

Outline

1 Basics

- Control Theory
- Demo: Inverted Pendulum

2 Control Goals

- Examples
- Exercise

3 Closed-loop systems

- Sensitivity - Robustness
- Types of systems and Steady State Error
- Noise and disturbance rejection

What is good control?

Good control depends on the application

Control Goals

- Stability
- Disturbance rejection
- Reference tracking
- Robustness
- ...

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Examples: Stability



Space shuttles are like inverted pendulums. Control systems make sure they do not flip over.

Examples: Disturbance rejection

- Your body will try to keep your internal temperature as constant as possible, no matter how hot/cold it is outside.



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