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Nota di contenuto	Surface Electro Elastic Shear Waves in Piezo Electrical Half-Space with Semi Infinite Electrode -- Finite Amplitude Surface Waves in a Linear Electroacoustic (Piezoelectric) Waveguide -- Uniform Asymptotic Expansion for Gegenbauer Polynomials: New Approach -- Asymmetric Buckling of Circular and Annular Plates under Normal Pressure -- Comparison of Hyperelastic Corneal Models for Assessing Eye Deformations After MyoRing Implantation -- Mechanical Effect of Plastic Flow Instabilities at High Strain Rates -- On Possible Chirality and Black Holes of Acoustic Waves in Functionally Graded Rods -- The Effect of the Boundary Conditions on Free Vibrations of a String Resting on a Winkler Foundation -- On Dispersion Relations Within 1D Nonlocal Elasticity -- Analytically-Based Simulation of Guided Wave Scattering by Rectangular Delamination in an Anisotropic Composite Plate -- Bending Waves in Beams Lying on Generalized Deformable Foundations: Elastic, Viscoelastic and Nonlinear-Elastic Ones -- Effect of Curvature on Natural Frequencies of a Cylindrical Shell Closed with the Cap -- Large Torsional Deformations of a Cylindrical Tube Containing Screw

Dislocations Under Internal Pressure -- Operator Algebra in Linear Viscoelasticity: Experimental Aspects -- On Flexural Oscillations of Pre-Stressed Circular Beams of Variable Radius Taking into Account Transverse Effects -- Surface Shear Horizontally Wave Propagation in a Half-Space Periodically Stratified with Interfaces of Imperfect Elastic Contact -- Dynamics of a Vortex in a Regulable Rectangular Channel -- On the Plane Contact Problem of a Punch with a Previously Unknown Contact Area in the Presence of Static Friction -- Magneto Electric Coefficients of Thermo-Magneto-Electro Elastic Multilayer Composites: Effective Properties for Nonperfect Connectivity Between Layers -- Diffraction of a Plane Shear Wave by Semi-Infinite Parallel Cracks in a Piezoelectric Space and Propagation of Surface Waves -- Influence of the Moisture Desorption Process on the Modulus of Elasticity and Strength of Lightweight Cement Concrete and Cement Soil Composite -- An Asymptotic Model for the Nonstationary Waves in the Shells of Revolution Initiated by the Longitudinal, Tangential Type Edge Shock Loading -- Modeling of Convective Flows in a Porous Circular Enclosure -- Effect of Nanosized Surface Roughness in Solids with the Account of Steigmann Ogden Mode -- Eigenvalues of a Lightly Loaded Lubricated Oscillating Contact -- Microstructure and Micro and Nano-Properties of Al-Cr-B-N Coatings -- On Model of Coupled Thermomechanics and Electrodynamics -- Numerical Analysis of Novel Composite Sandwich Panels with 3D Printed Cellular Core Under High Velocity Impact -- Investigation of the Effect of Magnetostriction in a Rectangular Dielectric Plate Under the Longitudinal Magnetic Field -- Investigation of the Effect of Magnetostriction in a Rectangular Dielectric Plate Under the Longitudinal Magnetic Field -- Discrimination of Propagating Weak Discontinuities Surfaces in Semi-Isotropic Micropolar Thermoelastic Media -- Three Dimensional Stream Functions and Monogenic Flow Potentials -- Detachment of the Elastic Half Plane from the Punch Attached to it -- The Problem of Interaction of Longitudinal Shear Waves with thin Defects in the Shape of a Broken Line -- Polarization Crosses of Transverse Plane Waves in Micropolar Elastic Media -- Mechanical Quadratures for Solution of the Problem of Torsion of an Inhomogeneous Ageing Viscoelastic Layer by a Round Rigid Washer -- Eigenstrains and Residual Stresses After Gradient Thermomechanical Treatment of Heavy Steel Plate: Numerical Modelling and Experiment -- Fuzzy-Set Methods of Parametric Uncertainty Accounting in the Investigation of Stability Thin-Walled Structures Models -- Development of the Boundary Equations Method for Wave Problems in 2D Domains with Irregularities of the Boundary Curve -- Increasing the Natural Frequency of Oscillations in Functionally Graded Material Rods -- On the Stress State of a Poroelastic Hollow Finite Cylinder -- The Boundary Value Problem of the Behavior of the Transverse Electromagnetic Wave -- Mechanics of Transformable Large Scale Space Structures with Shape Memory Actuator.

Sommario/riassunto

This book is a collection of articles by eminent scientists from different countries who participated in the traditional international conference "Topical Problems of Continuum Mechanics" held at the Institute of Mechanics of the National Academy of Sciences of Armenia since 2007. The topics of the articles: Coupled Fields in Solids, Composites, Soil Mechanics, Fluid Mechanics, Mechanics of Nano-Systems, Structural Mechanics, Biomechanics, Hydraulics and Hydraulic Facilities, Experimental Mechanics.