



THE HONG KONG UNIVERSITY OF SCIENCE & TECHNOLOGY

Department of Mathematics

SEMINAR ON PDE

Genus one singularities in mean curvature flow

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Abstract

We show that for certain one-parameter families of initial conditions in \mathbb{R}^3 , when we run mean curvature flow, a genus one singularity must appear in one of the flows. Moreover, such a singularity is robust under perturbation of the family of initial conditions. This contrasts sharply with the case of just a single flow. Among applications, we construct an embedded, genus one self-shrinker with entropy lower than a shrinking doughnut, and we proved that the fourth lowest entropy self-shrinker in \mathbb{R}^3 cannot be rotationally symmetric. Based on joint work with Adrian Chu.

Date: 20 October 2023 (Friday)

Time: 9:30am

Zoom Meeting: <https://hkust.zoom.us/j/96877887622> (Passcode: 107767)

All are Welcome!