

Im Schwerpunktkolloquium  
**Analysis und Numerik**  
wird am  
**Donnerstag, dem 16. Mai 2013**  
folgender Vortrag gehalten:

**Nonlinear Optimal Control Algorithms for Embedded Hardware  
and Application to Tethered Airplane Control**

**Herr Prof. Dr. Moritz Diehl**  
**Electrical Engineering Department, KU Leuven, Belgien**

**Abstract:** Nonlinear Model Predictive Control (NMPC) is a feedback control technique that uses the most current state estimate of a nonlinear system to compute an optimal plan for the future system behaviour. This plan is recomputed in every sampling time, creating feedback. Thus, NMPC needs to repeatedly solve a nonlinear optimal control problem. Recent algorithmic progress makes the solution of NMPC optimization problems possible at sampling times in the milli and microsecond range. This talk describes some of the recent algorithmic developments that made it possible to solve classical NMPC benchmark problems with computation times below even one microsecond. We also present experimental results where the algorithms are used for state estimation and feedback control of tethered airplanes that are intended for airborne wind power generation.

**Zeit: 17:00 Uhr**

**Raum: F 426**

Interessenten sind herzlich willkommen!

gez. Stefan Volkwein