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Nota di contenuto	Harmonic Hermite-Hadamard inequalities involving Mittag-Leffler function (Aslam Noor) -- Two dimensional Trapezium inequalities via pq-convex functions (Aslam Noor) -- New k-conformable fractional integral inequalities (Uzair Awan) -- On The Hyers-Ulam-Rassias Approximately Ternary Cubic Higher Derivations (Kenary) -- Hyers-Ulam stability for differential equations and partial differential equations via Gronwall Lemma (Mariana) -- On b-metric spaces and Brower and Schauder fixed point principles (Czerwinski) -- Deterministic Prediction Theory (Daras) -- Accurate Approximations of the weighted exponential Beta function (Sever Dragomir) -- On the multiplicity of the zeros of polynomials with constrained coefficients (Erdelyi) -- Generalized barycentric coordinates and sharp strongly negative definite multidimensional numerical integration (Guessab) -- Further

results on continuous random variables via fractional integrals (Agarwal) -- Nonunique fixed points on partial metric spaces via control functions (Karapnar) -- Some new refinement of Gauss-Jacobi and Hermite-Hadamard type integral inequalities (Kashuri) -- New trapezium type inequalities for preinvex functions via generalized fractional integral operators and their applications (Kashuri) -- New Trapezoid Type Inequalities for Generalized Exponentially Strongly Convex Functions (Jichang) -- Additive-quadratic -functional equations in  $\alpha$ -homogeneous normed spaces (Park) -- Stability of bi-additive  $s$ -functional inequalities and quasi-multipliers (Park) -- On the stability of some functional equations and  $s$ -functional inequalities (Najati) -- Stability of the Cosine-Sine functional equation on amenable groups (Elhoucien) -- Introduction to Halanay lemma, via weakly Picard operator theory (Petrusel) -- An inequality related to Möbius transformations (Suksumran) -- On a Half-Discrete Hilbert-Type Inequality in the Whole Plane with the Hyperbolic Tangent Function and Parameters (Rassias) -- Analysis of Apostol-type numbers and polynomials with their approximations and asymptotic behavior (Simsek) -- A general lower bound for the asymptotic convergence factor (Tsirivas) -- Inequalities for mean dual affine quermassintegrals (Cheung) -- A Reduced-Basis Polynomial-Chaos Approach with a Multi-Parametric Truncation Scheme for Problems with Uncertainties (Zygiridis).

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#### Sommario/riassunto

This contributed volume focuses on various important areas of mathematics in which approximation methods play an essential role. It features cutting-edge research on a wide spectrum of analytic inequalities with emphasis on differential and integral inequalities in the spirit of functional analysis, operator theory, nonlinear analysis, variational calculus, featuring a plethora of applications, making this work a valuable resource. The reader will be exposed to convexity theory, polynomial inequalities, extremal problems, prediction theory, fixed point theory for operators, PDEs, fractional integral inequalities, multidimensional numerical integration, Gauss–Jacobi and Hermite–Hadamard type inequalities, Hilbert-type inequalities, and Ulam's stability of functional equations. Contributions have been written by eminent researchers, providing up-to-date information and several results which may be useful to a wide readership including graduate students and researchers working in mathematics, physics, economics, operational research, and their interconnections.

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