



Nonlinear Resonances (Springer Series in Synergetics)

By Shanmuganathan Rajasekar, Miguel A. F. Sanjuan

Download now

Read Online 

Nonlinear Resonances (Springer Series in Synergetics) By Shanmuganathan Rajasekar, Miguel A. F. Sanjuan

This introductory text presents the basic aspects and most important features of various types of resonances and anti-resonances in dynamical systems. In particular, for each resonance, it covers the theoretical concepts, illustrates them with case studies, and reviews the available information on mechanisms, characterization, numerical simulations, experimental realizations, possible quantum analogues, applications and significant advances made over the years.

Resonances are one of the most fundamental phenomena exhibited by nonlinear systems and refer to specific realizations of maximum response of a system due to the ability of that system to store and transfer energy received from an external forcing source. Resonances are of particular importance in physical, engineering and biological systems - they can prove to be advantageous in many applications, while leading to instability and even disasters in others.

The book is self-contained, providing the details of mathematical derivations and techniques involved in numerical simulations. Though primarily intended for graduate students, it can also be considered a reference book for any researcher interested in the dynamics of resonant phenomena.

 [Download Nonlinear Resonances \(Springer Series in Synergetics\).pdf](#)

 [Read Online Nonlinear Resonances \(Springer Series in Synergetics\).pdf](#)

Nonlinear Resonances (Springer Series in Synergetics)

By Shanmuganathan Rajasekar, Miguel A. F. Sanjuan

Nonlinear Resonances (Springer Series in Synergetics) By Shanmuganathan Rajasekar, Miguel A. F. Sanjuan

This introductory text presents the basic aspects and most important features of various types of resonances and anti-resonances in dynamical systems. In particular, for each resonance, it covers the theoretical concepts, illustrates them with case studies, and reviews the available information on mechanisms, characterization, numerical simulations, experimental realizations, possible quantum analogues, applications and significant advances made over the years.

Resonances are one of the most fundamental phenomena exhibited by nonlinear systems and refer to specific realizations of maximum response of a system due to the ability of that system to store and transfer energy received from an external forcing source. Resonances are of particular importance in physical, engineering and biological systems - they can prove to be advantageous in many applications, while leading to instability and even disasters in others.

The book is self-contained, providing the details of mathematical derivations and techniques involved in numerical simulations. Though primarily intended for graduate students, it can also be considered a reference book for any researcher interested in the dynamics of resonant phenomena.

Nonlinear Resonances (Springer Series in Synergetics) By Shanmuganathan Rajasekar, Miguel A. F. Sanjuan Bibliography

- Rank: #2097432 in Books
- Published on: 2015-12-02
- Original language: English
- Number of items: 1
- Dimensions: 9.25" h x .94" w x 6.10" l, .0 pounds
- Binding: Hardcover
- 409 pages



[Download Nonlinear Resonances \(Springer Series in Synergetics\).pdf](#)



[Read Online Nonlinear Resonances \(Springer Series in Synergetics\).pdf](#)

Download and Read Free Online Nonlinear Resonances (Springer Series in Synergetics) By Shanmuganathan Rajasekar, Miguel A. F. Sanjuan

Editorial Review

Review

“The authors have identified a really remarkable set of modern-day topics which resonate (pun inevitable and intended) with the main themes of the book. ... The book is intended for graduate students but, as suggested in the book, one is confident that it will find a ready market amongst researchers in the broad area of nonlinear dynamics who require an accessible reference work on nonlinear resonances. The authors of this volume have performed a valuable service for that community.” (K. Alan Shore, *Contemporary Physics*, Vol. 57 (4), 2016)

From the Back Cover

This introductory text presents the basic aspects and most important features of various types of resonances and anti-resonances in dynamical systems. In particular, for each resonance, it covers the theoretical concepts, illustrates them with case studies, and reviews the available information on mechanisms, characterization, numerical simulations, experimental realizations, possible quantum analogues, applications and significant advances made over the years.

Resonances are one of the most fundamental phenomena exhibited by nonlinear systems and refer to specific realizations of maximum response of a system due to the ability of that system to store and transfer energy received from an external forcing source. Resonances are of particular importance in physical, engineering and biological systems - they can prove to be advantageous in many applications, while leading to instability and even disasters in others.

The book is self-contained, providing the details of mathematical derivations and techniques involved in numerical simulations. Though primarily intended for graduate students, it can also be considered a reference book for any researcher interested in the dynamics of resonant phenomena.

About the Author

Miguel Sanjuan is full professor of physics at the Universidad Rey Juan Carlos in Madrid, Spain, where he founded the Physics Department in 2006. He is a corresponding member of the Spanish Royal Academy of Sciences, section physics and chemistry, and a foreign member of the Lithuanian Academy of Sciences in the areas of physics and mechanical engineering. Prof. Sanjuan is presently the head of the Nonlinear Dynamics, Chaos and Complex Systems Research Group at the Universidad Rey Juan Carlos.

Shanmuganathan Rajasekar is full professor at the School of Physics, Bharathidasan University, India. He received the Ph.D. degree in Physics (Nonlinear Dynamics) in 1992 under the supervision of Prof. M. Lakshmanan with whom, he co-authored the Springer textbook *Nonlinear Dynamics: Integrability, Chaos and Patterns*. His recent research focuses on nonlinear dynamics with a special emphasis on nonlinear resonances.

Users Review

From reader reviews:

Alfred Cox:

Do you have favorite book? When you have, what is your favorite's book? E-book is very important thing for us to find out everything in the world. Each e-book has different aim or perhaps goal; it means that reserve has different type. Some people truly feel enjoy to spend their a chance to read a book. They are reading whatever they acquire because their hobby will be reading a book. What about the person who don't like looking at a book? Sometime, individual feel need book after they found difficult problem or maybe exercise. Well, probably you'll have this Nonlinear Resonances (Springer Series in Synergetics).

Douglas Holmes:

Reading a e-book can be one of a lot of pastime that everyone in the world loves. Do you like reading book thus. There are a lot of reasons why people enjoyed. First reading a e-book will give you a lot of new information. When you read a book you will get new information simply because book is one of various ways to share the information or even their idea. Second, studying a book will make you more imaginative. When you reading a book especially fiction book the author will bring you to imagine the story how the character types do it anything. Third, it is possible to share your knowledge to other folks. When you read this Nonlinear Resonances (Springer Series in Synergetics), it is possible to tells your family, friends and also soon about yours guide. Your knowledge can inspire others, make them reading a e-book.

Tanya Nolan:

Many people spending their time by playing outside having friends, fun activity with family or just watching TV 24 hours a day. You can have new activity to enjoy your whole day by reading through a book. Ugh, think reading a book will surely hard because you have to take the book everywhere? It all right you can have the e-book, bringing everywhere you want in your Mobile phone. Like Nonlinear Resonances (Springer Series in Synergetics) which is keeping the e-book version. So , try out this book? Let's view.

Andrew Gillon:

Do you like reading a e-book? Confuse to looking for your preferred book? Or your book was rare? Why so many problem for the book? But any kind of people feel that they enjoy regarding reading. Some people likes examining, not only science book and also novel and Nonlinear Resonances (Springer Series in Synergetics) as well as others sources were given information for you. After you know how the truly great a book, you feel desire to read more and more. Science publication was created for teacher as well as students especially. Those textbooks are helping them to increase their knowledge. In various other case, beside science e-book, any other book likes Nonlinear Resonances (Springer Series in Synergetics) to make your spare time more colorful. Many types of book like this one.

Download and Read Online Nonlinear Resonances (Springer Series in Synergetics) By Shanmuganathan Rajasekar, Miguel A. F. Sanjuan #4OPK06TAYJ3

Read Nonlinear Resonances (Springer Series in Synergetics) By Shanmuganathan Rajasekar, Miguel A. F. Sanjuan for online ebook

Nonlinear Resonances (Springer Series in Synergetics) By Shanmuganathan Rajasekar, Miguel A. F. Sanjuan 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 Nonlinear Resonances (Springer Series in Synergetics) By Shanmuganathan Rajasekar, Miguel A. F. Sanjuan books to read online.

Online Nonlinear Resonances (Springer Series in Synergetics) By Shanmuganathan Rajasekar, Miguel A. F. Sanjuan ebook PDF download

Nonlinear Resonances (Springer Series in Synergetics) By Shanmuganathan Rajasekar, Miguel A. F. Sanjuan Doc

Nonlinear Resonances (Springer Series in Synergetics) By Shanmuganathan Rajasekar, Miguel A. F. Sanjuan Mobipocket

Nonlinear Resonances (Springer Series in Synergetics) By Shanmuganathan Rajasekar, Miguel A. F. Sanjuan EPub

4OPK06TAYJ3: Nonlinear Resonances (Springer Series in Synergetics) By Shanmuganathan Rajasekar, Miguel A. F. Sanjuan