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## VORTRAGSANKÜNDIGUNG

Im Rahmen unseres gemeinsamen Oberseminars

**„Numerische Mathematik, Optimierung und Dynamische Systeme“**

spricht

Herr **Dr. Tobias Breiten**  
Karl-Franzens-Universität Graz, Österreich

am **Montag, 29. Mai 2017**, 16:00 Uhr c. t. über das Thema

**“Feedback stabilization of the Fokker-Planck equation”**

Abstract:

The probability distribution function of a dragged Brownian particle can be characterized by the Fokker-Planck equation. By means of an optical tweezer, interaction with the particle is possible and leads to a bilinear control system. It is known that the uncontrolled system converges to the stationary distribution. However, depending on the parameters of the system, this convergence can be inadequately slow. Projection-based decoupling of the Fokker-Planck equation allows to design certain feedback control laws that locally increase the rate of convergence to the stationary distribution. Different strategies based on a projected Riccati equation and approximations of the Hamilton-Jacobi-Bellman equation are discussed.

This is joint work with Karl Kunisch and Laurent Pfeiffer (University of Graz).

Der Vortrag findet im S 80, Gebäude NW II statt.

gez. Lars Grüne