

A tentative phase-field approach for the curvature flow of non-oriented boundaries

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In this talk, we start from a neural-net based approach developed by Bretin et al (Bretin, Denis, Masnou, Terii, 2022), which extends the classical phase-field method for the mean curvature flow of boundaries to the case of non-oriented interfaces. We introduce an analytical, energy-based approach which yields an evolution PDE reproducing the numerical experiments obtained with the neural networks. A preliminary analysis explains in part the behaviour of the PDE.

joint work with Élie Bretin and Simon Masnou

Author: CHAMBOLLE, Antonin (CEREMADE, CNRS & Université Paris-Dauphine)

Orateur: CHAMBOLLE, Antonin (CEREMADE, CNRS & Université Paris-Dauphine)