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Nota di contenuto	CONTENTS ; Preface ; I. Vibrations and Stability of Thin Structures ; 1 ELIZA HASEGANU'S ANALYSIS OF WRINKLING IN PRESSURIZED MEMBRANES ; 1.1 Introduction ; 1.2 Relaxed Membrane Theory ; 1.3 Numerical Scheme ; 1.4 Examples ; References ; 2 BUCKLING, VIBRATIONS AND OPTIMAL DESIGN OF RING-STIFFENED THIN CYLINDRICAL SHELLS 2.1 Introduction 2.2 Equations of Cylindrical Shells ; 2.3 Approximate Equations ; 2.4 Ring-stiffened Shell ; 2.5 First Approximation ; 2.6 Shell Stiffened with a Ring ; 2.7 Optimal Rings Arrangement ; 2.8 Homogenization ; 2.9 Irregular Arrangement ; 2.10 Effective Stiffness 2.11 Optimal Design of Vibrating Stiffened Shells 2.12 Optimal Design of Buckling Shells ; 2.13 Conclusion ; References ; 3 ASYMPTOTIC ANALYSIS OF THIN SHELL BUKLING ; 3.1 Introduction ; 3.2 Bifurcation Equations

; 3.3 Orthotropic Ellipsoid Under External Pressure; 3.4 Orthotropic Elliptical Shell Under Internal Pressure
3.5 Buckling of Cylindrical Shells 3.6 Buckling of Orthotropic Cylindrical Shell Under Hydrostatic Pressure
; 3.7 Buckling of Axially Compressed Orthotropic Cylindrical Shell
; 3.8 Buckling of an Orthotropic Cylindrical Shell Under Torsion
3.9 Effect of Anisotropy on the Critical Loading
References ; 4 THIN-WALL STRUCTURES MADE OF MATERIALS WITH VARIABLE ELASTIC MODULI
; 4.1 Introduction ; 4.2 Relations Between the Curvature of the Beam Neutral Line and the Bending Moment
4.3 Stiffness of a Beam Made of Variable Modulus Material

Sommario/riassunto

The contributions in this volume are written by well-known specialists in the fields of mechanics, materials modeling and analysis. They comprehensively address the core issues and present the latest developments in these and related areas. In particular, the book demonstrates the breadth of current research activity in continuum mechanics. A variety of theoretical, computational, and experimental approaches are reported, covering finite elasticity, vibration and stability, and mechanical modeling. The coverage reflects the extent and impact of the research pursued by Professor Haseganu and h