



THE HONG KONG UNIVERSITY OF SCIENCE & TECHNOLOGY

Department of Mathematics

SEMINAR ON PDE

Higher order asymptotics for fast diffusions on bounded domains

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Abstract

Abstract: Sobolev-subcritical fast diffusion with vanishing boundary condition leads to finite-time extinction, with a vanishing profile selected by the initial datum. In a joint work with R. McCann and C. Seis, we quantify the rate of convergence to this profile for general smooth bounded domains. In rescaled time variable, the solution either converges exponentially fast or algebraically slow. In the first case, the nonlinear dynamics are well-approximated by exponentially decaying eigenmodes, giving a higher order asymptotics. We also improve on a result of Bonforte and Figalli, by providing a new and simpler approach which is able to accommodate the presence of zero modes.

Date: 14 October 2022 (Friday)

Time: 9:00am

Zoom Meeting: <https://hkust.zoom.us/j/95235544779> (Passcode: 991961)

All are Welcome!