# Dynamics Of Self-organized And Self-assembled Structures



Describes pattern formation processes and how they can be modeled for graduate-level courses.Physical and biological systems driven out of equilibrium may spontaneously evolve to form spatial structures. In some systems molecular constituents may self-assemble to produce complex ordered structures. This book describes how such pattern formation processes occur and how they can be modeled. Experimental observations are used to introduce the diverse systems and phenomena leading to pattern formation. The physical origins of various spatial structures are discussed, and models for their formation are constructed. In contrast to many treatments, pattern-forming processes in nonequilibrium systems are treated in a coherent fashion. The book shows how near-equilibrium and far-from-equilibrium modeling concepts are often combined to describe physical systems. This inter-disciplinary book can form the basis of graduate courses in pattern formation and self-assembly. It is a useful reference for graduate students and researchers in a number of disciplines, including condensed matter science, nonequilibrium statistical mechanics, nonlinear dynamics, chemical biophysics, materials science, and engineering. EAN/ISBN : 9780511513084 Publisher(s): Cambridge University Press Format: ePub/PDF Author(s): Desai, Rashmi C. - Kapral, Raymond

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