ALPEN-ADRIA UNIVERSITÄT KLAGENFURT

INVITATION TO A GUEST LECTURE

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

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Chaired by Christian Pötzsche | Department of Mathematics

Thursday, 9 October 2025 | 15:15–16:45

HS 11 (Mensa-Gebäude)

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.

We hope to see you there!