ALPEN-ADRIA UNIVERSITÄT KLAGENFURT

Invitation to a Guest Lecture

Dr. Michaela Zahradníková

University of South Bohemia; České Budějovice

"Existence and properties of traveling fronts for (q,r)-relativistic equations"

HS 11 (Mensa-Gebäude) | Thursday, 9 October 2025 | 3:15 p.m.

Abstract

We introduce a new reaction–diffusion model governed by a (q,r)-relativistic diffusion operator, which extends the p-relativistic one and allows us to treat both singular and degenerate diffusivity in a unified framework. Considering monostable reactions, we formulate sufficient conditions for the existence of decreasing fronts, exploiting the study of an equivalent first-order problem obtained via first-order reduction. We then analyze asymptotic properties of the fronts by means of comparison principles. Joint work with Pavel Drábek and Maurizio Garrione.

Christian Pötzsche and the Department of Mathematics look forward to seeing you at the talk!