1. Record Nr. UNINA9910829859503321

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Titolo	Propagation of sound in porous media [[electronic resource]] : modelling sound absorbing materials / / Jean F. Allard, Noureddine Atalla
Pubbl/distr/stampa	Hoboken, NJ, : Wiley, 2009
ISBN	1-282-34953-8 9786612349539 0-470-74733-1 0-470-74734-X
Edizione	[2nd ed.]
Descrizione fisica	1 online resource (374 p.)
Altri autori (Persone)	AtallaNoureddine
Disciplina	620.11694015118
Soggetti	Porous materials - Acoustic properties - Mathematical models Absorption of sound Sound - Transmission
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.
Nota di contenuto	Propagation of Sound in Porous Media; Contents; Preface to the second edition; 1 Plane waves in isotropic fluids and solids; 1.1 Introduction; 1.2 Notation - vector operators; 1.3 Strain in a deformable medium; 1.4 Stress in a deformable medium; 1.5 Stress-strain relations for an isotropic elastic medium; 1.6 Equations of motion; 1.7 Wave equation in a fluid; 1.8 Wave equations in an elastic solid; References; 2 Acoustic impedance at normal incidence of fluids. Substitution of a fluid layer for a porous layer; 2.1 Introduction; 2.2 Plane waves in unbounded fluids; 2.2.1 Travelling waves 2.2.2 Example2.2.3 Attenuation; 2.2.4 Superposition of two waves propagating in opposite directions; 2.3 Main properties of impedance at normal incidence; 2.3.1 Impedance variation along a direction of propagation; 2.3.2 Impedance at normal incidence of a layer of fluid backed by an impervious rigid wall; 2.3.3 Impedance at normal incidence of a multilayered fluid; 2.4 Reflection coefficient and absorption coefficient at normal incidence; 2.4.1 Reflection coefficient; 2.4.2 Absorption coefficient; 2.5 Fluids equivalent to porous materials:

the laws of Delany and Bazley

2.5.1 Porosity and flow resistivity in porous materials2.5.2 Microscopic and macroscopic description of sound propagation in porous media; 2.5.3 The Laws of Delany and Bazley and flow resistivity; 2.6 Examples; 2.7 The complex exponential representation; References; 3 Acoustic impedance at oblique incidence in fluids. Substitution of a fluid layer for a porous layer; 3.1 Introduction; 3.2 Inhomogeneous plane waves in isotropic fluids; 3.3 Reflection and refraction at oblique incidence; 3.4 Impedance at oblique incidence in isotropic fluids

3.4.1 Impedance variation along a direction perpendicular to an impedance plane3.4.2 Impedance at oblique incidence for a layer of finite thickness backed by an impervious rigid wall; 3.4.3 Impedance at oblique incidence in a multilayered fluid; 3.5 Reflection coefficient and absorption coefficient at oblique incidence; 3.6 Examples; 3.7 Plane waves in fluids equivalent to transversely isotropic porous media; 3.8 Impedance at oblique incidence at the surface of a fluid equivalent to an anisotropic porous material; 3.9 Example; References

4 Sound propagation in cylindrical tubes and porous materials having cylindrical pores4.1 Introduction; 4.2 Viscosity effects; 4.3 Thermal effects; 4.4 Effective density and bulk modulus for cylindrical tubes having triangular, rectangular and hexagonal cross-sections; 4.5 High- and low-frequency approximation; 4.6 Evaluation of the effective density and the bulk modulus of the air in layers of porous materials with identical pores perpendicular to the surface; 4.6.1 Effective density and bulk modulus in cylindrical pores having a circular cross-section

4.6.2 Effective density and bulk modulus in slits

Sommario/riassunto

""The first edition of this book is considered the bible of this topic... Suffice it to say that there is no other published treatise that approaches the depth of treatment offered by this book. The coverage is the state of the published art, while the added contents cover the new known developments in the field."" Haisam Osman; Technology Development Manager, United Launch Alliance This long-awaited second edition of a respected text from world leaders in the field of acoustic materials covers the state of the art with a depth of treatment unrivalled elsewhere. Allard and Atalla empl