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The Hong Kong University of Science and Technology

Department of Mathematics

Seminar on Applied Mathematics

Analysis of thresholding schemes for interfacial motions

By

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Abstract

This is a series of two lectures on the analysis of thresholding schemes to approximate curvature type motions of curves and surfaces. Thresholding type schemes alternate two simple steps: (i) linear diffusion, and (ii) projection. It is in essence a time-splitting implementation of Ginzburg-Landau type evolution equations. Classical application is the approximation of motion by mean curvature of hypersurfaces. The lectures will give an overview of this method and present some recent analytical results and applications, most notably the energetic formulation and interpretation of thresholding schemes by Esedoglu-Otto. The contents of the lectures are roughly as follows:

(1) Overview of thresholding scheme for motion by mean curvature of hypersurfaces;
(2) Application of thresholding scheme for filament motions;
(3) Application of thresholding scheme for triple junctions.

Date: ***Thursday, 3 Aug 2017***

Time: ***10:30a.m. – 12:00p.m.***
3:30p.m. – 5:00p.m.

Venue: ***Room 5504, Academic Building (near Lifts 25&26), HKUST***

All are welcome!