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Autore	Smythies, John Raymond
Titolo	Analysis of perception / J.R. Smythies ; with preface by Russell Brain
Pubbl/distr/stampa	London : Routledge and Kegan Paul, 1956
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Collana	international library psychology philosophy and scientific methode
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Autore	Guyader Jean-Louis
Titolo	Vibration in continuous media / / Jean-Louis Guyader ; series editors, Societe Francaise d'Acoustique
Pubbl/distr/stampa	Newport Beach, Calif., : ISTE, 2006
ISBN	0-470-61245-2 0-470-39458-7 1-280-60346-1 9786610603466 1-84704-477-8 1-84704-577-4
Descrizione fisica	1 online resource (443 p.)
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Disciplina	531/.32
Soggetti	Vibration Continuum mechanics
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Note generali	"First published in France in 2002 by Hermes Science/Lavoisier entitled "Vibrations des milieux continus"--t.p. verso.

Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Cover; Vibration in Continuous Media; Title Page; Copyright Page; Table of Contents; Preface; Chapter 1. Vibrations of Continuous Elastic Solid Media; 1.1. Objective of the chapter; 1.2. Equations of motion and boundary conditions of continuous media; 1.2.1. Description of the movement of continuous media; 1.2.2. Law of conservation; 1.2.3. Conservation of mass; 1.2.4. Conservation of momentum; 1.2.5. Conservation of energy; 1.2.6. Boundary conditions; 1.3. Study of the vibrations: small movements around a position of static, stable equilibrium 1.3.1. Linearization around a configuration of reference1.3.2. Elastic solid continuous media; 1.3.3. Summary of the problem of small movements of an elastic continuous medium in adiabatic mode; 1.3.4. Position of static equilibrium of an elastic solid medium; 1.3.5. Vibrations of elastic solid media; 1.3.6. Boundary conditions; 1.3.7. Vibrations equations; 1.3.8. Notes on the initial conditions of the problem of vibrations; 1.3.9. Formulation in displacement; 1.3.10. Vibration of viscoelastic solid media; 1.4. Conclusion Chapter 2. Variational Formulation for Vibrations of Elastic Continuous Media2.1. Objective of the chapter; 2.2. Concept of the functional, bases of the variational method; 2.2.1. The problem; 2.2.2. Fundamental lemma; 2.2.3. Basis of variational formulation; 2.2.4. Directional derivative; 2.2.5. Extremum of a functional calculus; 2.3. Reissner's functional; 2.3.1. Basic functional; 2.3.2. Some particular cases of boundary conditions; 2.3.3. Case of boundary conditions effects of rigidity and mass; 2.4. Hamilton's functional; 2.4.1. The basic functional 2.4.2. Some particular cases of boundary conditions2.5. Approximate solutions; 2.6. Euler equations associated to the extremum of a functional; 2.6.1. Introduction and first example; 2.6.2. Second example: vibrations of plates; 2.6.3. Some results; 2.7. Conclusion; Chapter 3. Equation of Motion for Beams; 3.1. Objective of the chapter; 3.2. Hypotheses of condensation of straight beams; 3.3. Equations of longitudinal vibrations of straight beams; 3.3.1. Basic equations with mixed variables; 3.3.2. Equations with displacement variables 3.3.3. Equations with displacement variables obtained by Hamilton's functional3.4. Equations of vibrations of torsion of straight beams; 3.4.1. Basic equations with mixed variables; 3.4.2. Equation with displacements; 3.5. Equations of bending vibrations of straight beams; 3.5.1. Basic equations with mixed variables: Timoshenko's beam; 3.5.2. Equations with displacement variables: Timoshenko's beam; 3.5.3. Basic equations with mixed variables: Euler-Bernoulli beam; 3.5.4. Equations of the Euler-Bernoulli beam with displacement variable 3.6. Complex vibratory movements: sandwich beam with a flexible inside
Sommario/riassunto	Three aspects are developed in this book: modeling, a description of the phenomena and computation methods. A particular effort has been made to provide a clear understanding of the limits associated with each modeling approach. Examples of applications are used throughout the book to provide a better understanding of the material presented.