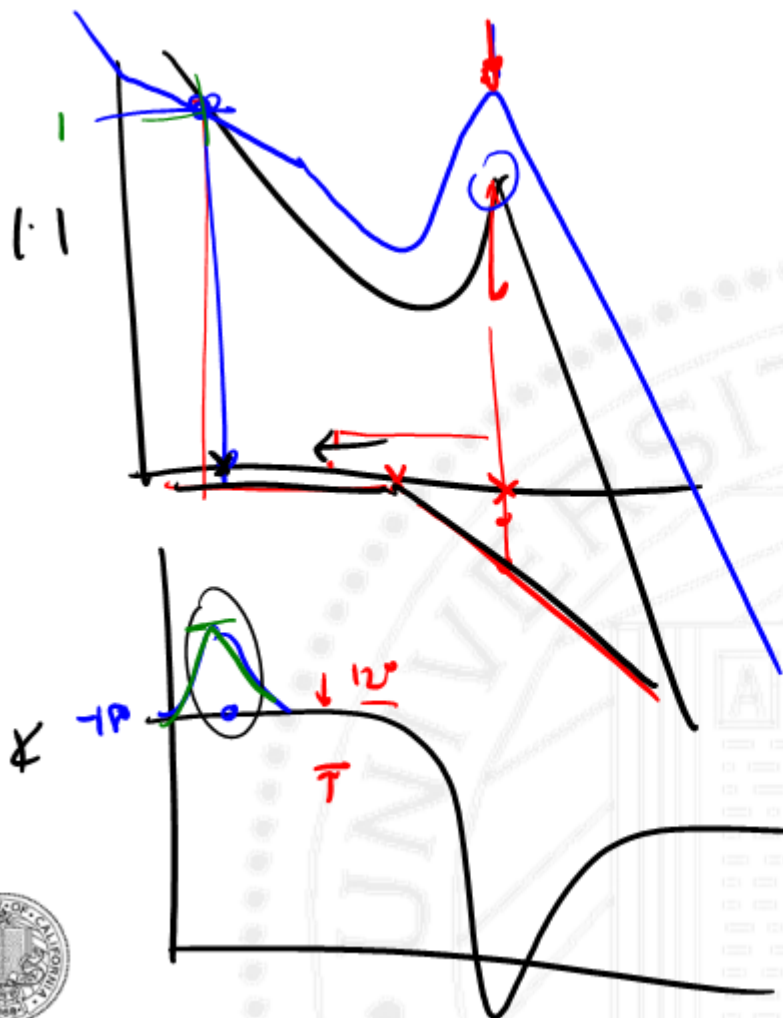
$\tan \theta \approx 0$

4 $G(1j)$

$$\phi = \sim -129^\circ$$

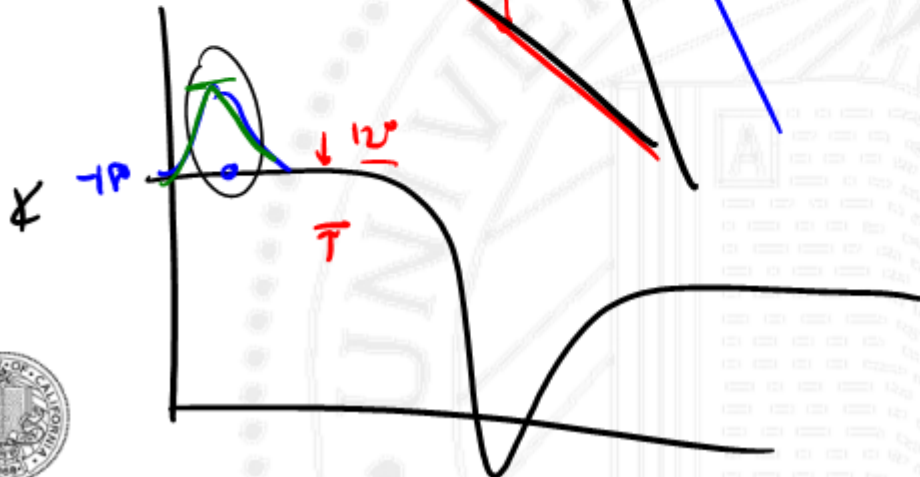
b/ω	ϕ
4	36°
10	55°
25	68°

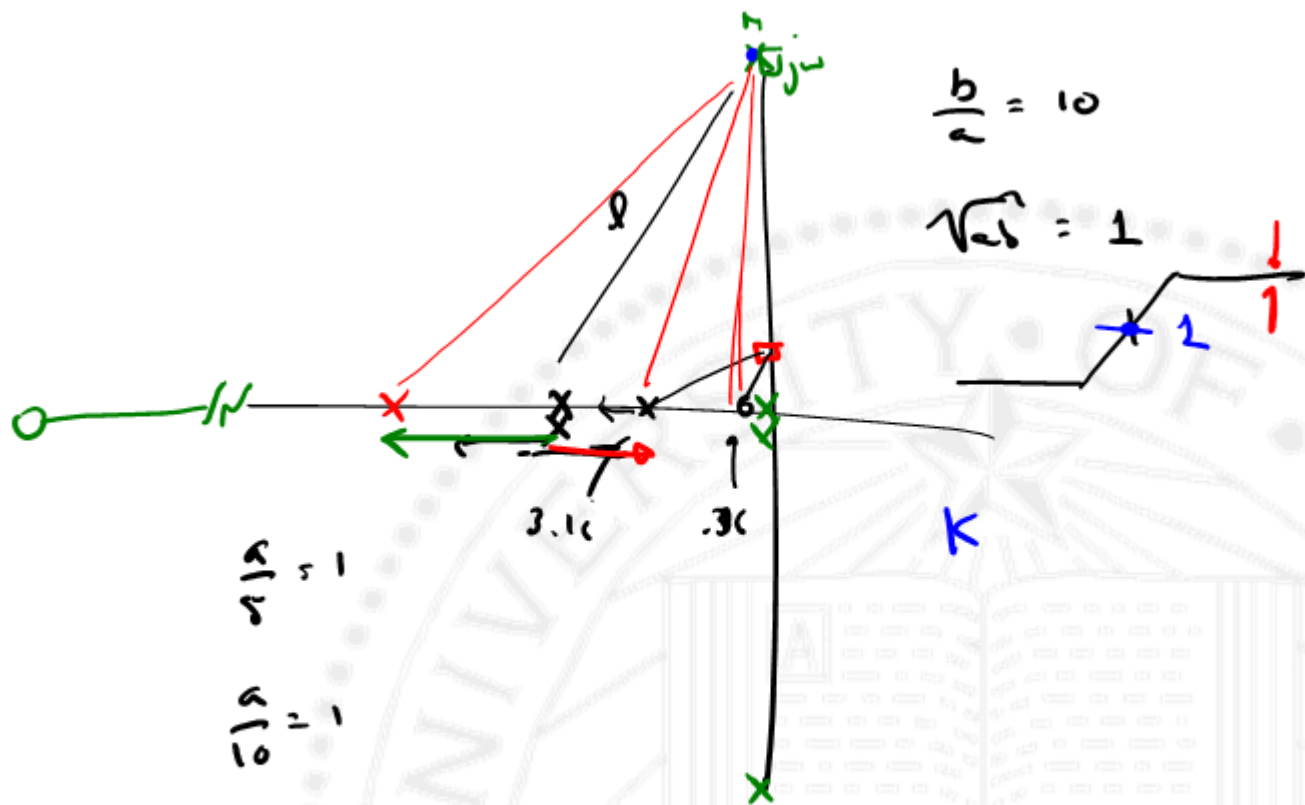


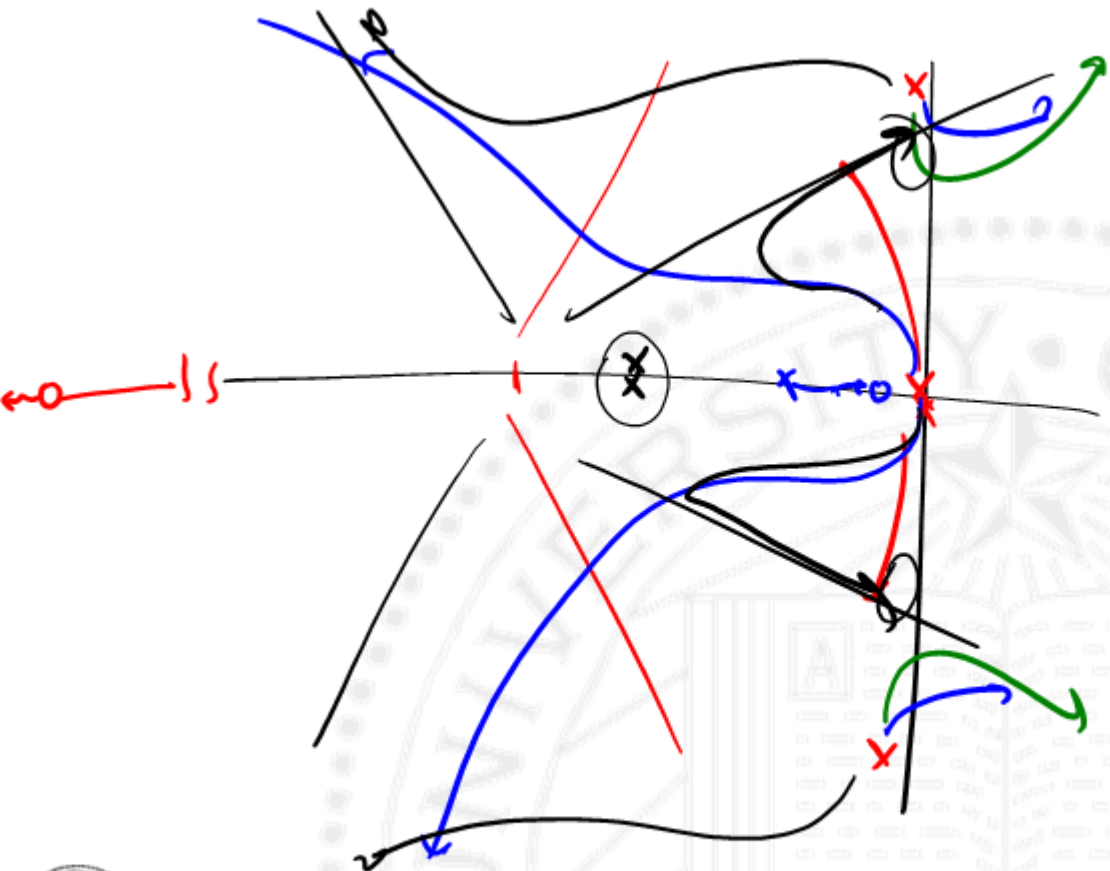


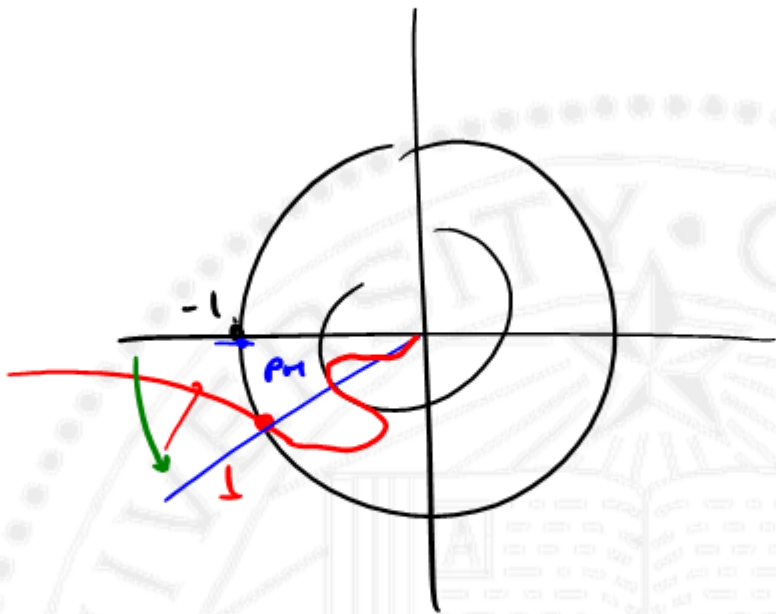
$$\frac{s}{s+5}$$

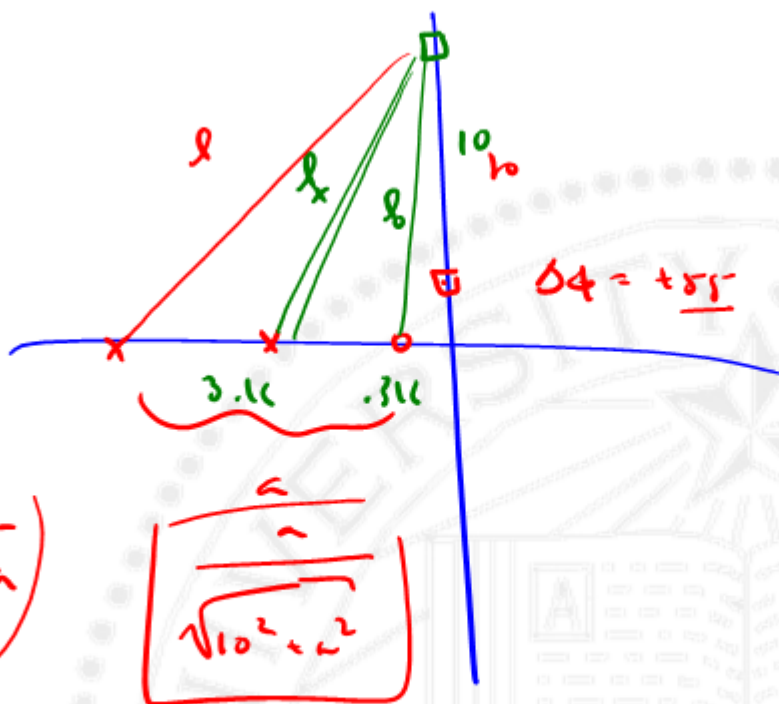
BKb











$$\left(\frac{a}{a+h} \right)$$

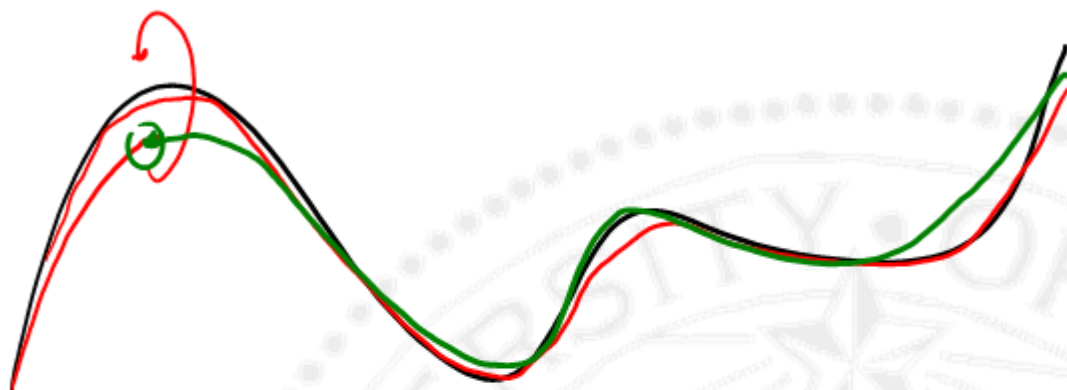
$$\frac{a}{\sqrt{10^2 + 2}}$$



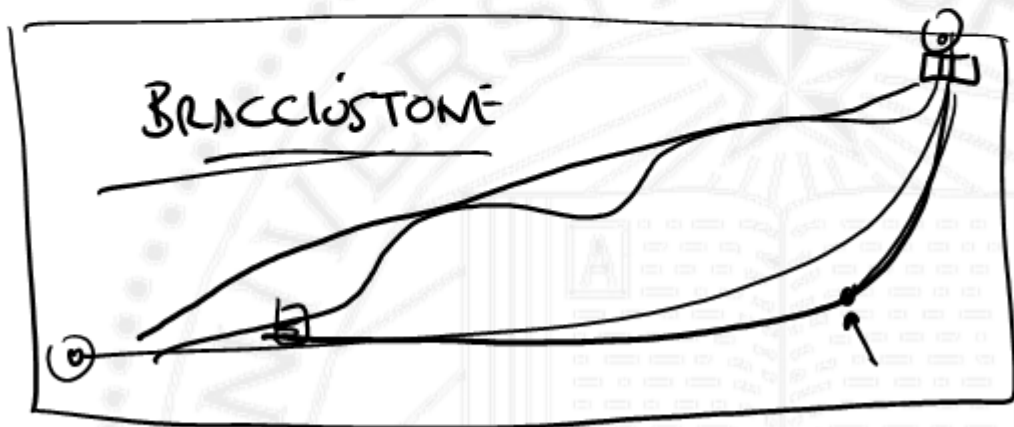


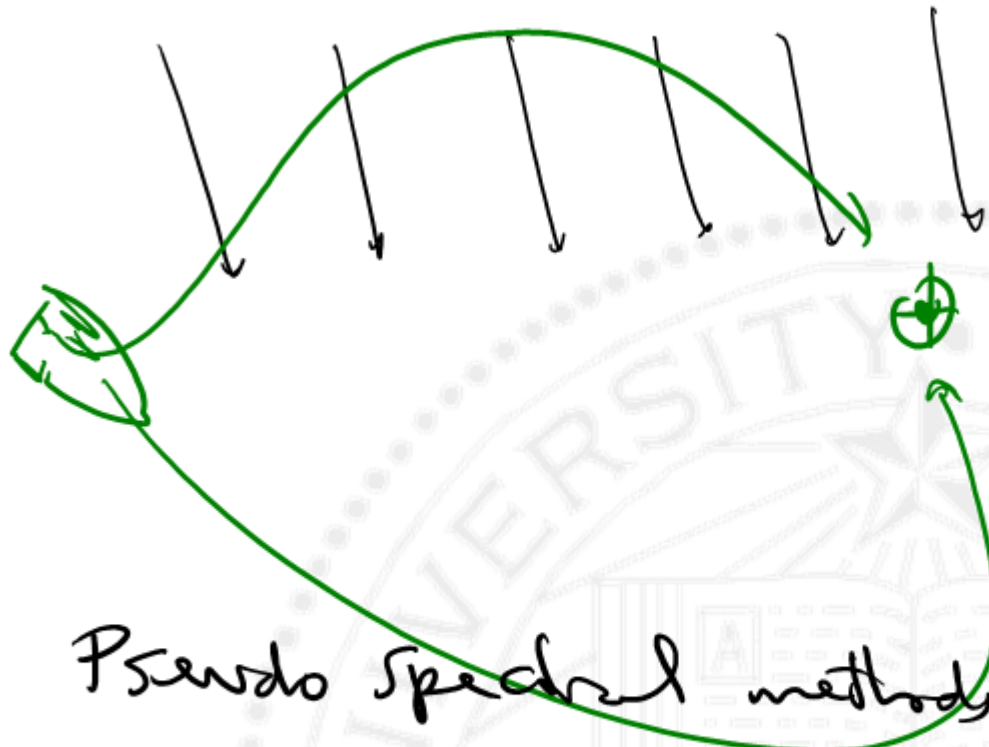
R

$\bar{x}_{opt}(t)$



CONTROLS \neq APPROVED MATRS





$$\dot{x} = Ax \rightarrow \boxed{x(t) = e^{At} x_0}$$

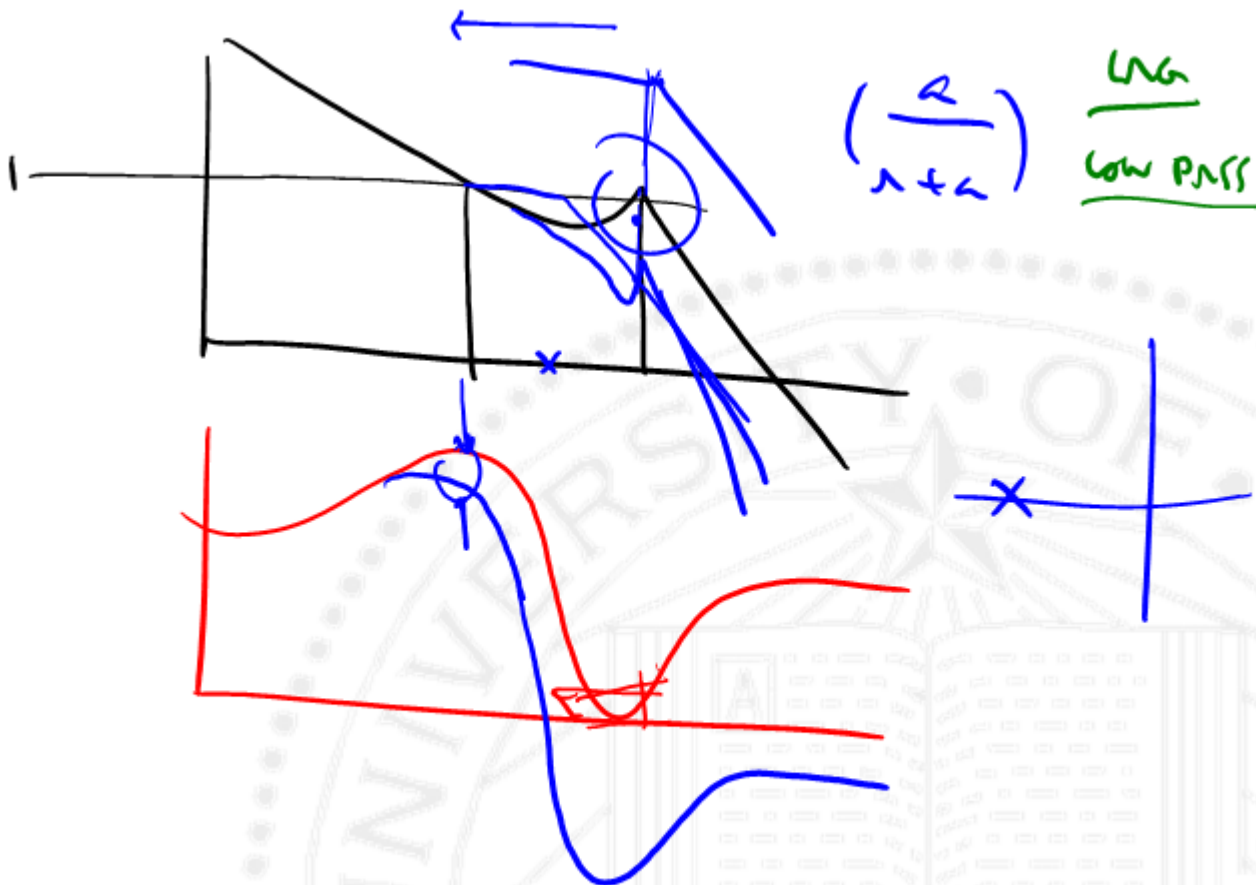
$$\dot{x} = f(x) \rightarrow x(t) = ??$$

$$x_0 \rightarrow \boxed{x_t = x_{t-1} + \dot{x} \Delta t}$$

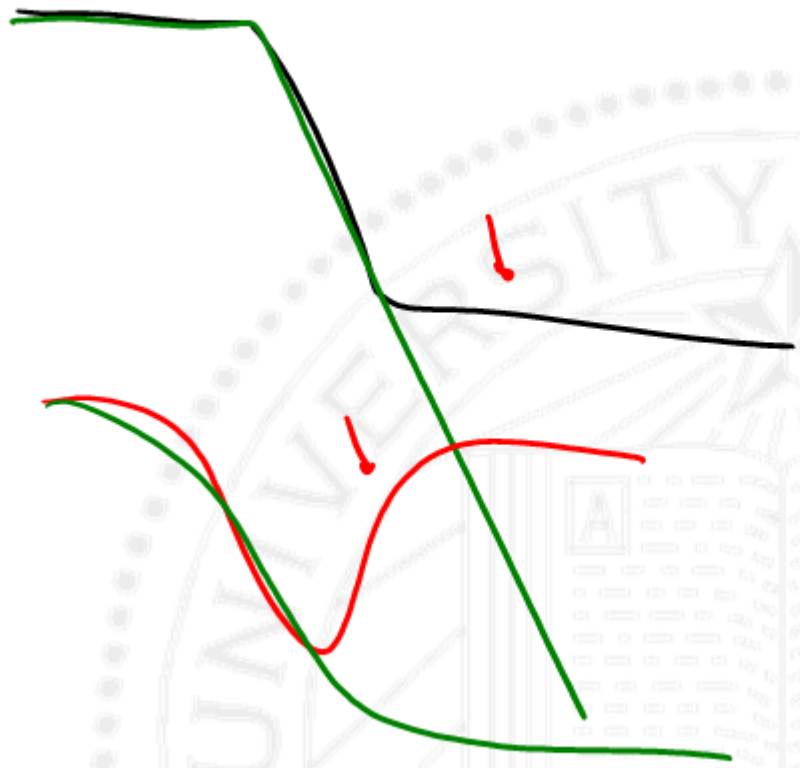
$$\underline{RK-4} \quad x_t = x_{t-1} \quad x_{t-2} \quad x_{t-3} \quad x_{t-4}$$

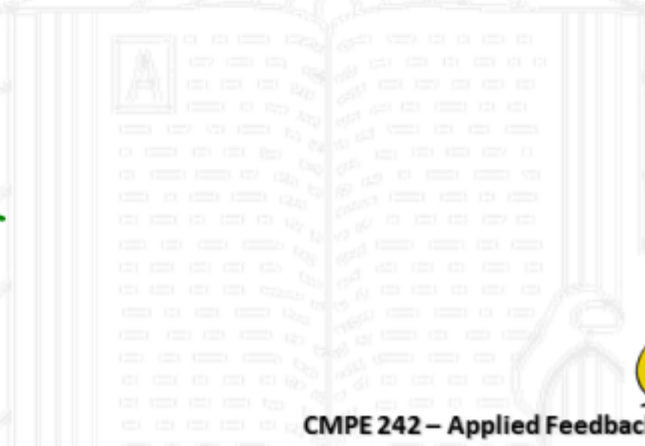
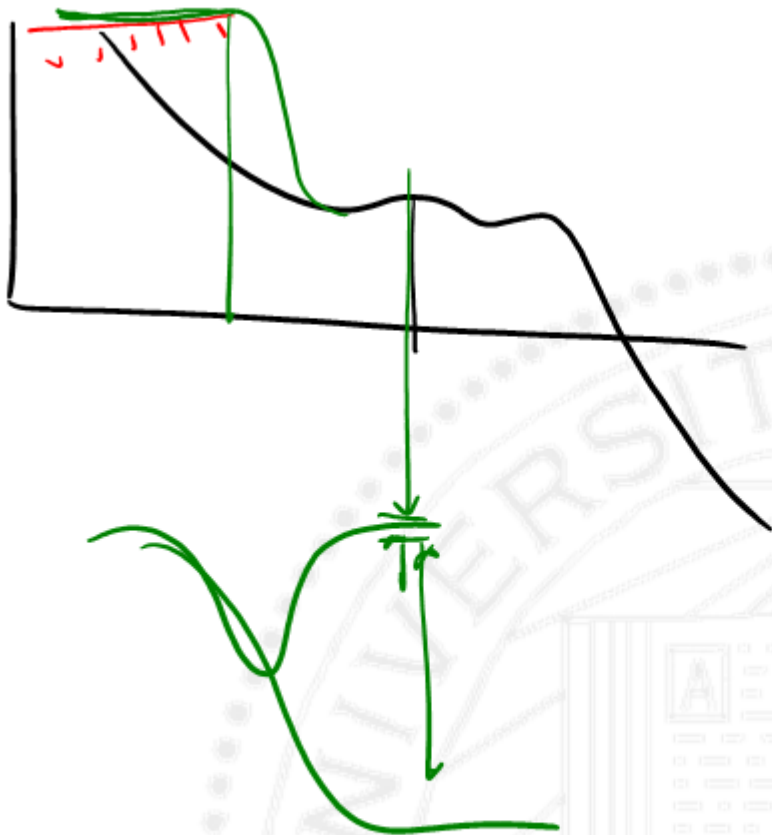
$$\dot{x} \quad \dot{x} \quad \dot{y} \quad \dot{x}$$





u_h





//

