Einladung zu einem Vortrag
im Rahmen des DK-Seminars des Karl Popper Kollegs
von

Prof. Dr. Ekaterina A. Kostina

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zum Thema

Numerical Methods for Optimization-based Model Validation

Ort: E.2.42 der Universität Klagenfurt
Zeit: Montag, 12. Juni 2017, um 13:00 Uhr

Kurzfassung:

Mathematical models are of great importance for natural sciences and engineering. Besides providing scientific insight into processes, mathematical models are fundamental for process simulation, optimization and control. However, the results from simulation and optimization can be only trusted as a basis for decision and control if an underlying model describes a given process quantitatively and qualitatively correctly. This implies a model which is validated by experimental data with sufficiently good estimates for model parameters.

The development and quantitative validation of complex nonlinear differential equation models is a difficult task that requires the support by numerical methods for sensitivity analysis, parameter estimation, and the optimal design of experiments.

The talk will adress new developments in optimization methods for validation of models, in particular design of robust optimal experiments based on a second order sensitivity analysis of parameter estimates and design of optimal experiments for PDE models.

Das Institut für Mathematik freut sich auf Ihren Besuch.

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