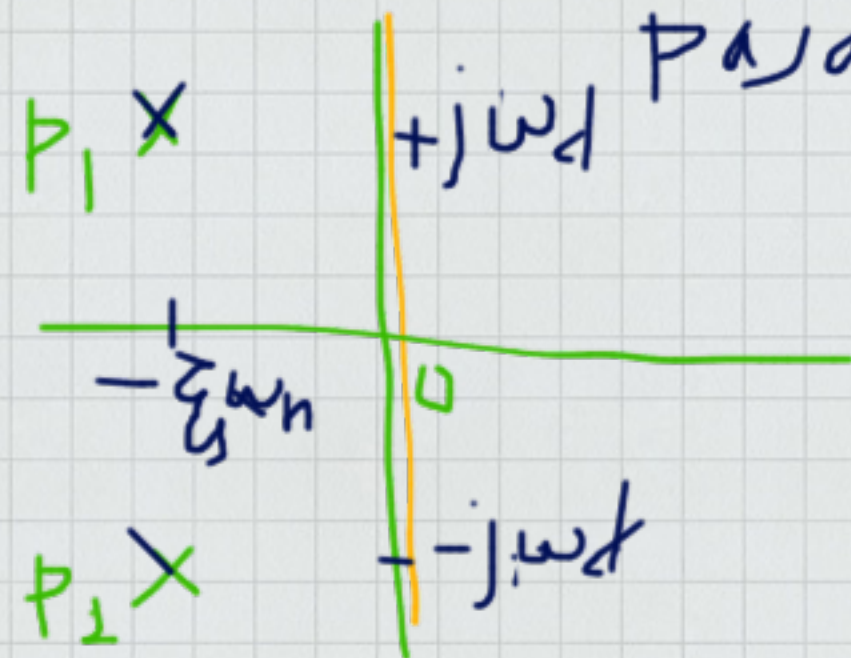


$$* 0 < \xi < 1 \rightarrow p_{1,2} = -\xi \omega_n \pm j \omega_n \sqrt{1 - \xi^2} - \omega_d$$



pasangan kompleks konjugat

Tanggapan deniyut

$$y(t) = \frac{K}{\omega_d} e^{-\xi \omega_n t} \sin \omega_d t$$

$$\omega_d = \omega_n \sqrt{1 - \xi^2}$$

$$\xi \omega_n = 0, p_{1,2} = \pm j \omega_d \rightarrow y(t) = \frac{K}{\omega_d} \sin \omega_d t$$

$$\xi = 0$$

$$= \pm j \omega_n \rightarrow y(t) = \frac{K}{\omega_n} \sin \omega_n t$$

↳ Tidak stabil

$$\xi \omega_n < 0 \quad e^{-\xi \omega_n t} \rightarrow \infty \rightarrow \text{Tidak stabil}$$

$$\xi \omega_n > 0 \rightarrow t \rightarrow \infty \quad y(t) \rightarrow 0 \quad \text{STABIL}$$

$p_{1,2}$ di sebelah kiri sumbu khayal $\Rightarrow$ KESIMPULAN