Sensitivity to Parameter Variations

$A \longrightarrow A + \delta A$ (small perturbation in system gain)

$T \longrightarrow T + \delta T$ (resultant perturbation in overall DC gain)

Hendrik Wade Bode
(1905–1982)

Bode's sensitivity:

$$\mathcal{S} \triangleq \frac{\delta T/T}{\delta A/A}$$

$$\mathcal{S} = \text{relative error}$$

$$= \frac{\text{normalized (percentage) error in } T}{\text{normalized (percentage) error in } A}$$