Kolloquium Angewandte Mathematik
Prof. Thomas Apel (BauV1)
Prof. Matthias Gerdts (LRT1)
Prof. Joachim Gwinner (LRT1)
Prof. Markus Klein (LRT1)

Universität der Bundeswehr München

Vortragsankündigung

Am **Dienstag, den 09.06.2015,** hält **um 17:00 Uhr**

Herr **Jun.-Prof. W. Wollner**
(Universität Hamburg)

einen Gastvortrag über das Thema

Pointwise convergence of the feasibility violation for Moreau-Yosida regularized optimal control problems

Der Vortrag findet im **Raum 0126/4** in **Gebäude 43** statt.

Vortragszusammenfassung

In this talk, we are concerned with an analysis of Moreau-Yosida regularization of pointwise state constrained optimal control problems. In contrast to finite dimensional optimization, the convergence rate of such methods depends on the regularity of the optimal solution and is directly related to the convergence of the feasibility violation in the maximum norm.

Finally we will employ these techniques to analyze optimal control problems governed by elliptic PDEs with pointwise constraints on the gradient of the state on non smooth polygonal domains. For these problems, standard analysis, fails because the control to state mapping does not yield sufficient regularity for the states to be continuously differentiable on the closure of the domain. Nonetheless, these problems are well posed.

However, in contrast to the case of state constraints, standard penalty methods tend to give arbitrary slow convergence. We will discuss this issue and derive an improved penalty method.

Alle Interessierten sind dazu herzlich eingeladen.