



INVITATION

to the talk of

Lars Grüne
(University of Bayreuth)

Title: Recent Results on Model Predictive Control Schemes for PDEs

Time: Tuesday, 24th of January, 2017, 10:00

Place: SR 11.34, Heinrichstraße 36, 3rd Floor, 8010 Graz

Institute of Mathematics and Scientific Computing

Abstract:

This talk gives an overview on recent results for Model Predictive Control applied to PDEs. Model Predictive Control describes a class of control schemes in which a control input to a dynamical system is derived from the repeated solution of optimal control problems on overlapping time horizons. Often, the cost in the optimal control problems is chosen such that it penalizes the distance to a desired equilibrium with the intention to force the resulting trajectories to converge to this equilibrium - the so called "stabilizing MPC" problem.

The first part of the talk considers such stabilization problems and presents results, which ensure that the desired convergence happens. The results will be illustrated for several classes of PDE governed control systems. In the second part of the talk, we explain recent attempts to generalize these results to more general optimal control problems, leading to what is often called "economic MPC" in the literature.

The presented results are based on joint work with Nils Altmüller, Arthur Fleig and Marleen Stieler.

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