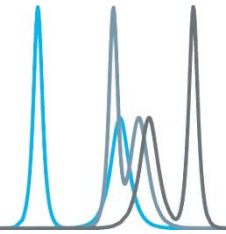

Lehrstuhl für Analysis und Modellierung

Lehrstuhl-Seminar
Sommersemester
2020

Montie Avery M. Sc.

University of Minnesota

Nonlinear stability of critical pulled fronts

18. Juni 2020 - 16:00
WebEx

Abstract: We study asymptotic stability of pulled fronts in scalar parabolic equations on the real line of arbitrary order, under conceptual assumptions on existence and spectral stability of fronts.

In this general setting, we recover sharp algebraic decay rates and temporal asymptotics known for the critical Fisher-KPP front, demonstrating that these results depend only on our conceptual assumptions, and not on the specifics of the underlying equation. Technically, our approach is based on a detailed study of the resolvent operator for the linearized problem, through which we obtain sharp linear time decay estimates which allow for a very direct nonlinear analysis.

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