Oberseminar

Numerical Optimal Control of Nonsmooth Dynamical Systems

Overview:

Optimal control of nonsmooth dynamical systems presents a compelling avenue in modern control theory, addressing scenarios where traditional smooth dynamical systems frameworks fall short. In various real-world applications, systems exhibit nonsmooth behavior due to factors such as impacts, friction, or discontinuous control actions. These systems pose unique challenges, demanding sophisticated control strategies to achieve desired performance.

We will mainly discuss numerical approaches for solving optimal control problems subject to nonsmooth dynamics. We will provide a list of recent but also classical works in this field, and each student will present one during the seminar. The key goal in this seminar is to engage the participants in the active discussion of the covered topics. Students will first present their chosen topic to the group and then everyone is expected to participate in the ensuing discussion.

Organizational:

- Max. 6 students
- Basic knowledge of optimization and control is recommended
- Registration deadline: **01.05.2024**
- Kick-off will be scheduled once the registration period has ended
- Presentations will be held in the second half of the semester
- Talks can be given in either German or English

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