Physics Vibrations And Waves Study

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An Introduction to Waves and Oscillations in the Sun - A. Satya Narayanan 2012-09-15
“An Introduction to Waves and Oscillations in the Sun” is intended for students and researchers who work in the area of solar and astrophysics. This book contains an introduction to the Sun, basics of electrodynamics, magneto-hydrodynamics for force-free and current-free fields. It deals with

waves in uniform media with relevance to sound waves and Alfven waves, and with waves in non-uniform media like surface waves or waves in a slab and cylindrical geometry. It also touches on instabilities in fluids and observational signatures of oscillations. Finally, there is an introduction to the area of helio-seismology, which deals with the internal structure of the Sun.

Normal Modes and Localization in Nonlinear Systems - Alexander F. Vakakis 2008-07-11

This landmark book deals with nonlinear normal modes (NNMs) and nonlinear mode localization. Offers an analysis which enables the study of various nonlinear phenomena having no counterpart in linear theory. On a more theoretical level, the concept of NNMs will be shown to provide an excellent framework for understanding a variety of distinctively nonlinear phenomena such as mode bifurcations and standing or traveling solitary waves.

Earthquakes - W R Matson 2016-08-01

This book is an introduction to wave dynamics as they apply to earthquakes, among the scariest, most unpredictable, and deadliest natural phenomena on Earth. Since studying seismic activity is essentially a study of wave dynamics, this text starts with a discussion of types and representations, including wave-generation mechanics, superposition, and spectral analysis. Simple harmonic motion is used to analyze the mechanisms of wave propagation, and driven and damped systems are used to model the decay rates of various modal frequencies in

different media. Direct correlation to earthquakes in California, Mexico, and Japan is used to illustrate key issues, and actual data from an event in California is presented and analyzed. Our Earth is a dynamic and changing planet, and seismic activity is the result. Hundreds of waves at different frequencies, modes, and amplitudes travel through a variety of different media, from solid rock to molten metals. Each media responds differently to each mode; consequently the result is an enormously complicated dynamic behavior. Earthquakes should serve well as a complimentary text for an upper-school course covering waves and wave mechanics, including sound and acoustics and basic geology. The mathematical requirement includes trigonometry and series summations, which should be accessible to most upper-school and college students. Animation, sound files, and videos help illustrate major topics.

Vibro-Acoustics, Volume 1 - Anders Nilsson 2015-08-06

This three-volume book gives a thorough and comprehensive presentation of vibration and acoustic theories. Different from traditional textbooks which typically deal with some aspects of either acoustic or vibration problems, it is unique of this book to combine those two correlated subjects together. Moreover, it provides fundamental analysis and mathematical descriptions for several crucial phenomena of Vibro-Acoustics which are quite useful in noise reduction, including how structures are excited, energy flows from an excitation point

to a sound radiating surface, and finally how a structure radiates noise to a surrounding fluid. Many measurement results included in the text make the reading interesting and informative. Problems/questions are listed at the end of each chapter and the solutions are provided. This will help the readers to understand the topics of Vibro-Acoustics more deeply. The book should be of interest to anyone interested in sound and vibration, vehicle acoustics, ship acoustics and interior aircraft noise. This is the first volume, and covers the following topics: Mechanical systems with one degree of freedom, Frequency domain, Waves in solids, Interaction between longitudinal and transverse waves, General wave equation, Wave attenuation due to losses and transmission across junctions, Longitudinal vibrations of finite beams, Flexural vibrations of finite beams, Flexural vibrations of finite plates.

VIBRATIONS, WAVES AND ELECTROMAGNETIC THEORY BY LALIT MOHAN GARG - Lalit Mohan Garg

This book provides undergraduate students of physics of various Indian universities with all tools required to study and understand the basic concepts on vibrations and waves. With worked examples, multiple choice questions and set of problems concluded at the end of each chapter, this textbook will enable students to develop their skills and qualify the entrance exam for next level based on the syllabus of this book. The transmission of energy by wave propagation is fundamental concept

and has application in almost every branch of physics. The text moves naturally from a discussion of basic concepts from free, damped, forced and damped oscillations to formation and propagation of mechanical waves in medium that of electromagnetic waves in vacuum, dielectrics and conductors. The author has emphasised over the simplicity and logic approach on the patterns underlying and connecting to the subject so it is relevant to teach and learn. I have great pleasure in placing this book before the aspirants seeking a through knowledge at initial level in the subject of “vibrations, waves and electromagnetic theory”. My experience of teaching the students for years has been a great source of inspiration and helped me immensely in writing this book. I hope that this addition will meet full the needs of the readers. LALIT MOHAN GARG

Cymatics - Hans Jenny 2001

An overview of the pioneering work done by Dr. Hans Jenny with audible vibration on various substances. His research had led to speculation about the origin of matter and its relation to vibration and sound.

Vibrations and Waves - 1983

Properties of Matter, Waves and Oscillations. An Introduction to Basic Mechanics - Alauddin Khan 2021-02-15

Document from the year 2021 in the subject Didactics - Physics, grade: 4.00, , language: English, abstract: The book consists of twelve chapters that include the explanations of the properties of materials in details

with fairness. This volume has study of Elasticity, Cantilever, Viscosity, Fluid dynamics, Surface Tension, Gravitation, Simple Harmonic Motion, Oscillations, Forced Oscillation, Damped Oscillation, Sound Waves and Doppler Effect is made to fulfill the requirements of different kinds of readers. This volume has to present illustrative examples of both the ideas and the methods. The book is intended as a text book on Properties of Matter, Waves and Oscillations for undergraduate levels and also as a reference book for anyone who is interested in this field of enquiry. A lot of books on this topic are available in the market. Sometimes students are facing serious obstacles in their learning process due to their unavoidable situations and no previous much study of Properties of Matter, Waves and Oscillations. The book is comprehensive enough to cover all the topics that are usually taught to the upper undergraduate students of Physics. But because of the above mentioned features, this book will entertain students and teachers alike who have no previous much study of Properties of Matter, Waves and Oscillations. Hence, teachers of courses on Properties of Matter, Waves and Oscillations can use the book as their own lecture plans without any modification. It is to be noted that the purpose of this book is to cover the basic principles and methods of Properties of Matter, Waves and Oscillations which are usually included in the course of teaching physics at the undergraduate levels. I hope that this book will be useful to the students and teachers

in the different universities around the world.

Mathematical Modelling of Oscillations and Wake Waves in Plasma - E. V. Chizhonkov 2019

This book is devoted to research in the actual field of mathematical modeling in modern problems of plasma physics associated with vibrations and wake waves excited by a short high-power laser pulse. The author explores the hydrodynamic model of the wake wave in detail and from different points of view, within the framework of its regular propagation, a development suitable for accelerating electrons, and the final tipping effect resulting in unregulated energy transfer to plasma particles. Key selling features: Presents research directly related to the propagation of super-power short laser pulses (subject of the 2018 Nobel Prize in Physics). Presents mathematical modeling of plasma physics associated with vibrations and wake waves excited by a short high-power laser pulse. Includes studies of large-amplitude plasma oscillations. Most of the presented results are of original nature and have not appeared in the domestic and foreign scientific literature Written at a level accessible for researchers, academia, and engineers. riginal nature and have not appeared in the domestic and foreign scientific literature Written at a level accessible for researchers, academia, and engineers.

Vibrations and Waves - John Murray 1980

Principles of Vibration and Sound -

Thomas D. Rossing 2012-12-06
Some years ago we set out to write a detailed book about the basic physics of musical instruments. There have been many admirable books published about the history of the development of musical instruments, about their construction as a master craft, and about their employment in musical perfor mance; several excellent books have treated the acoustics of musical instru ments in a semiquantitative way; but none to our knowledge had then at tempted to assemble the hard acoustic information available in the research literature and to make it available to a wider readership. Our book The Physics of Musical Instruments, published by Springer-Verlag in 1991 and subsequently reprinted several times with only minor corrections, was the outcome of our labor. Because it was our aim to make our discussion of musical instruments as complete and rigorous as possible, our book began with a careful introduction to vibrating and radiating systems important in that field. We treated simple linear oscillators, both in isolation and coupled together, and extended that to a discussion of some aspects of driven and autonomous nonlinear oscilla tors. Because musical instruments are necessarily extended structures, we then went on to discuss the vibrations of strings, bars, membranes, plates, and shells, paying particular attention to the mode structures and characteristic frequencies, for it is these that are musically important.

Physics of Waves - William C. Elmore 2012-04-26

Ideal as a classroom text or for individual study, this unique one-volume overview of classical wave theory covers wave phenomena of acoustics, optics, electromagnetic radiations, and more.

Physics of Oscillations and Waves - Arnt Inge Vistnes 2018-08-31

In this textbook a combination of standard mathematics and modern numerical methods is used to describe a wide range of natural wave phenomena, such as sound, light and water waves, particularly in specific popular contexts, e.g. colors or the acoustics of musical instruments. It introduces the reader to the basic physical principles that allow the description of the oscillatory motion of matter and classical fields, as well as resulting concepts including interference, diffraction, and coherence. Numerical methods offer new scientific insights and make it possible to handle interesting cases that can’t readily be addressed using analytical mathematics; this holds true not only for problem solving but also for the description of phenomena. Essential physical parameters are brought more into focus, rather than concentrating on the details of which mathematical trick should be used to obtain a certain solution. Readers will learn how time-resolved frequency analysis offers a deeper understanding of the interplay between frequency and time, which is relevant to many phenomena involving oscillations and waves. Attention is also drawn to common misconceptions resulting from uncritical use of the Fourier transform. The book offers an ideal

guide for upper-level undergraduate physics students and will also benefit physics instructors. Program codes in Matlab and Python, together with interesting files for use in the problems, are provided as free supplementary material.

Vibrations and Waves - Anthony Philip French 1971-01-01

The M.I.T. Introductory Physics Series is the result of a program of careful study, planning, and development that began in 1960.

Mechanical and Electromagnetic Vibrations and Waves - Tamer Bécherrawy 2013-05-10

Dealing with vibrations and waves, this text aims to provide understanding of the basic principles and methods of analysing various physical phenomena. The content includes the general properties of propagation, a detailed study of mechanical (elastic and acoustic) and electromagnetic waves, propagation, attenuation, dispersion, reflection, interference and diffraction of waves. It features chapters on the effect of motion of sources and observers (both classical and relativistic), emission of electromagnetic waves, standing and guided waves and a final chapter on de Broglie waves constitutes an introduction to quantum mechanics.

Mathematical Aspects of Modelling Oscillations and Wake Waves in Plasma - E V Chizhonkov 2021-12-13

This book is devoted to research in the actual field of mathematical modeling in modern problems of plasma physics associated with vibrations and wake waves excited by a short high-power laser pulse. The author

explores the hydrodynamic model of the wake wave in detail and from different points of view, within the framework of its regular propagation, a development suitable for accelerating electrons, and the final tipping effect resulting in unregulated energy transfer to plasma particles. Key selling features: Presents research directly related to the propagation of super-power short laser pulses (subject of the 2018 Nobel Prize in Physics). Presents mathematical modeling of plasma physics associated with vibrations and wake waves excited by a short high-power laser pulse. Includes studies of large-amplitude plasma oscillations. Most of the presented results are of original nature and have not appeared in the domestic and foreign scientific literature Written at a level accessible for researchers, academia, and engineers.

Principles of Musical Acoustics - William M. Hartmann 2013-07-26 Principles of Musical Acoustics focuses on the basic principles in the science and technology of music. Musical examples and specific musical instruments demonstrate the principles. The book begins with a study of vibrations and waves, in that order. These topics constitute the basic physical properties of sound, one of two pillars supporting the science of musical acoustics. The second pillar is the human element, the physiological and psychological aspects of acoustical science. The perceptual topics include loudness, pitch, tone color, and localization of sound. With these two pillars in place, it is possible to go in a

variety of directions. The book treats in turn, the topics of room acoustics, audio both analog and digital, broadcasting, and speech. It ends with chapters on the traditional musical instruments, organized by family. The mathematical level of this book assumes that the reader is familiar with elementary algebra. Trigonometric functions, logarithms and powers also appear in the book, but computational techniques are included as these concepts are introduced, and there is further technical help in appendices.

Structure-borne Sound - Lothar Cremer 1988

Deutscher Titel: Körperschall Physikalische Grundlagen und technische Anwendungen Mit 210 Abbildungen

FTCE Physics 6-12 Teacher Certification Test Prep Study Guide - Sharon Wynne 2008

This test-preparation guide covers the basic nature of physics, the mathematics of physics, thermodynamics, mechanics, vibrations, waves and sound, and more 224 pp. (Study Guides)

Waves And Oscillations - R. N. Chaudhuri 2009-01-01

About the Book: The book presents a comprehensive study of Waves and Oscillations in different fields of physics. It explains the basic concepts of waves and oscillations through the method of solving problems. Each chapter begins with the short and clear description of the basic concepts and principles. This is followed by a large number of solved problems of different types. The proofs of relevant theorems and

derivations of basic equations and formulae are included among the solved problems. A large number of supplementary problems at the end of each chapter serve as a complete review of the theory. The topics discussed include simple harmonic motion, superposition principle and coupled oscillations, damped harmonic oscillations, forced vibrations and resonance, waves, superposition of waves, Fourier analysis, vibrations of strings and membranes, Doppler effect, acoustics of buildings, electromagnetic waves, interference and diffraction. There are more than 370 solved problems and around 380 supplementary problems with answers. This book will be of great help not only to B.Sc.(Honours and Pass) students of physics but also to those preparing for various competitive examinations. About the Author: Dr. R.N. Chaudhuri retired from Visva-Bharati, Santiniketan in 2005. He was Professor and Head of the Department of Physics in Visva-Bharati. He served as Lecturer in Physics at Hindu College, University of Delhi during the period 1971-76. He received his Ph.D. Degree from University of Delhi in the field of particles and their interactions. Professor Chaudhuri visited several foreign universities and institutes. He published more than fifty papers in national and international journals of repute.

A First Course in Vibrations and Waves - Mohammad Samiullah 2015

The book contains a detailed treatment of vibrations and waves at an introductory level. Since waves appear in almost all branches of

physics and engineering, readers will be exposed to different types of waves in this book with a common language.--

Nonlinear Oscillations and Waves in Dynamical Systems - P.S Landa 2013-06-29

A rich variety of books devoted to dynamical chaos, solitons, self-organization has appeared in recent years. These problems were all considered independently of one another. Therefore many of readers of these books do not suspect that the problems discussed are divisions of a great generalizing science - the theory of oscillations and waves. This science is not some branch of physics or mechanics, it is a science in its own right. It is in some sense a meta-science. In this respect the theory of oscillations and waves is closest to mathematics. In this book we call the reader's attention to the present-day theory of non-linear oscillations and waves. Oscillatory and wave processes in the systems of diversified physical natures, both periodic and chaotic, are considered from a unified poin t of view . The relation between the theory of oscillations and waves, non-linear dynamics and synergetics is discussed. One of the purposes of this book is to convince reader of the necessity of a thorough study popular branches of of the theory of oscillat ions and waves, and to show that such science as non-linear dynamics, synergetics, soliton theory, and so on, are, in fact , constituent parts of this theory. The primary audiences for this book are researchers having to do with

oscillatory and wave processes, and both students and post-graduate students interested in a deep study of the general laws and applications of the theory of oscillations and waves.

Vibrations and Waves - George C. King 2013-03-15

This introductory text emphasises physical principles, rather than the mathematics. Each topic begins with a discussion of the physical characteristics of the motion or system. The mathematics is kept as clear as possible, and includes elegant mathematical descriptions where possible. Designed to provide a logical development of the subject, the book is divided into two sections, vibrations followed by waves. A particular feature is the inclusion of many examples, frequently drawn from everyday life, along with more cutting-edge ones. Each chapter includes problems ranging in difficulty from simple to challenging and includes hints for solving problems. Numerous worked examples included throughout the book.

Vibrations and Waves - Advanced Physics Project for Independent Learning 1980

Vibrations and Waves in Physics - I. G. Main 1984-08-09

Third edition of one of our most successful undergraduate texts in physics. Copyright © Libri GmbH. All rights reserved.

Vibrations and Waves in Physics - Iain G. Main 1993-07-30

For the third edition of this successful undergraduate text, the

author has made a number of changes to improve the presentation and clarify some of the arguments, and has also brought several of the applications up to date. The new material includes an elementary, descriptive introduction to the ideas behind the new science of chaos. The overall objectives of the book are unchanged: to lead the student to a thorough understanding of the basic concepts of vibrations and waves, to show how these concepts unify a wide variety of familiar physics, and to open doors to advanced topics which they illuminate. Each section of the book contains a brief summary of its salient contents. There are approximately 180 problems to which all numerical answers are provided, together with hints for their solution. This book is designed both for use as a text for an initial undergraduate course on vibrations and waves, and for a reference at later stages when more advanced topics or applications are met.

Good Vibrations - Barry Parker 2009-12-15

Peppered throughout with anecdotes and examples illustrating key concepts, this invitingly written book provides a firm grounding in the actual and theoretical physics of music.

Waves and Vibrations - Allan Covell 1989

Each of the students' units in this Advanced Physics Project for Independent Learning series deals with a number of related topics which are explored through different sets of questions. A series of questions on objectives enables students and

teachers to check levels of success at the end of each topic.

A First Course in Vibrations and Waves - Mohammad Samiullah 2015

This title builds on introductory physics and emphasises understanding of vibratory motion and waves based on first principles. It is divided into three parts: Part I contains a preliminary chapter that reviews relevant ideas of mechanics and complex numbers; Part II discusses vibrations of mechanical systems, covering a simple harmonic oscillator, coupled oscillators, normal coordinates, beaded string, continuous string, standing waves, and Fourier series. Part II ends with a presentation of stationary solutions of driven finite systems. Part III is concerned with waves.

Waves and Oscillations - R. N. Chaudhuri 2001

This Book Explains The Various Dimensions Of Waves And Oscillations In A Simple And Systematic Manner. It Is An Unique Attempt At Presenting A Self-Contained Account Of The Subject With Step-By-Step Solutions Of A Large Number Of Problems Of Different Types. The Book Will Be Of Great Help Not Only To Undergraduate Students, But Also To Those Preparing For Various Competitive Examinations.

Nonlinear Vibrations and the Wave Equation - Alain Haraux 2018-05-02

This book gathers the revised lecture notes from a seminar course offered at the Federal University of Rio de Janeiro in 1986, then in Tokyo in 1987. An additional chapter has been added to reflect more recent advances in the field.

Waves and Oscillations - Walter Fox

Smith 2010-05-20
This lively textbook differs from others on the subject by its usefulness as a conceptual and mathematical preparation for the study of quantum mechanics, by its emphasis on a variety of learning tools aimed at fostering the student's self-awareness of learning, and by its frequent connections to current research.

The Physics of Vibrations and Waves - Herbert John Pain 1968

Vibrations and Waves in Physics - Iain G. Main 1993-08-19
This book is designed as a text for an undergraduate course on vibrations and waves. The overall objectives of the book are to lead the student through the basic physical concepts of vibrations and waves and to demonstrate how these concepts unify a wide variety of familiar physics. This new edition contains an elementary, descriptive introduction to the important ideas of chaos. The author has also taken pains to update the applications. As with previous editions, the book contains numerous problems with hints and numerical solutions.

Vibrations and Waves - A.P. French 2017-12-21
The M.I.T. Introductory Physics Series is the result of a program of careful study, planning, and development that began in 1960. The Education Research Center at the Massachusetts Institute of Technology (formerly the Science Teaching Center) was established to study the process of instruction, aids thereto, and the learning process itself, with

special reference to science teaching at the university level. Generous support from a number of foundations provided the means for assembling and maintaining an experienced staff to co-operate with members of the Institute's Physics Department in the examination, improvement, and development of physics curriculum materials for students planning careers in the sciences. After careful analysis of objectives and the problems involved, preliminary versions of textbooks were prepared, tested through classroom use at M.I.T. and other institutions, re-evaluated, rewritten, and tried again. Only then were the final manuscripts undertaken.

Nonlinear Oscillations and Waves in Dynamical Systems - Polina S. Landa 2012-12-22

A rich variety of books devoted to dynamical chaos, solitons, self-organization has appeared in recent years. These problems were all considered independently of one another. Therefore many of readers of these books do not suspect that the problems discussed are divisions of a great generalizing science - the theory of oscillations and waves. This science is not some branch of physics or mechanics, it is a science in its own right. It is in some sense a meta-science. In this respect the theory of oscillations and waves is closest to mathematics. In this book we call the reader's attention to the present-day theory of non-linear oscillations and waves. Oscillatory and wave processes in the systems of diversified physical natures, both periodic and chaotic, are considered

from a unified poin t of view . The relation between the theory of oscillations and waves, non-linear dynamics and synergetics is discussed. One of the purposes of this book is to convince reader of the necessity of a thorough study popular branches of of the theory of oscillat ions and waves, and to show that such science as non-linear dynamics, synergetics, soliton theory, and so on, are, in fact , constituent parts of this theory. The primary audiences for this book are researchers having to do with oscillatory and wave processes, and both students and post-graduate students interested in a deep study of the general laws and applications of the theory of oscillations and waves.

Understanding Acoustics - Steven L. Garrett 2020-11-02

This open access textbook, like Rayleigh’s classic Theory of Sound, focuses on experiments and on approximation techniques rather than mathematical rigor. The second edition has benefited from comments and corrections provided by many acousticians, in particular those who have used the first edition in undergraduate and graduate courses. For example, phasor notation has been added to clearly distinguish complex variables, and there is a new section on radiation from an unbaffled piston. Drawing on over 40 years of teaching experience at UCLA, the Naval Postgraduate School, and Penn State, the author presents a uniform methodology, based on hydrodynamic fundamentals for analysis of lumped-element systems and wave propagation

that can accommodate dissipative mechanisms and geometrically-complex media. Five chapters on vibration and elastic waves highlight modern applications, including viscoelasticity and resonance techniques for measurement of elastic moduli, while introducing analytical techniques and approximation strategies that are revisited in nine subsequent chapters describing all aspects of generation, transmission, scattering, and reception of waves in fluids. Problems integrate multiple concepts, and several include experimental data to provide experience in choosing optimal strategies for extraction of experimental results and their uncertainties. Fundamental physical principles that do not ordinarily appear in other acoustics textbooks, like adiabatic invariance, similitude, the Kramers-Kronig relations, and the equipartition theorem, are shown to provide independent tests of results obtained from numerical solutions, commercial software, and simulations. Thanks to the Veneklasen Research Foundation, this popular textbook is now open access, making the e-book available for free download worldwide. Provides graduate-level treatment of acoustics and vibration suitable for use in courses, for self-study, and as a reference Highlights fundamental physical principles that can provide independent tests of the validity of numerical solutions, commercial software, and computer simulations Demonstrates approximation techniques that greatly simplify the mathematics without a substantial decrease in

accuracy Incorporates a hydrodynamic approach to the acoustics of sound in fluids that provides a uniform methodology for analysis of lumped-element systems and wave propagation Emphasizes actual applications as examples of topics explained in the text Includes realistic end-of-chapter problems, some including experimental data, as well as a Solutions Manual for instructors. Features “Talk Like an Acoustician“ boxes to highlight key terms introduced in the text.

Understanding Acoustics - Steven L. Garrett 2017-02-24

This textbook provides a unified approach to acoustics and vibration suitable for use in advanced undergraduate and first-year graduate courses on vibration and fluids. The book includes thorough treatment of vibration of harmonic oscillators, coupled oscillators, isotropic elasticity, and waves in solids including the use of resonance techniques for determination of elastic moduli. Drawing on 35 years of experience teaching introductory graduate acoustics at the Naval Postgraduate School and Penn State, the author presents a hydrodynamic approach to the acoustics of sound in fluids that provides a uniform methodology for analysis of lumped-element systems and wave propagation that can incorporate attenuation mechanisms and complex media. This view provides a consistent and reliable approach that can be extended with confidence to more complex fluids and future applications. Understanding Acoustics opens with a mathematical

introduction that includes graphing and statistical uncertainty, followed by five chapters on vibration and elastic waves that provide important results and highlight modern applications while introducing analytical techniques that are revisited in the study of waves in fluids covered in Part II. A unified approach to waves in fluids (i.e., liquids and gases) is based on a mastery of the hydrodynamic equations. Part III demonstrates extensions of this view to nonlinear acoustics. Engaging and practical, this book is a must-read for graduate students in acoustics and vibration as well as active researchers interested in a novel approach to the material.

Vibrations and Waves - Advanced Physics Project for Independent Learning 1980

Wave Motion as Inquiry - Fernando Espinoza 2016-12-07

This undergraduate textbook on the physics of wave motion in optics and acoustics avoids presenting the topic abstractly in order to emphasize real-world examples. While providing the needed scientific context, Dr. Espinoza also relies on students' own experience to guide their learning. The book's exercises and labs strongly emphasize this inquiry-based approach. A strength of inquiry-based courses is that the students maintain a higher level of engagement when they are studying a topic that they have an internal motivation to know, rather than solely following the directives of a professor. "Wave Motion" takes those threads of

engagement and interest and weaves them into a coherent picture of wave phenomena. It demystifies key components of life around us--in music, in technology, and indeed in everything we perceive--even for those without a strong math background, who might otherwise have trouble approaching the subject matter.