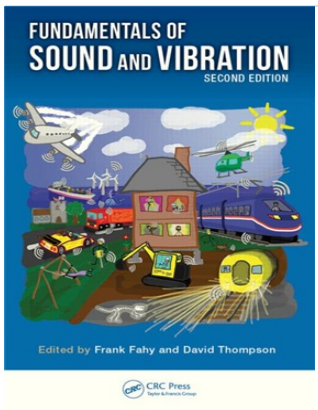
Book Information Sheet



Fundamentals of Sound and Vibration, 2/e

Frank Fahy & David Thompson

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About the Book

A Solid Introduction to Sound and Vibration: No Formal Background Needed

This Second Edition of Fundamentals of Sound and Vibration covers the physical, mathematical and technical foundations of sound and vibration at audio frequencies. It presents Acoustics, vibration, and the associated signal processing at a level suitable for graduate students or practicing engineers with having no prior formal training in the field.

The book is a coherent textbook based on the first semester of the master's program in Sound and Vibration Studies at the internationally acclaimed Institute of Sound and Vibration Research at the University of Southampton.

New in the Second Edition:

The latest edition has been extensively revised and updated, with a new introductory chapter and new chapters on the measurement of sound and vibration. Other chapters include fundamentals of acoustics, fundamentals of vibration, signal processing, noise control, human response to sound and human response to vibration; many of these have been substantially revised. Example problems and answers for self-study are included.

The revised text:

Offers a brief summary on the importance of sound and vibration

Considers the vibration of mechanical structures, ranging from simple SDOF models to continuous systems

Highlights the aspects of signal processing commonly used for data analysis

Addresses engineering noise control, and more

Fundamentals of Sound and Vibration, Second Edition provides you with broad coverage of sound, vibration and signal processing in a single volume, and serves as a reference for both graduate students and practicing engineers.

Salient Features

Covers both acoustics and vibration

Combines theory with practical applications

Provides balanced coverage

Presents information in a very direct and uncomplicated way

About the Author

Frank Fahy :- Frank Fahy retired in 1997 from his post of professor of engineering acoustics in the Institute of Sound and Vibration Research (ISVR) of the University of Southampton in the United Kingdom. Professor Fahy played a major role in the development and standardization of the means of measuring the magnitude and direction of energy flow in sound fields (sound intensity), which have greatly improved our ability to locate, distinguish and quantify individual sources of noise in the presence of other sources. He is also the author of five textbooks and monographs on sound and vibration and the coeditor of six others.

David Thompson :- David Thompson is professor of railway noise and vibration at the ISVR and head of the Dynamics Group at the University of Southampton. He graduated from Cambridge in mathematics and has a PhD from ISVR. Prior to returning to ISVR in 1996, he worked at British Rail Research in Derby, United Kingdom and Nederlandse Organisatie voor Toegepast Natuurwetenschappelijk Onderzoek in the Netherlands. His research covers railway noise and vibration, and makes use of a wide variety of analytical, numerical and experimental techniques for vibration and acoustics. He has published over 100 papers and one book.