Room Acoustics, 5th Edition
Heinrich Kuttruff
Taylor & Francis, New York NY (2009) 367 pp. 99 USD ISBN 10: 0-415-48021-3 (hbk), ISBN 13: 978-0-415-48021-5 (hbk)

"Room Acoustics" is a well compiled book for the practising engineer to gain an understanding of the interaction of sound waves within a room. Although several of the subjects presented in the text are quite theoretical, they should be easily grasped by those with reasonable mathematical knowledge. Still, many of the concepts should be within reach of those with limited mathematical knowledge.

The book begins with a general explanation of acoustics and the properties of waves and their interaction with surfaces—a discussion necessary to delve into the material that follows. The next few chapters deal with the physical characteristics of sound in rooms: methods of calculating sound waves in rooms (theoretical and geometrical), reverberation and absorption. Several critical assumptions are made at various stages throughout the text to provide a more practical approach. However, so as not the lead the reader astray, frequent well-placed reminders of the assumptions used and of the limitations that they present, are included resulting in a book which also lends itself well to being used as a reference. In an effort to maintain an emphasis on practical applications, external references are sometimes suggested for the interested reader to find a more in-depth treatment of certain topics.

A chapter on subjective room acoustics follows—as the author points out, ultimately the acoustics of a room must satisfy the end user, i.e. the listener. The chapter discusses many studies that have been performed to understand the correlation between objective acoustic parameters and their subjective interpretation. A chapter devoted to measurement techniques discusses methods of measuring the acoustic parameters that are discussed in the first half of the text. Following, a chapter on design methods attempts to put all of the theoretical concepts into perspective by combining them with the author's practical experience to help guide the reader in the acoustical design of rooms. Finally, a chapter on electroacoustics discusses the inevitable encounter of an electroacoustic system within a room. A brief overview of loudspeaker directivity, spread and optimal placement inside a room is presented.

Each end of chapter includes a number of references allowing the reader to easily expand his or her knowledge in a particular subject of interest. The text includes a comprehensive index, again lending itself to being used as a reference text.

In his 5th edition of the book, Kuttruff has incorporated new publications and developments in the field of room acoustics and has added some more conventional topics previously not included in earlier editions. Also, the chapter on measurement techniques has been restructured due to the constant advances being made in this field.

The author strikes a balance between theory and practice as both come through in this text. Overall, this book comes across as highly readable and the material is practical enough to be readily applicable.

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