Spectral and Dynamical Stability of Nonlinear Waves: 185 (Applied Mathematical Sciences)

Todd Kapitula, Keith Promislow

Spectral and Dynamical Stability of Nonlinear Waves: 185 (Applied Mathematical Sciences)

Todd Kapitula, Keith Promislow

Spectral and Dynamical Stability of Nonlinear Waves: 185 (Applied Mathematical Sciences) Todd Kapitula, Keith Promislow

This book unifies the dynamical systems and functional analysis approaches to the linear and nonlinear stability of waves. It synthesizes fundamental ideas of the past 20+ years of research, carefully balancing theory and application. The book isolates and methodically develops key ideas by working through illustrative examples that are subsequently synthesized into general principles.

Many of the seminal examples of stability theory, including orbital stability of the KdV solitary wave, and asymptotic stability of viscous shocks for scalar conservation laws, are treated in a textbook fashion for the first time. It presents spectral theory from a dynamical systems and functional analytic point of view, including essential and absolute spectra, and develops general nonlinear stability results for dissipative and Hamiltonian systems. The structure of the linear eigenvalue problem for Hamiltonian systems is carefully developed, including the Krein signature and related stability indices. The Evans function for the detection of point spectra is carefully developed through a series of frameworks of increasing complexity. Applications of the Evans function to the Orientation index, edge bifurcations, and large domain limits are developed through illustrative examples. The book is intended for first or second year graduate students in mathematics, or those with equivalent mathematical maturity. It is highly illustrated and there are many exercises scattered throughout the text that highlight and emphasize the key concepts. Upon completion of the book, the reader will be in an excellent position to understand and contribute to current research in nonlinear stability.

Download and Read Free Online Spectral and Dynamical Stability of Nonlinear Waves: 185 (Applied Mathematical Sciences) Todd Kapitula, Keith Promislow

---

From reader reviews:

Marjorie Ingram:

Book is definitely written, printed, or descriptive for everything. You can recognize everything you want by a guide. Book has a different type. As you may know that book is important factor to bring us around the world. Close to that you can your reading proficiency was fluently. A publication Spectral and Dynamical Stability of Nonlinear Waves: 185 (Applied Mathematical Sciences) will make you to always be smarter. You can feel far more confidence if you can know about everything. But some of you think that will open or reading a new book make you bored. It is not make you fun. Why they are often thought like that? Have you searching for best book or suited book with you?

Adria Jenkins:

What do you consider book? It is just for students because they are still students or it for all people in the world, what the best subject for that? Simply you can be answered for that question above. Every person has diverse personality and hobby for each other. Don't to be pushed someone or something that they don't wish do that. You must know how great in addition to important the book Spectral and Dynamical Stability of Nonlinear Waves: 185 (Applied Mathematical Sciences). All type of book are you able to see on many methods. You can look for the internet resources or other social media.

Isabel McNeal:

Hey guys, do you really wants to finds a new book you just read? May be the book with the subject Spectral and Dynamical Stability of Nonlinear Waves: 185 (Applied Mathematical Sciences) suitable to you? The book was written by well known writer in this era. Typically the book untitled Spectral and Dynamical Stability of Nonlinear Waves: 185 (Applied Mathematical Sciences)is a single of several books in which everyone read now. This book was inspired a number of people in the world. When you read this publication you will enter the new age that you ever know previous to. The author explained their plan in the simple way, thus all of people can easily to comprehend the core of this guide. This book will give you a lots of information about this world now. To help you see the represented of the world on this book.

Dedra Clark:

Reading a book tends to be new life style with this era globalization. With reading you can get a lot of information which will give you benefit in your life. Using book everyone in this world can certainly share their idea. Books can also inspire a lot of people. Plenty of author can inspire all their reader with their story or even their experience. Not only the story that share in the ebooks. But also they write about advantage about something that you need instance. How to get the good score toefl, or how to teach your kids, there are many kinds of book that you can get now. The authors these days always try to improve their skill in writing, they also doing some study before they write with their book. One of them is this Spectral and Dynamical Stability of Nonlinear Waves: 185 (Applied Mathematical Sciences).

Download and Read Online Spectral and Dynamical Stability of Nonlinear Waves: 185 (Applied Mathematical Sciences) Todd Kapitula, Keith Promislow #COJ85H7MQIY

Read Spectral and Dynamical Stability of Nonlinear Waves: 185 (Applied Mathematical Sciences) by Todd Kapitula, Keith Promislow for online ebook

Spectral and Dynamical Stability of Nonlinear Waves: 185 (Applied Mathematical Sciences) by Todd Kapitula, Keith Promislow 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 Spectral and Dynamical Stability of Nonlinear Waves: 185 (Applied Mathematical Sciences) by Todd Kapitula, Keith Promislow books to read online.

Online Spectral and Dynamical Stability of Nonlinear Waves: 185 (Applied Mathematical Sciences) by Todd Kapitula, Keith Promislow ebook PDF download

Spectral and Dynamical Stability of Nonlinear Waves: 185 (Applied Mathematical Sciences) by Todd Kapitula, Keith Promislow Doc

Spectral and Dynamical Stability of Nonlinear Waves: 185 (Applied Mathematical Sciences) by Todd Kapitula, Keith Promislow Mobipocket

Spectral and Dynamical Stability of Nonlinear Waves: 185 (Applied Mathematical Sciences) by Todd Kapitula, Keith Promislow EPub