Analysis and Differential Geometry Colloquium

The Cahn-Hilliard Equation: Coarsening and Steady States

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Abstract: The Cahn-Hilliard equation constitutes a phenomenological model for phase separation in binary alloys which was proposed some 50 years ago. Initially it was thought that a complete understanding of the steady states would yield a firm understanding of the implications of the equation for phase transition. While a complete delineation of the steady states is possible at least in one dimension, a good understanding of the various stages of the dynamics such as coarsening, or the growth of the dominant length scale of the system, comes primarily via other paths.

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Mathematics and Science Center: W301

Mathematics and Computer Science
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