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Nota di contenuto	Part 1. Applications in Mathematical Physics -- 1. Sigma-Porous media flow and Yamabe flow(Li Ma) -- 2. Simple Equations Method (SEsM): Areas of Possible Applications (N. Vitanov) -- 3. An Example for Application of the Simple Equations Method for the Case of Use of a Single Simple Equation(Z.Dimitrova) -- 4. Angela Slavova, Boundary Value Problems for the Polyharmonic Operators(P. Popivanov) -- 5. Search of complex transcendental roots of combination of a nonlinear equation and a polynomial(Y. Mochimaru) -- 6. Null non-controllability for singular and degenerate heat equation with double singular potential(N. Kutev, T. Rangelov,) -- 7. Special Functions and Polynomials connected to the Simple Equations Method(N. Vitanov) -- 8. Global Behavior of the Solutions to Nonlinear Wave Equation with Sign- changing Nonlinearity(N. Kutev, M. Dimova, N. Kolkovska,) -- 9. An Example for Application of the Simple Equations Method for the

Case of Use of a Two Simple Equations(Z. Dimitrova) -- 10. A note on the steady Poiseuille flow of Carreau-Yasuda fluid(N. Kutev, S. Tabakova,) -- 11. Green's function and wave scattering for inhomogeneous anti-plane PEM half-plane(T. Rangelov, P. Dineva) -- 12. On the Well-Posedness of the Complex Ginzburg-Landau Equation on the Product Manifold $R^d \times T$ (M. Tarulli, E. Nikolova, G. Venkov) -- 13. Exact Traveling Wave Solutions of the Generalized Rosenau-Kawahara-RLW Equation Arising in Fluid Mechanics(E. Nikolova, M. Lubomirova,) -- 14. Several Properties of the Solutions of Linear and Semilinear Harmonic and Polyharmonic Equations(Petar Popivanov, A. Slavova) -- 15. Global existence result of solutions for a riser equation with logarithmic source term and damping term(N. Irkil, E. Piskin) -- 16. Parabolic Equations with Causal Operators(T. Donchev, D. Kolev, M. Kolev, A. Lazu) -- 17. Well posedness of solutions for a degenerate viscoelastic equation for Kirchhoff-type with logarithmic nonlinearity(N. Irkil, E. Piskin) -- 18. An Application of Simplest Equation Method to Nonlinear Equations of Schrödinger Kind(I. Jordanov) -- 19. On the square of Laplacian with inverse square potential(V. Georgiev, M. Rastrelli) -- Part 2. Applications in Mathematical Biology -- 20. Parameter Recovery Study of Honeybee Colony Failure due to Nutritional Issues(A. Atanasov, S. Georgiev) -- 21. Dynamical Modeling of Competition between Three Basic Power Plants Types(E. Nikolova) -- 22. Stability Analysis of a Mathematical Model of Hepatitis B Virus with Control on Immune System(I. Volinsky) -- 23. Oncolytic virus vs cancer: Modeling and Simulation of Virotherapy with Differential Equations(I. Panayotova, M. Brucal-Hallare) -- 24. Numerical Analysis of Honey Bee Colonies in Winter by Sign-changing Chemotactic Coefficient Model(A. Atanasov, M. Koleva, L. Vulkov) -- 25. On Jansen - Rit system modeling epilepsphenomena(A. Coletti) -- Part 3. Applications in Financial Mathematics -- 27. Forex Time Series Forecasting using Hybrid Convolutional Neural Network/Long Short-Term Memory Network Model(M. Markova) -- 28. Diversification and Optimization of the Financial Portfolio in Times of Uncertainty(I. Georgiev, V. Deninska, V. Mihova, V. Pavlov) -- 29. Simulating Stochastic Differential Equations in Option Pricing(T. Klimenko, V. Pavlov) -- 30. Comparison of the Growth Between the Number and the Payments of IBNR Claims with Chain Ladder Method(E. Raeva, V. Pavlov) -- 31. Comparative Analysis of ARIMA and Modified Differential Equation Approaches in Stock Price Prediction and Portfolio Formation(V. Mihova, V. Centeno, I. Georgiev, V. Pavlov) -- 32. Models for Measuring and Forecasting the Inferred Rate of Default(V. Bouthchaktchiev) -- Part 4. Applications in Neuroscience -- 33. Application of the Wavelet Data Transformation for the Time Series Forecasting by the Artificial Neural Network(A. Butorova, E. Baglaeva, I. Subbotina, M. Sergeeva, A. Sergeev, A. Shichkin, A. Buevich, P. Petrov,) -- 34. Discrete neural networks with maximum and non-instantaneous impulses with computer simulation (S. Hristova, K. Stefanova) -- 35. Prediction of the time series by the various types of artificial neural networks by the example of different time intervals of the content of methane in the atmosphere(A. Butorova, A. Buevich, A. Shichkin, A. Sergeev, E. Baglaeva, M. Sergeeva, I. Subbotina, J. Vasilev) -- 36. Highly accurate scrambled stochastic approaches for multidimensional sensitivity analysis in air pollution modelling(V. Todorov, S. Georgiev,) -- 37. Advanced biased stochastic approaches based on modified Sobol sequences for Fredholm integral equations(V. Todorov, I. Dimov, R. Georgieva,) -- Part 5. Applications in Fractional Analysis -- 38. Conditional boundedness of generalized proportional Caputo fractional differential equations(S. Hristova, Klanova) -- 39. Practical stability of generalized proportional Caputo

fractional differential equations by Lyapunov functions(T. Donchev, S. Hristova) -- 40. Nonlinear evolution inclusions with causal operators(T. Donchev, N. Kitanov, A. Lazu, S. Stefanov) -- 41. Non-positivity of Operators $G_{s,n+}$ (T. Zapryanova) -- 42. Some notes on Arcsine Exponentiated-X Family(M. Vasileva, N. Kyurkchiev) -- 43. On a Piecewise Smooth Gompertz Growth Function. Applications(V. Kyurkchiev, A. Iliev, A. Rahnev, N. Kyurkchiev). .

Sommario/riassunto

This book convenes peer-reviewed, selected papers presented at the Ninth International Conference New Trends in the Applications of Differential Equations in Sciences (NTADES) held in Sozopol, Bulgaria, June 17–20, 2022. The works are devoted to many applications of differential equations in different fields of science. A number of phenomena in nature (physics, chemistry, biology) and in society (economics) result in problems leading to the study of linear and nonlinear differential equations, stochastic equations, statistics, analysis, numerical analysis, optimization, and more. The main topics are presented in the five parts of the book - applications in mathematical physics, mathematical biology, financial mathematics, neuroscience, and fractional analysis. In this volume, the reader will find a wide range of problems concerning recent achievements in both theoretical and applied mathematics. The main goal is to promote the exchange of new ideas and research between scientists, who develop and study differential equations, and researchers, who apply them for solving real-life problems. The book promotes basic research in mathematics leading to new methods and techniques useful for applications of differential equations. The NTADES 2022 conference was organized in cooperation with the Society of Industrial and Applied Mathematics (SIAM), the major international organization for Industrial and Applied Mathematics and for the promotion of interdisciplinary collaboration between applied mathematics and science, engineering, finance, and neuroscience.
