

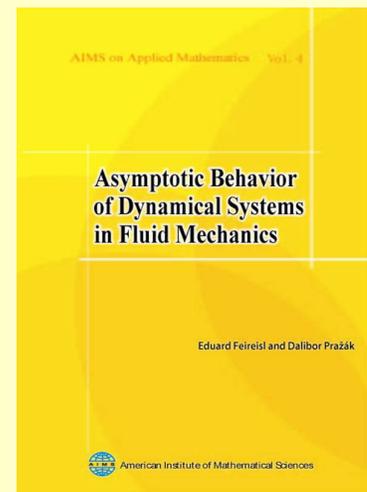
Asymptotic Behavior of Dynamical Systems in Fluid Mechanics

By Eduard Feireisl and Dalibor Pražák

This book is a research monograph, intending to expose recent topics in mathematical fluid dynamics. Emphasis is put on the dynamical aspects of the problem, and in particular, on the qualitative analysis of the large time behavior of studied equations.

The topics and problems covered include:

- compressible Fourier-Navier-Stokes system
- incompressible (generalized) Navier-Stokes-Fourier system
- fluids with pressure-dependent viscosities
- asymptotic boundedness and blow up of solutions
- stabilization to equilibria
- construction of global and exponential attractors
- estimates of attractor dimension



The book can appeal to a wider audience by exposing a working application of a number of nontrivial mathematical techniques, some of which include:

- renormalized solutions
- compensated compactness
- div-curl lemma
- Fourier multipliers
- Young measures
- theory of infinite-dimensional dynamical systems
- Lyapunov exponents
- method of trajectories
- compactness in Bochner spaces

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