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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.
