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Nota di contenuto	Part I: Applications of Dynamical Systems Theory in Biology -- Analysis of State-Control Optimality System for Invasive Species Management -- Part II: Approximation Theory and Special Functions: Fourth Series -- Extended Multivariable Hypergeometric Functions -- Cubature of Multidimensional Schrödinger Potential Based on Approximate Approximations -- Generalized Kantorovich Operators on Convex Compact Subsets and Their Application to Evolution Problems -- On the Generalized Sylvester Polynomials -- Durrmeyer-Type Bernstein Operators Based on (p, q)-Integers with Two Variables -- Part III: Complex Analysis and Convex Optimization and Their Applications in Wave Physics -- On the Passivity of the Delay-Rational Green's-Function-Based Model for Transmission Lines -- Passive Approximation with High-Order B-Splines -- Part IV: Complex and

Functional Analytic Methods for Differential Equations -- Some New Applications of the Theory of Conjugate Differential Forms -- On Maximal Regularity of Differential and Difference Operators -- On the Generalized Liouville Theorem -- Neumann Problem in Polydomains -- Green and Neumann Functions for a Plane Degenerate Circular Domain -- Part V: Special Interest Group: IGCVPT Complex Variables and Potential Theory -- Biharmonic Monogenic Functions and Biharmonic Boundary Value Problems -- Composition Operators of  $\alpha$ -Bloch Spaces on Bounded Symmetric Domains in  $C^n$  -- Monogenic Functions in Commutative Algebras -- Part VI: Special Interest Group: IGPDE Harmonic Analysis and Partial Differential Equations -- On the Solvability of Tracking Problem with Nonlinearly Distributed Control for the Oscillation Process -- On a Class of Solutions of the Nonlinear Integral Fredholm Equation -- On Conditional Stability of Inverse Scattering Problem on a Lasso-Shaped Graph -- On Solvability of Tracking Problem Under Nonlinear Boundary Control -- Part VII: Nonlinear PDE -- Exponential Mixing and Ergodic Theorems for a Damped Nonlinear Wave Equation with Space-Time Localised Noise -- Part VIII:  $p$ -adic Analysis.-On the Injective Embedding of  $p$ -adic Integers in the Cartesian Product of  $p$  Copies of Sets of 2-Adic Integers -- Description of (Fully) Homomorphic Cryptographic Primitives Within the  $p$ -Adic Model of Encryption -- Spectrum of Ultrametric Banach Algebras of Strictly Differentiable Functions --  $p$ -Adic Nevanlinna Theory -- On an Operator Theory on a Banach Space of Countable Type over a Hahn Field -- Part IX: Special Interest Group: IGPDE Recent Progress in Evolution Equations -- Conditional Stability for Backward Parabolic Equations with Osgood Coefficients -- Self-similar Asymptotic Profile for a Damped Evolution Equation -- On One Control Problem for Zakharov–Kuznetsov Equation -- The Self-interacting Scalar Field Propagating in FLRW Model of the Contracting Universe -- On the Energy Estimate for Klein–Gordon-Type Equations with Time-Dependent Singular Mass -- Nonlinear Evolution Equations and Their Application to Chemotaxis Models -- A Toy Model of 4D Semilinear Weakly Hyperbolic Wave Equations -- Gevrey Well-Posedness of the Generalized Goursat–Darboux Problem for a Linear PDE -- On the Regularity of the Semilinear Term on the Cauchy Problem for the Schrödinger Equation.-The Maximum Principle and Sign-Changing Solutions of the Klein–Gordon Equation with the Higgs Potential in the de Sitter Spacetime -- A Remark on the Critical Exponent for the Semilinear Damped Wave Equation on the Half-Space -- Part X: Special Interest Group: IGGF Special Session on Generalized Functions and Applications -- On Microlocal Regularity of Generalized Linear Partial Differential Operators.-A Projective Description of Generalized Gelfand–Shilov Spaces of Roumieu Type -- Generalized Solutions and Distributional Shadows for Dirac Equations -- Modeling Abstract Stochastic Problems with White Noise Perturbations -- On Association in Colombeau AlgebrasWithout Asymptotics -- Soliton Dynamics for the General Degasperis–Procesi Equation -- Frame Expansions of Test Functions, Tempered Distributions, and Ultradistributions -- Part XI: Theory and Applications of Boundary-Domain Integral and Pseudodifferential Operators -- Analysis of Boundary-Domain Integral Equations for Variable-Coefficient Mixed BVP in 2D -- Boundary-Domain Integral Equations for Variable Coefficient Dirichlet BVP in 2D Unbounded Domain -- A Boundary-Domain Integral Equation Method for an Elliptic Cauchy Problem with Variable Coefficients -- On Indirect Boundary Integral Equation Methods and Applications -- Part XII: Wavelet Theory and Its Related Topics -- Holomorphic Curves and Linear Systems in Algebraic Manifolds -- Two-Dimensional Directional

Lifting Schemes -- GaborWavelet Transformation on the Sphere and Its Related Topic -- Application of Complex ContinuousWavelet Analysis to Auditory Evoked Brain Responses -- Detection of Rotation Angles on Image Separation Problem -- Part XIII: Contributed Talks (Open Session).-Uniform Boundary Stabilization of the Wave Equation with a Nonlinear Delay Term in the Boundary Conditions.

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**Sommario/riassunto**

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This book is a collection of short papers from the 11th International ISAAC Congress 2017 in Växjö, Sweden. The papers, written by the best international experts, are devoted to recent results in mathematics with a focus on analysis. The volume provides to both specialists and non-specialists an excellent source of information on the current research in mathematical analysis and its various interdisciplinary applications.

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