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Titolo	Progress in approximation theory and applicable complex analysis : in memory of Q.I. Rahman // edited by Narendra Kumar Govil, Ram Mohapatra, Mohammed A. Qazi, Gerhard Schmeisser
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Disciplina	510
Soggetti	Mathematical optimization Functions of complex variables Approximation theory Numerical analysis Information theory Optimization Functions of a Complex Variable Approximations and Expansions Numerical Analysis Information and Communication, Circuits
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Nota di bibliografia	Includes bibliographical references.
Nota di contenuto	On the L2 Markov Inequality with Laguerre Weight -- Markov-Type Inequalities for Products of Muntz Polynomials Revisited -- On Bernstein-Type Inequalities for the Polar Derivative of a Polynomial -- On Two Inequalities for Polynomials in the Unit Disk -- Inequalities for Integral Norms of Polynomials via Multipliers -- Some Rational Inequalities Inspired by Rahman's Research -- On an Asymptotic Equality for Reproducing Kernels and Sums of Squares of Orthonormal Polynomials -- Two Walsh-Type Theorems for the Solutions of Multi-Affine Symmetric Polynomials -- Vector Inequalities for a Projection in Hilbert Spaces and Applications -- A Half-Discrete Hardy-Hilbert-Type Inequality with a Best Possible Constant Factor Related to the Hurwitz Zeta Function -- Quantum Integral Inequalities for Generalized Convex

Functions -- Quantum integral inequalities for generalized preinvex functions -- On the Bohr inequality -- Bernstein-Type Polynomials on Several Intervals -- Best Approximation by Logarithmically Concave Classes of Functions -- Local approximation using Hermite functions -- Approximating the Riemann Zeta and Related Functions -- Overconvergence of Rational Approximants of Meromorphic Functions -- Approximation by Bernstein-Faber-Walsh and Szász-Mirakjan-Faber-Walsh Operators in Multiply Connected Compact Sets of \mathbb{C} -- Summation Formulas of Euler-Maclaurin and Abel-Plana: Old and New Results and Applications -- A New Approach to Positivity and Monotonicity for the Trapezoidal Method and Related Quadrature Methods -- A Unified and General Framework for Enriching Finite Element Approximations.

Sommario/riassunto

Current and historical research methods in approximation theory are presented in this book beginning with the 1800s and following the evolution of approximation theory via the refinement and extension of classical methods and ending with recent techniques and methodologies. Graduate students, postdocs, and researchers in mathematics, specifically those working in the theory of functions, approximation theory, geometric function theory, and optimization will find new insights as well as a guide to advanced topics. The chapters in this book are grouped into four themes; the first, polynomials (Chapters 1–8), includes inequalities for polynomials and rational functions, orthogonal polynomials, and location of zeros. The second, inequalities and extremal problems are discussed in Chapters 9–13. The third, approximation of functions, involves the approximants being polynomials, rational functions, and other types of functions and are covered in Chapters 14–19. The last theme, quadrature, cubature and applications, comprises the final three chapters and includes an article coauthored by Rahman. This volume serves as a memorial volume to commemorate the distinguished career of Qazi Ibadur Rahman (1934–2013) of the Université de Montréal. Rahman was considered by his peers as one of the prominent experts in analytic theory of polynomials and entire functions. The novelty of his work lies in his profound abilities and skills in applying techniques from other areas of mathematics, such as optimization theory and variational principles, to obtain final answers to countless open problems.
