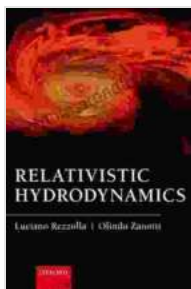


Relativistic Hydrodynamics: A Textbook for Graduate Students and Researchers

Relativistic hydrodynamics is a branch of fluid dynamics that deals with the motion of fluids in the presence of strong gravitational fields. It is a fundamental tool for understanding many astrophysical phenomena, such as the formation of stars and black holes, and the evolution of galaxies.

This textbook provides a comprehensive to relativistic hydrodynamics, covering the basic concepts, equations, and techniques used in the field. It is suitable for graduate students and researchers in astrophysics, cosmology, and other related disciplines.



Relativistic Hydrodynamics by Luciano Rezzolla

★★★★☆ 4.8 out of 5

Language : English

File size : 24526 KB

Screen Reader : Supported

Print length : 768 pages

Lending : Enabled



The book is divided into four parts:

- **Part I:**

This part introduces the basic concepts of relativistic hydrodynamics, including the conservation laws, the stress-energy tensor, and the equation of state.

- **Part II: The Equations of Motion**

This part derives the equations of motion for relativistic fluids, including the Euler equations, the Navier-Stokes equations, and the conservation laws.

- **Part III: Applications**

This part applies the equations of motion to a variety of astrophysical problems, including the formation of stars and black holes, and the evolution of galaxies.

- **Part IV: Advanced Topics**

This part covers advanced topics in relativistic hydrodynamics, such as the relativistic Boltzmann equation, the Chapman-Enskog expansion, and the second-order relativistic hydrodynamics.

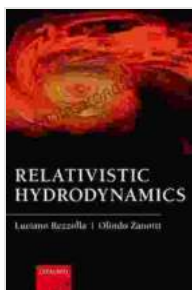
The book is written in a clear and concise style, with numerous examples and exercises to help the reader understand the material. It is also extensively illustrated with figures and tables.

Relativistic Hydrodynamics is an essential resource for anyone who wants to learn about this important field. It is a valuable addition to the libraries of graduate students and researchers in astrophysics, cosmology, and other related disciplines.

About the Author

Luciano Rezzolla is a professor of theoretical astrophysics at the Goethe University Frankfurt. He is the author of several books and articles on

relativistic hydrodynamics and other topics in astrophysics.



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Unlock Your Entrepreneurial Potential: Start Small, Expand, and Create Your Own E-commerce Empire in the Supplement Business

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