1. Record Nr. UNINA9910816949203321 Autore Long Marshall **Titolo** Architectural acoustics / / by Marshall Long Pubbl/distr/stampa Amsterdam;; Boston,: Elsevier/Academic Press, 2006 **ISBN** 1-281-03841-5 9786611038410 0-08-052755-8 Edizione [1st ed.] Descrizione fisica 1 online resource (873 p.) Disciplina 729.29 Soggetti Architectural acoustics Sound Lingua di pubblicazione Inglese **Formato** Materiale a stampa Livello bibliografico Monografia Note generali Description based upon print version of record. Nota di bibliografia Includes bibliographical references and index. Cover; Table of contents; PREFACE; ACKNOWLEDGMENTS; Chapter 1. Nota di contenuto HISTORICAL INTRODUCTION: 1.1 GREEK AND ROMAN PERIOD (650 BC -AD 400); 1.2 EARLY CHRISTIAN PERIOD (AD 400-800); 1.3 ROMANESQUE PERIOD (800-1100); 1.4 GOTHIC PERIOD (1100-1400); 1.5 RENAISSANCE PERIOD (1400-1600): 1.6 BAROQUE PERIOD (1600-1750); 1.7 ORIGINS OF SOUND THEORY; 1.8 CLASSICAL PERIOD (1750-1825); 1.9 ROMANTIC PERIOD (1825-1900); 1.10 BEGINNINGS OF MODERN ACOUSTICS: 1.11 TWENTIETH CENTURY: Chapter 2. FUNDAMENTALS OF ACOUSTICS; 2.1 FREQUENCY AND WAVELENGTH; 2.2 SIMPLE HARMONIC MOTION; 2.3 SUPERPOSITION OF WAVES 2.4 SOUND WAVES2.5 ACOUSTICAL PROPERTIES; 2.6 LEVELS; 2.7 SOURCE CHARACTERIZATION; Chapter 3. HUMAN PERCEPTION AND REACTION TO SOUND; 3.1 HUMAN HEARING MECHANISMS; 3.2 PITCH; 3.3 LOUDNESS; 3.4 INTELLIGIBILITY; 3.5 ANNOYANCE; 3.6 HEALTH AND SAFETY; 3.7 OTHER EFFECTS; Chapter 4. ACOUSTIC MEASUREMENTS AND NOISE METRICS; 4.1 MICROPHONES; 4.2 SOUND LEVEL METERS; 4.3 FIELD MEASUREMENTS; 4.4 BROADBAND NOISE METRICS; 4.5 BAND LIMITED NOISE METRICS; 4.6 SPECIALIZED MEASUREMENT TECHNIQUES;

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## Sommario/riassunto

Architectural Acoustics offers a comprehensive overview of acoustical science at a level suitable for either advanced undergraduate or introductory graduate courses in architectural design and architectural engineering. The text is organized according to how sound interacts with built structures, going from simple geometries through complex building structures. The book begins with a brief but useful history of architecture and the role of acoustics, as well as overview of human perception of, sound, and then progresses through topics ranging from acoustic measurement, noise metrics and envi