



Institut für
Angewandte Mathematik



Leibniz
Universität
Hannover

Institut für Angewandte Mathematik
04.05.2011

Oberseminar Analysis und Theoretische Physik

Prof. Dr. Dirk Lorenz
TU Braunschweig

"Convergence to Consensus by Iterated General Averaging Maps"

Abstract:

We investigate models for the process of the formation of a consensus if multiple agents shall agree about some quantity. We take to approach that the quantity consists of a real vector and that the process evolves in rounds in which every agent adapts his opinion in some kind of general averaging of other opinions. While this model is both oversimple and also somehow unrealistic, it is already mathematically appealing to investigate under what conditions on the averaging maps one may expect convergence to consensus.

We formulate the model as a discrete-time nonlinear and non-homogeneous dynamical system and investigate sufficient conditions for convergence to consensus. It turns out that the proper notion of an averaging map is already the key. Moreover, we give examples that demonstrate that the theory of convergence to consensus is still not complete.

Dienstag, 28.06.2011, 15:15 Uhr, Raum G005
Hauptgebäude der Universität

Über Ihren Besuch würden sich freuen:

Prof. Dr. Joachim Escher
Prof. Dr. Bernhard Krötz
Prof. Dr. Olaf Lechtenfeld
Prof. Dr. Elmar Schrohe
Prof. Dr. Christoph Walker