Recent Developments in Near Field Dynamics Fluid Mechanics and Its Applications

This book presents the latest developments in near field dynamics fluid mechanics and its applications, including microfluidics, nanofluidics, and biofluid mechanics. The book is divided into four parts:



Vortex Rings and Jets: Recent Developments in Near-Field Dynamics (Fluid Mechanics and Its Applications Book 111)

★ ★ ★ ★ ★ 5 out of 5

Language : English

File size : 19852 KB

Text-to-Speech : Enabled

Screen Reader : Supported

Enhanced typesetting : Enabled

Print length : 379 pages



- 1. Fundamentals of near field dynamics fluid mechanics
- 2. Applications of near field dynamics fluid mechanics in microfluidics
- 3. Applications of near field dynamics fluid mechanics in nanofluidics
- 4. Applications of near field dynamics fluid mechanics in biofluid mechanics

The book is written by leading experts in the field and provides a comprehensive overview of the latest research. It is a valuable resource for

researchers, engineers, and students working in the field of fluid mechanics.

Part 1: Fundamentals of near field dynamics fluid mechanics

This part of the book provides an to the fundamental principles of near field dynamics fluid mechanics. The following topics are covered:

- The Navier-Stokes equations
- The boundary layer theory
- The lubrication theory
- The electrokinetic phenomena

This part of the book provides a solid foundation for the subsequent parts of the book, which discuss applications of near field dynamics fluid mechanics in microfluidics, nanofluidics, and biofluid mechanics.

Part 2: Applications of near field dynamics fluid mechanics in microfluidics

This part of the book discusses applications of near field dynamics fluid mechanics in microfluidics. The following topics are covered:

- Microfluidics
- Lab-on-a-chip devices
- Microfluidic sensors
- Microfluidic actuators

This part of the book provides an overview of the latest developments in microfluidics and its applications. It is a valuable resource for researchers, engineers, and students working in the field of microfluidics.

Part 3: Applications of near field dynamics fluid mechanics in nanofluidics

This part of the book discusses applications of near field dynamics fluid mechanics in nanofluidics. The following topics are covered:

- Nanofluidics
- Nanofluidic devices
- Nanofluidic sensors
- Nanofluidic actuators

This part of the book provides an overview of the latest developments in nanofluidics and its applications. It is a valuable resource for researchers, engineers, and students working in the field of nanofluidics.

Part 4: Applications of near field dynamics fluid mechanics in biofluid mechanics

This part of the book discusses applications of near field dynamics fluid mechanics in biofluid mechanics. The following topics are covered:

- Biofluid mechanics
- Blood flow
- Microcirculation
- Biofluid mechanics devices

This part of the book provides an overview of the latest developments in biofluid mechanics and its applications. It is a valuable resource for researchers, engineers, and students working in the field of biofluid mechanics.

This book provides a comprehensive overview of the latest developments in near field dynamics fluid mechanics and its applications. It is a valuable resource for researchers, engineers, and students working in the field of fluid mechanics.



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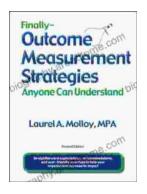


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