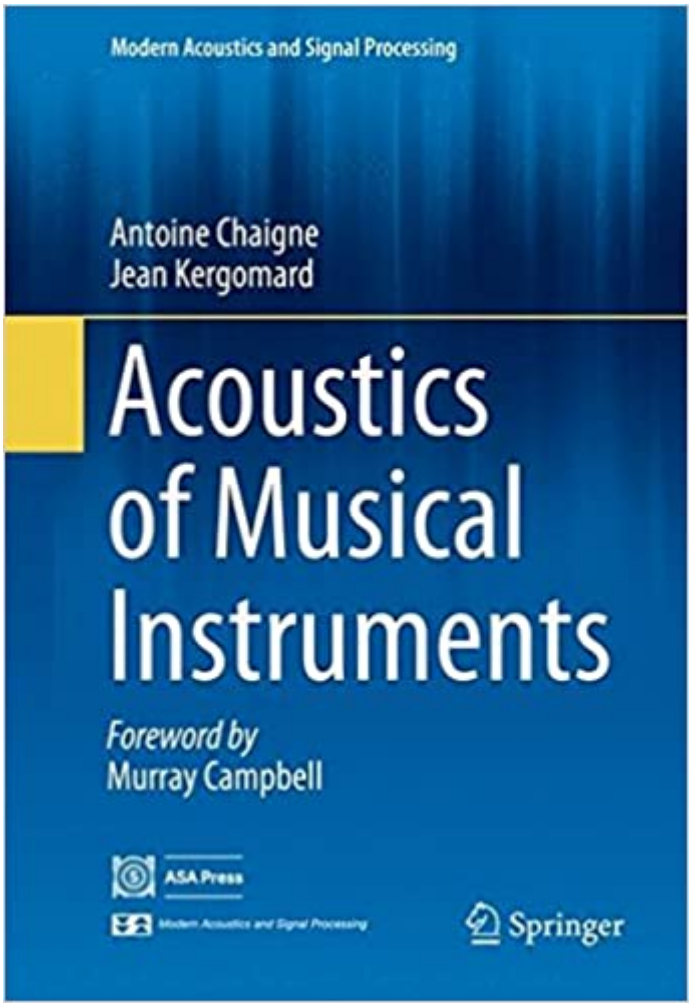
Acoustics Of Musical Instruments (Modern Acoustics And Signal Processing)



Synopsis

This book, the first English-language translation of Acoustique des instruments de musique, Second Edition,Ã Â presents the necessary foundations for understanding the complex physical phenomena involved in musical instruments.Ã Â What is the function of the labium in a flute? Which features of an instrument allow us to make a clear audible distinction between a clarinet and a trumpet? With the help of numerous examples, these questions are addressed in detail.Ã Â The authors focus in particular on the significant results obtained in the field during the last fifteen years. Their goal is to show that elementary physical models can be used with benefit for various applications in sound synthesis, instrument making, and sound recording. The book is primarily addressed to graduate students and researchers; however it could also be of interest for engineers, musicians, craftsmen, and music lovers who wish to learn about the basics of musical acoustics.Ã Â

Book Information

Series: Modern Acoustics and Signal Processing

Hardcover: 844 pages

Publisher: Springer; 1st ed. 2016 edition (April 22, 2016)

Language: English

ISBN-10: 1493936778

ISBN-13: 978-1493936779

Product Dimensions: 6.1 x 1.8 x 9.2 inches

Shipping Weight: 2.9 pounds (View shipping rates and policies)

Average Customer Review: Be the first to review this item

Best Sellers Rank: #835,825 in Books (See Top 100 in Books) #100 inÃ Â Books > Science & Math > Physics > Chaos Theory #335 inÃ Â Books > Engineering & Transportation > Engineering > Civil & Environmental > Acoustics #496 inÃ Â Books > Science & Math > Physics > Acoustics & Sound

Customer Reviews

Ã¢â ¬Å“This book is a great repository of state of the art knowledge. It is a handbook for looking-up concepts, derivations and mathematical methodologies currently developed and employed in the field of musical acoustics. Ã¢â ¬Â¦ This book is a handbook and a great reference for researchers and PhD level graduate students Ã¢â ¬Â¦ . This book will definitely become a classic like the one by Fletcher and Rossing Ã¢â ¬Â¦ .Ã¢â ¬Â• (Wilfried Kausel, Euracoustics.org, April,

2017)Ã¢â ¬Å“Antoine Chaigne and Jean Kergomard have applied mathematical rigor with comprehensive scope, and the result is remarkable. Ã¢â ¬Â¦ The text and math are lucid throughout and should be easily understood by readers with a basic grasp of mechanics. The authors are justified in recommending the book to Ã¢â ¬Ëœstudents at masterÃ¢â ¬â„¢s and doctorate levels [and] researchers, engineers and other physicists with a strong interest in musicÃ¢â ¬â„¢Ã¢â ¬â œeach of those groups will find the information they need in Acoustics of Musical Instruments.Ã¢â ¬Â• (Barry Greenhut, Physics Today, April, 2017)Ã¢â ¬Å“Each author has extensive research experience, a publication record of note, familiarity with the literature, and interaction with French and international colleagues. Ã¢â ¬Â¦ Acoustics of Musical Instruments provides a quantitative analysis of many instruments found in the classical repertoire. The text will be of use to players, including students and instructors, and those concerned with the physical production of sound from these instruments, including makers of real and simulated instruments.Ã¢â ¬Â• (William Strong, Journal of the Audio Engineering Society, Vol. 65 (1-2), January, 2017)

This book, the first English-language translation ofÃ Â Acoustique des instruments de musique, Second Edition,Ã Â presents the necessary foundations for understanding the complex physical phenomena involved in musical instruments.Ã Â What is the function of the labium in a flute? Which features of an instrument allow us to make a clear audible distinction between a clarinet and a trumpet? With the help of numerous examples, these questions are addressed in detail.Ã Â The authors focus in particular on the significant results obtained in the field during the last fifteen years. Their goal is to show that elementary physical models can be used with benefit for various applications in sound synthesis, instrument making, and sound recording. The book is primarily addressed to graduate students and researchers; however it could also be of interest for engineers, musicians, craftsmen, and music lovers who wish to learn about the basics of musical acoustics.Casts new light on the physics of musical instrumentsIncludes up-to-date research published int he field of musical acoustics in the last fifteen yearsOutlines new methods developed in other fields such as complex modes and nonlinear normal modesRepresents the only book on the physics of musical instruments to includeÃ Â practice exercises, catering to a broad audience of graduate students and researchersBrings the essentialÃ Â Acoustique des instruments de musiqueÃ Â to an English audience for the first time

Processing (3rd Edition) (Prentice-Hall Signal Processing Series) Multidimensional Digital Signal Processing (Prentice-Hall Signal Processing Series) Discrete-Time Signal Processing (2nd Edition) (Prentice-Hall Signal Processing Series) Biomedical Signal Processing and Signal Modeling Cellular Signal Processing: An Introduction to the Molecular Mechanisms of Signal Transduction An Introduction to Environmental Biophysics (Modern Acoustics and Signal) I Love Music: All About Musical Instruments Then and Now: Music Instruments for Kids (Children's Music Books) Making Gourd Musical Instruments: Over 60 String, Wind & Percussion Instruments & How to Play Them Robust and Adaptive Control: With Aerospace Applications (Advanced Textbooks in Control and Signal Processing) Robotics: Modelling, Planning and Control (Advanced Textbooks in Control and Signal Processing) Probability and Random Processes, Second Edition: With Applications to Signal Processing and Communications Probability and Random Processes: With Applications to Signal Processing and Communications Image Sensors and Signal Processing for Digital Still Cameras (Optical Science and Engineering) Data Analysis and Signal Processing in Chromatography, Volume 21 (Data Handling in Science and Technology) Health Monitoring of Aerospace Structures: Smart Sensor Technologies and Signal Processing VLSI Digital Signal Processing Systems: Design and Implementation Applied Digital Signal Processing: Theory and Practice Digital Signal Processing, Second Edition: Fundamentals and Applications Sampling in Digital Signal Processing and Control (Systems & Control: Foundations & Applications)