
Dynamical bifurcation and final patterns for fourth order phase transition equations

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Abstract

In this talk, we consider bifurcation and stability of the fourth order phase transition equations including the Swift-Hohenberg equation and the damped Kuramoto-Sivashinsky equation. We show that the equations bifurcate from the trivial solutions to an attractor as a bifurcation parameter passes a critical number. This attractor is responsible for the final patterns of solutions and we analyze it via a center manifold analysis.

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