

MIMS現象数理カフェセミナー

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Interface motion of Allen-Cahn equation with anisotropic and porous-medium diffusion

Hyunjoon Park (Meiji University)

Abstract: Allen-Cahn equation is an equation to model the phase separation of a substance with two stable steady states and was used to model phenomena occurring in various situations such as metal alloy or cell polarization. In this lecture, unlike usual linear diffusion, we consider anisotropic and nonlinear diffusion Allen-Cahn equation which leads to a different interface motion compared to Allen-Cahn equation. In addition, we also consider a porous-medium diffusion, where we assume that the substance does not diffuse when the density is zero. We observe that such feature may cause different movement between the interface and boundary of the support.



問い合わせ: Park Hyunjoon
Email: hyunjoonps@gmail.com