

Handout 5: Control System Design Principles

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The standard feedback loop

Draw the feedback loop here

Tracking requirements:

Unmodelled dynamics: $G_{true}(s) = (1 + L(s))G_{nom}(s)$

Show typical Bode diagram here

Insensitivity to unmodelled dynamics requires:

Fundamental equality that requires trade between tracking and insensitivity

$$| \quad + \quad | = 1$$

Desirable Bode Plot for loop gain

What happens at crossover frequency? ($|KG| = 1$)?