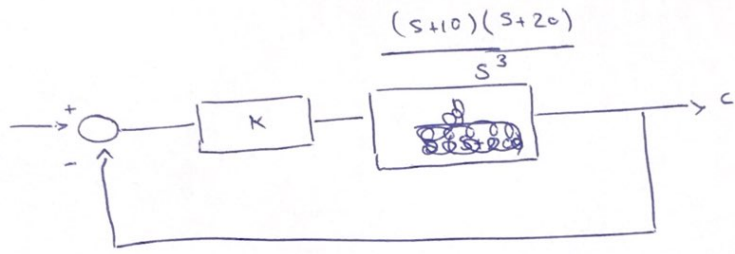


رضا الدينوري

٩٨١٤٣٥٣٧

كوشيز س١ كنترول على

#1



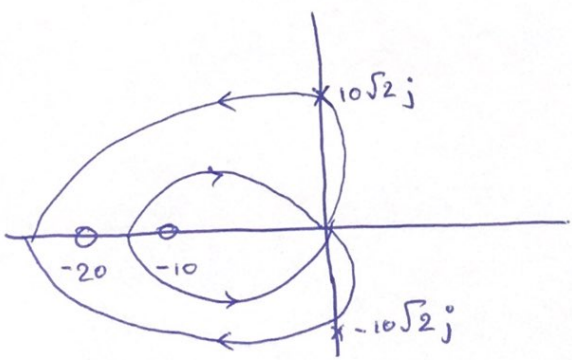
$$1 + K \frac{(s+10)(s+20)}{s^3} = 0 \Rightarrow \frac{s^3 + Ks^2 + 30Ks + 200K}{s^3}$$

$$\Rightarrow s^3 + Ks^2 + 30Ks + 200K = 0 \Rightarrow$$

$s^3$	1	30K
$s^2$	K	200K
$s^1$	30K-200	0
$s^0$	200K	0

$$30K - 200 = 0 \Rightarrow K = \frac{200}{3} \approx 6.6$$

$$Ks^2 + 200K = 0 \xrightarrow{K=6.6} 6.6s^2 + 200(6.6) = 0 \quad \begin{cases} s = 10\sqrt{2}j \\ s = -10\sqrt{2}j \end{cases}$$



$$0 < K < \frac{200}{3}$$