



Im Rahmen des Kolloquiums des
Graduiertenkollegs Algorithmic Optimization
findet am

Dienstag, dem 6. Februar 2018
12 Uhr c.t.
Raum E 51

folgender Vortrag statt:

Optimal and Feedback Control of some Reaction-Diffusion Equations

Prof. Dr. Fredi Tröltzsch
TU Berlin

The optimal control of some systems of nonlinear reaction-diffusion equations is considered including several important equations of mathematical physics. In particular, equations are covered that develop traveling wave fronts, spiral waves, scroll rings, or propagating spot solutions. Well-posedness of the system, differentiability of the control-to-state mapping, and optimality conditions of first and second order are briefly sketched. In particular, the case of sparse optimal control is addressed. A novel application of pointwise state constraints is presented that prevent a propagating spot from hitting the boundary of the spatial domain. Finally, the optimization of time-delays in local and nonlocal Pyragas type feedback control is discussed. Various numerical examples illustrate a great diversity of geometrical patterns and their control.

Gastgeber:
Laura Somorowsky

Kolloquiums Kaffee ab 11:45 Uhr im Raum E 51