

Librería
Bonilla y Asociados
desde 1950



Título: Chemical And Biological Processes In Fluid Flows. A Dynamical Systems Approach

Autor: Neufeld, Zoltan/ Hernandez-Garcia, Emilio

Precio: \$1078.00

Editorial:

Año: 2009

Tema:

Edición: 1^a

Sinopsis

ISBN: 9781860946998

Many chemical and biological processes take place in fluid environments in constant motion _ chemical reactions in the atmosphere, biological population dynamics in the ocean, chemical reactors, combustion, and microfluidic devices. Applications of concepts from the field of nonlinear dynamical systems have led to significant progress over the last decade in the theoretical understanding of complex phenomena observed in such systems.

This book introduces the theoretical approaches for describing mixing and transport in fluid flows. It reviews the basic concepts of dynamical phenomena arising from the nonlinear interactions in chemical and biological systems. The coverage includes a comprehensive overview of recent results on the effect of mixing on spatial structure and the dynamics of chemically and biologically active components in fluid flows, in particular oceanic plankton dynamics.

Contents:

Fluid Flows

Mixing and Dispersion in Fluid Flows

Chemical and Ecological Models

Reaction-Diffusion Dynamics

Fast Binary Reactions and the Lamellar Approach

Decay-Type and Stable Reaction Dynamics in Flows

Mixing in Autocatalytic-Type Processes

Mixing in Oscillatory Media

Further Reading