

Coarsening Mechanism for a Cahn-Hilliard Equations with a Degenerate Mobility

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We study a Cahn-Hilliard equation for a two-phase system with a diffusion mobility that is degenerate in at least one of the phases, and a double-well potential that is continuously differentiable. We present asymptotic analysis and computational simulations to illustrate the different coarsening rates and mechanisms on various time scales depending on the particular forms of the potential and mobility.