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Nota di contenuto	A collection of Hilfer fractional Opial inequalities -- On a nonlinear diffusion model of wood impregnation: Analysis, approximate solutions and experiments with relaxing boundary conditions -- Algorithmic Complexity-based Fractional-order Derivatives in Computational Biology -- Case study of non singular kernel model for MHD boundary layer flow of a rate type fluid over an oscillating plate -- Multi-layer Perceptron Artificial Neural Network Approach for Solving Sixth-Order Two-Point Boundary Value Problems -- Wavelet transform on generalized quotient spaces and its applications -- Certain image formulae of the incomplete I-function under the conformable and pathway fractional integral and derivative operators -- Explicit exact solutions and conservation laws of modified equation -- Some

Approximation results on Durrmeyer modication of generalized Szasz-Mirakjan operators -- Fuzzy Approach to Solve General De-Novo Programming Problem.

Sommario/riassunto

This book is a valuable source for graduate students and researchers and provides a comprehensive introduction to recent theories and applications of mathematical modeling and numerical simulation. It includes selected peer-reviewed papers presented at the 4th International Conference on Mathematical Modelling, Applied Analysis and Computation (ICMMAAC 2021), held at JECRC University, Jaipur, India, during August 5–7, 2021. The book is focused on mathematical modeling of various problems arising in science and engineering and new efficient numerical approaches for solving linear nonlinear problems and rigorous mathematical theories, which can be used to analyze different kinds of mathematical models. Applications of mathematical methods in physics, chemistry, biology, mechanical engineering, civil engineering, computer science, social science, and finance are presented.