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Nota di contenuto	1 Singularity Subtraction for Nonlinear weakly Singular Integral Equations of the Second Kind -- 2 On the flow of a viscoplastic fluid in a thin periodic domain -- 3 q-Calculus Formalism for Non-extensive Particle Filter -- 4 Two-operator Boundary-Domain Integral Equations for Variable-Coefficient Dirichlet Problem with General Data -- 5 Two Operator Boundary-Domain Integral Equations for Variable Coefficient Dirichlet Problem in 2D -- 6 Solution of a homogeneous version of Love type integral equation in different asymptotic regimes -- 7 Bending of Elastic Plates: Generalized Fourier Series Method for the Robin Problem -- 8 The adjoint spectral Green's function method applied to direct and inverse neutral particle source-detector problems -- 9 Relaxation of Periodic and Nonstandard Growth Integrals by means Two-scale convergence -- 10 A Stiff Problem: Stationary Waves and Approximations -- 11 Modeling Creep in Concrete under a Variable External Load -- 12 A Combined Boundary Element And Finite Element

Model of Cell Motion Due to Chemotaxis -- 13 Numerical Calculation by quadruple precision higher order Taylor series method of The Pythagorean problem of three bodies -- 14 Shape optimization for interior Neumann and transmission eigenvalues -- 15 On the Integro-differential Radiative Conductive Transfer Equation: A Modified Decomposition Method -- 16 Periodic transmission problems for the heat equation -- 17 On unified boundary-domain integro-differential equations for variable coefficient Dirichlet problem with general right hand side -- 18 Rescaling and Trace Operations in Fractional Sobolev Spaces on Bounded Lipschitz Domains with Periodic Structure -- 19 Design and Performance of a Multiphase Flow Manifold -- 20 On the polarization matrix for a perforated strip -- 21 Operator perturbation approach for fourth order elliptic equations with variable coefficients -- 22 Extension of the Fully Lagrangian approach for the integration of the droplet number density on caustic formations -- 23 The nodal LTS(N) solution in a rectangular domain: A new method to determine the outgoing angular flux at the boundary -- 24 Image processing for UAV autonomous navigation applying self-configuring neural network -- 25 Towards the Super-massive black hole seeds -- 26 Decomposition of Solutions of the Wave Equation into Poincare Wavelets -- 27 The method of fundamental solutions for computing interior transmission eigenvalues of inhomogeneous media -- 28 Tensor product approach to quantum control -- 29 Epidemic Genetic Algorithm for solving inverse problems: parallel algorithms -- 30 A Chemical Kinetics Extension to the Advection Diffusion Equations by NO(X) and SO(2) -- 31 On the Development of an Alternative Proposition of Cross Wavelet Analysis for Transient Discrimination Problems -- 32 A Simple Nonlinear Transfer Function for a Wiener-Hammerstein Model to Simulate Guitar Distortion and Overdrive Effects -- 33 Existence of nonlinear problems: An applicative and computational approach -- 34 Solving existence problems via F-Reich contraction -- 35 On the convergence of dynamic iterations in terms of model parameters.

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### 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. The chapters in this book are based on talks given at the Fifteenth International Conference on Integral Methods in Science and Engineering, held July 16-20, 2018 at the University of Brighton, UK, and are written by internationally recognized researchers. The topics addressed are wide ranging, and include: Asymptotic analysis Boundary-domain integral equations Viscoplastic fluid flow Stationary waves Interior Neumann shape optimization Self-configuring neural networks 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.

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