

VORträge zum Operations Research

Kolloquium des Instituts für Operations Research

Zeit: Donnerstag, 3. November 2011, 17:30 Uhr

Ort: Raum 109, Gebäude 20.13

Es spricht: Prof. Dr. Asen L. Dontchev, Mathematical Reviews and the University of Michigan

Zum Thema: **Metric Regularity, Estimates, and Convergence of Algorithms**

Abstract: The classical implicit function theorem revolves around solving an equation $f(p, x) = 0$ for x in terms of a parameter p , and tells us when the solution mapping associated with this equation is a differentiable function with respect to the parameter. In this talk we move into a much wider territory in replacing equation-solving problems by more complicated problems for „generalized equations“ that arise in constrained optimization, models of equilibrium, control theory, and many other areas.

An important feature, in contrast to ordinary equations, is that their solution mappings typically lack differentiability. It turns out that if we put aside differentiability and focus on Lipschitz continuity only, we can cover more general models and get estimates of the solution changes resulting from approximations of the model. After a review of metric regularity properties of set-valued mappings, we carry further the implicit function theorem paradigm placing it in the framework of Newton's method and its various versions. We also show an extension of the Dennis-Moré theorem for generalized equations.

Die Vorträge zum Operations Research wenden sich an alle Interessierten!

Ab 17:00 Uhr ist am Institut für Operations Research (Gebäude 20.13, Raum 104)
Gelegenheit zu einem Gespräch mit dem Referenten bei einer Tasse Kaffee gegeben.

Bei Rückfragen wenden Sie sich bitte an:

Prof. Dr. Oliver Stein, Institut für Operations Research.