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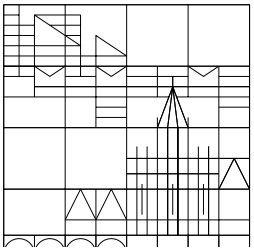

Universität Konstanz

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Datum: 13. November 2012

Einladung

Im Rahmen des Schwerpunktskolloquiums „Analysis und Numerik“ hält

Herr Prof. Dr. Peter Benner
(Max-Planck-Institut, Magdeburg)

am **Donnerstag , dem 22. November 2012**, einen Vortrag zum Thema:

System-Theoretic Model Reduction for Nonlinear Systems

Der Vortrag findet um **17:00 Uhr** in Raum **F 426** statt.

Es wird Gelegenheit gegeben, sich vorher (ab 16.30 Uhr)
im Common Center F 441 bei Tee und Kaffee zu treffen.

Alle Interessenten sind herzlich eingeladen.

Andrea Barjasic
Beauftragte für das Kolloquium

Abstract:

We discuss Krylov-subspace based model reduction techniques for nonlinear control systems. Since reduction procedures of existent approaches like TPWL and POD methods require simulation of the original system and are therefore dependent on the chosen input function, models that are subject to variable excitations might not be sufficiently approximated. We will overcome this problem by generalizing Krylov-subspace methods known from linear systems to a more general class of bilinear and quadratic-bilinear systems, respectively. As has recently been shown, a lot of nonlinear dynamics can be represented by the latter systems. We will explain advantages and disadvantages of the different approaches and illustrate their behavior for several benchmark examples from the literature.

This is joint work with Tobias Breiten (MPI Magdeburg).

(Volkwein)