Control of Dynamical Systems with Input Constraints

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Control of Dynamical Systems

- Dynamical systems can be modeled using differential equations with states (position, velocity, etc.) and inputs (steering, acceleration, breaking, etc.)
- Restrictions through input constraints: maximum acceleration/breaking, maximum torques

Topic: Control of Dynamical Systems with Input Constraints

- **Goal:** Find a feedback-controller which stabilizes the system around a trajectory while satisfying the input constraints
- For example, for controlling an autonomous car or a robotic arm from the initial position to a desired end position
- **Tasks:**
  - Review literature/read papers about different control approaches which take input constraints into account
  - Implement one or more for an example system
  - Compare the approaches

Questions?

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