

A Brakke type regularity for the Allen-Cahn flow

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We will talk about an analogue of the Brakke's local regularity theorem for the ϵ parabolic Allen-Cahn equation. In particular, we show uniform $C_{2,\alpha}$ regularity for the transition layers converging to smooth mean curvature flows as ϵ tend to 0 under the almost unit-density assumption. This can be viewed as a diffused version of the Brakke regularity for the limit mean curvature flow. This talk is based on joint work with Huy Nguyen.