

English Seminar Special Issue

2013. 09. 05. 10:30–11:30

Osaka University, School of Engineering Science, J building 6F Room 617

Prof. Klemens Fellner (Univ. Graz)

Title: Entropy and Improved Duality Methods for Reaction–Diffusion Systems

Abstract:

This talk will discuss various ideas of entropy- and duality estimates in the theory of global solutions of reaction–diffusion systems. We will show how the entropy method allows to prove exponential convergence to equilibrium with explicit rates and constants as long as an entropy-dissipating solution exists. Moreover, we will present a recently improved duality approach, which shows, for instance, global existence of weak solutions for reversible reaction–diffusion systems with quadratic reaction terms in 2D. These results are partly joint works with Jose A. Canizo (University of Birmingham), Jose A. Carrillo (Imperial College London), and in particular Laurent Desvillettes (ENS Cachan).