Kolloquium Angewandte Mathematik
Prof. Thomas Apel (BauV1)
Prof. Matthias Gerdts (LRT1)
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Vortragsankündigung

Am **Mittwoch, den 06.04.2016,** hält **um 17:00 Uhr**

Dr. Christian Kirches
(IWR in Heidelberg)

einen Gastvortrag über das Thema

Mixed-Integer Optimal Control - Approximation Properties and Fast Numerical Methods

Der Vortrag findet im **Raum 1116** in **Gebäude 150** statt.

Vortragszusammenfassung

We are interested in the fast solution of nonlinear ODE/DAE-constrained mixed-integer optimal control problems. Such problems frequently arise in industrial process control, and typically show significant potential for optimization. The hybrid and nonlinear nature of these problems however is challenging to deal with. We present a theoretical framework based on a direct and simultaneous method for optimal control and on a partial outer convexification reformulation of the problem that results in a complementarity programming problem formulation. We show that this framework enjoys an approximation property in function spaces that results in feasibility and optimality certificates. Our framework also allows for efficient computation of solutions with known approximation quality after discretization in time.

Alle Interessierten sind dazu herzlich eingeladen.