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Nota di contenuto	Approximate Solution for One-Dimensional Compressible Two-Phase Immiscible Flow in Porous Media for Variable Boundary Conditions (P. Pires) -- On Pseudo-Cross Sections for Neutron Escape from a Domain by a Physical Monte Carlo Simulation (D.G. Benvenuti) -- From a Unitary Symmetry Hypothesis to Dynamical Structures in Quantum Mechanics Models (B.E.J. Bodmann) -- The Traction Boundary Value Problem for Thin Elastic Structures (C. Constanda) -- Mapping Properties of Potential Operators Related to the 2D Compressible Stokes System in Weighted Sobolev Spaces (C. Fresneda-Portillo) -- Stochastic effects of the meander on the dispersion of pollutants in the planetary boundary layer under low wind conditions (D. Buske) -- Asymptotics for the spectrum of a Floquet-parametric family of homogenization problems associated with a Dirichlet waveguide

(Pérez-Martínez) -- The Wavelet-Based Integral Formula for the Solutions of the Wave Equation in an inhomogeneous Medium: Convergence of Integrals (Perel) -- Modelling The Spread of a Disease in an Epidemic Through a Country Divided into Geographical Regions (P.J. Harris) -- Computing Elastic Interior Transmission Eigenvalues (A. Kleefeld) -- A Novel Solution of the Multi-Group Neutron Diffusion Equation by the Hankel Transform Formalism (J.C.L. Fernandes) -- A Simple Numerical Scheme to Obtain Reflectivity and Transmissivity of an Isotropically Scattering Slab (C.A. Ladeia) -- A Unified Integral Equation Formulation for Linear and Geometrically Nonlinear Analysis of Thick Plates: Derivation of Equations (R.J. Marczak) -- On viscous fluid flow in curvilinear coordinate systems (Meneghetti) -- Impact Loading of Interface Cracks: Effects of Cracks Closure and Friction (Menshykova) -- Periodic Solutions in R^n for Stationary Anisotropic Stokes and Navier-Stokes Systems (S.E. Mikhailov) -- Null-solutions of elliptic partial differential equations with power growth (D. Mitrea) -- On the Use of the Adjoint Technique to the Estimation of Neutron Source Distributions in the Context of Subcritical Nuclear Reactors (R.C. Barros) -- The Nodal LTSN Solution and a New Approach to Determine the Outgoing Angular Flux at the Boundary in a Rectangular Domain (A. R. Parigi) -- A numerical study of the convergence of two hybrid convolution quadrature schemes for broadband wave problems (D.J. Chappell) -- Analytical Reconstruction of the Nonlinear Transfer Function for a Wiener-Hammerstein Model (J. Schmith) -- Variation of Zero-Net Liquid Holdup in Gas-Liquid Cylindrical Cyclone (GLCC c) (O. Shoham) -- On the Mono-Energetic Neutron Space Kinetics Equation in Cartesian Geometry: An Analytic Solution by a Spectral Method (F. Tumelero).

Sommario/riassunto

This contributed volume contains a collection of articles on state-of-the-art developments on the construction of theoretical integral techniques and their application to specific problems in science and engineering. Chapters in this book are based on talks given at the Symposium on the Theory and Applications of Integral Methods in Science and Engineering, held virtually in July 2021, and are written by internationally recognized researchers. This collection will be of interest to researchers in applied mathematics, physics, and mechanical and electrical engineering, as well as graduate students in these disciplines and other professionals for whom integration is an essential tool.
