Collected Papers in Building Acoustics: Room Acoustics and Environmental Noise

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There are 23 papers in this collection, divided into five topics: auditorium acoustics, religious buildings, acoustics in schools, absorption, and environmental noise. Religious building have the fewest papers (three), the rest have about five. But you don't need this book if you have, or have read, "The Journal of Building Acoustics" because all of the papers were previously published, some slightly modified, in that journal.

Auditorium Acoustics contains a nice selection of papers, dealing with general design of concert halls, latest developments in design, and alternative approaches to auditorium design. The Chapter on Religious Buildings (really just churches) includes a discussion on subjective and objective metrics and the use of churches as auditoria.

The issue of classroom acoustics is a hot topic these days, especially in the United States. The four papers in this Chapter discuss a general review of the problem and the effects of noise on hearing impaired, and non-impaired children. There are two papers are on the reverberation time requirements of classrooms. The Chapter on Absorption, Diffusion, and Reverberation Time treats the measurement of acoustical absorption by reverberation time, with the two microphone method (not using an impedance tube) for in-situ conditions, and papers on material properties and effects of diffusers in propagation. Finally, the Chapter on Environmental Noise includes a survey of approaches for modeling highway barriers (no significant equations presented.) Also there is a paper discussing the significant errors in the CONCAWE and ISO 9613-2 approaches to propagation when conditions are not as assumed in the algorithms. (I think the conclusions of this paper, if not the details, are well known by most practitioners.) An interesting paper discusses jagged-edge barriers and shows, in many cases; the jagged-edge provides a better insertion loss than a straight-edged barrier. The paper on modeling noise in urban areas is a survey of some approaches and concludes that urban modeling has been studied but is not well-known yet, mostly because data are difficult to get. The last paper in the Chapter and in the book deals with prediction of transmission loss for a double-skin element.

My only criticism is that there is no index. But otherwise it is a very useful book. All papers have numerous references and all are very readable. I recommend this book for those of us who practice, or who have interest in architectural or environmental acoustics, or both.

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