
Contents

- v **PREFACE**

- 1 **CHAPTER 1. Internal Layers**
 - 1. Dynamics of internal layers: Asymptotics and matching
 - 2. Example: Bistable fronts in an inhomogeneous medium
 - 3. Example: Phase field models
 - 4. Example: Viscous shocks

- 17 **CHAPTER 2. Flame Theory**
 - 1. Activation energy asymptotics for a one-step reaction
 - 2. Stability analysis of simple flames
 - 3. Flames due to chain branching
 - 4. Complex chemistry

- 47 **CHAPTER 3. Electrophoresis**
 - 1. Models and problems
 - 2. Isotachophoresis
 - 3. Isoelectric focusing

- 55 **CHAPTER 4. Waves in Excitable and Self-Oscillatory Media**
 - 1. One-dimensional problems
 - 2. Inhomogeneous media
 - 3. Curvature, corners, and twists
 - 4. Rotating waves

- 83 **REFERENCES**