



THE HONG KONG UNIVERSITY OF SCIENCE & TECHNOLOGY

Department of Mathematics

SEMINAR ON PDE

Recent Progress on Stable Solutions of the Allen-Cahn Equation

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ETH

Abstract

I will present recent results and open problems concerning stable solutions of the Allen-Cahn equation and its free boundary version. In particular, I will discuss the long-standing problem of classifying stable solutions to the Allen-Cahn equation, both with and without area bounds, in low dimensions, and the consequences of these classifications. I will outline the classical results and highlight more recent developments, emphasizing the main difficulties in the problem and some of the key ideas underlying the proofs of our recent results. The talk is based on two papers: one joint with Chan, Figalli, and Fernández-Real, and another joint with Florit and Simon.

Date: 6 November 2025 (Thursday)

Time: 4:00pm

Zoom Meeting: <https://hkust.zoom.us/j/99033650021> (Passcode: 075159)

All are Welcome!