

$$G(s) = \frac{1}{1+s^2}$$

$$G(j\omega) = \frac{1}{1+j^2\omega^2}$$

$$|G(j\omega)| = \frac{1}{|1+j^2\omega^2|} = \frac{1}{\sqrt{1+(\omega^2)^2}}$$

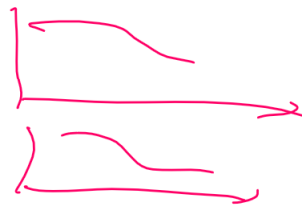
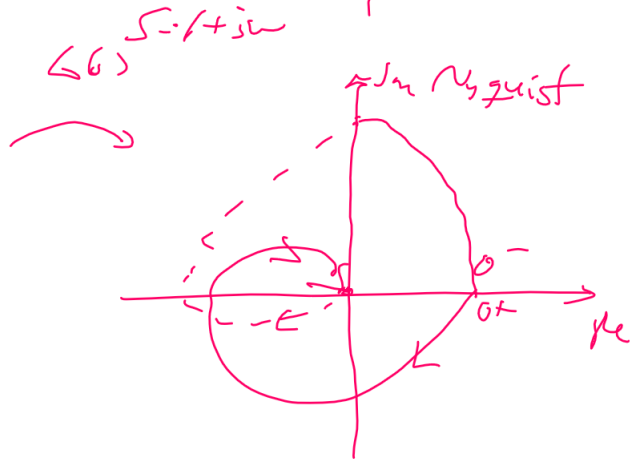
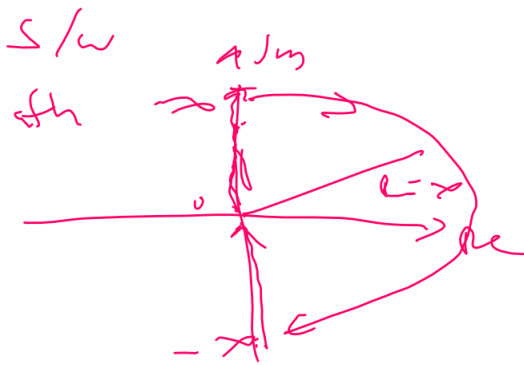
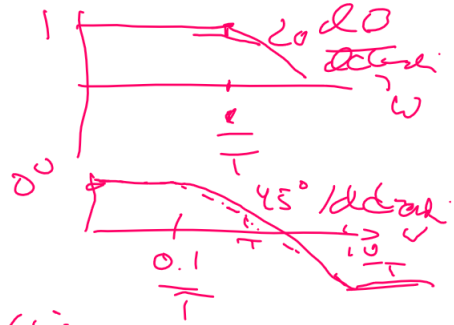
$$\angle(j\omega) = 0^\circ - \arctan(\omega T) = -\arctan(\omega T)$$

$$\frac{1}{1+Ts} \xrightarrow{s=j\omega} \frac{1}{1+j\omega T}$$

$$|G| = \frac{1}{\sqrt{1+(\omega T)^2}}$$

$$\omega = \frac{1}{T}$$

$$\frac{1}{\sqrt{1+\omega^2}}$$



$$\angle(j\omega) = \angle G_c(j\omega) \angle G(j\omega)$$

PM, GM

$$G_c = K \left(1 + \frac{1}{T_i s} \right), \quad G_c(j\omega) = K \left(1 + \frac{1}{T_i j\omega} \right)$$

$$G_c = K \frac{1+as}{1+bs}$$

