



An Introduction to Alfvén Waves, (Series on Plasma Physics)

By Rodney Cross

[Download now](#)

[Read Online](#) 

An Introduction to Alfvén Waves, (Series on Plasma Physics) By Rodney Cross

Alfvén waves permeate the universe. They have been observed in the Sun, in the magnetosphere, as low frequency fluctuations in the Earth's magnetic field, and they are easily generated in laboratory plasmas. Alfvén waves serve as a useful diagnostic tool to probe plasma conditions in both space and laboratory plasmas. In the quest for nuclear fusion they have been used with spectacular success to heat tokamak plasmas to temperatures exceeding 50 million Kelvin. This book aims to provide an introduction to the physics of Alfvén wave propagation for postgraduate physicists and astrophysicists who are entering research on laboratory or space plasmas. In the early chapters the basic properties of Alfvén waves are derived for homogeneous plasmas, using the ideal magnetohydrodynamic fluid equations. The essential differences between torsional and compressional wave types are highlighted by an examination of phase and group velocity surfaces, and by a discussion of recent experimental results obtained with small, 'point-source', antennae. Later chapters deal with cylindrical plasmas, Alfvén waves in a plasma with two or more ion species, effects of plasma current, resistive damping and inhomogeneous plasmas. There are also two chapters about numerical and experimental techniques, topics which are often neglected in other books.

 [Download An Introduction to Alfvén Waves, \(Series on Plasma ...pdf](#)

 [Read Online An Introduction to Alfvén Waves, \(Series on Plas ...pdf](#)

An Introduction to Alfvén Waves, (Series on Plasma Physics)

By Rodney Cross

An Introduction to Alfvén Waves, (Series on Plasma Physics) By Rodney Cross

Alfvén waves permeate the universe. They have been observed in the Sun, in the magnetosphere, as low frequency fluctuations in the Earth's magnetic field, and they are easily generated in laboratory plasmas. Alfvén waves serve as a useful diagnostic tool to probe plasma conditions in both space and laboratory plasmas. In the quest for nuclear fusion they have been used with spectacular success to heat tokamak plasmas to temperatures exceeding 50 million Kelvin. This book aims to provide an introduction to the physics of Alfvén wave propagation for postgraduate physicists and astrophysicists who are entering research on laboratory or space plasmas. In the early chapters the basic properties of Alfvén waves are derived for homogeneous plasmas, using the ideal magnetohydrodynamic fluid equations. The essential differences between torsional and compressional wave types are highlighted by an examination of phase and group velocity surfaces, and by a discussion of recent experimental results obtained with small, 'point-source', antennae. Later chapters deal with cylindrical plasmas, Alfvén waves in a plasma with two or more ion species, effects of plasma current, resistive damping and inhomogeneous plasmas. There are also two chapters about numerical and experimental techniques, topics which are often neglected in other books.

An Introduction to Alfvén Waves, (Series on Plasma Physics) By Rodney Cross Bibliography

- Sales Rank: #9019992 in Books
- Published on: 1988-11-01
- Original language: English
- Number of items: 1
- Dimensions: 9.75" h x 6.50" w x .75" l,
- Binding: Hardcover
- 236 pages



[Download An Introduction to Alfvén Waves, \(Series on Plasma ...pdf](#)



[Read Online An Introduction to Alfvén Waves, \(Series on Plas ...pdf](#)

Download and Read Free Online An Introduction to Alfvén Waves, (Series on Plasma Physics) By Rodney Cross

Editorial Review

Users Review

From reader reviews:

Byron Sierra:

Here thing why this specific An Introduction to Alfvén Waves, (Series on Plasma Physics) are different and reputable to be yours. First of all reading a book is good nevertheless it depends in the content of the usb ports which is the content is as delicious as food or not. An Introduction to Alfvén Waves, (Series on Plasma Physics) giving you information deeper since different ways, you can find any guide out there but there is no e-book that similar with An Introduction to Alfvén Waves, (Series on Plasma Physics). It gives you thrill looking at journey, its open up your personal eyes about the thing that happened in the world which is might be can be happened around you. It is possible to bring everywhere like in park your car, café, or even in your way home by train. Should you be having difficulties in bringing the paper book maybe the form of An Introduction to Alfvén Waves, (Series on Plasma Physics) in e-book can be your option.

Steven Williams:

Do you have something that you enjoy such as book? The book lovers usually prefer to pick book like comic, short story and the biggest an example may be novel. Now, why not hoping An Introduction to Alfvén Waves, (Series on Plasma Physics) that give your entertainment preference will be satisfied by simply reading this book. Reading habit all over the world can be said as the opportunity for people to know world a great deal better then how they react toward the world. It can't be stated constantly that reading habit only for the geeky individual but for all of you who wants to always be success person. So , for every you who want to start reading through as your good habit, you may pick An Introduction to Alfvén Waves, (Series on Plasma Physics) become your personal starter.

Jacqueline Harding:

E-book is one of source of expertise. We can add our know-how from it. Not only for students but native or citizen require book to know the change information of year to help year. As we know those ebooks have many advantages. Beside many of us add our knowledge, may also bring us to around the world. With the book An Introduction to Alfvén Waves, (Series on Plasma Physics) we can acquire more advantage. Don't someone to be creative people? To be creative person must like to read a book. Just choose the best book that suited with your aim. Don't become doubt to change your life with that book An Introduction to Alfvén Waves, (Series on Plasma Physics). You can more inviting than now.

Frank Godwin:

A number of people said that they feel bored stiff when they reading a reserve. They are directly felt the item when they get a half elements of the book. You can choose often the book An Introduction to Alfvén Waves, (Series on Plasma Physics) to make your own personal reading is interesting. Your own personal skill of reading expertise is developing when you such as reading. Try to choose straightforward book to make you enjoy to see it and mingle the impression about book and looking at especially. It is to be first opinion for you to like to wide open a book and go through it. Beside that the publication An Introduction to Alfvén Waves, (Series on Plasma Physics) can to be a newly purchased friend when you're feel alone and confuse using what must you're doing of these time.

Download and Read Online An Introduction to Alfvén Waves, (Series on Plasma Physics) By Rodney Cross #26FMW3UXCAQ

Read An Introduction to Alfvén Waves, (Series on Plasma Physics) By Rodney Cross for online ebook

An Introduction to Alfvén Waves, (Series on Plasma Physics) By Rodney Cross Free PDF d0wnl0ad, audio books, books to read, good books to read, cheap books, good books, online books, books online, book reviews epub, read books online, books to read online, online library, greatbooks to read, PDF best books to read, top books to read An Introduction to Alfvén Waves, (Series on Plasma Physics) By Rodney Cross books to read online.

Online An Introduction to Alfvén Waves, (Series on Plasma Physics) By Rodney Cross ebook PDF download

An Introduction to Alfvén Waves, (Series on Plasma Physics) By Rodney Cross Doc

An Introduction to Alfvén Waves, (Series on Plasma Physics) By Rodney Cross MobiPocket

An Introduction to Alfvén Waves, (Series on Plasma Physics) By Rodney Cross EPub