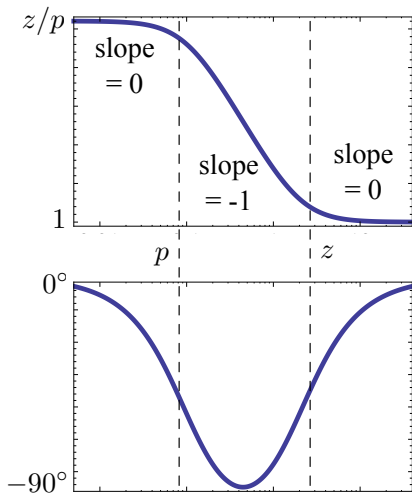


Lag Compensation: Bode Plot

$$D(s) = \frac{s + z}{s + p} = \frac{z \frac{s}{z} + 1}{p \frac{s}{p} + 1}, \quad z \gg p$$



- ▶ $\frac{j\omega + z}{j\omega + p} \xrightarrow{\omega \rightarrow \infty} 1$
so $M \rightarrow 1$ at high frequencies

- ▶ subtracts phase, hence the term “phase lag”