

Title: 1D Cahn-Hilliard dynamics : Transition modes and stability criteria

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Abstract:

The Cahn-Hilliard-Oono equation describes the dynamics of phase separation process of co-polymers alloys and other binary systems. This process is driven by the minimization of the free Energy F . However the lower energy state is rarely reached and only for particular initial states. Misbah-Politi criterion (linear instability) shows different results than the minimization of free energy. In this paper, we investigate possible transition modes that may describe the dynamics of "segregation and coalescence" in those systems, and understand the difference between criteria.