1. Record Nr. UNINA9910767537003321

Titolo	Applications of Nonlinear Analysis / / edited by Themistocles M. Rassias
Pubbl/distr/stampa	Cham : , : Springer International Publishing : , : Imprint : Springer, , 2018
ISBN	3-319-89815-9
Edizione	[1st ed. 2018.]
Descrizione fisica	1 online resource (xvi, 931 pages)
Collana	Springer Optimization and Its Applications, , 1931-6828 ; ; 134
Disciplina	530.15
Soggetti	Calculus of variations Functional analysis Fourier analysis Differential equations Partial differential equations Calculus of Variations and Optimal Control; Optimization Functional Analysis Fourier Analysis Ordinary Differential Equations Partial Differential Equations
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di contenuto	Chapter 01- New applications of -quasiconvexity -- Chapter 02- Criteria for convergence of iterates in a compression-expansion fixed point theorem of functional type -- Chapter 03- On Lagrangian duality in infinite dimension and its applications -- Chapter 04- Stability analysis of the inverse problem of parameter identification in mixed variational problems -- Chapter 05- Nonlinear duality in Banach spaces and applications to finance and elasticity -- Chapter 06- Selective priorities in processing of big data -- Chapter 07- General inertial Mann algorithms and their convergence analysis for nonexpansive mappings -- Chapter 08- Reverses of Jensen's integral inequality and applications: a survey of recent results -- Chapter 09- Ordering structures and their applications -- Chapter 10- An overview on singular nonlinear elliptic boundary value problems -- Chapter 11- The

Pilgerschritt (Liedl) transform on manifolds -- Chapter 12- On some mathematical models arising in lubrication theory -- Chapter 13- On the spectrum of a nonlinear two parameter matrix eigenvalue problem -- Chapter 14- On the properties of a nonlocal nonlinear Schr¨odinger model and its soliton solutions -- Chapter 15- Stability of a Cauchy-Jensen additive mapping in various normed spaces -- Chapter 16- NAN-RN approximately generalized additive functional equations -- Chapter 17- On the HUR-stability of quadratic functional equations in fuzzy Banach spaces -- Chapter 18- Asymptotic orbits in Hill's problem when the larger primary is a source of radiation -- Chapter 19- Computations for minors of Weighing Matrices with application to the growth problem -- Chapter 20- Robots that do not avoid obstacles -- Chapter 21- On the exact solution of nonlinear integro-differential equations -- Chapter 22- Qualitative, approximate and numerical approaches for the solution of nonlinear differential equations -- Chapter 23- On a Hilbert-type integral inequality in the whole plane -- Chapter 24- Four conjectures in Nonlinear Analysis -- Chapter 25- Corelations are more powerful tools than relations -- Chapter 26- Rational contractions and coupled fixed points -- Chapter 27- A multiple Hilbert-type integral inequality in the whole space -- Chapter 28- Generalizations of Metric Spaces: From the Fixed-Point Theory to the Fixed-Circle Theory -- Chapter 29- Finite-difference modeling of nonlinear phenomena in time-domain electromagnetics: A Review.

Sommario/riassunto

New applications, research, and fundamental theories in nonlinear analysis are presented in this book. Each chapter provides a unique insight into a large domain of research focusing on functional equations, stability theory, approximation theory, inequalities, nonlinear functional analysis, and calculus of variations with applications to optimization theory. Topics include: Fixed point theory Fixed-circle theory Coupled fixed points Nonlinear duality in Banach spaces Jensen's integral inequality and applications Nonlinear differential equations Nonlinear integro-differential equations Quasiconvexity, Stability of a Cauchy-Jensen additive mapping Generalizations of metric spaces Hilbert-type integral inequality, Solitons Quadratic functional equations in fuzzy Banach spaces Asymptotic orbits in Hill’sproblem Time-domain electromagnetics Inertial Mann algorithms Mathematical modelling Robotics Graduate students and researchers will find this book helpful in comprehending current applications and developments in mathematical analysis. Research scientists and engineers studying essential modern methods and techniques to solve a variety of problems will find this book a valuable source filled with examples that illustrate concepts.